

IQY Technical College Programs

Engineering	Information Technology	Management	Education	Humanities	Vocational
THS/ Year 10	THS/ Year 10	THS/ Year 10	Open entry	Open entry	Open entry
Diploma in General Engineering 6 months Year 11/12 Level	Diploma in Information Technology 6 months Year 11/12 Level	Diploma in Management 6 months Year 11/12 Level	Diploma in Teaching Practice	Diploma in Humanities Studies	Diploma in Work Studies Year 11/12 Level 6 months
Diploma +Advanced Diploma in Engineering 2 Years	Diploma Part 2+ Advanced Diploma in Information Technology 2 Years	Diploma Part 2+ Advanced Diploma in Management 2 Years	Diploma in Vocational Education & Training	Diploma+ Advanced Diploma in Humanities Studies 1 Year	Diploma+ Advanced Diploma in Work Studies 1 Year
Professional Diploma in Engineering Technology+ Bachelor of Technology 1 to 2 Years	Professional Diploma in Information Technology+ Bachelor of Applied Science Information Technology 2 Years	Professional Diploma in Management+ Bachelor of Management 2 Years	Diploma in Technical Teaching	Professional Diploma in Humanities Studies+ Bachelor of Humanities Studies	Bachelor of Occupation Studies 2 Years
Total 3 to 4 Years	Total 3 to 4 Years	Total 3 to 4 Years	No time limit	No time limit	Total =3 Years
Bachelor of Engineering 1 Year	Bachelor of ICT Engineering 1 Year	Engineering Studies 1 Year Bachelor of Engineering Management	Diploma in Engineering Education/ Bachelor of Education (School Vocational / Engineering Education)		Bachelor of Science (Engineering) For Engineering Trades Vocational Studies To be completed while working 2 Years
Total 4 to 5 Years	Total 4 to 5 Years	Total 4 to 5 Years	No time limit		Total 5 Years
Commercial Fees	Commercial Fees	Commercial Fees	Free	Free	Low Fees
					5 Years Experience for BTech/BE Conversion Only BOS pathway
					Appropriate Conversion Fees to be charged

IQY Disciplines

IQY Technical College မှာသင်ကြားတဲ့ဆရာတိုင်းသည်မိမိရုဏ်သိက္ခာ၊ဆရာကျင့်ဝတ်နဲ့ ကျောင်းသား ကျောင်းသူတွေနဲ့ ပတ်သက်ပြီးပါတဝန်းကျင်အထင်မသေးခံရအောင်နေဖို့ လိုပြီး Facebook မှာအထူး သတိထားဖို့ လိုပါတယ်။

IQY ဟာပညာအစစ်ကိုဘဲသင်ပါတယ်။

Every teacher who is teaching at IQY Technical College needs to obey the appropriate protocol to maintain their own dignity and takes all possible precautions to avoid the undesirable events that undermine their reputations.

There must be high standard of maintaining the teacher's responsibility and discipline to interact with the students. Usage of Facebook is to be careful by all teachers.

IQY Technical College only provides the real education no other else.

ဆရာနှင့်ကျောင်းသား၊ပညာရပ်ဆိုင်ရာဆက်ဆံရေး

(Reference NSW Department of Education Australia)

NSW Department of Education သည်ဆရာများအနေဖြင့်ကျောင်းသားများနှင့်ပုဂ္ဂိုလ်ရေးရာပတ်သက်ခြင်းကိုတားမြစ်သည်။ပညာရပ်ဆိုင်ရာဆက်ဆံရေးကိုပုဂ္ဂိုလ်ရေးရာပတ်သက်ခြင်းနှင့်မှားယွင်းစွာအဓိပ္ပါယ်မပြန်စေရန်ဖြစ်သည်။

မိမိသင်ကြားနေသောအရွယ်ရောက်ကျောင်းသားနှင့်ချစ်ကျွမ်းဝင်ခြင်းကာမဆက်ဆံခြင်းကိုတားမြစ်သည်။
ထိုသို့ ပြုခြင်းသည်သင်ကြားရေးနှင့်ဌာန၏ဂုဏ်သိက္ခာကိုထိခိုက်စေနိုင်သည်။

မိမိ၏မိသားစုဝင်များ၊နီးစပ်သောမိတ်ဆွေများ၊ယခင်ကတည်းကချစ်သူဖြစ်နေသူများသည်သင်ကြားစစ်ဆေးခြင်းတွင် Conflict of Interest ခေါ်စိတ်ဝင်စားမှုပဋိပက္ခဖြစ်စေနိုင်သည်။မိမိ၏မန်နေဂျာကိုအကြောင်းကြားရမည်။အဆိုပါကိစ္စကိုသတိထားစီမံရမည်။အရေးပါသောပညာရေးဆုံးဖြတ်ချက်ကိုရှောင်ကြဉ်ရမည်။
မလွဲသာပါကမိမိကိုအကြံပေးသူတို့တင်ပြအတည်ပြုချက်အတိုင်းလုပ်ဆောင်ရမည်။

မိမိနှင့်မိမိ၏ကျောင်းသားအကြားဆရာတပည့်ဆက်ဆံရေးသည်အောက်ပါအချက်များကြောင့် လမ်းလွဲနိုင်သည်။

- Facebook ဆက်သွယ်ခြင်း၊
- ပါတီအတူတက်ခြင်း၊
- အကြောင်းမရေရာဘဲမိမိအိမ်သို့ ကျောင်းသားကျောင်းသူကိုဖိတ်ခြင်း၊
- မိဘအုပ်ထိန်းသူများ၏ခွင့်ပြုချက်မပါဘဲသူတို့ ၏အိမ်သို့ သွားခြင်း၊
- မိဘအုပ်ထိန်းသူများ၏ခွင့်ပြုချက်မပါဘဲသူတို့ ကိုကျောင်းကြိုပို့ ခြင်း၊
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မိမိနှင့်မိမိ၏ကျောင်းသားအကြားဆရာတပည့်ဆက်ဆံရေးသည်အောက်ပါအချက်များကြောင့်ပျက်ယွင်းနိုင်သည်။

- ကျောင်းသားနှင့်ချစ်ကျွမ်းဝင်ခြင်းကာမဆက်ဆံခြင်း၊
- ကျောင်းသားနှင့်ချစ်ကျွမ်းဝင်ခြင်းကိုဦးတည်စေသောပြုမူချက်များကိုဦးတည်ခြင်း၊
- မိမိ၏ပင်ကိုယ်ရေးရာကိုကျောင်းသားကိုမျှဝေခြင်း၊

- အကြောင်းမရေရာဘဲကျောင်းသားနှင့် email, letters, telephone, text messages ,chat lines ပြုခြင်း၊
- ကျောင်းသားအနေဖြင့်သူ့ ကိုမိမိကအထူးနေရာပေးအလေးထားသည်ဟုယူဆမှုကိုအားပေးစေသောပုဂ္ဂိုလ်ရေးရာနှင့်ဆက်နွှယ်သောလက်ဆောင်ပေးခြင်း၊

(Teacher Professional Conduct)

Professional relationships between employees and students

You must not develop a relationship with any student that is, or that can be misinterpreted as having a personal rather than a professional interest in a student.

You must not enter into a romantic or sexual relationship with any student (including any adult student) that you are responsible for teaching, tutoring, advising, assessing, or for whom you provide pastoral or welfare support. To do so raises serious questions of conflict of interests, trust, confidence, dependency, and of equality of treatment. Such relationships may also have a negative impact on the teaching and learning environment for other students and colleagues, and may carry a serious reputational risk for the Department.

Where a personal relationship, such as family relationship or close friendship exists between you and a student, or where there is a preexisting sexual relationship with an adult student attending the same workplace, you must report the conflict of interest, or any potential conflict, to your supervisor or principal, and it must be managed carefully. Wherever practical, you should avoid teaching or being involved in educational decisions involving family members or close friends. Staff should make any significant decisions relating to the student's assessments and have those endorsed by a supervisor.

Your professional relationship may be compromised if you: • invite students to join your personal electronic social networking site or accept students' invitations to join theirs • attend parties or socialise with students • invite a student or students back to your home or attend theirs without an appropriate professional reason and without the consent of their parent or carer • transport a school student in your car without prior approval from a supervisor and a parent or carer.

The boundaries of the professional relationship will be breached if you: • have a sexual relationship or develop an intimate relationship with a student • use sexual innuendo or inappropriate language and/or material with students • hold conversations of an intimately personal nature, where you disclose private information about yourself • have contact with a student via written or electronic means including email, letters, telephone, text messages or chat lines, without a valid context • give students gifts of a personal nature that encourages them to think they have an individual and special relationship with you

ADMISSIONS PHILOSOPHY

The University seeks mature, capable students who have the preparation and motivation needed to accomplish their academic and professional goals. In addition, it is expected that successful applicants will demonstrate a commitment to and a passion for their chosen field of study.

The University shall admit any student who is obviously qualified or who does appear to have a reasonable prospect of completing the program. Applications will be reviewed by Office of Admissions to ensure that the candidate is of good quality for admissions. Candidates must also be able to demonstrate significant potential and promise of completing the program. This can be demonstrated with prior academic performance, professional experience and life experiences. The University exercises an open admissions policy. That is, all students who apply and meet the admissions criteria will be admitted into the program.

The University welcomes all students and does not discriminate on the basis of race, color, national origin, religion, disability, gender or in any other way in its policies, practices, or procedures involving applicants, students, faculty, staff and the public. Please note, however, that the University reserves the right to refuse admission to anyone the University believes does not meet its academic standards.

NON-MATRICULATED APPLICANTS

All applicants must matriculate into an academic program. No non-program applicants shall be accepted.

GRADUATE ENTRANCE EXAMINATIONS

No graduate entrance examinations are required at the time of admissions.

WAIVER OF BACHELOR DEGREE REQUIREMENT

In special circumstances, the University may not require an earned bachelor degree to be admitted into the graduate degree program. This is permissible if the applicant has achieved sequential learning equivalent in breadth of knowledge and understanding (i.e., general education) and equivalent in depth of achievement in business administration or management to that acquired in four years of study beyond high school, as measured by a minimum of 120 semester units or its equivalent in other units of credit.

HIGH SCHOOL ATTESTATION

If applicant is applying for Associate degree program and has no prior college coursework completed, applicant must complete High School Attestation form.

OFFICIAL TRANSCRIPT

You must contact every college or university you have attended and request that an official transcript be sent to the Office of Admissions. An official transcript is one that is sent directly to IAU from the issuing institution. Prior college and university transfer courses and/or degrees must be from an institution approved by a State Approval Agency (SAA), nationally or regionally accredited, or a foreign equivalent. A minimum of a 2.0 cumulative grade point average depicted will be considered for transfer. An official transcript is one that has been received directly from the issuing University. It must bear the college seal, date, and an appropriate signature.

IQY does not
discriminate on the
basis of race, color,
national origin,
religion, disability,
or gender



Transfer,
Standardized
Exams, and
Experiential
Learning Credit
reduce the
amount of
coursework
required to
complete your
program.

TRANSFER CREDIT (TC)

The University will consider accepting transfer students from other schools as determined by the Office of Admissions. To transfer to the University, an applicant must file an application for admission, satisfy all admission requirements, and submit official copies of transcripts from all schools previously attended. The Director of Admissions has the sole discretion to award transfer credits.

STANDARDIZED EXAM CREDIT (SEC)

The University welcomes students from a wide variety of backgrounds and learning experiences. The University recognizes their prior learning by accepting a full range of standardized exams, which measure mastery of college-level, introductory course content in a wide range of disciplines. Students who obtain the credit-granting score required can earn credits and course exemptions. The University establishes standards that are recommended by the American Council on Education (ACE). The University grants a credit on standardized exams for undergraduate credit only. Official exam scores must be sent from crediting exam center.

For list of Standardized Exams, the University accepts, visit website: www.iau.la/adm/policies.asp

EXPERIENTIAL LEARNING CREDIT (ELC)

IAU recognizes that learning may take place in settings other than the college classroom. Many adult students have acquired knowledge from training or life experiences (a job, self education or practical experience), which is equivalent to that provided in the classroom. Where college level learning from these experiences can be verified and properly documented, IAU will award college credit.

IAU is one of a growing number of colleges and universities which are receptive to the idea of awarding credit for the learning acquired through non-college experience prior to entering or returning to the pursuit of a college degree. Such learning, frequently called Prior Experiential Learning, may result from such activities as work experience, volunteer work, community service, travel abroad or internationally, military or Peace Corps experience, independent reading or conversations with experts.

Prior Experiential Learning credit can save money and reduce the length of time to achieve a degree. Although numerous other colleges also recognize experiential learning, IAU sets its own standards on what and how many credits it will accept in transfer. Students intending to transfer should inquire of that school how experiential credit will be accepted. The maximum amount of experiential learning credit which may be awarded depends on the academic program enrolled.

- **Save Time.** Successful completion of a Request for Prior Experiential Learning credit can cut a significant amount of time from the degree-completion process.
- **Save Money.** Credits awarded through Request for Prior Experiential Learning credit assessment are evaluated for a fee much lower than tuition.
- **Gain Understanding.** The process helps students understand how they have acquired learning.
- **Value Knowledge.** Credit awards show the value of experiential learning.

ENGLISH FLUENCY FOR INTERNATIONAL APPLICANTS

No program applicant is admissible unless she/he can demonstrate proficiency in the English language. At the Office of Admissions' discretion, proficiency may be demonstrated by:

- 1. Completion of certificate or degree program in country where English is primary language;
- 2. Writing sample, personal interview, nature of current employment; or
- 3. Special exams: IAU Institutional TOEFL/TOEFL 500+ (PBT) / 173+ (CBT) / 61+ (IBT)

APPLICANTS WITH FOREIGN DEGREES

If you completed your degree at a foreign (outside of the United States) college or university, you will need to submit a professional General Report foreign credential evaluation. If you want to receive transfer credit for coursework you have completed at a foreign (outside of the United States) college or university you will need to submit a professional Course-By-Course evaluation of your coursework.

These agencies will interpret your educational credentials and identify the U.S. equivalents in terms of both credits and degrees. They can also evaluate high school work if you need proof that you have the equivalent of a U.S. high school diploma.

Official evaluation of your credentials by one of these agencies does not guarantee that **IQY** will accept all or any of your coursework. The final decision for the acceptance of transfer credits is determined by IAU, not the agency doing the evaluation of your foreign credentials. For list of approved credential evaluating agencies, visit website:

International
Applicants &
Foreign
Education Policy



Admissions Requirements

ADMISSIONS REQUIREMENTS

English as a Second Language (ESL) Certificate Program

- Placement Exam: A Placement Exam is required for ESL applicant, so that s/he is placed in the appropriate level.
- Pre-Education: Evidence of a high school diploma or the student's capacity to engage in post-secondary education.
- No transfer credit, standardized exams, or prior experiential learning credit awarded.

Certificate of Achievement / Graduate Management Certificate Program

- Pre-Education: The University may require evidence of some college or the student's capacity to engage in post-secondary education / evidence of a bachelor degree in any discipline.
- Professional Experience: May require some professional experience.
- No transfer credit, standardized exams, or prior experiential learning credit awarded

Associate's Degree Program

- Pre-Education: The University will require either evidence of a high school diploma, or some completed college-level coursework. If applicant is applying for Associate degree program and has no prior college coursework completed, applicant must complete High School Attestation form.
- Maximum Transfer Units: The maximum number of transfer credits for the undergraduate Associate degree program is 60 semester units.
- Standardized Exams: 60 semester units.
- Prior Experiential Learning: The maximum number of Experiential Learning credits for the undergraduate Associate degree program is 15 semester units.

Bachelor's Degree Program

- Pre-Education: The University will require evidence of an earned Associate Degree, or equivalent or completed at least 2 years of college-level coursework.
- Maximum Transfer Units: The maximum number of transfer credits for the undergraduate Bachelor degree program is 90 semester units.
- Standardized Exams: 90 semester units.
- Prior Experiential Learning: The maximum number of Experiential Learning credits for the undergraduate Bachelor degree program is 30 semester units.

Master's Degree Program

- Pre-Education: The University will require evidence of a bachelor degree in any discipline. In special circumstances, applicants without bachelor degrees will be admitted.
- Professional Experience: The University may require at least 3 years of professional experience.
- Maximum Transfer Units: The maximum number of transfer credits for the graduate Master degree program is 6 semester units.
- Prior Experiential Learning: The maximum number of Experiential Learning credits for the graduate Master degree program is 6 semester units.

Doctor Degree Program

- Pre-Education: The University will require evidence of a bachelor degree and MBA, or equivalent. In special circumstances, applicants without bachelor degrees will be admitted.
- Professional Experience: The University may require at least 5 years of professional experience.
- Maximum Transfer Units: The maximum number of transfer credits for the graduate Doctoral degree program is 30 semester units.
- Prior Experiential Learning: The maximum number of Experiential Learning credits for the graduate Doctoral degree program is 9 semester units. Of the first 30 semester units awarded a student in a graduate program, no more than 6 semester units may be awarded for prior experiential learning. Of the second 30 semester units (i.e., units 31 to 60) awarded a student in a graduate program, no more than 3 semester units may be awarded for prior experiential learning.

APPLICATION PROCESS & PROCEDURES

Applicants applying to academic programs must go through the University's Admissions process. The Admissions process is a process that assists the student in achieving his or her educational goals. It is an agreement between the college and the student who enrolls for credit. IAU asks that you participate in the matriculation process with us to ensure your educational success. If you commit to an educational goal, we commit to helping you succeed.

1. Applicants must submit a completed Admissions Portfolio. The completed Admissions Portfolio and any supporting materials (such as transcripts and test scores) become the property of the University and will not be returned to the applicant or transmitted to a third party.
 - Application for Admissions (required): Complete all items on the printed Application for Admission form.
 - Application Fee (required): Submitting an application requires a \$75.00 non-refundable application fee.
 - Library Acknowledgement Form (required): Student will be responsible for obtaining access to sufficient library resources. Student must complete and submit the library acknowledgement form.
 - Official Transcripts (required): Request official transcripts from all Colleges or Universities that you have attended since graduating high school. You may submit personal copies for evaluation purposes. Official copies must be received directly from the issuing College or University prior to official enrollment.
 - High School Attestation (optional): If applicant is applying for Associate degree program and has no prior college coursework completed, applicant must complete High School Attestation form.
 - Foreign Credential Evaluation (FCE) (required for foreign students): If you completed your degree at a foreign (outside of the United States) college or university, you will need to submit a professional foreign credential evaluation.
 - Bachelor Degree Waiver (optional): If applicant is applying for Bachelor degree waiver for graduate degree program, please complete Application for Bachelor Degree Equivalency. Please complete and submit this application and associated fees in addition to the standard Application for Admissions and Application Fee. This application does not substitute the standard Application for Admissions.
 - Standardized Exam Credit (optional): Submit any exams cores directly to the Office of Admissions.
 - Experiential Learning Credit (ELC) (optional): The University recognizes that not all learning takes place in a traditional classroom, and we are pleased to offer students a way to receive college credit for learning they have acquired through their professional and life experiences. Upon applying, you may submit this Prior Experiential Learning Credit request to the Office of Admissions for review.
2. After the Admissions Portfolio has been received, the Office of Admissions will conduct a formal Academic Credential Evaluation (ACE). This will allow the applicant to understand what credit has been awarded for transfer credit, standardized exams, and experiential credit.
3. If the applicant is accepted for admission, an acceptance letter will be sent to the applicant. If the applicant is not accepted, the Office of Admissions will send a letter to the applicant informing applicant of the decision, stating why his/her qualifications are deficient.

Admissions Process & Procedure

Student Services

Dedicated to
fostering the
academic and
personal
endeavors of
every student

STUDY GROUPS

Residential Students

The University believes that study groups can be very valuable in the learning process. They can provide support, discipline, and ready feedback. Residential Students can form study groups on campus.

Distance Learning Students

As with any distance-learning program with students throughout the world, it is difficult for students to convene in traditional study groups for learning purposes. The University provides for "electronic interaction" between students and their Faculty Mentors, which it believes offsets this limitation. Through electronic means, students are in direct one-on-one contact with their Faculty Mentors and Academic Advisors to enhance their learning.

LIBRARY SERVICES

Residential Students

The library of the University exists primarily to serve the scholarly and research needs of the faculty and students of University. The library contains mainly specialized holdings in those subject areas relevant to the University's course offerings- Business and English.

Distance Learning Students

Students will be required to use his or her best judgment to evaluate the Library Resources required to successfully complete the educational program and determine if Student can comfortably meet those needs.

TRANSCRIPT SERVICES

The University will provide you with one transcript at no charge when you graduate from your program. If you wish to order additional transcripts, send a written request containing your signature to the Office of Admissions & Records. The fee for an official copy is \$10.00. A check or money order must accompany your request or the request will not be processed. Transcript request form can be downloaded online. Visit: www.iau.la/adm/forms.asp

Also see *Student Records Policies*

CAREER PLANNING & PLACEMENT

The University's programs do not prepare graduates for a specific occupation or employment and does not provide formal career planning services. All students are encouraged to speak with the Office of Student Services, faculty, and instructors regarding career and professional planning. The University will provide a list of employers who have contacted the University offering employment opportunities. These postings will be made available on the public bulletin board or online in the student resources page.

ALUMNI ASSOCIATION

The mission of the Alumni Association of the University is to foster a mutually beneficial relationship between the University and its alumni ... to perpetuate a sense of pride in and commitment to the outstanding qualities of the University and the education it provides, and to promote, in partnership, a positive image of the University and its alumni through communication, service and leadership.

University policies have been established to create a safe and productive academic and work environment. All university employees and students are expected to be familiar with these policies and to follow them. University policies are subject to change at any time and faculty, staff and students are responsible for familiarizing themselves with current policies. Individuals with questions about a particular policy should contact the main administrative offices.

ATTENDANCE POLICY

Residential Students

Regular and punctual attendance, as well as active student participation, is an important part of a student's education. Except for emergencies, students will notify the University twenty-four (24) hours in advance of any absences. Student must maintain satisfactory academic progress. Attendance is strictly monitored. All missed assignments and/or additional assignments must be completed according to professors' guidelines.

Distance Learning Students

Since the University provides a distance learning program for its students and requires no classroom attendance, campus attendance is not necessary.

WITHDRAW / DROP POLICY

A student may withdraw / drop from the University at any time during the term by the last day of regularly scheduled classes by completing the proper forms from the Office of Admissions & Records. Official notification in writing must be received before any withdrawal from the University is processed. Student's cancellation notices must be in writing and that a withdrawal may be noticed by a student in writing or by the student's conduct including lack of attendance.

Students who wish to withdraw from their program of study should send a written notice to the

Office of Admissions & Records

IQY Technical College

E mail: admin@iqytechnicalcollege.com

The e-mail address is registrar@iau.la. The notice of cancellation and withdrawal is effective when delivered, postmarked, or e-mailed. ***See Tuition Refund Policy - General herein***

LEAVE OF ABSENCE

The University realizes that an emergency may occur for a student that may only be solved by electing to interrupt class attendance for a time by requesting a Leave Of Absence (LOA).

The student must direct such a request to the Office of Student Services by writing a note clearly stating the reason for the request for leave of absence and stating the date of the request, the anticipated date of return, and signing the request. The LOA may be granted if sufficient reason is provided. When a student is granted a leave of absence, consequences may include:

1. Receiving an "F" grade for all courses that were not completed,
2. Repeating failed courses, and
3. Extending the graduation date.

Attendance, Withdraw, Leave- of Absence Policies

Grading Policies

GENERAL POLICY ON GRADING

It is an integral part of the teaching responsibility of the faculty to provide careful evaluation, timely assignments, and appropriate grades for each enrolled student. In the absence of compelling reasons, such as a mistake, fraud, bad faith, or incompetence, the grade determined by the instructor of record is to be considered final. Final course grades must be submitted by the faculty to the Office of the Admissions & Records no later than noon of the second academic day after the end of the Final Examination period.

TIME BETWEEN GRADING & EVALUATION

Submitted Examinations will be graded and returned to students within 5 business days.

Doctoral Thesis will be reviewed and returned to students with comments after 60 business days. This will allow faculty ample time to review, critique, and provide constructive feedback.

STANDARDS FOR STUDENT ACHIEVEMENT

Students must achieve a 1.0, or "D", average to receive credit for a particular class. Students may retake any classes for which they have not achieved this passing grade. Standard tuition fees are applicable. An undergraduate student who falls below a cumulative grade point average of 2.0 is academically dismissed. Graduate students must maintain an overall G.P.A of 2.5 or student will be placed on academic probation. A graduate Student who falls below a cumulative grade point average of 2.5 is academically dismissed.

GRADE REPORTS

At the end of each course, notification of the student's academic standing and report of grades achieved while in enrollment at the University are provided to each student. Grades are normally provided within two weeks following the completion of the course. If there are any unpaid charges or other penalties on record against a student, request for transcripts and class grades will be withheld unless arrangements to the contrary have been made in advance with the administration. Questions regarding grade reports, academic credit, or transcripts should be referred to the Office of the Admissions & Records.

COMPLETION TIME

Minimum Completion Time

Students must be enrolled for a minimum of 2 academic terms to complete any degree program. Certificate programs have may be completed in 1 academic term.

Maximum Completion Time

Students are required to complete the program within 150% of the standard time of completion of the time of their admission.

Program	Standard (Yrs)		Maximum (Yrs)	
	Full-time	Part-time	Full-time	Part-time
Associate Degree	2.0	4.0	3.0	6.0
Bachelor Degree	2.0	4.0	3.0	6.0
Master Degree	1.75	3.5	2.75	5.5
Doctor Degree	2.0	4.0	3.0	6.0
Certificates - Achievement / Graduate	0.75	1.5	1.5	3.0
Certificates - ESL	N/a	N/a	N/a	N/a

CHEATING AND PLAGIARISM

One or more of the following actions are available to the faculty member who suspects a Student has been cheating or plagiarizing. The choice of action taken by the faculty member is guided by the extent to which the faculty member considers the cheating or plagiarism reflects the Student's lack of scholarship or lack of academic performance in the course:

- 1. Review - no action
- 2. Oral reprimand with emphasis on advising to prevent further occurrence.
- 3. Requirement that the work be repeated.
- 4. Assignment of "Failure" for the specific work in question.
- 5. Assignment of "Failure" for the course as a result of No. 4 above.
- 6. Referral to the Dean of the University, as appropriate.

STUDENT HEALTH AND SAFETY REGULATIONS

The University is not liable for injuries sustained by students in their activity as students, even though such injuries occur on school premises, in laboratory work, or in clinics. Students are advised to be certain that they are covered by personal health and accident insurance.

GRIEVANCE PROCEDURE

Students have the right to address grievances to the Director. If the situation cannot be resolved promptly, the student shall submit a report of the policy violation to the President. Upon receipt of the report, the President shall promptly notify the student that an investigation will begin and furnish the Student with a copy of this policy. The Director shall immediately investigate the situation and shall have the power to question persons with pertinent information, examine any pertinent materials, and question the student. Within fifteen (15) school days, exclusive of weekends and holidays, of notice to the student, the Director shall determine whether a complaint shall be filed with the Executive Office. If a complaint is filed, the person against whom the complaint is filed shall receive written notice which shall include the initial report, the factual allegations, a list of witnesses and evidence, the time and place of the hearing, a statement that the accused has the right to be represented by counsel or representative of his/her choice, and an opportunity to review any information gathered by the Director.

If no complaint is filed with the University because the allegation is without merit, the conduct is de minimus, or the evidence is insufficient, the Director shall keep a record of the allegation, nonetheless. The student shall be informed accordingly. Unresolved complaints may be directed to the above address.

Rules of
Conduct



Student
Records
Policies



AVAILABILITY OF STUDENT RECORDS

Student records are maintained on-site for a minimum of five (5) years. Students have access to their own personal records during regular business hours upon reasonable notice, but access can only be had in the presence of a duty-authorized University representative. Transcripts are available for fifty (50) years.

DISCLOSURE OF STUDENT RECORDS

With several exceptions provided by law, the University cannot release information concerning Students to prospective employers, government agencies, credit bureaus, etc., without the written consent of the Student. Students and alumni applying for jobs, credit, graduate school, etc., can expedite their applications by providing the University with written permission to release their records, specifying which records and to whom the release should be made. The Student's written consent is not required for the disclosure of grades, disciplinary action, or other information to parents of Students who are dependents for federal income tax dependency.

RIGHTS AND ACCESS BY OTHERS

The law provides that right of access to Student records is available to authorized officials of State or Federal agencies when such access is necessary for audit or evaluation of educational programs supported by such agencies.

RIGHT TO WITHHOLD TRANSCRIPTS AND GRADES FOR NONPAYMENT OF TUITION

The Office of the Admissions & Records may withhold a student's transcript or grades if the student is in default on a student tuition contract.

ADDRESS CHANGE

It is important for us to have current mailing addresses for all students. If you change your address, you may notify us via email. If you do not have Internet access, you may notify the Office of the Admissions & Records by phone, mail, or fax.

NAME CHANGE (STUDENT OR GRADUATE)

Students who need to change the names on their academic records may do so by contacting the Office of the Admissions & Records in writing and providing appropriate documentation. The Office of the Admissions & Records will then notify other IAU offices of the name change.

DECEASED STUDENTS (UPDATING RECORDS)

Family members of students who have passed away during the course of their program and are entitled to a refund are required to submit a copy of the Death Certificate to the Office of the Admissions & Records. The Office will update the deceased student's file at that time.

The University is committed to doing everything possible to help eligible Students meet their financial needs. Major responsibility for securing the necessary financial resources rests with the student. In some cases, assistance can be expected and should be sought from the home church, support of family and friends, summer savings, and work-study funds. The University does not currently participate in state or federal financial assistance programs. Financial assistance may come in the form of Financing Plans, private scholarships, or the President's Scholarship.

TUITION

Tuition for a class must be paid before course work is sent begins, unless student opts for **Financing Plan** described in **Financial Information** section. The University reserves the right to collect any unpaid financial obligations by any means necessary for any education services and/or training provided. Students may use electronic funds transfer, personal or business checks, cashier's check or money order.

ENROLLMENT AGREEMENT

An enrollment agreement must be signed for the entire program enrolled. It is the policy of the University to collect all tuition and other fees from a Student before he or she starts the course. A tuition payment plan may be developed to assist students who need to pay on an installment plan. See **Financing Plan** policy herein.

RELEASE OF INFORMATION

The University will not provide documentation for any student or graduate who is delinquent in payment of tuition, fees or any other financial obligation incurred through the school. Nor will any such Student have final examinations graded or next course work sent. See *Student Records Policies herein*

FINANCIAL SUSPENSION

A student may be suspended from the University for failure to pay the tuition and fees as agreed to in the enrollment agreement.

TUITION REFUND UPON CANCELLATION PRIOR TO FIRST DAY OF INSTRUCTION

For all students, without penalty or obligation, shall refund 100 percent of the amount paid for institutional charges, less a reasonable deposit or application fee not to exceed \$250, if notice of cancellation is made prior to or on the first day of instruction.

If the first lesson in a home study or correspondence course is sent to the student by mail, the University shall send it by first-class mail, postage prepaid, documented by a certificate of mailing, and the student shall have the right to cancel until midnight of the 7th business day after the first lesson was mailed. The request for cancellation from class(es) must be in writing and should state the reasons for the request.

Financial Policies

TUITION REFUND POLICY - GENERAL

Students may withdraw from a course after instruction has started and receive a prorated refund for the unused portion of the tuition if the student has completed 60% or less of the instruction. The University shall pay or credit refunds due on a reasonable or timely basis, not to exceed 45 days following the date upon which the student's withdrawal has been determined.

TUITION REFUND CALCULATION

The refund calculation for students shall be calculated as follows:

- i. Deduct a registration fee not to exceed \$250 from the total tuition charge.
- ii. Divide this figure by the number of weeks in the program.
- iii. The quotient is the weekly charge for the program.
- iv. The amount owed by the student for the purposes of calculating a refund is derived by multiplying the total weeks attended by the hourly charge for instruction plus the amount of the registration fee specified in paragraph (1).
- v. The refund shall be any amount in excess of the figure derived in paragraph (4) that was paid by the student.

Unicode

ဝီကီပီးဒီးယားကိုကြည့်တဲ့သူတွေအတွက်.org / .com ဝက်ဘ်ဆိုက်ကိုမည်သူမဆိုဖန်တီးနိုင်သည်။
မည်သူမဆို Wikipedia တွင်တင်နိုင်သည် ထို့ကြောင့်စာတမ်း / စာတမ်းများကို တက္ကသိုလ်များ
သို့စာရေး တင်ပြရန်မှာဝီကီပီးဒီးယားမှထုတ်ယူထားသော ကိုးကားချက်များကို တက္ကသိုလ်ပညာရှင်
များကလက်မခံပါ။

စိန့်ကလီးမင့်တက္ကသိုလ်သည်အပြည်ပြည်ဆိုင်ရာတက္ကသိုလ်အုပ်စုဖြစ်ပြီးအစိုးရနှင့်မှတ်ပုံတင်ထား
သောဌာနခွဲများရှိသည်

၁ / ဆွစ်ဇာလန်

၂ / ကမ္ဘောဒီးယား

3 / Niue

4 / ဗြိတိသျှအနောက်အင်ဒီးစ်

၄ / လိုက်ဘေးရီးယား

5 / ဆိုမာလီယာ 6

/ တူရကီ နှင့်အမေရိကန်ပညာရေးဌာနမှတ်ပုံတင် California Foreign Credential Evaluations
(California FCE)သည်စိန့်ကလီးမင့်ဒီဂရီများကိုအမေရိကန်ဒီဂရီနှင့်ညီမျှသည်ဟုမှတ်ပုံတင်ခဲ့သည်။

ဗြိတိသျှအရည်အချင်း၏တစ်စိတ်တစ်ပိုင်းဖြစ်သော Institute of Management Specialists-UK
, Institute of Manufacturing UK မှလည်းစိန့်ကလီးမင့်တက္ကသိုလ် အရည်အချင်းများကို
အသိအမှတ်ပြုသည်။

STC နည်းပညာတက္ကသိုလ်သည်စိန့်ကလီးမင့်တက္ကသိုလ်အုပ်စု၏အဖွဲ့ဝင်ဖြစ်သည်။

ဩစတြေးလျ NSW အစိုးရနှင့်အပြည်ပြည်ဆိုင်ရာအင်ဂျင်နီယာပညာရေးအဖွဲ့အစည်းများအသင်း
(IFEES) တွင်မှတ်ပုံတင်ထားသော The Institution of Professional Engineers Myanmar
၏အဖွဲ့အစည်းသည်စိန့်ကလီးမင့်တက္ကသိုလ်နှင့် STC
နည်းပညာတက္ကသိုလ်မှရရှိသောဘွဲ့များကိုလည်းအသိအမှတ်ပြုသည်။

ဩစတြေးလျအစိုးရ၏ AISC တွင်မှတ်ပုံတင်ထားသော IQY နည်းပညာကောလိပ်သည်
စင်ကာပူအင်ဂျင်နီယာနည်းပညာအင်စတီကျုနှင့် The Institution of Professional Engineers
Myanmar၏တရားဝင်ခွင့်ပြုထားသည့်သင်တန်းစင်တာပရော်ဖက်ရှင်နယ်အင်ဂျင်နီယာများအဖွဲ့၏
ဖြစ်သည်။

မြန်မာနိုင်ငံတွင်ပုဂ္ဂလိကတက္ကသိုလ်နှင့်ကောလိပ်ကောလိပ်များမှတ်ပုံတင်ခြင်းဥပဒေမရှိပါ။ သူတို့ကိုယ်သူတို့တက္ကသိုလ်များဟုအမည်ပေးထားသောအဖွဲ့အစည်းများသည်အမှန်တကယ်တွင်စီးပွားရေးလုပ်ငန်းလိုင်စင်များကို အသုံးပြု၍ နိုင်ငံခြားတက္ကသိုလ်များမှကိုယ်စားလှယ်များ/အဖြစ်ဆောင်ရွက်နေကြသည်။

IQY Technical College သည်Australiaသြစတြေးလျတွင်တရားဝင်မှတ်ပုံတင်ထားပါသည်။ ကျွန်ုပ်တို့သည်သြစတြေးလျတွင် RTO အဖြစ်မလုပ်ကိုင်သော်လည်းကျွန်ုပ်တို့၏ကိုယ်ပိုင်ဒီပလိုမာများကိုတရားဝင်လုပ်ပိုင်ခွင့်ရှိသည်။

IQY ပရော်ဖက်ရှင်နယ်ဒီပလိုမာများကို Bachelors level တွင်ရေးဆွဲထားပြီး IQY Master Diplomas များကို Masters degree level တွင်ရေးဆွဲထားသည်။ ဘွဲ့များကိုထုတ်ပေးရန်ကျွန်ုပ်တို့သည် St Clements တက္ကသိုလ် / STC Technological University နှင့်ပူးပေါင်းလုပ်ဆောင်သည်။

အသိအမှတ်ပြုခြင်းအကယ်၍ သင်သည်ဒေါ်လာ ၁၀၀,၀၀၀ ပေး၍ သြစတြေးလျားဘွဲ့ရရှိပါကအသိအမှတ်ပြုအရည်အချင်းကိုသင်ရရှိသည်။သို့သော် သြစတြေးလျအမြဲတမ်းနေထိုင်ခွင့်ဗီဇာရလိုလျှင် IELTS ဖြေရမည် PR မရှိပဲအလုပ်လုပ်ရန်တရားဝင်အခွင့်အရေးမရှိပါ။ အသိအမှတ်ပြုအရည်အချင်း၏အဓိပ္ပာယ်ကဘာလဲ ။

ဝါရှင်တန်Accord IEA သဘောတူညီချက် (အပြည်ပြည်ဆိုင်ရာအင်ဂျင်နီယာမဟာမိတ်များ) သည်အပြည်ပြည်ဆိုင်ရာအင်ဂျင်နီယာများအတွက်ဒီဇိုင်းပြုလုပ်ထားသည် ယခု Covid 19 ကြောင့်နိုင်ငံတကာခရီးများနှင့်နယ်နိမိတ်များအားလုံးပိတ်သွားပြီ။ ဝါရှင်တန်သဘောတူညီမှုကိုအမှန်တကယ်ဘယ်လိုအသုံးပြုမလဲ။

Covid 19

ကာကွယ်ဆေးကိုတီထွင်ခဲ့နိုင်ငံအားလုံး၏စက်မှုလုပ်ငန်းများနှင့်စီးပွားရေးလုပ်ငန်းများပြန်လည်နာလန်ထူလာလျှင်သော်မှနိုင်ငံအားလုံးသည်မိမိတို့၏နိုင်ငံသားများနှင့်နေထိုင်သူများအားအလုပ်အကိုင်ပေးခြင်းကိုအာရုံစိုက်မည်ဖြစ်သဖြင့် ဝါရှင်တန်သဘောတူညီချက်အရအသိအမှတ်ပြုအရည်အချင်းများ၏စစ်မှန်သောအကျိုးကျေးဇူးကိုမည်သည့်အချိန်တွင်ရရှိမည်နည်း။

အသိအမှတ်ပြုခြင်းနှင့်နိုင်ငံတကာအသိအမှတ်ပြုခြင်းစသည်တို့ထက်သင်၏အနီးကပ်အနာဂတ်ကို ဆုံးဖြတ်ရန်အရေးကြီးသည်။

Zawgyi One

တြင်းငိုလှည့် ထိုနေ့၊ ဗုဒ္ဓကင်းစာတမ္း / စာတမ္းမားကို တကုသိုလ္လ်း သို၊ စာရေး

စီမံခန့်ခွဲမှုဆိုင်ရာ ဘဏ္ဍာရေး ဝန်ကြီးဌာန

၂ / ကေမတောဒီးယား

4 / ဖဗိတိသဗ္ဗအေနာက္ခဏိဇ္ဇ

5 / ဆိုမာလီယာ 6

မဗိတိသဗ္ဗအရသျှင်္ဂ်း၏တစိတ္တစိတ္တုးပုဗ္ဗသော Institute of Management Specialists-UK , Institute of Manufacturing UK မူလညးစိဉ်းလီမဉ်ကသိလ အရသျှင်္ဂ်းမ်းကို အသိအမ္တပုပါသည။

ဗုဒ္ဓစေတီတော် NSW အစိုးရနှင့်အပြန်အလှန်အကျိုးအမြတ်အစည်းအဝေး (IFEES)

ၧါအဖြူအစည်းသည့်နီလီမဏ္ဍကသိုလ်းို့ငှာ STC

ဗုဒ္ဓစေတီတော်အစိုးရ၏ AISC ကြံ့ခိုင်မှုစစ်ဆေးမှု IQY နည်းပညာကလိပ္ပာ

Myanmar၏တရားဝင်ငွေဖြစ်သည့်သက်ဆိုင်ရာစာပေရေးဖွဲ့ကုသပိုင်ခွင့်ယာမ်းအပြု၏ဖြစ်သည်။

သူတို့ ကိုယ်တိုင် တကသိုလ်းဟုအမည်ပေးထားသော အဖြူအစည်းမီးသည့်မုန့်ကြီးပြားရေးလုပ်နံ့

းလိဋ်ဌားကို အသုံးပြု၍ နိုင်ငံ့စားတကသိလွှားမှ ကိယားလွဲယွှား / အယုတ္တေဆာဋ္ဌကနေ ဖုကသည။

IQY Technical College သည် Australia ဖွဲ့စည်းတည်ထောင်ထားသော ကောလိပ်တစ်ခုဖြစ်သည်။
ကနေဒါနိုင်ငံ၊ သို့မဟုတ် အခြားနိုင်ငံများတွင် RTO အဖြစ်မှတ်ပုံတင်ထားသော ကောလိပ်တစ်ခုဖြစ်ပြီး
ကိုယ်ပိုင်ပိုင်ဆိုင်မှုမရှိဘဲ အခြားကုမ္ပဏီတစ်ခုမှ ဖွဲ့စည်းတည်ထောင်ထားသည်။

IQY ပေရာမီယံကောလိပ်မဟုတ်ဘဲ Bachelors level ကြေးငွေဆောင်ရွက်ပေးပြီး IQY Master Diplomas မှာကို
Masters degree level ကြေးငွေဆောင်ရွက်သည်။ ဤတို့ကိုထုတ်ပေးရန်ကနေဒါနိုင်ငံ၊ သို့မဟုတ် St Clements
တက္ကသိုလ် / STC Technological University ဝင်ရောက်ပေးပါသော လုပ်ငန်းဆောင်ရွက်သည်။

အသိအမှတ်ပြုချခံရမှုအကယ်၍ သိရှိသူများသည် ၁၀၀,၀၀၀ ပေး၍
ဖွဲ့စည်းတည်ထောင်ထားသော ကောလိပ်မဟုတ်ဘဲ အခြားကုမ္ပဏီတစ်ခုမှ ဖွဲ့စည်းတည်ထောင်ထားသည်။ သို့မဟုတ်
ဖွဲ့စည်းတည်ထောင်ထားသော ကောလိပ်မဟုတ်ဘဲ အခြားကုမ္ပဏီတစ်ခုမှ ဖွဲ့စည်းတည်ထောင်ထားသည်။
မရှိပဲ အလုပ်လုပ်ရန် ဝင်ရောက်ပေးပါသော လုပ်ငန်းဆောင်ရွက်သည်။

ဝါရှင်တန် Accord IEA သေဘာတူညီချက် (အချုပ်အခြာမှုအောက်တွင် အင်္ဂလိပ်စာအသုံးပြုမှု)
သည့်အချုပ်အခြာမှုအောက်တွင် အင်္ဂလိပ်စာအသုံးပြုမှုသည် ယခု Covid 19
ဘေးအန္တရာယ်နှင့် ကပ်ရောဂါများ ဖြစ်ပွားနေသည့် အခါတွင် ပိုမိုသိရှိရန်
ဝါရှင်တန် သေဘာတူညီချက်ကို အသိအမှတ်ပြုပါ။

Covid 19
ကာကြားဆေးကုသမှုကို တီထွင်နိုင်ရန်အတွက် အင်္ဂလိပ်စာအသုံးပြုမှုသည် လိုအပ်သည်။
သို့မဟုတ် အခြားကုမ္ပဏီတစ်ခုမှ ဖွဲ့စည်းတည်ထောင်ထားသည်။
သို့မဟုတ် အခြားကုမ္ပဏီတစ်ခုမှ ဖွဲ့စည်းတည်ထောင်ထားသည်။
သို့မဟုတ် အခြားကုမ္ပဏီတစ်ခုမှ ဖွဲ့စည်းတည်ထောင်ထားသည်။
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သို့မဟုတ် အခြားကုမ္ပဏီတစ်ခုမှ ဖွဲ့စည်းတည်ထောင်ထားသည်။

English

For the people who just look as Wikipedia

Wikipedia/.org/.com such website can be created by anyone. Anyone can post in Wikipedia
This is why to write and present the thesis/ term papers at the universities, the references drawn
out from Wikipedia is not accepted by the university academics.

St Clements University is International University Group which has the branches registered with the
Governments of

- 1/Switzerland
- 2/Cambodia
- 3/Niue
- 4/British West Indies
- 4/Liberia

5/Somalia
6/Turkey

and US Department of Education registered California Foreign Credential Evaluations (California FCE) also assesses St Clements degrees as equivalent to US degrees.

The Institute of Manufacturing/ The Institute of Management Specialists which are part of British Qualifications also recognize St Clements University Qualifications.

STC Technological University is member of St Clements University Group.

The Institution of Professional Engineers Myanmar, registered with NSW Government of Australia and Member of International Federation of Engineering Education Societies (IFEES) also accredits the degrees issued by St Clements University and STC Technological University.

IQY Technical College registered with AISC of Australian Government is Authorized Training Centre of Singapore Institute of Engineering Technologists and The Institution of Professional Engineers Myanmar.

There is no Private University and Tertiary Colleges Registration law in Myanmar.

All the organizations which have named themselves as Universities are actually operating with the business licenses and act as Representative / Agents of Foreign Universities.

IQY Technical College is legally registered in Australia although we do not operate as RTO in Australia, we possess the legal right to award our own diplomas.

IQY Professional Diplomas are designed at Bachelors degree level and IQY Master Diplomas are designed at Masters degree levels.

To issue the degrees, we co-operate with St Clements University/ STC Technological University.

Accreditation and Recognition

If you pay \$100,000 and you get Australian degree, you got the accredited qualification.

But if you want to get Australian Permanent Resident Visa, you must sit IELTS

Without PR, no legal right to work .

What is meaning of Accredited Qualification

Washington Accord of IEA (International Engineering Alliances) is designed for International Mobility of Engineers

Now Covid 19 stops all international travels and borders. What will be real usage of Washington Accord?

Even if Covid 19 vaccine has been developed, the recovery of the industries and businesses of all countries will be long term. In this case, all countries will focus on giving the jobs to their own citizens and residents and when the real benefit of accredited qualifications under Washington Accord will be acquired?

It is important for you to decide your near future rather than too much concerning Accreditation/ International Recognition etc.

Because the employers will pay you for your real skills rather than your papers

<http://www.iqytechnicalcollege.com/17%20April%202020%20IQY%20Information.htm>

IQY Technical College Facebook + Youtube

<https://www.facebook.com/100043340916182/videos/1172725837014266/>

<https://youtu.be/oAjMXpxp0Z4>

IQY Technical University Masters and Doctorate Programs Outline Video

<https://youtu.be/Mv8ibsHROq4>

Dr Kyaw Naing's Speech (Reproduction)(Introduction to IPEM and IQY Technical College) (English+Myanmar)

<https://youtu.be/0ScGCFJXMEU>

**IQY Information (Engineering/IT/Management/Vocational)
Video in Myanmar**

<https://youtu.be/ugMRnmAC00w>

**IQY Information (Engineering/IT/Management/Vocational)
Video in English**

VIDEO 1

https://youtu.be/ljVni_6Z5V0

VIDEO 2

<https://youtu.be/3ZIRD9BTBLw>

For English, visit

www.iqytechnicalcollege.com

& www.ipemyanmar.org

& www.ipemtechnologicaluniversity.education

IQY Teacher Education Course Video in Myanmar

<https://youtu.be/nAeLtVKTsGA>

IQY Vocational Education Course Video in Myanmar

<https://www.youtube.com/watch?v=HG4PJbYl3wQ&feature=youtu.be>

IQY Information Education 1

IQY Technical University +Program for Myanmar Students

www.iqytechnicalcollege.com/IQYInformationEducation1.pdf

Video

<https://youtu.be/L6ynerU8NiM>

IQYနည်းပညာကောလိပ်၏နိုင်ငံတကာအသက်မွေးဝမ်းကြောင်းသင်တန်း

IQY Technical College International Vocational Training Course

IQYနည်းပညာကောလိပ်၏နိုင်ငံတကာအသက်မွေးဝမ်းကြောင်းသင်တန်းများသည်သြစတြေးလျ Training Packages များ ပေါ်တွင်အခြေခံသည်။ သို့သော် NRT Australia အရည်အချင်းများကိုပေးခြင်းမရှိပါ။

IQYသည်အသက်မွေးဝမ်းကြောင်းသင်တန်းများကိုမြန်မာဘာသာဖြင့်လည်းသင်ကြားပေးသည် (Myanmar Vocational Training Certificate)

ကျွန်ုပ်တို့သည်ကျွန်ုပ်တို့၏ကိုယ်ပိုင်သင်တန်းများနှင့်သင်ယူမှုစနစ်ကိုတွဲဖက်ကာ

လိပ်များ၊တက္ကသိုလ်များနှင့်ပရော်ဖက်ရှင်နယ်အသင်းအဖွဲ့များနှင့်ပူးပေါင်းဆောင်ရွက်သည်။

IQY Technical College uses Australian Training Packages to teach International Vocational Training Courses.

IQY also teaches Vocational Training Courses in Myanmar Language (Myanmar Vocational Training Certificate)

We collaborate with our partner colleges , universities and professional associations to deliver our training.

Courses

Study Area 1 စိုက်ပျိုးရေး စီးပွားရေး(Agri Business)

IQY Professional Diploma 5999801/Advanced Diploma 4999801/Diploma 3999801/Certificate (2999801/1999801) Bachelor of Agri Business(BAB)

(STC Technological University)

The will be specialization streams such as

- Diploma in Agri Business(Animal Studies)
- Diploma in Agri Business(Production Horticulture) etc
- **Bachelor of Agribusiness**
- • ACM20117 - Certificate II in Animal Studies
- တိရိစ္ဆာန်လေ့လာရေးလက်မှတ် II
- •
- • **AHC30616** Certificate III in Production Horticulture
- •
- သစ်သီးဝလံ ထုတ်လုပ်မှုလက်မှတ်
- • Certificate in Wool Production
- • သိုးမွေးထုတ်လုပ်မှုလက်မှတ်
- • AMP30815 Certificate III in Meat Processing (Retail Butcher)
- အသားပြုပြင်ထုတ်လုပ်ခြင်း (လက်လီအရောင်းဆိုင်)
- • FBP30117 - Certificate III in Food Processing AND FBP30918 Certificate III in Wine Industry Operations
- အစားသောက်ထုတ်လုပ်မှုလက်မှတ်
- • Certificate in Animal Transportation
- တိရိစ္ဆာန်သယ်ယူပို့ဆောင်ရေးလက်မှတ်

Study Area 2 အလုပ်အကိုင်ဖွံ့ဖြိုးတိုးတက်မှု(Career Development)

IQY Professional Diploma 5999802/Advanced Diploma 4999802/Diploma 3999802/Certificate (2999802/1999802) Bachelor of Career Development(BCD)(STC Technological University)

The will be specialization streams such as

- Diploma in Career Development(Pathways to Further Study) etc
- Certificate in Skills Development

- • ကျွမ်းကျင်မှုဖွံ့ဖြိုးတိုးတက်မှုလက်မှတ်
- • Maths/ Science/ Physics/Chemistry/Design & Technology/ Software Design
- • English
- • Legal System
- • Social Justice
- • Certificate in Human Body System Studies
- • လူ့ခန္ဓာကိုယ်စနစ်လေ့လာရေး
- • **PSP20218**: Certificate II in Auslan.
- • Certificate in Ecosystem Studies
- • ဂေဟစနစ်လေ့လာရေးလက်မှတ်

Study Area 3 ဖန်တီးမှုဒီဇိုင်း (Creative Design)

IQY Professional Diploma 5999803/Advanced Diploma 4999803/Diploma 3999803/Certificate (2999803/1999803)
Bachelor of Creative Design(BCDS)

(STC Technological University)

The will be specialization streams such as

- Professional Diploma in Creative Design (Interior Design) etc
- The will be specialization streams such as
- • Professional Diploma in Creative Design (Interior Design) etc
- • **CUA30715** Certificate III (3) in Design Fundamentals
- • ဒီဇိုင်းအခြေခံလက်မှတ်
- • **CUA40715** Certificate IV in Design
- • ဒီဇိုင်းလက်မှတ်
- • **MSF40118** Certificate IV in Interior Decoration
- • အတွင်းပိုင်းအလှဆင်ခြင်းလက်မှတ်
- • Certificate in Textile
- • အထည်အလိပ်လက်မှတ်
- • **SHBBMUP002** Design and apply make-up Statement of Attainment
- • ဒီဇိုင်းနှင့်မိတ်ကပ်လက်မှတ်

Study Area 4 ကျန်းမာရေးဘာယာဝပြောရေး လူ့အဖွဲ့အစည်း(Health Wellbeing Community)

IQY Professional Diploma 5999804/Advanced Diploma 4999804/Diploma 3999804/Certificate (2999804/1999804)
Bachelor of Health Wellbeing Community (BHCW) (STC Technological University)

The will be specialization streams such as

- Professional Diploma in Health Wellbeing Community (Early Childhood) etc
- Professional Diploma in Health Wellbeing Community (Early Childhood) etc
- • Certificate in Introduction to Health Service Business

- • ကျန်းမာရေး ဝန်ဆောင်မှုလုပ်ငန်းမိတ်ဆက်လက်မှတ်
- • **CHC30113** Certificate III in Early Childhood Education and Care
- အစောပိုင်းကလေးဘဝပညာရေးနှင့်စောင့်ရှောက်မှုလက်မှတ်
- • **CHC33015** Certificate III in Individual Support
- တစ်ဦးချင်းအထောက်အပံ့လက်မှတ်
- • **CHC42015** Certificate IV in Community Services
- ရပ်ရွာဝန်ဆောင်မှုများလက်မှတ်
- • **CHC43015** Certificate IV in Ageing Support
- • အိုမင်းခြင်းအထောက်အပံ့လက်မှတ်
- • **HLT33115** - Certificate III in Health Services Assistance
- • ကျန်းမာရေးဝန်ဆောင်မှုများလက်မှတ်
- • **SIS30315** Certificate III in Fitness
- ကြံ့ခိုင်ရေးလက်မှတ်

Study Area 5 အခြေခံအဆောက်အအုံစွမ်းအင်ဆောက်လုပ်ရေး(Infrastructure Energy Construction)

IQY Professional Diploma 5999805/Advanced Diploma 4999805/Diploma 3999805/Certificate (2999805/1999805)
Bachelor of Infrastructure Energy Construction (BIEC) (STC Technological University)

The will be specialization streams such as

- Professional Diploma in Infrastructure Energy Construction (Building Construction) etc

Study Area 6 ဆန်းသစ်သောကုန်ထုတ်လုပ်မှုသိပ္ပံ (Innovative Manufacturing Science)

IQY Professional Diploma 5999806/Advanced Diploma 4999806/Diploma 3999806/Certificate (2999806/1999806)
Bachelor of Innovative Manufacturing Science (BIMS) (STC Technological University)

The will be specialization streams such as

- Professional Diploma in Innovative Manufacturing Science (Interior Design) etc

Study Area 7 ထောက်ပံ့ရေးကွင်းဆက်လေ့လာရေး(Supply Chain Studies)

IQY Professional Diploma 5999807/Advanced Diploma 4999807/Diploma 3999807/Certificate (2999807/1999807)
Bachelor of Supply Chain Studies (BSCS) (STC Technological University)

The will be specialization streams such as

- Professional Diploma in Supply Chain Studies (Maritime Operations) etc

Study Area 8 နည်းပညာစီးပွားရေး လေ့လာရေး(Technology Business Studies)

IQY Professional Diploma 5999808/Advanced Diploma 4999808/Diploma 3999808/Certificate (2999808/1999808)
Bachelor of Technology Business

Studies (BTBS) (STC Technological University)

The will be specialization streams such as

- Professional Diploma in Technology Business Studies (Cyber Security) etc
- • **BSB30415** Certificate III in Business Administration
- • စီးပွားရေးအုပ်ချုပ်မှုလက်မှတ်
- • **FNS40217** - Certificate IV in Accounting and Bookkeeping
- စာရင်းကိုင်လက်မှတ်
- • **ICT30118** - Certificate III in Information, Digital Media and Technology
- • သတင်းအချက်အလက်, ဒီဂျစ်တယ်မီဒီယာနှင့်နည်းပညာလက်မှတ်

Study Area 9 ဧည့်ဝတ်ပြုခြင်းနှင့်ခရီးသွားလုပ်ငန်း လေ့လာရေး (Hospitality and Tourism Studies)

IQY Professional Diploma 5999809/Advanced Diploma 4999809/Diploma 3999809/Certificate (2999809/1999809)
Bachelor of Hospitality and Tourism

Studies (BHTS) (STC Technological University)

The will be specialization streams such as

- Diploma in Hospitality and Tourism Studies (Hairdressing) etc
- rm 140 Diploma in Tourism Management
- ခရီးသွားလုပ်ငန်းစီမံခန့်ခွဲမှုလက်မှတ်
- • Certificate in Work Practice

အလုပ်အလေ့အကျင့်လက်မှတ်

- • **FBP20217** - Certificate II in Baking
- မုန့်ဖုတ်လက်မှတ်
- • **SHB30115** - Certificate III in Beauty Services
- • အလှအပဝန်ဆောင်မှုများလက်မှတ်
- • **SHB30416** Certificate III in Hairdressing.
- • ဆံပင်အလှပြုပြင်ခြင်းလက်မှတ်
- • **SHB60118** - Advanced Diploma of Intense Pulsed Light and Laser for Hair Reduction
- လေဆာရောင်ခြည်ပြင်းထန် Pulsed အလင်းနှင့်ဆံပင်ကိုလျှော့ချလက်မှတ်
- • **SIT20316** - Certificate II in Hospitality
- • ဧည့်ဝတ်ပြုခြင်းလက်မှတ်
- • **SIT30816** Certificate III in Commercial Cookery

- စီးပွားဖြစ် ချက်ပြုတ်လက်မှတ်

သင်လိုသည့် ယူနစ်ကိုရွေးပါ။

သင်တန်းအားလုံးကို Certificate, Diploma နှင့် Advanced Diplomas များအတွက်စီစဉ်ပေးထားပါသည်။ ပရော်ဖက်ရှင်နယ် ဒီပလိုမာသို့မဟုတ်ဘွဲ့ရရှိရန်အတွက် IQY သင်တန်း၏သက်ဆိုင်ရာအင်ဂျင်နီယာသို့မဟုတ်သတင်းအချက်အလက်

နည်းပညာသို့မဟုတ်စီမံခန့်ခွဲမှုဘာသာရပ်များကိုလေ့လာရန်လိုအပ်သည်။

-
- Award Rules
- 15 ခရက်ဒစ် -Certificate
- 30 ခရက်ဒစ် -Diploma
- 60 ခရက်ဒစ် - Advanced Diploma

ယူနစ်တစ်ခုစီသည်အဆင့် ၁၊ ၂၊ ၃၊ ၄ တို့နှင့်မသက်ဆိုင်ဘဲ ၃ ခရက်ဒစ်ဖြစ်သည်။

- အဆင့်မှန်ကိုရွေးချယ်ခြင်းသည်ကျောင်းသားတစ်ဦး ချင်း၏စမ်းဆောင်နိုင်မှုနှင့်သင်တန်းကြီးကြပ်သူမှပေးသော သင့်လျော်သောကြီးကြပ်မှုနှင့်လမ်းညွှန်မှုပေါ်တွင်မူတည်သည်။
- ကျောင်းသားသည်အခက်အခဲတွေ့ပါကသူသည်သူမသည်သင်တန်းကြီးကြပ်သူနှင့်တိုင်ပင်ပြီးသင့်လျော်သောယူနစ် သို့ပြောင်းနိုင်သည်။
- အဆင့်သင့်ပြုလုပ်ထားသောလေ့လာမှုအရင်းအမြစ်များကိုအချို့ယူနစ်များအတွက်စီစဉ်ပေးသည်။
- သင့်လျော်သောလေ့လာမှုအရင်းအမြစ်များကိုအလွယ်တကူမရရှိနိုင်ပါက သင်တန်းကြီးကြပ်ရေးမှူးသည် သင့်လျော်သောလေ့လာမှုအရင်းအမြစ်များကိုအင်တာနက်သုတေသနဒေါင်းလုပ်လုပ်ကာယူနစ်၏အမည်ကိုထည့်သွင်း ပါ။

အကဲဖြတ်ခြင်း

- လေ့လာမှုတိုးတက်မှုအစီရင်ခံစာတင်သွင်းခြင်း

Award Rule

15 credits- Certificate

30 credits -Diploma

60 credits-Advanced Diploma

Each unit will be weighted 3 points regardless of level 1 or 2 or 3 or 4

Choosing the right level will depend on individual candidate's capability and appropriate supervision and guidance provided by the course supervisor.

There is no pre-requisite. If the candidate finds the difficulty, he or she can consult with the course supervisor to switch to appropriate level of the unit.

The ready made study resources are arranged for some units. If the appropriate study resources is not readily available, the candidate or course supervisor should perform the internet research by entering the name of the unit for example Handle horses safely to be entered for ACMEQ202 Handle Horse Safety unit and utilize the downloaded appropriate study resources.

Assessment

Submission of Study Progress Report

သင်ရိုးညွှန်းတမ်း(Curriculum)

အသက်မွေးဝမ်းကျောင်းသင်တန်းမြန်မာဘာသာ

Myanmar Vocational Training Courses

<http://www.highlightcomputer.com/mvtc.htm>

Enrolment စာရင်းသွင်းရန်

<https://www.emailmeform.com/builder/form/PXcY6O9gHaafufMf52exs>

IQYနည်းပညာကောလိပ်၏နိုင်ငံတကာအသက်မွေးဝမ်းကြောင်းသင်တန်း

IQY Technical College International Vocational Training Course

<http://www.iqytechnicalcollege.com/ivtc.htm>

Enrolment စာရင်းသွင်းရန်

<https://www.emailmeform.com/builder/form/NQZcypDfe9TebPjmt5b>

IQYနည်းပညာကောလိပ်၏နိုင်ငံတကာဘာသာသင်တန်း

IQY Technical College International Language Course

English

Basic language skills in the languages other than English and Myanmar is required to work with many foreign nationals from diverse cultural backgrounds.

IQY Technical College creates Myanmar Ethnic Nationalities and international language self learning portal designed by Dr kyaw Naing.

Unicode

ယာဉ်ကူးမဆောက်အမျိုးမျိုးရှိသောနိုင်ငံခြားသားများနှင့်အတူအလုပ်လုပ်ရန်အင်္ဂလိပ်နှင့်မြန်မာမဟုတ်သည့်အခြားဘာသာစကားများဖြင့်အခြေခံဘာသာစကားကျွမ်းကျင်မှုလိုအပ်သည်။

IQY နည်းပညာကောလိပ်သည်ဒေါက်တာကျော်နိုင်မှစီစဉ်ထားသော မြန်မာတိုင်းရင်းသားလူမျိုးများနှင့်နိုင်ငံတကာဘာသာစကားသင်ကြားရေး Portal ကိုဖန်တီးသည်။

Zawgyi One

ခေတ်မီမဆောက်အမျိုးမျိုးရှိသောနိုင်ငံခြားသားများနှင့်အတူအလုပ်လုပ်ရန်အင်္ဂလိပ်နှင့်မြန်မာမဟုတ်သည့်အခြားဘာသာစကားများဖြင့်အခြေခံဘာသာစကားကျွမ်းကျင်မှုလိုအပ်သည်။

IQY နည်းပညာကောလိပ်သည်ဒေါက်တာကျော်နိုင်မှစီစဉ်ထားသော မြန်မာတိုင်းရင်းသားလူမျိုးများနှင့်နိုင်ငံတကာဘာသာစကားသင်ကြားရေး Portal ကိုဖန်တီးသည်။

IQY Technical College Languages

www.iqytechnicalcollege.com/language.htm

MYANMAR ETHNICS LANGUAGES

Myanmar

Karen

Kachin
Chin
Shan
Mon
Kayah
Rakhine
Wa
Palaung

INTERNATIONAL LANGUAGES

English
French
Spanish
Chinese
Bengali
Danish
Finnish
Irish
Norwegian
Polish
Turkish
Urdu
Japanese
Korean
Hindi
Arabic
Greek
Italian
Russian
Hebrew
Thai
Khamer
Malay
Portuguese
Dutch
German
Farsi (Persian)
Vietnamese
Laotian
Indonesian
Mongolian
Filipino (Tagalog)
Icelandic
Serbian+Croatian
Tamil
Sinhala
Bhutanese(Dzongkha)
Nepali
Swedish
Finnish
Tibetan
Austrian
Albanian

Hungarian
Romanian
Fijian
Bulgarian



ဖက်ဒရယ်ပြည်ထောင်စုမြန်မာနိုင်ငံတော်လွန်ရေးအစိုးရ

Revolutionary Government of the Federal Union of Burma

www.rgfuburma.org

ရက်စွဲ-၂၆/၈/၂၀၂၂

စာအမှတ်: ၁၀/ ၂၀၂၂

Date 26/8/2022

Reference 10/2022

2021 ခုနှစ် ဖေဖော်ဝါရီလ 1 ရက်နေ့မတိုင်မီ အစိုးရတက္ကသိုလ်များနှင့် ကောလိပ်များမှ ချီးမြှင့်သည့် အရည်အချင်းများအားလုံးသည် မြန်မာနိုင်ငံတွင် အသိအမှတ်ပြုထားသော အရည်အချင်းများဖြစ်သည်။

All qualifications awarded by Government Universities and Colleges before 1 February 2021 are recognized qualifications in Myanmar

အောက်ဖော်ပြပါ ပညာရေးအဖွဲ့အစည်းများမှ ချီးမြှင့်သော အရည်အချင်းများသည် 2021 ခုနှစ် ဖေဖော်ဝါရီလ 1 ရက်နေ့ နောက်ပိုင်းတွင် မြန်မာနိုင်ငံတွင် အသိအမှတ်ပြုထားသော အရည်အချင်းများ ဖြစ်ပါသည်။

The qualifications awarded by the following educational institutions are recognized qualifications in Myanmar after 1 February 2021.

၁/ မြန်မာနိုင်ငံရှိအသိအမှတ်ပြု အခြေခံနှင့် အဆင့်မြင့် ပညာရေး အဖွဲ့အစည်းများ စာရင်း။

1/The list of online basic and higher education institutions where the students in Myanmar can safely study .

- MOE NUG Online learning
- Mai Ja Yang Federal Law Academy
- Spring University Myanmar
- Burma Academy
- FOEIM (Free Online Education Institutions Myanmar)
- Federal University
- Sittwe City Technological University (STCTU)online.
- IQY University and Technical College online
- IPEM Technological University online
- St Clements University Myanmar College online

၂/စစ်ရေးလေ့ကျင့်ရေးနှင့် စစ်ပညာ

2/Military Training and Military Education

- NUG MOD military training.
- KIA military training
- KNU/ KNDO /Kawthoolei Army Military training
- Arakan Army (AA) military training
- Myanmar Royal Dragon Army (MRDA)Military training
- Bamar People Liberation Army (BPLA)military training
- PDF Academy

အရည်အချင်း စစ်မှန်မှုကို ထောက်ခံပေးခြင်းအား အလုပ်အကိုင် အရည်အချင်းစစ်ဘုတ်အဖွဲ့မှ ပံ့ပိုးပေးမည်ဖြစ်ပါသည်။

The verification of the qualifications and supporting the authenticity will be provided by the Employment Qualifications Board.

အလုပ်အကိုင် အရည်အချင်းစစ်ဘုတ်အဖွဲ့

<http://www.ipemyanmar.org/ipemeqb.htm>

အလုပ်အမှုဆောင်ကော်မတီ (Executive Committee)
ဖက်ဒရယ်ပြည်ထောင်စုမြန်မာနိုင်ငံတော်လွန်ရေးအစိုးရ

Revolutionary Government of the Federal Union of Burma

www.rgfuburma.org

Australian Qualifications Framework/ Fiji Qualifications Framework/ IQY Qualifications Framework

Australian Qualifications Framework (AQF)	Fiji Qualifications Framework (FQF)	IQY Qualifications Framework (IQYQF)
Level 1: Certificate 1	Level 1: Certificate 1	Level 1 Skilled Training Vocational Training to Tertiary Bridging
Level 2: Certificate 2	Level 2: Certificate 2	
Level 3: Certificate 3	Level 3: Certificate 3	
Level 4: Certificate 4	Level 4: Certificate 4	
Level 5: Diploma	Level 5: Diploma	Level 2- First Two Years of Tertiary Higher Education Studies
Level 6: Advanced Diploma	Level 6: Advanced Diploma	
Level 6: Associate Degree		Level 3-Final Two Years of Tertiary Higher Education Studies
Level 7: Bachelor's Degree	Level 7: Bachelor's Degree	
Level 8: Post Graduate	Level 8: Post Graduate	Level 4 post Graduate
Level 9: Masters Degree	Level 9: Masters Degree	
Level 10: Doctorate Degree	Level 10: Doctorate Degree	Level 5-Doctorate Degree

IQY System is

12 Years- Secondary Schooling/ additional years may be taken to undertake skilled training-Level 1

2 Years- Para-professional Studies-----Advanced Diploma Level-----Level 2

2 Years-Professional Studies----- Bachelors Degree Level-----Level 3

Postgraduate level-----Graduate Diploma/ Master Diploma-----Level 4

Diploma in Doctorate Studies-----Level 5

Please note that 2 Years- Para-professional Studies and 2 Years-Professional Studies are roughly arranged for studies.

Depending on the nature of studies, some courses may take longer at Para-professional Studies and Professional Studies. It means that although First two years of Para-professional Studies is mentioned, some courses may take 3 Years. Similar system is applied for Final two years of Professional Studies.

In Australian System, Level 6 is for both Advanced Diploma and Associate degree but in our IQY course, AQF Level 6 Advanced Diploma is at IQY Level 2 and AQF Level 6 Associate Degree is at IQY Level 3. It means that IQF can not give exemption in our Level 3 subjects for those with AQF Level 6 but can give the exemption for the relevant studies at AQF Level 6 Associate degree.

The same system will also be applied for FQF

Reference

IQY Qualifications Framework

<http://www.highlightcomputer.com/iqyqualificationsframework.pdf>

Unicode

Covid ခေတ်သင်ကြားရေးနှင့်သင်ယူရေးစနစ်

အွန်လိုင်း / အဝေးသင်ပညာရေးကိုယခင်ကနိုင်ငံများ၏ပညာရေး ဝန်ကြီးဌာနများက လက်ခံခြင်းမရှိပါ။

ယခု Covid 19 သည်နိုင်ငံတကာတက္ကသိုလ်များအတွက်အွန်လိုင်းပညာရေးကိုပြုလုပ်စေခဲ့သည်။ အွန်လိုင်းမှာတက်မလား?သို့မဟုတ်လုံးဝမသင်ယူဘဲအရည်အချင်းပြည့်မီခြင်းမရှိဘဲနေသင်ဘာကို ရွေးချယ်မည်နည်း။

ရပ်ကွက်အာဏာပိုင်များ၏ခွင့်ပြုချက်ဖြင့်မြန်မာနိုင်ငံတွင်ပုဂ္ဂလိကကျောင်းများကိုပြန်လည်ဖွင့်လှစ် နိုင်ပြီဖြစ်သည်။ covid ကူးစက်မှုမရှိပါက OK ဖြစ်နိုင်သည်။

ဒါပေမယ့်တစ်ခုခုမှားယွင်းပြီး covid ကူးစက်မှုတစ်ခုခုဖြစ်ခဲ့ရသင်နဲ့ရပ်ကွက် အာဏာပိုင် တွေတရားစွဲအရေးယူခြင်းခံရမည်၊ စွန့်စားမှာလား။ ပုဂ္ဂလိကကောလိပ်များ၏အခြေအနေသည်အစိုးရကျောင်းများနှင့်လုံးဝကွာခြားလိမ့်မည်။

Covid ခေတ်သင်ကြားရေးနှင့်သင်ယူရေးစနစ်တွင်စစ်မှန်သောပညာရေးနှင့် အတုအယောင် ခွဲခြားမှုအဓိကအရာမှာအွန်လိုင်း (သို့) ရုပ်ပိုင်းဆိုင်ရာတက်ရောက်မှုမဟုတ်တော့ပါ။

တက္ကသိုလ်ကျောင်းကြီးများတက်ခြင်း (သို့) ရုံးခန်းများမှဘွဲ့များဒီဂရီများသင်ခြင်း မဟုတ်တော့ပါ။

Covid ခေတ်သင်ကြားရေးနှင့်သင်ယူရေးစနစ်တွင်သင်ကြားရေးအရင်းအမြစ်များ၊ သင်ရိုးညွှန်းတမ်းများ၊သင်ကြားမှုစီမံခန့်ခွဲမှုစနစ်နှင့်အရင်းအမြစ်များ၏ပမာဏတို့သည်အဓိကဖြစ် လာသည်။

နောက်တစ်ခုကအသိအမှတ်ပြုခြင်း

ဒါပေမယ့်တစ်ခါမှားပြောင်းစဉ်း covid ကူးစက်မှုတစ်ခုခုဖြစ်ရသင့်လျော်မှု အာဏာပိုင်
ဝတ်တရားဖြစ်အရေးယူချခင်းခံရမည်၊ ဖြန့်ချိဖွားလား။

ပုဂ္ဂလိကကလေးများ၏အချစ်အနာသညာစိုးရိမ်ကင်းရှင်းစွာလုံးဝကြာချိန်လမ်းမညာ။

Covid ဝေဒနာကူးစက်မှုလျော့နည်းစေရန်အားဖြင့် ဝေဒနာကူးစက်မှုလျော့နည်းစေရန်အားဖြင့် အတုအယာဉ်
ခြံချခင်းမီးအဓိကအရာမှာအချိန် (သို့) ဝေဒနာကူးစက်မှုလျော့နည်းစေရန်အားဖြင့် မဟုတ်တော့ပါ။

တကယ့်လိုက်နာကင်းရှင်းစွာတစ်ခုခု (သို့) ဝေဒနာကူးစက်မှုလျော့နည်းစေရန်အားဖြင့် မဟုတ်တော့ပါ။

Covid ဝေဒနာကူးစက်မှုလျော့နည်းစေရန်အားဖြင့် ဝေဒနာကူးစက်မှုလျော့နည်းစေရန်အားဖြင့် အချစ်အနာသညာ
သမိုင်းဥပဒေမီးတစ်ခုခု (သို့) ဝေဒနာကူးစက်မှုလျော့နည်းစေရန်အားဖြင့် အချစ်အနာသညာ
သညာ။

နောက်တစ်ခါအသိအမှတ်ပြုချခင်း

ယခု The Institution of Electrical Engineers ဖြစ်သော The institution of Engineering and
Technology (IET) ကို ၁၈၇၁ ခုနှစ်တွင် ဝေဒနာကူးစက်မှုလျော့နည်းစေရန်အားဖြင့် (Incorporate
Association) အဖြစ်သို့ပြောင်းခဲ့သည်။

ဒါဟာတကယ့်လိုက်နာမဟုတ်တော့ပါ။ ဝေဒနာကူးစက်မှုလျော့နည်းစေရန်အားဖြင့် Professional
Association ဖြစ်သည်။ IET သည် ဝေဒနာကူးစက်မှုလျော့နည်းစေရန်အားဖြင့် အသိအမှတ်ပြုသည်။

ခြံချခင်းစီတစ်ခုခု----- - အစိုးရက Incorporation ပေးသည့် Professional Association
သမိုင်းစီတစ်ခုခုအသိအမှတ်ပြုသည်။ (Accreditation) ပေးသည်။

ထိုမူဝါဒ(Accreditation)အသိအမှတ်ပြုချခင်းဆိုသည့်ပရောဖက်ရှင်သမားအဖြုတ်စွဲဖြုတ်

စည်းချခင်းခွင့်အသိအမှတ်ပြုချခင်းစနစ်ဒီဇိုင်းပြုလုပ်ချခင်းဟုအမွှာကယွဉ်လိုသည့်။

အဖြုတ်စည်းဆက်ကြားလာလေ။ အသိအမှတ်ပြုမီးတိုင်မိုတရား ဝ ဌ်ရှိသောလည်း

မည့်အလုပ်ထိုကဲ့သို့မူဝါဒအသိအမှတ်ပြုချခင်းကိုမပြုမည်လက်ကိုင်ရန်ပေးမရှိပါ။

အလုပ်သမားတို့အလုပ်ခွင့်အဆင့်ပမည့်သူကိုရောင်းယှဉ်ခြင်းရှိသည့်။

ထိုမူဝါဒအနာဂတ်လုပ်ခွင့်ကိုညီရအိမ်ထောင်ရေးကိစ္စများကင်းရှင်းရန်ဆန်းစစ်သည့်။

English

Covid Era Teaching and Learning System

Online/ Distance Education was not previously accepted by Ministries of Education of the countries.

Now Covid 19 has made the online education for most international universities.

Will you attend online ? or do not learn and do not get the qualification at all, what will you choose?

In Myanmar, with the permission by the Ward Authorities, the private schools can now be re-opened. So long as no covid infection, it may be OK. But will you risk with the legal action or will the ward authorities risk with legal action if something wrong and covid infection occurs ? The situation for private colleges will be totally difference from Government schools.

In the Covid Era Teaching and Learning system, the main thing to discriminate the real or fake education no longer lies with the point that online or physical attendance, it does not line on the point that the degrees are offered at the university with large campuses or from an office .

It lies with the amount of the resources, curriculums, learning management system and quality of the resources due to Covid Era Teaching and Learning System.

The another thing is Accreditation?

The Institution of Engineering and Technology (IET) which is former The Institution of Electrical Engineers (IEE) was founded as Incorporated Association in UK in 1871.

It is not university or government service. It is an Incorporated Professional Association.

But IET can accredits the engineering degrees

In analysis--- Professional Association with Government Incorporation can assess and recognize the degrees.

So the accreditation really means that Incorporating an professional association and designing the accreditation system, it can be working. The bigger the organization, the more legitimate in accreditation but there is no law for any employer to universally accept such accreditation. The employer has right to choose the candidate who will best fit with their jobs.

It is important for you to gain the real skills to fit with your future jobs.

Degree Award System

All stages of IQY Education Group Awards are arranged to possess legitimacy and professional recognition

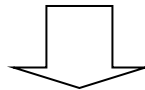
IQY Technical College

Registered in Australia with ASIC/Authorized Training Centre of Singapore Institute of Engineering Technologists-SIET

Education Branch of The Institution of Professional Engineers Myanmar -IPEM

All studies in

Certificate/Diploma/Advanced Diploma/Professional Diploma/Master Diploma



Engineering/ IT	All Non Engineering Degrees	Law Degrees	Additional Degrees	Optional Degrees
Bachelors/Masters Degrees	Bachelors/Masters Degrees	Bachelors/Masters Degrees	Bachelors/Masters Doctorate Degrees	Bachelors/Masters Doctorate Degrees
IPEMTU Degree College	IQY Degree College	IQY Degree College Phoe Phyu School of Law	STC Technological University	St Clements University
Registered in Australia (ASIC) Education Branch of The Institution of Professional Engineers Myanmar (IPEM) Supported by IPEM NSW Australia Chapter Incorporated Association in Australia INC1901087 Member of International Federation of Engineering Education Societies-IFEES	Registered in Australia (ASIC) Member of International Association for Education and Vocational Guidance (IAEVG)	Registered in Australia (ASIC) Member of International Association for Education and Vocational Guidance (IAEVG) Member of International Association of Law Schools (IALS)	Authorized Training Centre Education Branch of The Society of Professional Engineers International (SPE) Accredited by The Institution of Professional Engineers Myanmar (IPEM)	St Clements University Myanmar College Registered in Turks and Caicos Inlands Niue, Cambodia Switzerland, Liberia, Nigeria

PART 1 ACADEMIC STUDY AND ASSESSMENT

IQY Technical College designed the online learning portal which includes Videos/ Study Notes/ Textbooks and assignments.

The students will need to submit monthly test/ assignments to complete the subject.

There are 24 units to be completed over 24 months

The learning support sites are

Professional Diploma in Electrical Engineering

www.iqytechnicalcollege.com/profdipelectengg.htm

Professional Diploma in Engineering (Year 3)

www.iqytechnicalcollege.com/profdipengg.htm

www.iqytechnicalcollege.com/profdipenggmod.htm

Assessment Exam Question

Form 55 Professional Diploma in Electrical Engineering Tests

<http://www.iqytechnicalcollege.com/BE-Electrical Tests All.zip>

IQY Technical College keeps record of Assessment Work Evidence of all students

The study is genuine

Part 2 Background of IQY Technical College

IQY Technical College is based in Myanmar.

The website/ address are in the following link

www.iqytechnicalcollege.com

IQY Technical College is Authorized Training Centre of Singapore Institute of Engineering Technologists

The documents related to connection between IQY Technical College and the features of Singapore Institute of Engineering Technologists can be found in the following link

<http://www.iqytechnicalcollege.com/sietatc.htm>

The Singapore Institute of Engineering Technologists (SIET) being the Professional Body for Engineering Technologists is a multi-disciplined learned establishment registered in Singapore since 1980 under the Societies Act [Singapore Government Gazette Notification No: 3310].

www.iqytechnicalcollege.com/IQYSIETRecognition.pdf

Although IQY Technical College is based in Myanmar , Myanmar does not have the law to register Tertiary Education Colleges and Universities.

The private tertiary education colleges and universities are working with overseas Professional Associations or Universities to offer the diplomas and degrees.

IQY Technical College works with Singapore Institute of Engineering Technologists since 2014.

Just in 2020, IQY Technical College makes Business Registration with Australian Investment and Security Commission

Evidences

<http://www.iqytechnicalcollege.com/IQY%20Registration.pdf>

<http://www.iqytechnicalcollege.com/IQY%20ASIC%20Certificate%20Page%201.pdf>

IQY Professional Diploma in Engineering is designed as equivalent to 4 Years BE degree. Due to ASEAN Education and Recognition framework under the supervision of Singapore Institute of Engineering Technologists, IQY Technical College does not confer BE degree instead, it confers Professional Diploma which is equivalent to BE degree.

<http://www.highlightcomputer.com/AER.pdf>

In the above Document, SIET-Singapore Institute of Engineering Technologists can nominate ASEAN Engineering Registration.

AS IQY Technical College courses are accredited by Singapore Institute of Engineering Technologists,

They are accredited.

Evidence

<http://www.iqytechnicalcollege.com/Certificate%20of%20Recognition-IQY-PDipE-2020.pdf>

<http://www.highlightcomputer.com/SIETATC.pdf>

(First MOU)

IQY Technical College has Qualification Framework

<http://www.highlightcomputer.com/iqyqualificationsframework.pdf>

Curriculum

<http://www.highlightcomputer.com/BECurriculum.pdf>

Academic Objectives

<http://www.highlightcomputer.com/objectives.htm>

Academic Objectives of Professional Diploma

<http://www.highlightcomputer.com/objectives.htm#c>

Part 3 Main Academics of IQY Technical College

<http://www.iqytechnicalcollege.com/Staff.htm>

IQY Technical College is led by Dr Kyaw Naing who was former Lecturer of Fiji Institute of Technology 1990 to 1996

Dr Kyaw Naing is also President of The Institution of Professional Engineers Myanmar which is Member of International Federation of Engineering Education Societies -IFEES USA

The Institution of Professional Engineers Myanmar NSW Australia Chapter is registered in NSW Government of Australia as Professional Association

References

<http://www.ipemyanmar.org/IPEMNSWAustRegistrationCert.pdf>

<http://www.ipemyanmar.org/2018%20IFEES%20Secretariat%20Report.pdf>

<http://www.ifees.net/members/>

Dr Kyaw Naing

<http://www.ifees.net/kyaw-naing/>

According to above facts

IQY Technical College is

- Legally registered
- Sound Academic
- Legally offering tertiary education course
- International Accreditation and Recognition
- Managed and taught by suitably qualified academics

Part 4 Linking between IQY Technical College & STC Technological University, Former St Clements Technological University

Actually, St Clements Technological University and IQY Technical College are academically related.

- IQY Technical College provide the teaching, curriculum and assessment. The curriculum materials are accredited by Singapore Institute of Engineering Technologists in ASEAN Engineering Education Framework.
- IQY Technical College teaches BE level studies but it does not confer BE degree
- St Clements Technological University confers BE degree to all graduates of IQY Technical College who complete 4 Years Professional Diploma in Engineering. All are conferred as Scholarship. Only Administrative fees (Small amount was charged)

Background of STC Technological University

<https://www.stclementstu.com/>

From the website, the extractions are as follows

STC Technological University is a technological university which awards Master and Doctoral degrees in Applied Science, Applied Arts, Engineering and Education as well as providing the scholarships to the needy students of the developing countries.

It is a non profit international organization.

It only awards the degrees to the experienced researchers and the students who are awarded the scholarships. It does not offer any degree for commercial purpose.

STC Technological University academic council composes of academics from British West Indies & British Commonwealth Countries who nominate the candidates of research background to be awarded Masters & Doctoral degrees based on their practical research experiences & published works.

STC Technological University academic council also awards the scholarship Bachelor degrees in Engineering, Applied Science , Information Technology , Business Administration and Business Management through the affiliated colleges and schools led by International Academic Councillors.

For scholarship application & degree verification--Contact - stclementstu@gmail.com

Or

Apply through the affiliated schools & colleges

Approval of the scholarship will depend on consultation of the International Academic Councillor responsible for a particular country & e-mail interview with the applicant.

Only the successful candidates will be contacted by e-mail. The university has the right to make no contact to unsuccessful applicants.

International Councillors , Affiliated Organizations & awarded doctorate degree holders

Please contact stclementstu@gmail.com

STC University is an International Non Government Organisation established to provide the education needs of poor students in developing countries and it has the base in British West Indies Islands but it does not register with any government and does not operate as a profit organisation.

It assists the students by providing the education through the Government Registered Schools, Colleges worldwide but it does not issue any degree by charging any cost.

For this reason, it is not our business to take the concern on accreditation, diploma mills, government recognition, any issues raised by any government accreditation authorities , any government education departments, any governmental education laws and accreditation as well as any of degree mills issues.

STC Technological University wants the students to read our website and contact us only if they have satisfied with our information as neither STC Technological University nor our partners and affiliated educational institutions will answer the questions related to above issues because we are operating as EDUCATION REVOLUTIONISTS to equalise the education among riches and poors, First World and Third World.

We confer appropriate awards to academics who join our Worldwide Education Revolution by contributing appropriate academic research, operation , courses, training and resource developments.

ADDITIONAL INFORMATION

STC Technological University means St Kitts, Turk and Caicos Islands Technological University, operating as an International Educational Non Government Organisation since 2011 to assist the education needs especially in engineering which is essential to develop the communities of the students in West Indies, Caribbean , Africa, India, Pakistan, Myanmar and other developing countries.

As the main educational revolutionist activists founding members are engineering teachers from St Kitts, Turk and Caicos Islands who migrated there several years ago, we choose the name STC (St Kitts, Turk and Caicos).

Current CEO is Dr Peter Prasad originally from India.

Now STC Technological University has organised several colleges and schools which are either government registered or recognised by their regional professional organisations,

Based on the original awards, we provides the testimony in academic terms in accordance with MOUs.

Our network of affiliated colleges and schools include those in British West Indies, Africa, Asia, Middle East ,South Pacific and Latin America where there have been the most inequalities in education..

S TC Technological University Engineering Faculty is closely working with IQY Technical College Myanmar to deliver the engineering, engineering management and ICT engineering degree courses accredited by The Institution of Professional Engineers, Myanmar.

As we are educational revolutionist activists , if the instruments of the institutions which have done the most inequalities in education use the international media as the tool to undermine our efforts, we will also follow the same ways as utilized by them with the helps of our member activists worldwide.

From the above facts

1. STC University is an International Non Government Organisation established to provide the education needs of poor students in developing countries and it has the base in British West Indies Islands but it does not register with any government and does not operate as a profit organisation.-----IT IS EDUCATION NGO
2. It works with IQY Technical College

Accreditation

How the accreditation system works.

1. Accreditation is usually provided by Independent Professional Associations such as UK Engineering Council, Engineers Australia.
2. The Associations which provide the accreditation must be Government Registered Incorporated Associations or well known International Professional Associations.

According to the information by The Society of Professional Engineers International (Former Society of Professional Engineers UK), STC Technological University is accredited by The Society of Professional Engineers International.

At the bottom of <http://www.thespeukinternational.org/>

STC Technological University (Academic and Educational Branch)

Furthermore, STC Technological University is accredited by The Institution of Professional Engineers Myanmar NSW Australia Chapter

<http://www.ipemyanmar.org/ipemaccreditation.htm>

<http://www.highlightcomputer.com/ipemaccreditedcolleges.htm>

AND Accreditation Documents

<http://www.highlightcomputer.com/ipemaccreditation.htm>

From the above facts

- To my knowledge, as we are working as International Education System, we focus on real knowledge and skills of the candidate.
- Although Governmental Registration is made on an educational Institution or not, if the institution is not degree mills and its objectives are fair to the students, IQY Technical College has the right to co-operate it.
- STC Technological University is International NGO
- It was accredited by The Society of Professional Engineers International.
- The Institution of Professional Engineers Myanmar also accredited it.
- STC Technological University has already launched its website www.stclementstu.com since the time of 2013 when IQY Technical College co-operate with it.

- It can be easily searchable by Google Search
- Although there will be arguments that the degree can only be awarded by the Institutions formally registered with the Government. For international issues, not all qualifications are formally accepted by all countries of the World.
- It will be up to the employer to recognize or accept it
- But in legal issue, if the candidate genuinely pursues the studies and the award is based on actual effort of the candidate and assessment, it is not illegal practice.

IQY Diploma ရသူအားလုံး IQY Technical College နဲ့ပတ်သက်တဲ့အချက်အားလုံးကို Print out လုပ် IQY Diploma/ Advanced Diploma/ Professional Diploma / Degrees

နဲ့ပူးတွဲပြီးအလုပ်လျှောက်ရင်တင်ပြပါ။

Link <http://www.iqytechnicalcollege.com/DocumentsToAttach.htm>

International Vocational Training Education Association (USA) မှာလဲ IQY Chief Trainer သည် Member ဝင်ထားပါတယ်။

All IQY graduates need to attach the following documents to IQY Diploma/ Advanced Diploma/ Professional Diploma/Degrees to apply for jobs

Link <http://www.iqytechnicalcollege.com/DocumentsToAttach.htm>

IQY Chief Trainer has achieved the Membership of International Vocational Training Education Association (USA).

International Recognition

IQY Diploma ဘွဲ့ရများသည်သြစတြေးလျအစိုးရနှင့်Singapore Institute of Engineering Technologists အသိအမှတ်ပြုလက်မှတ် ၊ The Society of Professional Engineers UK အသိအမှတ်ပြုလက်မှတ် တို့ကိုပုံနှိပ်ရန် နှင့် သင်၏ IQY ဒီပလိုမာများနှင့် ပူးတွဲအ သုံးပြုရန်လိုအပ်သည်။

All IQY Graduates are required to print out IQY Registration Certificate with Australian Government and Singapore Institute of Engineering Technologists Recognition Certificate and use with your IQY Diplomas

IQY Technical College မှ Professional Diploma, Advanced Diploma, Diploma, Certificate ရသူအားလုံးသည်ယခု The Institution of Professional Engineers Myanmar NSW Australia Chapter ၏ Graduate Member လက်မှတ်ကို Download ဆွဲ Print လုပ်ပြီးမိမိ၏အမည် ၊မိမိ၏လက်မှတ်အမျိုးအစားပေါ်မူတည်၍အဖွဲ့ဝင်အဆင့်ကိုဖြည့်သွင်းရေးသားပါ။

IQY Technical College ၏ Australia မှတ်ပုံတင်၊ Singapore Institute of Engineering Technologist Certificate of Recognition နှင့်ယခုThe Institution of Professional Engineers Myanmar NSW Australia Chapter ၏ Graduate Member လက်မှတ်တို့ကို IQY Diploma များနှင့်အတူပူးတွဲအသုံးပြုပါ။

IQY Technical College ရဲ့ Professional Diploma in Engineering ဟာ BE degree အဆင့်ရှိပါတယ်။ ဘာကြောင့်လဲဆိုတော့ Singapore Institute of Engineering Technologists ကသူ့ရဲ့Fellow Grade အတွက် IQY Professional Diploma in Engineering ကိုUK က BEng(Hons) နဲ့တန်းတူသတ်မှတ်ထားလို့ဖြစ်တယ်။

IQY Technical College ဟာ Bachelor Degree အဆင့်သင်နေပေမဲ့ University လို့မကြေညာသလို ဘွဲ့ကိုလဲအရမ်းမပေးဘူး။

IQY ပေါ်လစီအရတကယ်လေ့လာတတ်မြောက်တာသည်ပေးတဲ့လက်မှတ်ထက်ပိုရမယ်။

Myanmar Recognition

အသိအမှတ်ပြုခြင်းဆိုသည်မှာအလုပ်ရခြင်းဖြစ်သည်။

Engineering Jobs အင်ဂျင်နီယာများနှင့်အလုပ်အကိုင်အုပ်စုကို The Institution of Professional Engineers Myanmar (IPEM) မှထိန်းချုပ်သည်။

<https://www.facebook.com/groups/2128693697196512/>

ကျွန်ုပ်တို့အသိအမှတ်ပြုသောလျှောက်ထားသူအားအလုပ်ရှင်ထံရည်ညွှန်းပေးပါမည်။

IPEM IQY ပညာရေးအဖွဲ့ကစီစဉ်ဆောင်ရွက်နေသော IQY Technical College ,IQY Degree College, IPEMTU Degree College, IQY University၊ International Institute of The Institute of Professional Engineers Myanmar နှင့် IPEM Technological University တို့သည် အောက်ပါနိုင်ငံခြားအစိုးရများနှင့်ဖက်ဒရယ်ပြည်ထောင်စုမြန်မာနိုင်ငံတော်လှန်ရေးအစိုးရဖွဲ့စည်းရေးအမှုဆောင်ကော်မတီပညာရေးဌာနတို့တွင်မှတ်ပုံတင်ထားကာနိုင်ငံတကာပညာရပ်အဖွဲ့အစည်းများကအသိမှတ်ပြုထားကြပါသည်။

Education Department of the organizing executive committee for Revolutionary Government of Federal Union of Burma .
Australian Securities and Investment Commission Australian Government .
Office of Fair Trading (NSW Government)
Singapore Institute of Engineering Technologists
International Federation of Engineering Education Societies (IFEES USA)
Global Engineering Deans Council
The Society of Professional Engineers International
The Society of Professional Executives International
International Association of Education and Vocational Guidance .
International Association of Law Schools
International Vocational Education and Training Association .
IPEM IQY Education Group မှပေးသောဘွဲ့ဒီပလိုမာများကိုမူတည်၍ The Society of Professional Engineers UK and International နှင့် The Society of Professional Executives International တို့သည် UK ဘွဲ့ဒီပလိုမာနှင့်ဩစတြေးလျ၏ (AIBT) Applied Industry and Business Technology Diploma ,Degree နှင့် EIT (Engineering Industry Training) Diploma , Degree များလည်းပေးပါသည်။

IPEM IQY Education Group ကသင်ကြားသောသင်တန်းများနှင့်အသိမှတ်ပြုလက်မှတ်များကိုတင်ထားသည်။
IPEM IQY Education Group ၏ IQY Technical College , IQY Degree College, IPEMTU Degree College , Pyay GTI Online , IQY THS , IQY High School နှင့် IQY Primary School တို့မှအွန်လိုင်းသင်တန်းများ၊
တော်လှန်ရေးနှင့်သက်ဆိုင်သောတန်းများကို CB တွင်တောင်းဆိုပါက Facebook LIVE လွှင့်သင်ပေးမည်။

IQY Technical College တွင်အောက်ပါ Academic Faculty များဖွဲ့စည်းထားပြီးအွန်လိုင်းနှင့်တူရကီနိုင်ငံတွင်ကိုယ်တိုင်တက် IQY Technical University ရှိသည်။
Faculty of Engineering
Faculty of Information Technology
Faculty of Management
Faculty of Teacher Education
Faculty of Vocational and Basic Education
Faculty of Arts
Faculty of Science
Faculty of Humanities

Faculty of Law

Faculty of Multicultural and Religious Studies

Department of Collaboration

PDF Academy

BE, BTech , LLB, BMgt, BBA ,BA, BSc, BAppScIT,, BEd BWS (Vocational), BWS (Medicine and Nursing), Masters and Doctorate, Vocational Degree, Vocational Diploma, Vocational Certificate , Diploma and Bachelor of Military Studies ဘွဲ့ဒီပလိုမာများအွန်လိုင်းသင်သည်။

CDMကျောင်းသားများအတွက်ဖက်ဒရယ်ပြည်ထောင်စုမြန်မာနိုင်ငံတော်လှန်ရေးအစိုးရဖွဲ့စည်းရေးအမှုဆောင်ကော်မတီပညာရေးဌာန၏ခွင့်ပြုချက်ဖြင့်မြန်မာUniversities, Technological Universities

,College များနှင့်IPEM Technological University ၏Joint award

degreeပူးတွဲချီးမြှင့်ဘွဲ့သင်တန်းများလည်းကျောင်းမပြီးသေးသူတို့အတွက်အခမဲ့သင်ပေးသည်။

www.iqytechnicalcollege.com/education1.htm

တူရကီနိုင်ငံ Izmir မြို့ရှိ IQY Technical University

။သင်ကြားရေးအစီအစဉ်အားလုံးကိုသြစတြေးလျရှိ IQY Academic ရုံးမှ ဒေါက်တာ

ကျော်နိုင်ကဦးဆောင်၍စီစဉ်ပေးပါသည်။

IQY Technical University Turkey Izmir Campus.

All teaching programs are developed in Australia at IQY Main Academic Office under the leadership of Dr Kyaw Naing .

စာရင်းသွင်းရန်

<https://www.emailmeform.com/builder/form/17R43w4uffLma2JArh>

Myanmar ဟု ဘေးတွင်ရေးထားပါကမြန်မာဘာသာဖြင့်တက်နိုင်သည်။

English ဟုဘေးတွင်ရေးထားပါက English ဘာသာဖြင့်တက်နိုင်သည်။

English Myanmar ဟုဘေးတွင်ရေးထားပါကနှစ်ဘာသာစလုံးဖြင့်တက်နိုင်သည်။ KG

မှဒေါက်တာဘွဲ့အထိပညာရေးစံနှစ်တစ်ခုလုံးအကြိုးဝင်သည်။

- Course to attend (AI Education and Teaching Courses are free courses AND Rural Development Course is also a free course)
 - F70-Advanced Diploma in Electrical Engineering (Faculty of Engineering)English+Myanmar
 - F70-Advanced Diploma in Civil Engineering (Faculty of Engineering)English+Myanmar
 - F70-Advanced Diploma in Mechanical Engineering(Faculty of Engineering)English+Myanmar
 - F70-Advanced Diploma in Information Technology(Faculty of Information Technology)English+Myanmar
 - F70-Advanced Diploma in Management(Faculty of Management)English+Myanmar

- F70-Professional Diploma in Electrical Engineering+BE(Electrical)(Faculty of Engineering)English+Myanmar
- F70-Bachelor of Engineering(Electrical Power)/Professional Diploma in Electrical Power Engineering(Faculty of Engineering)English+Myanmar
- F70-Professional Diploma in Civil Engineering+BE(Civil)(Faculty of Engineering)English+Myanmar
- F70-Professional Diploma in Mechanical Engineering+BE(Mechanical)(Faculty of Engineering)English+Myanmar
- F70-Professional Diploma in Information Technology+BAppSc(IT)(Faculty of Information Technology)English+Myanmar
- F70-Professional Diploma in Management+BMgt(Faculty of Management)English+Myanmar
- F70-No Year 10 pass to Advanced Diploma in General Engineering and Drafting Bridging(Faculty of Engineering)English+Myanmar
- F309-+F70No Year 10 pass to IT and Business Advanced Diploma Bridging(Faculty of Engineering)English+Myanmar
- F120 -Professional Diploma in Renewable Energy Engineering+BE(RE)(Faculty of Engineering)English+Myanmar
- F193-Diploma in Vocational Education and Training (Free Course)(Faculty of Teacher Education)(English+Myanmar)
- F193-Diploma in Technical Teaching (Free Course)(Faculty of Teacher Education)English+Myanmar
- F193-Diploma in Engineering Education (Free Course)(Faculty of Teacher Education)English+Myanmar
- F195-Diploma in Teaching Practice (Free Course)(Faculty of Teacher Education)Myanmar
- F194-Diploma in Educational Management(Faculty of Teacher Education)English+Myanmar
- F70+F119-Professional Diploma in Architectural Engineering Self Study+BE(Architecture)(Faculty of Engineering)English+Myanmar
- F70+F197-Professional Diploma in Mechatronics+BE(Mechatronics)(Faculty of Engineering)English+Myanmar
- F70-Professional Diploma in Chemical Engineering Self Study+BE(Chemical)(Faculty of Engineering)English+Myanmar
- F70-Professional Diploma in Metallurgical Engineering Self Study+BE(Metallurgy and Materials)(Faculty of Engineering)English+Myanmar
- F70-Diploma/Advanced in Marine Engineering(Faculty of Engineering)English+Myanmar
- F70-Diploma in Marine Engineering+BE(Mechanical+Marine)(Faculty of Engineering)English

- F37+F109+F201-Professional Diploma in Engineering Practice+BE(Engineering Practice)(Faculty of Engineering)
- F37+F109+F201--Advanced Diploma in Engineering Practice(Faculty of Engineering)Experience based
- Form 175 Professional Diploma in Automotive Engineering (English)
- Form 85 Advanced Diploma in Engineering (Myanmar Language)
- Form 86 Prof Dip ICT Engg-BE(Network) Study Resources (Faculty of Engineering (English))
- F70-Diploma in Telecommunication Engineering Self Study(Faculty of Engineering) VIA BE(Electrical) English
- F32+F308 -Advanced Diploma in Rural Development Engineering (Free Course)(Faculty of Vocational Education)
- F32+F308-Professional Diploma in Rural Development Engineering+BE(Rural Development)(Faculty of Vocational Education)
- Form 86 Prof Dip ICT Engg-BE(Network) Study Resources (Faculty of Engineering (English))
- F37+F109+F201--Professional Diploma of Engineering Practice+BE(Engineering Practice)(Faculty of Engineering)English+Myanmar
- Form 175 Professional Diploma in Automotive Engineering+BE(Automotive)(Faculty of Engineering)English
- F70-Professional Diploma in EP/EC Engineering+BE(EPEC)(Faculty of Engineering)English+Myanmar
- F71+F198--Professional Diploma in Marine Electrical Engineering+BE(Marine Electrical)(Faculty of Engineering)English
- F70-Professional Diploma in Marine and Mechanical Engineering+BE(Marine and Mechanical)(Faculty of Engineering)English
- F30+F175-Diploma/ Advanced Diploma in Automotive Engineering(Faculty of Engineering)
- F70+F175 -Professional Diploma in Mechanical & Automotive Engineering+BE(Mechanical and Automotive)(Faculty of Engineering)
- F86-Professional Diploma in Telecommunication,ICT and Network Engineering+BE(ICT Engg)(Faculty of Engineering)English
- F70-Professional Diploma in Engineering-Naval Architecture+BE(Naval Architecture)(Faculty of Engineering)English
- F86-Professional Diploma in ICT (Network)+BE(Network)(Faculty of Engineering)English
- F121-Diploma/Advanced Diploma in Airconditioning and Refrigeration Engineering(Faculty of Engineering)English+Myanmar
- Form 176 Diploma in Engineering Work Studies (Diploma in Work Studies)(Low fee)(Vocational Subjects)Faculty of Vocational Education Myanmar+English

- Form 176 Advanced Diploma in Engineering Work Studies (Diploma in Work Studies)(Low fees)(Vocational Subjects)Faculty of Vocational Education Myanmar+English
- F176 -Professional Diploma in Work Studies + Bachelor of Work Studies Engineering(Vocational Subjects)(Faculty of Vocational Education)English+Myanmar
- F176 Professional Diploma+BWS (Engineering) Civil/Electrical/Mechanical (Faculty of Vocational Education) English+Myanmar
- F324-Professional Diploma in Engineering Science/BSc(Engg) Civil/Electrical/Mechanical(Faculty of Vocational Education) English+Myanmar
- Form 324 BEngScEMC Bachelor of Engineering Science (Electro Mechanical and Construction) BE (Electro Mechanical and Construction)(Faculty of Vocational Education (English+Myanmar)
- Form 174 Bachelor of Work Studies (Diploma/ Advanced Diploma)(Faculty of Vocational Education (English+Myanmar)
- F191-Professional Diploma+BE Industrial Engineering and Manufacturing(Faculty of Engineering)English
- F183-Professional Diploma/BE in Computer Aided Engineering(Faculty of Engineering)English
- F183-Professional Diploma in Engineering Technology/BTech in Computer Aided Engineering(Faculty of Engineering)English
- Form254 Professional Diploma in Technological Science/BSc(Technology)(Faculty of Engineering)English+Myanmar
- F183-Advanced Diploma in Computer Aided Engineering(Faculty of Engineering)English
- F109+F201-Bachelor of Engineering Trade Practice(Faculty of Engineering)English+Myanmar
- F201-Bachelor of Trades Practice(Faculty of Vocational Education)(English+Myanmar
- F324-BE-Mechanical Electrical Construction(Faculty of Vocational Education)English+Myanmar
- F324-Advanced Diploma in Mechanical Electrical Construction Engineering(Faculty of Vocational Education)(English+Myanmar
- F324-Bachelor of Work Studies-Engineering Electromechanical and Construction(Faculty of Vocational Education)English+Myanmar
- F211-Bachelor of Work Studies(Vocational Studies and the courses other than Engineering IT Management) (Faculty of Vocational Education)(Myanmar)
- F14-Bachelor of Humanities/Diploma in Humanities(Faculty of Humanities)(English+Myanmar)
- F318-Bachelor of Law (Faculty of Law)(Myanmar)
- F310-Diploma in Legal Studies(Faculty of Law)Myanmar

- F312-Diploma in Human Rights(Faculty of Law)Myanmar
- F194 to 196-Bachelor of Education(Faculty of Teacher Education)English+Myanmar
- F45-59+F112-Master of Engineering-EP(Faculty of Engineering)English
- F45-59+F112-Master of Engineering EC (Faculty of Engineering)English
- F45-59+F111-Master of Engineering Civil (Faculty of Engineering)English
- F45-59+F113-Master of Engineering Mechanical(Faculty of Engineering)English
- F70+F197-BE-Architecture (Faculty of Engineering)English
- F259-BE Agriculture (Faculty of Vocational Education)(English+Myanmae
- F32+F308-BE-Rural Development Engineering(Faculty of Vocational Education)English+Myanmar
- F119-ME-Architecture (Faculty of Engineering)English
- F70=BE-Marine/Dip Marine Engg (Faculty of Engineering)English
- F70-BE-Naval Architecture (Faculty of Engineering)English
- F70=BE-Chemical (Faculty of Engineering)English+Myanmar
- F70-BE-Mineral Resources (Faculty of Engineering)English+Myanmar
- F70+F175-BE-automotive/Dip automotive Engg (Faculty of Engineering)English+Myanmar
- F306-Master of Law-LLM (Faculty of Law)English
- F45-59-ME-Other Engineering Programs (Faculty of Engineering)English
- Form 205 Bachelor of Work Studies (Engineering-Mechatronics)(Faculty of Vocational Education)(English+Myanmar)
- F328-Diploma in Drone Technology (Faculty of Vocational Education)English
- F253-Diploma in Intermediate Science (IQY Secondary School)(English+Myanmar)
- Form254 Professional Diploma in Technological Science/BSc(Technology)(Faculty of Science)English
- F337-BSc-Maths with Vocational Studies(Faculty of Science)English+Myanmar
- F339-BSc-Maths Physics Chemistry with Vocational Studies(Faculty of Science)English+Myanmar
- F340-BSc-Physics Chemistry with Vocational Studies (Faculty of Science)English+Myanmar
- F338-BSc-Physics with Vocational Studies (Faculty of Science)
- F350 C+G+J Year 6 (IQY Secondary School)Myanmar
- F350 C+G+JYear 7 (IQY Secondary School)Myanmar

- F350 C+G+J Year 8 (IQY Secondary School)Myanmar
- F350 C+G+JYear9+10 (IQY Secondary School)English+Myanmar
- F350 C+G+J Year 11+12 (IQY Secondary School)English+Myanmar
- F108 Advanced Diploma in Electromechanical and Construction Engineering (Faculty of Vocational Education)English+Myanmar
- F253-Diploma in Intermediate Science (Year 12) (IQY Secondary School)English+Myanmar
- F253+F342+F343-Diploma in Intermediate Arts-(Year 12 (IQY Secondary School)
- F350J-Advanced Certificate in Biology(Faculty of Vocational Education)English+Myanmar
- F309Diploma in General Engineering(Faculty of Engineering)English+Myanmar
- F201+206+326- Diploma in Work Studies-Engineering(Faculty of Vocational Education)English+Myanmar
- F201+206+326-Advanced Diploma in Work Studies-Engineering(Faculty of Vocational Education)
- F201+206+326-Bachelor of Work Studies-Engineering(Faculty of Vocational Education)
- F70-Diploma in Work Studies-IT(Faculty of Vocational Education)(English+Myanmar
- F70-Advanced Diploma in Work Studies-IT)Faculty of Vocational Education)(English+Myanmar
- F70-Bachelor of Work Studies-IT(Faculty of Vocational Education)English+Myanmar
- F70-Diploma in Work Studies-Management (Faculty of Vocational Education)English+Myanmar
- F70-Advanced Diploma in Work Studies-Management (Faculty of Vocational Education)English+Myanmar
- F70- Diploma in Work Studies-Vocational Studies (Faculty of Vocational Education)
- F211-Advanced Diploma in Work Studies-Vocational Studies (Faculty of Vocational Education)Myanmar
- F211-Bachelor of Work Studies-Management(Faculty of Vocational Education)Myanmar
- F352-Certificate in Business (Faculty of Management)English
- F352-Bachelor of Economics (Faculty of Management)English
- F353-Master of Economics (Faculty of Management)English
- F354-PhD Economics (Faculty of Management)English

- F355-Bachelor of Work Studies-Nutrition Dietitian & Traditional Medicine (Faculty of Vocational Education)English
- F360-Bachelor of Work Studies-Nutrition and Dietitian & Myanmar Traditional Medicine (Faculty of Vocational Education)Myanmar
- F350-358 Bachelor of Work Studies-Medicine (Faculty of Vocational Education)English
- F350-358-Bachelor of Work Studies-Nursing (Faculty of Vocational Education)English
- F350-358 Bachelor of Work Studies-Pharmacy (Faculty of Vocational Education)English
- F350-358 Bachelor of Work Studies (Medicine and Nursing) (Faculty of Vocational Education)(Myanmar)
- F255-Diploma in Work Studies (International Vocational and Professional Studies) (3077783)+Certificate/Diploma in English (Faculty of Fitness and Language)English
- F361-Graduate Diploma in Aeronautical Engineering (Faculty of Vocational Education)English
- F361-BE Aeronautical
- F361-BE Aircraft Maintenance
- F362-Graduate Certificate/Diploma/Master of Science in Explosive Engineering (Faculty of Vocational Education)English
- F363-Graduate Diploma in Biomedical Engineering (Faculty of Vocational Education)English
- F370-Bachelor of Engineering (Genetic) (Faculty of Vocational Education)English
- F370-Bachelor of Engineering Science (Genetic)(Faculty of Vocational Education)English
- F364-Bachelor of Science (Physics)(Faculty of Science)English
- F365-Bachelor of Science (Chemistry)(Faculty of Science)English
- F366-Bachelor of Science (Geology)(Faculty of Science)English
- F368 =Bachelor of Science (Forensic)Faculty of Science (English)
- F369Bachelor of Science(Environmental)(Faculty of Science)English
- F367Bachelor of Science (Biology)(Faculty of Science)English
- F373-Bachelor of Arts (History)(Faculty of Arts)English
- F372-Bachelor of Arts (Geography)(Faculty of Arts)English
- F371-Bachelor of Arts (Anthropology)(Faculty of Arts)English
- F375-Bachelor of Arts (Sociology)(Faculty of Arts)English

- F376-Bachelor of Arts (Philosophy)(Faculty of Arts)English
- F374-Bachelor of Arts (Psychology)(Faculty of Arts)English
- F377-Bachelor of Applied Science (Radiology)(Faculty of Vocational Education)English
- F378-Diploma in Electronic Practice (Walkie Talkie and Signal Jamming)(Faculty of Vocational Education)English
- F195-BEd(School and Vocational Education)English Myanmar
- F195A-BEd(Primary Education)(Faculty of Teacher Education)English+Myanmar
- F196-BEd(Engineering Education)(Faculty of Teacher Education)English Myanmar
- F194-BEd (Higher Education)(Faculty of Teacher Education)English+Myanmar
- F194-195MEd (Faculty of Teacher Education)
- F379-BSc(Sexology) (Faculty of Vocational Education)English
- F380-BE(Textile Engineering)(Faculty of Vocational Education)English
- Form 220 BWS 1 Sewing & Non Engineering Manufacturing Faculty of Vocational Education Myanmar
- Form 221 BWS 2 Foods Service (Faculty of Vocational Education)(Myanmar)
- Form 222 BWS 3 Children Service (Faculty of Vocational Education)Myanmar
- Form 223 BWS 4 Aged Care(Faculty of Vocational Education)Myanmar
- Form 224 BWS 5 Customer Service (Faculty of Vocational Education)Myanmar
- Form 225 BWS 6 Safety Industry(Faculty of Vocational Education)Myanmar
- Form 226 BWS 7 Transport Logistics (Faculty of Vocational Education Myanmar
- Form 227 BWS 8 Agri Foods Production (Faculty of Vocational Education)Myanmar
- Form 228 BWS 9 Live Stock (Faculty of Vocational Education)Myanmar
- Form 229 BWS 10 Sales and Marketing (Faculty of Vocational Education)Myanmar
- Form 230 BWS 11 Properties Services (Faculty of Vocational Education)Myanmar
- Form 231 BWS 12 Performing (Faculty of Vocational Education)Myanmar
- Form 232 BWS 13 Water Services (Faculty of Vocational Education)(Myanmar)
- Form 233 BWS 14 Textile Care(Faculty of Vocational Education)(Myanmar)
- Form 234 BWS 15 Personal Services(Faculty of Vocational Education)(Myanmar)

- Form 235 BWS 16 Asset Management(Faculty of Vocational Education)(Myanmar)
- Form 236 BWS 17 Properties Maintenance (Faculty of Vocational Education)(Myanmar)
- Form 237 BWS 18 Industry(Faculty of Vocational Education)(Myanmar)
- Form 238 BWS 19 Clerk of Work(Faculty of Vocational Education)(Myanmar)
- Form 239 BWS 20 Engineering Manufacturing / Printing(Faculty of Vocational Education)(Myanmar)
- Form 240 BWS 21 Public Communication/postal/ Library (Faculty of Vocational Education)(Myanmar)
- Form 241 BWS 22 Education Support(Faculty of Vocational Education)(Myanmar)
- Form 242 BWS 23 Production and Industry(Faculty of Vocational Education)(Myanmar)
- Form 243 Master of Professional Engineering (International) (Faculty of Engineering(English
- Form 244 BWS 24 Visual Arts and Crafts(Faculty of Vocational Education)(Myanmar)
- Form 245 Bachelor of Arts (Politics and Human Rights)(Faculty of Law)(Myanmar)
- Form 246 BWS 25 Screen Media(Faculty of Vocational Education)(Myanmar)
- Form 247 PhD Myanmar + International integrating ME Myanmar+International (All faculties) (Myanmar+English)
- Form 248 BWS Engineering Myanmar(Faculty of Engineering)(Myanmar)
- Form250 Bachelor of Work Studies-Factory All Myanmar(Faculty of Vocational Education)(Myanmar)
- F255 Bachelor of Agri Business (Faculty of Vocational Education)English
- F256 Bachelor of Career Development (Faculty of Vocational Education(English)
- F255 Bachelor of Creative Design (Faculty of Vocational Education)(English)
- F255 Bachelor of Health Wellbeing Community)(Faculty of Vocational Education)English
- F255 Bachelor of Innovative Manufacturing Science (Faculty of Vocational Education)English
- F255 Bachelor of Supply Chain Studies (Faculty of Vocational Education)English
- F255 Bachelor of Technology Business Studies (Faculty of Vocational Education)English

- F255 Bachelor of Hospitality and Tourism Studies (Faculty of Vocational Education)English
- Form 140 Diploma in Tourism Management (Faculty of Vocational Education)English
- Form 179 Medical Data System (Faculty of Vocation Education)English
- Form 180 ETAB+REVIT Faculty of Engineering English
- Form 181 M & E Software Faculty of Engineering English
- Form 182 CAM/CNC/Master CAM Faculty of Engineering English
- Form 187 ME Civil High Rise Building Construction Faculty of Vocational Education English
- Form 201 Engineering Trades Faculty of Vocational Education Myanmar
- Form 316 Graduate Engineer Training Faculty of Engineering English Myanmar
- Form 321 Doctor of Engineering
- Form 322 Doctor of Philosophy (Information Technology)
- Form 323 Doctor of Business Administration
- Form327 Master of Professional Architecture Faculty of Engineering English Faculty of
- Form327 Master of Professional Architecture
- Form 329 Certificate in Rigging Faculty of Vocational Education English
- Form 330 Certificate in Scaffolding Faculty of Vocational Education English
- Form 350A Military Studies (IPEM Branch of Military) English Myanmar
- Form 110 Certificate in Estimating (Faculty of Engineering)Myanmar +English
- Form 144 Electrical Technician Laboratory (Faculty of Engineering)Myanmar+English
- Form 145 Solar Energy Course (Faculty of Engineering)Myanmar +English
- Form185 Engineering Handbook Applications (Faculty of Engineering (English+Myanmar)
- Form 187 ME Civil High Rise Building Construction (Faculty of Engineering)(English)
- Form 188 Professional Certificate in Hotel Construction (Faculty of Engineering)(English)
- Form 192 Graduate Diploma in Geographic Information Systems (Faculty of Engineering)(English)
- Form198 Marine Electrical System (Faculty of Engineering)English
- Form 200 Certificate in Hospital Electrical System (Faculty of Engineering)(english)

- F201-PC 1-Certificate in Bricklaying & Masonry (Faculty of Vocational Education)(English+Myanmar)
- F201-PC 2-Certificate in Plumbing (Faculty of Vocational Education)(English+Myanmar)
- F201-PC 3-Certificate in Building Construction (Faculty of Vocational Education)(Myanmar+English)
- F201-PC 4-Certificate in Gutter Construction (Faculty of Vocational Education)(Myanmar+English)
- F201-PC 5-Certificate in Fitting & Machining (Faculty of Vocational Education)(English+Myanmar)
- F201-PC 6-Certificate in Welding (Faculty of Vocational Education)(Myanmar+English)
- F201-PC 7-Certificate in Engine Operation & Basic Servicing (Faculty of Vocational Education)(Myanmar+English)
- F201-PC 8-Certificate in Air-conditioning & Refrigeration Basic Servicing (Faculty of Vocational Education)(Myanmar+English)
- F201-PC 9-Certificate in Electrical Wiring (Faculty of Vocational Education)(Myanmar+English)
- F201-PC 10-Certificate in Electrical Machine Winding (Faculty of Vocational Education)(Myanmar+English)
- F201-PC 11-Certificate in Electrical Power Wiring & Switch Gear Installation (Faculty of Vocational Education)(Myanmar+English)
- F201-(PC15/H102) Certificate in Basic Electronics & Telecommunication (Faculty of Vocational Education)(Myanmar+English)
- F201-PC16 Certificate in Rigging & Scaffolding (Faculty of Vocational Education)(Myanmar+English)
- F201-PC 12-Certificate in Surveying. Quantity Surveying & Estimating (Faculty of Vocational Education)(Myanmar+English)
- F201-PC 13-Certificate in Manufacturing Process Control & CNC (Faculty of Vocational Education)(English+Myanmar)
- F201-PC 14-Certificate in Building Energy Efficiency (Faculty of Vocational Education)(Myanmar+English)
- Form 200 Certificate in Hospital Electrical System (Faculty of Engineering)(English)
- Form 281 Bachelor of Applied Engineering (Electrical & Electronics) with Certificate IV in Electrical& Electronics Trades Studies (Faculty of Engineering)(English)
- Form 316 Graduate Engineer Training (Faculty of Engineering)(English+Myanmar)
- Form 317 Representative Lawyer (RL) LLM Course (Faculty of Law)English

- Form 326 BEngSc+BTP+BEngPrac +BWS-Engg (Faculty of Engineering +Faculty of Vocational Education)(Myanmar+English)
- Form327 Master of Professional Architecture (Faculty of Engineering)(English)
- Form 329 Certificate in Rigging (Faculty of Vocational Education)(English)
- Form 330 Certificate in Scaffolding (Faculty of Vocational Education)(English)
- Form 331 EPGE SAE Course (Faculty of Engineering)(English+myanmar)
- Form 335 Engineer ICT Manager Knowledge Assessment MCQ (Faculties of Engineering/IT/Management) English
- Form 344 Bachelor of Arts (English) (Faculty of Fitness and Languages)(English)
- Form344A Diploma in English (Faculty of Fitness and Languages)
- Form344B Diploma in Business English (Faculty of Fitness and Languages)(English)
- FORM 351 Certificate in International Relations (Faculty of Management)(English)
- FORM 352 BECon (Faculty of Management)(English)
- Form 353 MECon (Faculty of Management)(English)
- Form 354 PhD Economics (Faculty of Management)(English)
- Form381 Bachelor of Policing (Faculty of Law)English
- Form382 Bachelor of Nautical Science (Faculty of Science)English
- Form 383 Bachelor of Marine Science(Faculty of Science)English
- Form 384 Bachelor of Science (Photonics)(Faculty of Science)English
- Form 385 Bachelor of Science (Forestry)(Faculty of Science)English
- Form 386 Bachelor of Engineering (Nuclear)
- F356-358 Diploma in Optometry (Faculty of Vocational Education)English
- F356-358 Diploma in Dental Surgery (Faculty of Vocational Education)English
- F251+F85 AGTI (Electrical)(Pyay GTI Online)
- F251+F85 AGTI (Mechanical)(Pyay GTI Online)
- F251+F85 AGTI (Civil)(Pyay GTI Online)
- F201+NLD School-THS Course Electrical (IQY THS Online)
- F201+NLD School-THS Course Construction+Piping+Brick Laying (IQY THS Online)
- F201+NLD School-THS Course Fitting Maching+Welding+AirCon+Mechanics(IQY THS Online)

- F148 +NLD School MVTC For Year 8-CERTIFICATE IN AGRICULTURE FOOD PRODUCTION (MVTC201)
- F148+NLD School MVTC for Yr 8--CERTIFICATE IN ANIMALS HANDLING (MVTC202)
- F148+NLD School MVTC for Yr 8-CERTIFICATE IN BUSINESS (MVTC203)
- F148+NLD School MVTC for Yr8-CERTIFICATE IN LABORATORY WATER OPERATIONS (MVTC204)
- F148+NLD School MVTC for Yr8-CERTIFICATE IN PROPERTIES SERVICES (MVTC206)
- F148+NLD School MVTC for Yr 8-CERTIFICATE IN PERFORMING (MVTC207)
- F148+NLD School-MVTC for Yr8-CERTIFICATE IN PUBLIC SAFETY (MVTC208)
- F148+NLD School-MVTC for Yr 8-CERTIFICATE IN INFORMATION TECHNOLOGY (MVTC210)
- F148+NLD School-MVTC for Yr 8-CERTIFICATE IN ENGINEERING PRODUCTION & MANUFACTURING THEORY (MVTC211)
- F148+NLD School-MVTC for Yr 8-CERTIFICATE IN ELECTRICAL TRADE THEORY (MVTC212)
- F148+NLD School-MVTC for Yr8-CERTIFICATE IN ENGINEERING TRADE PRACTICE (MVTC213)
- Form 225 BWS 6 Safety Industry(People Defence Force Academy) Myanmar
- Form 387 Bachelor of Veterinary Science English
- Form 388 Bachelor of Agriculture English
- Form 389-BWS Sign writing Screen Printing Book Binding English
- Form 390-BWS-Avonics English
- Form 391-BWS-Basic Construction-Mason Roof Plaster English
- Form 392-BWS-Carpentry English
- Form 393-BWS-Elevator English
- Form 394-BWS-Mettal Trade-
ForgingAutoBodySprayPaintBlackSmithFabricationWeldingEngraving English
- Form 395-BWS-Shoe Making English
- Form 396-BWS-Tayloring English
- Form 397-BWS-Real Estate & Insurance English
- Form 398 BWS-Library Operation English
- Form 399-BWS-Postal Operation English
- Form 400-BWS-Mobile Plant Operation English
- LEngg Bachelor of Aviation

- LEngg Bachelor of Shipping
- Latest Engineering Short Courses-We will send you information and study link
- Latest Knowledge Courses
- EIT301 Advanced Diploma of Robotics and Mechatronics Engineering (English)
- EIT302 Advanced Diploma of Industrial Automation Engineering (English)
- EIT303 Advanced Diploma of Electrical and Instrumentation (E&I) Engineering for Oil and Gas Facilities (English)
- EIT304 Advanced Diploma of Plant Engineering (English)
- EIT 305 Professional Certificate of Competency in Instrumentation, (English)
- EIT306 Professional Certificate of Competency in Hazardous Areas & Intrinsic Safety For Engineers & Technicians (English)
- EIT401 Bachelor of Science (Industrial Automation Engineering)(English)
- EIT402 Undergraduate Certificate in Industrial Automation Engineering (English)
- EIT404 Professional Certificate of Competency in IEC 61850 Based Substation Automation (English)
- EIT404 Professional Certificate of Competency in Gas Turbine Engineering (English)
- EIT406 Professional Certificate of Competency in Machine Learning & Artificial Intelligence (English)
- EIT407 Professional Certificate of Competency in Industrial Data Communication (English)
- EIT408 Professional Certificate of Competency in Onshore & Offshore Pipeline Systems (English)
- EIT409 Professional Certificate of Competency in Practical Mechanical Sealing (English)
- EIT410 Professional Certificate of Competency in Practical Machine Learning Using Python for Engineers & Technicians (English)
- EIT411 Professional Certificate of Competency in Sewage & Effluent Treatment Technologies (English)
- EIT412 Professional Certificate of Competency in Advanced TCP/IP-Based Industrial Networking (English)
- EIT413 Professional Certificate of Competency in Allen Bradley ControlLogix / Logix5000 PLC Platforms (English)
- EIT414 Professional Certificate of Competency in Big Data and Analytics in Electricity Grids (English)
- EIT415 Professional Certificate of Competency in Chemical Engineering & Plant Design (English)

- EIT416 Professional Certificate of Competency in Fundamentals of Road Construction (English)
- EIT417 Professional Certificate of Competency in Arc Flash Protection (English)
- EIT418 Professional Certificate of Competency in Hydraulics and Pneumatics (English)
- EIT419 Graduate Certificate in Renewable Energy Technologies (English)
- EIT501 Graduate Certificate in Civil - Railways Infrastructure Engineering (English)
- EIT502 Graduate Certificate in Electrical and Instrumentation in Oil and Gas Engineering (English)
- EIT503 Graduate Certificate in CAD and Computational Techniques (English)
- EIT504 Graduate Certificate in Civil Transportation Engineering (English)
- EIT505 Graduate Certificate in Fluid Power Engineering (English)
- EIT506 Graduate Certificate in Industrial Instrumentation and Process Control (English)
- EIT507 Graduate Certificate in Industrial Instrumentation and Safety Systems (English)
- EIT508 Graduate Certificate in Process and Thermal Engineering (English)
- EIT509 Graduate Certificate in Programmable Logic Controllers and SCADA (English)
- EIT510 Graduate Certificate in Industrial Automation Engineering(English)
- EIT601 Master of Engineering (Electrical & Instrumentation in Oil & Gas) (English)
- EIT602 Master Of Engineering (Industrial Automation) (English)
- EIT603 Master of Engineering (Safety, Risk & Reliability) (English)
- EIT604 Master of Engineering (Civil: Railway Infrastructure) (English)
- Diploma in Asian Cooking (219902) (English)
- Diploma in Baking and Cake Making (219903) (English)
- Diploma in Cake and Pastry (219904) (English)
- Diploma in Catering (219905) (English)
- Diploma in Commercial Cooking (219906) (English)
- Bachelor of Arts (Buddhism Studies) (629901) (English)
- Bachelor of Arts (Islamic Studies) (629902) (English)
- Bachelor of Arts (Christian Studies) (629903) (English)
- Bachelor of Arts (Hindu Studies) (629904) (English)

- ☐ Bachelor of Arts (Jewish Studies) (629905) (English)
- ☐ Certificate in Aircraft Cabin Cleaning (English)
- ☐ CIV TAE40116 (English only)
- ☐ CIII Electrotechnology Electrician+Diploma/Advanced Diploma in Applied Electrical Engineering+Bachelor of Applied Engineering Electrical/Electronics
- ☐ Other courses in
[www.http://www.iqytechnicalcollege.com/latestknowledge.htm](http://www.iqytechnicalcollege.com/latestknowledge.htm)
- Your Qualification
 - ☐ No Year 10 pass
 - ☐ Year 10 Pass
 - ☐ Engineering Certificate
 - ☐ AGTI or Engineering Diploma , you need to attend Advanced Diploma
 - ☐ AGTI or Engineering Diploma with experiences, you can be exempted to do Advanced Diploma
 - ☐ AGTI + Degree, you can be exempted to do Advanced Diploma as well as some units exemption in Year 3 Professional Diploma
 - ☐ BTech degree , you can attend final stage
 - ☐ BE degree, you can attend final stage with some units to do
 - ☐ BA/BSc or other degrees, only some units can be exempted in Diploma
 - ☐ Masters degree, only some units can be exempted in Diploma
 - ☐ Any certificate,only some units can be exempted in diploma
 - ☐ Year 5
 - ☐ Year 6
 - ☐ Year 7
 - ☐ Year 8
 - ☐ Year9
 - ☐ Year 10
- Fees Payment
 - ☐ I will pay the fees in full in the class
 - ☐ I will pay the feels in instalments in class
 - ☐ I will deposit the fees in to bank account
 - ☐ BE/BTech/Adv Dip in CAE is free for IQY Graduates. // They must submit their student number. For other students, fees must be paid
 - ☐ I am PDF Member and apply for Free Course

- ☐ I would like to apply for Fees Exemption in Spring Revolution Education Support Program.
- Multiple Choice
 - ☐ After Advanced Diploma OR Professional Diploma, I want to apply for membership of Singapore Institute of Engineering Technologists) (Fees applies)
 - ☐ After Professional Diploma, I want to get Bachelors degree from St Clements University/ St Clements Institute (Fees applies)
 - ☐ I want to enroll St Clements University or SPCU Business School leading to UK ATHE Pre,masters Level 6 Diploma
 - ☐ After Professional Diploma , I want to get the Bachelors degree from STC technological University
- As a student/ graduate of IQY Technical College, you can automatically become the Member/ Supporter of The Institution of Professional Engineers Myanmar
 - ☐ Supporter Member while attending the Diploma courses
 - ☐ Graduate Member after completion of Diploma/ Advanced Diploma/ Professional Diploma
 - ☐ Associate Member(AMIPEM) for AGTI/BTech/BE/Advanced Diploma/ Professional Diploma with 3 or more years experience
 - ☐ Member (MIPEM) for AGTI/BTech/BE/ Advanced Diploma/ Professional Diploma with more than 7 years experience
 - ☐ Chartered Engineer (CEng-Myanmar,MIPEM) for AGTI/BTech / Advanced Diploma to be assessed separately
 - ☐ Chartered Professional Engineer (CPEng-Myanmar, MIPEM) for BE/ Professional Diploma to be assessed separately

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ဖက်ဒရယ်ပြည်ထောင်စုမြန်မာနိုင်ငံတော်လှန်ရေးအစိုးရ
ဖွဲ့စည်းရေးအမှုဆောင်အဖွဲ့ပညာရေးဌာနသည်အောက်
ပါThe Institution of Professional Engineers Myanmar
၏ကြေညာချက်ကိုထောက်ခံသည်။

8 April 2022

The Institution of Professional Engineers Myanmar
သည် စစ်ကောင်စီလက်အောက်ခံ Non CDM ဆရာများက
သင်ကြားချီးမြှင့်သော နည်းပညာတက္ကသိုလ် မန္တလေး
(Technological University Mandalay) ၏ 2021/2022 ဘွဲ့
များကိုအသိအမှတ် မပြု ကြောင်း 2 April 2022 တွင် ကြေ
ညာခဲ့ သည်။

နည်းပညာတက္ကသိုလ် မန္တလေး၏ကြားကာလတက္ကသိုလ်
ကောင်စီအပါအဝင်ကြားကာလတက္ကသိုလ်ကောင်စီအားလုံး
သည်စစ်ကောင်စီလက်အောက်ခံ Non CDM ဆရာများက
သင်ကြားချီးမြှင့်သော နည်းပညာတက္ကသိုလ် မန္တလေး
(Technological University Mandalay) ၏ 2021/2022 ဘွဲ့
များကိုအသိအမှတ် မပြု ကြောင်းကြေညာခြင်း မပြုသဖြင့်
အဆိုပါဘွဲ့ပေး ခြင်းကို လက်ခံသည် ဟုယူဆရန်အကြောင်း
ခိုင်လုံသည်။

တော်လှန်ရေးတိုက်ပွဲဝင် The Institution of Professional
Engineers Myanmar ၏ IPEM Technological University
သည်Myanmar နှင့် International Academic များပါဝင်

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(Technological University Mandalay) ၏ 2021/2022 ဘွဲ့များကိုအသိအမှတ် မပြု ကြောင်းကြေညာခြင်း မပြုသဖြင့် အဆိုပါဘွဲ့ပေး ခြင်းကို လက်ခံသည် ဟုယူဆရန်အကြောင်း ခိုင်လုံသည်။

တော်လှန်ရေးတိုက်ပွဲဝင် The Institution of Professional Engineers Myanmar ၏ IPEM Technological University သည် Myanmar နှင့် International Academic များပါဝင်သော Qualification Board ၏လမ်းညွှန်မှု အတိုင်း KG to PhD အထိတက္ကသိုလ်ပညာရပ်ပေါင်းစုံ Online သင်ကြားကာ CDM ကျောင်းသားများအတွက်ဘွဲ့များ ကို IPEM Technological University ဘွဲ့နှင့်အတူCDM ကျောင်းသားတက်ခဲ့သော နည်းပညာတက္ကသိုလ်၏ ဘွဲ့ပါဝင်သော Joint Award Degreeကိုစစ်ကောင်စီကိုအန်တုပြီး ပေးမည် ဖြစ်ကြောင်းကြေညာ လိုက်သည်။

IPEM IQY Education Group ကသူတို့၏နည်းပညာတက္ကသိုလ်ကျောင်းအမည်ကိုသုံးစွဲမှုကိုစောဒက တက်ခဲ့သော ကြားကာလတက္ကသိုလ်ကောင်စီအားလုံးသည်စစ်ကောင်စီပေးသောဘွဲ့ကိုအသိအမှတ် မပြု ကြောင်းကြေညာခြင်း မပြုရဲသောကြောင့် www.iqytechnicalcollege.com/SACDegree.htm Page ပါ ဗီဒီယိုတို့ကို ကြည့်ရန် အကြံပြုသည်။

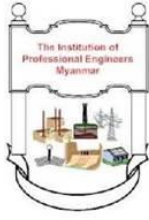
Executive Committee (NSW Australia)

The Institution of Professional Engineers Myanmar.

See translation



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FEDERAL UNION OF BURMA

ဖက်ဒရယ်ပြည်ထောင်စုမြန်မာနိုင်ငံတော်

We support
Ministry of
Education
of
Federal Union of
Burma



IQY Technical College

(IQY Technical and Vocational Training)

IQY Technology College & IQY Degree College

www.iqytechnicalcollege.com

www.ipemyanmar.org

IQY Technical College confirms that all our Spring Revolution Support Education Programs are provided to support for Freedom of Myanmar..

This is to certify that

Maung/Ma

Tin Ko Ko Lat

Son/Daughter of

has completed the attached qualification at IQY/IPEM Education Group's Colleges, Universities and Schools which is delivered by IQY/IPEM Education Group to support his/her CDM activities.

Maung Oo

Registrar

Date 11/1/2022

The candidate will need to fill the blanks.

IQY Technical College ရဲ့ ပထမအသုတ်ကျောင်းသားတွေဟာ Professional Diploma နဲ့ Affiliated University တွေဖြစ်တဲ့ STC Technological University နဲ့ St Clements University ကပေးတဲ့ဘွဲ့ တွေကိုစတင်ရရှိကြပြီဖြစ်ပါတယ်။

IQY Professional Diploma in Engineering ကို Singapore Institute of Engineering Technologist ကအသိအမှတ်ပြုပြီး Singapore Membership/ ASEAN Engineering Technologist တွေ့နဲ့ Professional Engineer (UK) တွေ့ဆက်ရမှာဖြစ်ပါတယ်။

IQY Technical College ဟာ British West Indies မှာကုမ္ပဏီမှတ်ပုံတင်ထားပေမဲ့ Cambodia, Switzerland, Niue, Somalia, Liberia, စတဲ့နိုင်ငံတွေမှာတရားဝင်မှတ်ပုံတင်ထားတဲ့ St Clements University ရဲ့ ကျောင်းခွဲ St Clements University Myanmar College အဖြစ်လဲပညာ ပို့ချ ပါတယ်။

St Clements University Myanmar College ဟာ ဖွဲ့စည်းပင်က Royal Government of Cambodia မှတ်ပုံတင် St Clements Institute ရဲ့ ကျောင်းခွဲအနေနဲ့ သင်ကြားဘွဲ့ ပေးတဲ့အတွက် ASEAN Mutual Recognition အကြိုးဝင်တဲ့ဘွဲ့ တွေရမှာဖြစ်ပါတယ်။

ထို့အပြင် British Qualifications မှာအကြိုးဝင်တဲ့ Institute of Management Specialists (UK), The Institute of Manufacturing (UK), Faculty of Technical and Business Management (UK) စတာတွေရဲ့ Professional Recognition ကိုဆက်ရပါမယ်။

IQY Technical College ဟာ မြန်မာနိုင်ငံပြင်ပနေ Director နဲ့ Program Leader တွေရဲ့ Lesson, Lecture, Video စတဲ့ Online တင်ထားတာတွေကို ကမ္ဘာအနှံ့နဲ့ မြန်မာပြည်တွင်းကကျောင်းသားတွေ Online နဲ့ လေ့လာသင်ယူနိုင်သလိုရန်ကုန်၊မန္တလေးနဲ့ မြန်မာပြည်အနှံ့ မှာစုစည်းထားတဲ့ဆရာတွေကပညာရေးအုပ်စုတွေဖွဲ့ စည်းပြီးကိုယ်တိုင်တက်သင်တန်းတွေဖွင့်လှစ်သင်ကြားပါတယ်။ ဒီနည်းနဲ့ နိုင်ငံခြားပညာကိုမြန်မာကျောင်းသားတွေဈေးသက်သက်သာသာနဲ့ သင်ယူလို့ ရသလို မြန်မာဆရာတွေကို Capacity Development/ Knowledge Sharing လုပ်ပါတယ်။

အဲဒါဟာမြန်မာအင်ဂျင်နီယာနဲ့ ပညာရေးတိုးတက်ရေးကိုလက်တွေ့ အကောင်အထည်ဖော်လုပ်ဆောင်ပေးတာဖြစ်ပါတယ်။

Unicode

ကျွန်ုပ်တို့၏ IQYနည်းပညာကောလိပ်ဝက်ဘ်ဆိုက် www.iqytechnicalcollege.com တွင်သတင်းအချက်အလက်အား လုံးကိုတင်လိုက်ပြီ။

1 / IQY Technical College သည်စင်ကာပူအင်ဂျင်နီယာနည်းပညာအင်စတီကျု (Singapore Institute of Engineering Technologists) ၏တရားဝင်ခွင့်ပြုထားသော သင်တန်းစင်တာဖြစ်သည်။

2 / IQY နည်းပညာကောလိပ်သည်ဩစတြေးလျ NSW အစိုးရ တွင်ပညာရပ်အသင်းအဖြစ်မှတ်ပုံတင်ထားသော The Institution of Professional Engineers Myanmar ၏တရားဝင်ခွင့်ပြုထားသော သင်တန်းစင်တာဖြစ်သည်။

၃ / The Institution of Professional Engineers Myanmar အဖွဲ့အစည်းသည် International Federation of Engineering Education Societies အပြည်ပြည်ဆိုင်ရာအင်ဂျင်နီယာပညာရေးအသင်း၏အသင်းဝင်ဖြစ်သည်။

4 / IQY Technical Collegeသည်ဩစတြေးလျလုံခြုံရေးနှင့် ရင်းနှီးမြှုပ်နှံမှုကော်မရှင် Australian Security and Investment Commission တွင်မှတ်ပုံတင်ထားသည်။

သို့သော်ကျွန်ုပ်တို့သည်ဩစတြေးလျားတွင်အလုပ်မလုပ်ပါ။

ကျွန်ုပ်တို့သည်ဩစတြေးလျားအစိုးရနှင့်မှတ်ပုံတင်ထားသောသင်တန်းအဖွဲ့ RTO (Registered Training Organization) အဖြစ်မှတ်ပုံတင်ရန်မလိုအပ်ပါ။

ဤအကြောင်းကြောင့်ကျွန်ုပ်တို့ကို Degree Mills အဖြစ်ပုတ်ခတ်သောမည့်မည်သည့်ပုဂ္ဂိုလ်ကိုမဆိုသို့မဟုတ်မည်သည့်အဖွဲ့အစည်းကိုမဆိုတရားဥပဒေအရအရေးယူရန်တွန့်ဆုတ်မည်မဟုတ်။

The Institution of Professional Engineers Myanmar အဖွဲ့အစည်းသည် မြန်မာနိုင်ငံမှအဖွဲ့အစည်းတစ်ခုအားမြန်မာနိုင်ငံတရားရုံးတွင်တရားလိုအဖြစ်တရားဝင်စိန်ခေါ်နေသည်။

Zawgyi One

English

On our IQY Technical College Website, www.iqytechnicalcollege.com we have uploaded all Information.

1/ IQY Technical College is Authorized Training Centre of Singapore Institute of Engineering Technologists

2/IQY Technical College is Authorized Training Centre of The Institution of Professional Engineers Myanmar which is registered as Incorporated Professional Association with NSW Government of Australia

3/ The Institution of Professional Engineers Myanmar is Member of International Federation of Engineering Education Societies-USA

4/IQY Technical College is registered with Australian Security and Investment Commission
But we do not operate in Australia and we do not need to registered as RTO (Registered Training Organization with Australian Government).

For this reason, we will not hesitate to take the legal action against any individual or any organization which blackmail us as Degree Mills .

The Institution of Professional Engineers Myanmar is also legally challenging one organization in Myanmar at Myanmar Court of Justice as Plaintiff.

IQY Qualifications and Myanmar Qualifications Matching-Engineering/ Engineering Education

IQY Level	IQY Qualifications Framework (IQYQF)	Level	Myanmar National Qualifications Framework	Equivalency/ Assessment/ Advanced Standing
1	Year 9 to 12 Bridging Education Certificate	1/2	High School Level 2 Primary School Level 1	Matured age people experiences are to be taken into account for bridging courses
	Myanmar Vocational Training Certificate Level 1 (MVTC 1)	1	V&T C /SC1 (TVET) (Primary/Middle School Qualifications)	Only vocational training aspects will be equated
	Myanmar Vocational Training Certificate Level 2 (MVTC 2)	2	V&T C /SC2(TVET) (High School Qualifications)	Only vocational training aspects will be equated
	Myanmar Vocational Training Certificate Level 3 (MVTC 3)	3	V&T C /SC3(TVET)	Only vocational training aspects will be equated/ Other degrees
	All Diploma Part 1 (Advanced Certificate) / Advanced Diploma in General Engineering	4	V&T C /SC4(TVET)	BE/BTech Year 1/ AGTI incomplete/ Different discipline diploma / C&G Level 3 Same or Different Discipline
2	Diploma in Engineering Part 2- Specialized Discipline/	5	TVET Diploma	BE/BTech Year 2/AGTI completed without experience/All other same or relevant discipline diplomas/ C&G Level 4 Same discipline
	Advanced Diploma (Diploma in Engineering Education Level 1-Diploma in Vocational Education and Training)	5	TVET Advanced Diploma	AGTI with experience/ BE (Year 3) /BTech (Year 3) Same discipline /C&G Level 5 Same discipline For other degrees, assessment will be based on individual subject/
3	Professional Diploma Part 1 (Year 3) (Diploma in Engineering Education Level 2-Diploma in Technical Teaching)	5	Associate Degree	Professional Level Degree such as (Same discipline BE(Year 4) BTech (Final Year) C&G Level 6) / BE Different discipline (Complete) For other degrees, assessment will be based on individual subject
	Professional Diploma Part 2 (Year 4) (Diploma in Engineering Education Level 3-Diploma in Engineering Education)	6	Bachelors Degree TVET Degree	Same discipline Professional Level Degree such as BE(Year 5/6)/BTech complete For other degrees, assessment will be based on individual subject
4	Master Diploma Part A (Diploma in Engineering Education Level 4-Diploma in Engineering Education-Specialist Studies)	7	Postgraduate Diplomas	
	Master Diploma Part B/ Master Diploma in Research Studies	7	Masters	
5	Diploma in Doctoral Studies	8	Doctorate degree	

V&T S/C—Vocational Training Certificate/ Skills Certificate ---- Other degree—Non Engineering degrees

AGTI/BE/BTech/City & Guild Diploma / Engineering Diploma can be given entry to IQY Advanced Diploma/ Professional Diploma. Other Qualifications need to do IQY Diploma

Ref <http://www.iqytechnicalcollege.com/Myanmar National Qualifications Framework.pdf>

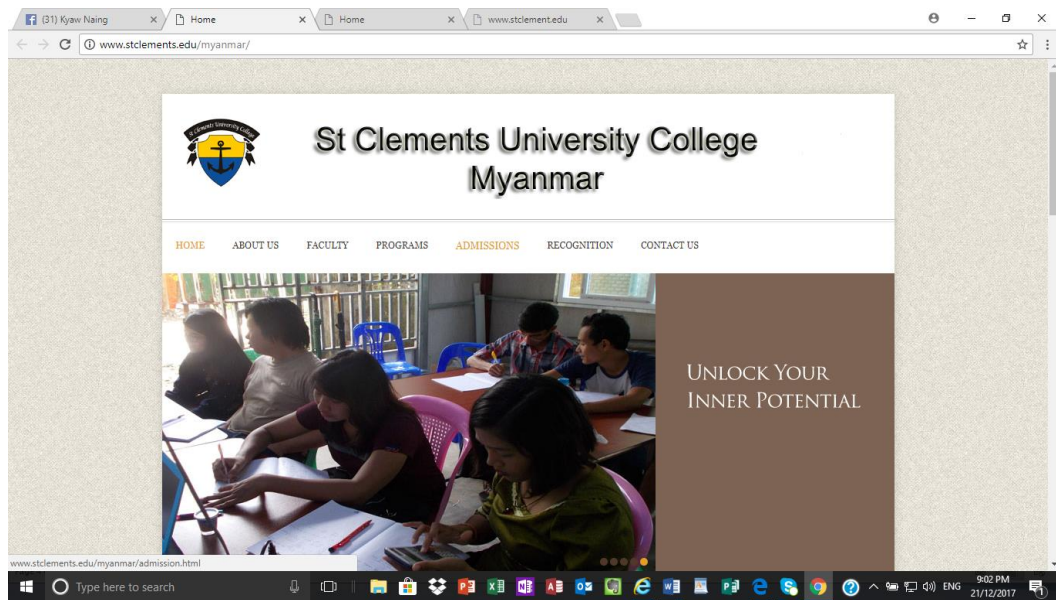
IQY Qualifications and Myanmar Qualifications IT/Management/ Humanities/Teaching

IQY Level	IQY Qualifications Framework (IQYQF)	Level	Myanmar National Qualifications Framework	Equivalency/ Assessment/ Advanced Standing
1	Year 9 to 12 Bridging Education Certificate	1/2	High School Level 2 Primary School Level 1	Matured age people experiences are to be taken into account for bridging courses
	Myanmar Vocational Training Certificate Level 1 (MVTC 1)	1	V&T C /SC1 (TVET) (Primary/Middle School Qualifications)	Only vocational training aspects will be equated
	Myanmar Vocational Training Certificate Level 2 (MVTC 2)	2	V&T C /SC2(TVET) (High School Qualifications)	Only vocational training aspects will be equated
	Myanmar Vocational Training Certificate Level 3 (MVTC 3)	3	V&T C /SC3(TVET)	Only vocational training aspects will be equated
	All Diploma Part 1 (Advanced Certificate) / Half of Diploma in IT/Management/ Humanities	4	V&T C /SC4(TVET)	Any degree Year 1/ Any Diploma incomplete/ C&G Level 3 Same or Different Discipline
2	Full Diploma in IT/Management/ Humanities/Teaching Practice	5	TVET Diploma	Any degree Year 2/ Any Diploma completed without experience/All other same or relevant discipline diplomas/ C&G Level 4 Same discipline
	Advanced Diploma in IT/Management/ Humanities	5	TVET Advanced Diploma	Diploma with experience/ Any degree year 3 /C&G Level 5 Same discipline For other degrees, assessment will be based on individual subject/
3	Professional Diploma Part 1 in IT/Management/ Humanities/	5	Associate Degree	Any degree year 4/C&G Level 6 The assessment will be based on individual subject
	Professional Diploma Part 2 in IT/Management/ Humanities/ Professional Diploma in School and Vocational Education	6	Bachelors Degree TVET Degree	Professional Level Degrees such as Engineering/Medicine/law etc The assessment will be based on individual subject
4	Master Diploma Part A (Diploma in Engineering Education Level 4-Diploma in Engineering Education-Specialist Studies)	7	Postgraduate Diplomas	
	Master Diploma Part B/ Master Diploma in Research Studies	7	Masters	
5	Diploma in Doctoral Studies	8	Doctorate degree	

V&T S/C—Vocational Training Certificate/ Skills Certificate ----

Myanmar Degrees/ Foreign degrees/City & Guild Diploma / Engineering Diploma can be given entry to IQY Advanced Diploma/ Professional Diploma. Other Qualifications need to do IQY Diploma

Ref <http://www.iqytechnicalcollege.com/Myanmar National Qualifications Framework.pdf>



IQY Technical College ရဲ့ Diploma သင်တန်းအားလုံးကို Australia နဲ့ နိုင်ငံတကာအဆင့်အတိုင်းဝင်ခွင့်ကို Year 12 အဆင့်သတ်မှတ်ထားပြီး 1 Year ပြီးရင် Diploma (Credit Point 30) 2 Years ပြီးရင် Advanced Diploma (Credit Point 60)) 4 Years ပြီးရင် Professional Diploma (Credit Point 120)စီစဉ်ထားသလို Australian Qualifications Framework ကိုမှီငြမ်းထားတဲ့ IQY Qualifications Framework အရ Graduate Attribute တွေရှိအောင်စီစဉ်ထားပါတယ်။

Year 10 ပြီးသူတွေကို IQY ဝင်ဘို့ ပေါင်းကူး Program တွေဖြစ်တဲ့ Myanmar Vocational Certificate Level 1/2/3, Bridging Course, THS ပြီးသူတွေအတွက် Advanced Diploma in General Engineering and Drafting စတာတွေကိုစီစဉ်ထားသလို Australian Year 11/12 Maths, Physics, Science, Chemistry, Design & Technology, Software Design ဘာသာတွေကိုစီစဉ်ထားပြီးBridging Course မှာထဲသွင်းမှာဖြစ်ပါတယ်။

IQY Professional Diploma ဟာ Bachelor Degree အဆင့်စီစဉ်ထားပေမဲ့ Accreditation ပေးထားတဲ့ Singapore Institute of Engineering Technologists က ASEAN Federation of Engineering Organization ရဲ့ ဘောင်အတွင်းမှရှိအောင် Bachelor ဘွဲ့ ကို IQY ကမပေးဘဲ Professional Diploma ကိုပေးသလို Singapore Institute of Engineering Technologists (SIET) အနေနဲ့ လဲ The Institution of Engineers Singapore (IES)နဲ့ အပြိုင်မဖြစ်အောင် ASEAN Engineer အတွက် Nominate မလုပ်ဘဲ ASEAN Engineering Technologist ကို Nominate လုပ်သလို Professional Engineer Assessment ကို UK Society of Professional Engineers နဲ့ ပူးပေါင်းလုပ်ဆောင်ပါတယ်။

IQY Professional Diploma ရသူတွေကို Cambodia Government မှတ်ပုံတင် St Clements University/ St Clements Institute က Bachelor of Applied Engineering/ Bachelor of Applied Science/ Bachelor of Applied Management ဘွဲ့ တွေပေးအပ်သလို မြန်မာကျောင်းသားတွေအတွက် St Clements University Myanmar College <http://www.stclements.edu/myanmar/> ကို IQY St Clements Education Group ကထူထောင်ထားပါတယ်။

Nature of IQY Diplomas (IQY ဒီပလိုမာများ၏သဘောသဘာဝ)

	Theory စာတွေ့ အခြေခံ	Practical လက်တွေ့ အခြေခံ	Theory PLUS Practical စာတွေ့ + လက်တွေ့ အခြေခံ
Trades ကျွမ်းကျင်သူ	Diploma in Engineering	Diploma in Engineering Trades Practice	Diploma in Engineering Practice (After Diploma/Advanced Diploma/ Professional Diploma in Engineering)
Technician နည်းပညာရှင်	Advanced Diploma in Engineering	Advanced Diploma in Engineering Trades Practice	Advanced Diploma in Engineering Practice (After Diploma/Advanced Diploma/ Professional Diploma in Engineering)
Engineer အင်ဂျင်နီယာ	Professional Diploma in Engineering	Professional Diploma in Engineering Internship	Professional Diploma in Engineering Practice (After Diploma/Advanced Diploma/ Professional Diploma in Engineering)
Remark မှတ်ချက်	Can be used to apply for Membership Can convert Professional Diploma to Bachelors degree အင်ဂျင်နီယာအသင်းဝင်လျှောက်နိုင်သည် Professional Diploma ကိုဘွဲ့ သို့ ပြောင်းနိုင်သည်။	Needs to attend the special theory course to get Diploma/Advanced Diploma/ Professional Diploma in Engineering to apply for Membership and Bachelors degree အင်ဂျင်နီယာအသင်းဝင်လျှောက်ရန် ဘွဲ့ သို့ ပြောင်းရန် Diploma/Advanced Diploma/ Professional Diploma in Engineering အတွက်အထူးသင်တန်းတက်ရမည်။	Can be used to apply for Membership Can convert Professional Diploma to Bachelors degree အင်ဂျင်နီယာအသင်းဝင်လျှောက်နိုင်သည် Professional Diploma ကိုဘွဲ့ သို့ ပြောင်းနိုင်သည်။

Form 107 IQY+IPEM Course Information

Humanities+Education

<https://youtu.be/1qHtqD7UJYg>

Management+IT

<https://youtu.be/Ma8ybo0wpSM>

Higher Education

<https://youtu.be/k9GdsuaCURE>

Engineering

<https://youtu.be/Vj-45nsZtqY>

IPEMTU

<https://youtu.be/XyN8BhHKDnw>

IQY Program

<https://youtu.be/aIHdsYFKKD4>

IQY +IPEM Education Group Graduation Dress

Faculty	Graduation Dress
<p>1.Faculty of Engineering</p> <p>BE/BTech/BEngSc/BWS Engg/BArch BTP-Engg/BProfPrac-Engg The same dresses for Masters/Grad Dip degrees. Doctorate-Regalia</p>	
<p>2.Faculty of Management</p> <p>BMgt/BBA/BAcct/BEcon/BBus BProf Prac -Mgt/BWS-Mgt/BEngMgt The same dresses for Masters/Grad Dip degrees. Doctorate-Regalia</p>	

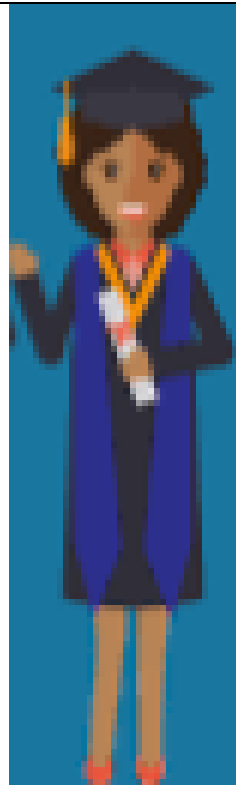
3.Faculty of Information Technology

BAppSc-IT/ BWS-IT

BProfPrac-IT/Grad Dip GIS

The same dresses for
Masters/Grad Dip degrees.

Doctorate-Regalia



4.Faculty of Arts

ALL BA degrees other than English and
Myanmar

The same dresses for
Masters/Grad Dip degrees.

Doctorate-Regalia



5.Faculty of Teacher Education

BEd

The same dresses for
Masters/Grad Dip degrees.

Doctorate-Regalia



6. Faculty of Science

All BSc Degrees

The same dresses for
Masters/Grad Dip degrees.

Doctorate-Regalia



7. Faculty of Humanities

BHS

The same dresses for
Masters/Grad Dip degrees.

Doctorate-Regalia



8. Faculty of Law

LLB/BL/BBA-Law/

BA-Politics/Human rights

The same dresses for
Masters/Grad Dip degrees.

Doctorate-Regalia



**9. Faculty of
Vocational Education (Including
Department of Health)**

All BWS Degrees other than
Engineering/IT and Management

The same dresses for
Masters/Grad Dip degrees.

Doctorate-Regalia



**10. Faculty of Fitness and
Language**

BA (English)-Brown

BA (Myanmar)-Brown

All other language degrees

The same dresses for
Masters/Grad Dip degrees.

Doctorate-Regalia



All Undergraduate Diplomas
Certificates/ School Certificates

IQY Uniform or National
Dresses(Formal)

IQY သင်ရိုးအဆင့်များနှင့်စစ်ဆေးမှုပုံစံများ

IQY Courses Levels and the way of assessment

IQY Technical College ဟာ Level သုံးခုသင်ပါတယ်။

Level 1

Tertiary Bridging (Year 9/10/11/12) စာတွေနဲ့ Technical/Vocational ဘာသာတွေပေါင်းထားတဲ့သင်ရိုး

Advanced Diploma in General Engineering & Drafting

Level 2

တက္ကသိုလ်၊ ကောလိပ်ပထမ နှစ်အဆင့် Advanced Diploma in Engineering (Specialist Discipline) such as Advanced Diploma Civil/Electrical/Mechanical Engineering/ IT/ Management.

Level 3

တက္ကသိုလ်၊ ကောလိပ်နောက်ဆုံး နှစ်အဆင့် Professional Diploma in Engineering (Specialist Discipline) such as Advanced Diploma Civil/Electrical/Mechanical Engineering/ IT/ Management./ BE/BMgt/BSc(IT)

အဲဒီမှာအခြေခံအဆင့်သိသင့်တာမသိခဲ့ဘဲဘွဲ့ လိုချင်ဇောနဲ့ Professional Diploma in Engineering (Specialist Discipline)ကိုဝင်တက်ရင်သင်တဲ့စာတွေနားလည်ဘို့ ခက်ခဲမှာဖြစ်လို့ သင့်တော်တဲ့အဆင့် ကစင်ဘို့ လိုပါတယ်။

နောက်တခုကစာမေးပွဲအောင်တာကျတာ IQY မှာမရှိပါဘူး။ Memory ကို Test မဟုတ်ပါဘူး။

သိသင့်တတ်သင့်တဲ့စာကိုပြည့်ဝစွာသင်ယူပြီးလုပ်ရမဲ့ Assignment/ Exercise တွေပြည့်ဝစွာလုပ်ပြီးမှ

Qualification ကိုပေးမှာဖြစ်ပါတယ်။

Assignment/ Exercise လုပ်တာကိုသင်တဲ့ဆရာကမကျေနပ်သေးရင်လိုတာထောက်ပြပြီးပြန်လုပ်ခိုင်းမှာ ဖြစ်ပါတယ်။

IQY Technical College courses are arranged at three levels

Level 1

It is tertiary bridging level combining Year 9 to 12 lessons and technical/ vocational subjects. Example- Advanced Diploma in General Engineering & Drafting

Level 2

It is first two years level of College/ University Courses. The courses are Advanced Diploma in Engineering (Specialist Discipline) such as Advanced Diploma Civil/Electrical/Mechanical Engineering/ IT/ Management.

Level 3

It is final two years level Professional Diploma in Engineering (Specialist Discipline) such as Advanced Diploma Civil/Electrical/Mechanical Engineering/ IT/ Management./ BE/BMgt/BSc(IT)

If the students who are ambitious in getting the degree but do not possess the necessary skills and knowledge join the Professional Diploma/ Degree class, they will find it difficult to understand the lessons. It is important for them to join at appropriate level.

IQY does not have the system of Passing or Failing the examinations. We do not test the memory. The qualification will only be awarded to the students who have learnt all necessary studies and have fully done the necessary exercises and assignments.

If the teacher does not satisfy with the student's work, the weaknesses will be pointed out and the student will be asked to redo the work.

THS/ITC/ Year 10 မှဝင်သူများသည်အောက်ပါအစီအစဉ်အတိုင်းတက်ရမည်။

Year 1

Diploma in General Engineering and Certificate in Tertiary Preparation (First 6 months)

Diploma in Electrical/Mechanical/Civil Engineering (Myanmar Version) (Second 6 months)

Associate Degree in Work Studies-Engineering

Year 2

Advanced Diploma in Electrical/Mechanical/Civil Engineering Part 1+Associate Degree of Work Studies in Engineering

BTech/BE ဆက်မတက်နိုင်ပါက Bachelor of Work Studies-Engineering ကို Year 3 တွင်အခမဲ့တက်ကာဘွဲ့ရယူနိုင်မည်။

အလုပ်အတွေ့အကြုံတစ်နှစ်ရှိပါက Bachelor of Work Studies-Engineering ကို Bachelor of Science-Engineeringသို့ CV (Curriculum Vitae) တင်ပြပြီးအဆင့်မြှင့်နိုင်သည်။

IQY ကျောင်းသားအားလုံး IQY Technical College website www.iqytechnicalcollege.com

သင်ရိုးများ <http://www.iqytechnicalcollege.com/offeredcourses.htm>

စာရင်းသွင်းခြင်း <http://www.iqytechnicalcollege.com/enrolment.htm>

သင်တန်းကြေးပြန်အမ်းမှုပေါ်လစီ www.highlightcomputer.com/iqyrefundpolicy.pdf

ကိုမလွဲမသွေဖတ်ရှုသိရှိရမည်။

IQY Technical College သည်ဩစတြေးလျမှတ်ပုံတင်နိုင်ငံတကာအသိမှတ်ပြုအရည်အချင်း သင်ခန်းစာများကိုသင်ပေးနေသည်။

စီစဉ်ထားသောသင်ခန်းစာ၊သင်ရိုးများအပြည့်အဝသင်ရန်၊ထိုသို့စာတွေ့လက်တွေ့သင်ကြားမှုများအ

ကြောင်းကြောင့်မထိခိုက်ရန်စာတွေ့လက်တွေ့သင်ကြားမှု Online/ Offline System လက်တွေ့သင်ကြားမှု Video များအသုံးပြုသည်။

သင်တန်းအရည်အသွေး၊ပေးအပ်သောလက်မှတ်၏အသုံးဝင်အသိမှတ်ပြုမှုထိန်းသိမ်းမှုနှင့်ပတ် သက်၍မည်သည့်ကျောင်းသားစောဒကတက်မှုကိုမျှလက်ခံမည်မဟုတ်။

Dr Kyaw Naing -Principal

ကမ္ဘာပေါ်ရှိရှေးရိုးစဉ်လာတက္ကသိုလ်များအားလုံး (နှင့်ဤမှတ်ချက်အတွက် 'တက္ကသိုလ်' ဟူသောစကားလုံးကိုကျွန်ုပ်အလေးထားသည်၊ ကောလိပ်များမပါဝင်) ဘွဲ့ပေးရန်အချို့သောတရားဝင်လုပ်ပိုင်ခွင့်အာဏာများရှိသည်။

ဤအာဏာပိုင်သည် -

၁) တော်ဝင်ပဋိညာဉ်စာတမ်း

၂။ ပါလီမန်အက်ဥပဒေ

၃) အသိအမှတ်ပြုခြင်း (အမျိုးသား)

၄။ ပညာရေး ဝန်ကြီးဌာနမှအသိအမှတ်ပြုခြင်း

၅။ ပြည်နယ်လိုင်စင် / အခွင့်အာဏာ

၆။ အခြားနိုင်ငံတကာပုံစံများ၊

အထက်ဖော်ပြပါအရာများအားလုံးသည်ပြင်ပအဖွဲ့မှပြန်လည်သုံးသပ်ခြင်း / အကဲဖြတ်ခြင်းပုံစံ အချို့ပါ ဝင်သည်။

ဤပြင်ပအဖွဲ့အစည်းနှင့်လုပ်ငန်းစဉ်သည်လျှောက်ထားသူ၏စွမ်းဆောင်နိုင်မှုကိုအကဲဖြတ်ရန်နှင့်ဘွဲ့ပေးခွင့်ရရှိရန်ကြိုးစားနေသည့်အတိုင်းအတာများကိုပေးရန်အလို့ငှာသင်ကြားရေးစံနှစ်

မှလူ့အရင်းမြစ်အထိဧရိယာများစွာတွင်အနည်းဆုံးလိုအပ်ချက်များရှိကြောင်းသေချာစေရန်စီစဉ်ပြုလုပ်ထားသည်။ အကယ်၍ အဖွဲ့အစည်းသည်လိုအပ်သောစံချိန်စံညွှန်းများနှင့်ကိုက်ညီပါက၊

ထိုအချိန်ကာလ၏သတ်မှတ်ထားသောအချိန်တွင်ကိုယ်ပိုင်အုပ်ချုပ်ခွင့်ဖြစ်စေ၊

သတ်မှတ်ထားသောအချိန်ကာလဖြစ်စေဒီဂရီဘွဲ့အပ်နှင်းရန်အာဏာအပ်နှင်းခြင်းဖြစ်သည်။

တစ်ချိန်တည်းမှာပင်၊ တက္ကသိုလ်”ဟူသောစကားလုံးကိုအသုံးပြုရန် အခွင့်အာဏာအပ်နှင်းထားသည်။

သို့သော်အမေရိကန်ပြည်ထောင်စုတွင်ကျယ်ပြန့်သောအဓိပ္ပာယ်ဖြင့်အသိအမှတ်ပြုခြင်းနှင့်အရည်အသွေးအာမခံခြင်းဟုခေါ်သည်။

အရည်အသွေးအာမခံချက်ဆိုသည်မှာ၎င်းသည်အဆင့်မြင့်ပညာရေးအဖွဲ့အစည်းတစ်ခုအဖြစ်လုပ်ကိုင်နေသောကြောင့်အဖွဲ့အစည်းသည်စံချိန်စံညွှန်းများလိုက်နာရန်ကတိပေးပြီး၊ ထိုစံချိန်စံညွှန်းများတိုးတက်မှုနှင့်သန့်စင်မှုကိုတောင်မှစံနှုန်းများကိုဆက်လက်ထိန်းသိမ်းထားခြင်းဖြစ်သည်။

၆။ အခြားနိုင်ငံတကာပုံစံများ၊

ယခုအခါတွင်အခြားနိုင်ငံတကာပုံစံများ၌ဘွဲ့ပေးရန်တရားဝင်လုပ်ပိုင်ခွင့်အာဏာပုံစံသစ်ဖြင့်ထပ်မံရှိကြောင်းတွေ့ရသည်။ ၎င်းသည်ကုမ္ပဏီ၏ဖွဲ့စည်းမှုပုံစံဖြစ်ပေါ်သည်။ အဖွဲ့အစည်းတစ်ခုသည် ၎င်း၏စီးပွားရေးအမည်ဖြင့် 'တက္ကသိုလ်' ဟူသောဝေါဟာရကိုအသုံးပြု၍ တရားဝင်အဖွဲ့အစည်းတစ်ခုအဖြစ်ပါဝင်သည်။ ဒီဂရီများပေးရန်ခွင့်ပြုချက်သည်ကုမ္ပဏီ၏ဖွဲ့စည်းမှုဆိုင်ရာရေးဆွဲထားမှုမှဆင်းသက်လာခြင်းဖြစ်သည်။ ကုမ္ပဏီ၏ဒါရိုက်တာများသည်ယေဘုယျအားဖြင့်ဤအချက်များကိုရေးဆွဲကြသည်။ ဤဖွဲ့စည်းမှုပုံစံကိုယေဘုယျအားဖြင့်စီးပွားရေးလုပ်ငန်းအမည်များအက်ဥပဒေ (သို့) အလားတူဥပဒေများအောက်တွင် 'တက္ကသိုလ်' ဟူသောစကားလုံးကိုမထိန်းချုပ်သောတရားစီရင်မှုနယ်ပယ်များတွင်တွေ့ရှိရသည်။ အကယ်၍ ၎င်းကိုဥပဒေအရထိန်းချုပ်ထားပါကအထက်ပါ 'အသိအမှတ်ပြု' အဆင့်များကိုလိုက်နာရမည်။

ထို့ကြောင့်မိမိတို့ကိုယ်ကို 'ကိုယ်တိုင်အတည်ပြုခြင်း' သို့မဟုတ် 'ကိုယ်ပိုင်အုပ်ချုပ်ခွင့်ရအဖွဲ့အစည်းများ' ဟုရည်ညွှန်းသည့်အဖွဲ့အစည်းများရှိကြသည်။

အခြေခံအားဖြင့်အထက်ပါပင်မလုပ်ငန်းစဉ်များဖြတ်သန်းခဲ့ရသည့်အတိုင်းဘွဲ့ပေးရန်တရားဝင်အခွင့်အာဏာနှင့်တူညီကြသည်။

ဒီဥပဒေရေးရာဖွဲ့စည်းပုံကိုအသုံးပြုတဲ့အဖွဲ့အစည်းတွေဥပမာ Knightsbridge တက္ကသိုလ်၊ Warnborough တက္ကသိုလ်၊ Earlscroft တက္ကသိုလ်စသဖြင့်။

Added by Dr Kyaw Naing

ဥပမာများ

(1) သြစတြေးလျတွင်တက္ကသိုလ်ဥပဒေအရထိန်းချုပ်ထားသည်။ အစိုးရခွင့်ပြုမှုတက္ကသိုလ်အမည်ခံပြီးသြစတြေးလျဘွဲ့ကိုပေးခွင့်ရှိသည်။

အစိုးရမှတ်ပုံတင်ပြီးကောလိပ်၊ ဒီဂရီကောလိပ်ဖွင့်ပြီးဒီပလိုမာပေးခွင့်ရှိသည်။

အစိုးရအသိမှတ်ပြုတာခံလိုကစီစစ်မှုခံရမည်။ နိုင်ငံခြားဒီပလိုမာဒီကရီကိုလိုစင်မလိုသောအလုပ်တွင်အလုပ်ရှင်လက်ခံပါကသုံးလို့ရသည်။

ဩစတြေးလျတွင်ဒီကရီကောလိပ်မှတ်ပုံတင်ပြီးနိုင်ငံခြားတွင်ဩစတြေးလျဘွဲ့မဟုတ်သောဘွဲ့ကိုပေးခြင်းကိုဥပဒေဖြင့်မတားမြစ်ပါ။

(2) မြန်မာနိုင်ငံတွင်အခြေခံပညာရေးတွင်ကိုယ်ပိုင်ကျောင်းဖွင့်ခွင့်ဥပဒေရှိသည်။ 'တက္ကသိုလ်' ဟူသောစကားလုံးကိုထိန်းချုပ်သောတရားဥပဒေမရှိသေးပါ။ ထို့ကြောင့်မိမိဘာသာ တက္ကသိုလ်အမည်ပြုခြင်းသည်တရားဝင်သည်ဟုမဆိုနိုင်သော်လည်းဥပဒေချိုးဖောက်ခြင်းမဟုတ်ဘဲဘယ်ကြောင့်ဆိုသော်ချိုးဖောက်စရာဥပဒေမရှိသေး၍ဖြစ်သည်။

မြန်မာနိုင်ငံတွင်ဒီပလိုမာဒီကရီကိုပေးရန်ကိုယ်ပိုင်ကျောင်းကောလိပ်၊ ဒီကရီကောလိပ်မှတ်ပုံတင်နိုင်ပါသလား

ကုမ္ပဏီအမည်မှတ်ပုံတင်ရာတွင် ကောလိပ်၊ ဒီကရီကောလိပ်ဝေါဟာရကိုခွင့်ပြုသည်ကိုမတွေ့ရခြင်းကြောင့်ဒီပလိုမာဒီကရီကိုပေးရန်ကိုယ်ပိုင်ကောလိပ်၊ ဒီကရီကောလိပ်ကိုတရားဝင်ခွင့်မပြုဟုသုံးသပ်နိုင်သလိုဒီပလိုမာဒီကရီကိုပေးရာတွင်ပူးတွဲလုပ်ဆောင်သည့်နိုင်ငံခြားကျောင်းသည်ကောလိပ်၊ ဒီကရီကောလိပ်၊ တက္ကသိုလ်ဟုနိုင်ငံခြားအစိုးရကမှတ်ပုံတင်ထားကတရားဝင်သည်ဟုအခြားနိုင်ငံတကာပုံစံများအရသုံးသပ်ကောက်ချက်ဆွဲနိုင်ပါသည်။

မြန်မာနိုင်ငံတွင်ကုမ္ပဏီအမည်မှတ်ပုံတင်ရာတွင် Instituteဟူသောဝေါဟာရကိုခွင့်ပြုသည်။

Institute

an organization having a particular purpose, especially one that is involved with science, education, or a specific profession.

အင်စတီကျု သီးခြားရည်ရွယ်ချက်ရှိသည့်အဖွဲ့အစည်းတစ်ခု၊ အထူးသဖြင့်သိပ္ပံ၊ ပညာရေး၊ သို့မဟုတ်အထူးလုပ်ငန်းတစ်ခုနှင့်သက်ဆိုင်သည်။

ထို့ကြောင့် အင်စတီကျုသည် သိပ္ပံ၊ ပညာရေး၊ စီးပွားရေးစသဖြင့်အထူးလုပ်ငန်းလုပ်နိုင်သည်။

သို့သော်ဒီပလိုမာဒီကရီကိုပေးရန်အထက်ပါအချက်(၁)မှ (၆)တစ်ခုခု (သို့မဟုတ်)ကောလိပ်၊ ဒီကရီကောလိပ်၊ တက္ကသိုလ်ဟုနိုင်ငံခြားအစိုးရကမှတ်ပုံတင်ထားသောကျောင်းတစ်ခုခုနှင့်

ပူးပေါင်းပြုရမည်။ Rangoon Institute of Technology/Institute of Medicine-အချက်၃+၄

ဒီပလိုမာဒီကရီကိုပေးရန်ကျောင်းနှင့်ပတ်သက်သောကိုယ်တိုင်တက်သို့မဟုတ်အွန်လိုင်းတွင်

စွမ်းဆောင်နိုင်မှုကိုအကဲဖြတ်ရန်နှင့်ဘွဲ့ဒီပလိုမာဒီကရီပေးရန်သင်ကြားရေးစံနစ်

မှလူ့အရင်းမြစ်အထိရှိကြောင်းသေချာစေရမည်။ စံချိန်စံညွှန်းများနှင့်ကိုက်ညီရမည်။

Name of College/ University in Myanmar ကောလိပ်အ မည် တက္ကသိုလ်အ မည်	Government Registration as University/college/ Degree College တက္ကသိုလ်၊ ကောလိပ်၊ ဒီဂရီကောလိပ်အဖြစ် အစိုးရ မှတ်ပုံတင်ခြင်း	Accreditation by Well founded Professional Association/Organization ထူထောင်တည်ထောင်ထားသော Professional Association / Organization မှအသိအမှတ်ပြုခြင်း	Educational Resources/ Teaching System /Curriculum Either Face to Face or Online ပညာရေးဆိုင်ရာအရင်းအ မြစ်များ / သင်ကြားမှုစနစ် / သင်ရိုးညွှန်းတမ်း ကိုယ်တိုင်တက်၊အွန်လိုင်း
IQY Technical College	ASIC Australian Government	Singapore Institute of Engineering Technologists IPEM-NSW Australia International Association of Law Schools (IALS)	Yangon Mandalay Turkey Fiji Online
IQY Degree College	ASIC Australian Government	International Association of Education and Vocational Guidance(IAEVG) IPEM-NSW Australia	Yangon Mandalay Turkey Fiji Online
IPEMTU Degree College	ASIC Australian Government	IPEM-NSW Australia International Federation of Engineering Education Societies (IFEES)	Yangon Turkey Online
YTU	Myanmar Government	Myanmar Engineering Council	Yangon
MTU	Myanmar Government	Myanmar Engineering Council	Mandalay

Original Information in English

All mainstream universities (and, note, I emphasise the word 'university' for this scenario, and am not interested in Colleges etc) in the world have some form of legal authority to grant degrees. This authority ranges from:

- 1) Royal Charter
- 2) Act of Parliament
- 3) Accreditation (National & RA)
- 4) Ministry of [Education](#) Accreditation
- 5) State Licensing/ Authority
- 6) Any other international forms I have missed, I apologise but please add in.

All of the above involves some form of review/ assessment by an external body. This external body and process is designed to assess the capacity of the applicant and ensure that it has the minimum requirements in a range of areas ranging from physical to human resources in order to confer the range of degrees it is seeking to deliver.

If the entity meets the requisite standards, set at that particular point in time, then it is conferred authority, whether it be perpetual autonomy, or a set period of time, to confer degrees. At the same time, the entity can also be conferred the authority to use the word 'University', which is the approach in the Commonwealth, Europe etc but not in the USA, where the word is not controlled in legislation. This is called, in a broad sense, accreditation and not quality assurance. Quality assurance is the ongoing maintenance of standards, which the entity promises to comply with, and even improving and refining these standards, as it operates as a higher education institution.

It is now suggested that there is another form of legal authority to grant degrees. This allegedly comes in the form of Company Incorporation whereby an organisation incorporates itself as a legal entity using the word 'university' in its business name. The authority to grant degrees is derived from the company's articles of incorporation, spelling out its own empowerment to confer degrees. The Directors of the company generally draft these articles. This form of incorporation generally occurs in jurisdictions where the word 'university' is not controlled under the Business Names Act, or similar legislation. If it were controlled under legislation, then the above 'accreditation' steps would have to be followed.

So, we now have organisations referring to themselves as 'self-validating' or 'autonomous institutions', essentially claiming the same level of legal authority to grant degrees as those that have gone through the above mainstream processes. Examples of institutions using this legal structure are Knightsbridge University, Warnborough University, Earlscroft University etc. etc.

I would be interested in the members view as to this legal position re-approval to grant degrees. Is it acceptable for a university to incorporate itself, empower itself to confer degrees, and undergo no external assessment/benchmarking etc? I emphasise again - I am not interested in the quality assurance frameworks - I am interested in the legal authority to grant degrees.

Self Study Online CPD Courses

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GE6	Occupational Health & Safety
GE7	Project Management (EE/CE/ME)
GE8	Electronics (EE)
GE9	Process Control (EE/ME)
GE10	Industrial Electronics (EE)
GE11	Programmable Logic Controller (EE/ME)
GE12	Photovoltaic Solar Electrical System
GE13	Principle of Engine(ME)
GE14	Fitting & Machining (ME)
GE15	Building Construction (CE)
GE16	Engineering Drawing I (EE/CE/ME)
GE17	Pipe Fitting (CE/ME)
GE18	Air-conditioning & Refrigeration (ME)
GE19	Computer Programming (EE/CE/ME)
GE20	Computer Networking (EE)
GE21	Welding (ME)
GE22	Painting & Decoration (CE)
GE23	Pneumatics (CE/ME)

GE24	Manufacturing Management (ME)
GE25	Surveying (CE)
GE26	Energy Efficient Building Design
GE27	Machine Principle(ME)
GE28	Hydraulic (CE/ME)
GE29	Materials & Corrosion Prevention (CE/ME)
GE30	Bricklaying (CE)
GE31	Sprouting & Guttering (CE)
GE32	Electronic Security Installation
GE33	Explosion Protection
GE34	Engineering Business Management
GE 35	Scaffolding
GE36	Materials Transportantion
IE1	Engineering Mathematics
IE2	Engineering Physics
IE3	Material Science
IE4	Advanced Engineering Mathematics
IE5	Mechanical Science
IE6	Principle of Electricity
IE7	Electrical Circuit I (EE)
IE8	Electrical Circuit II (EE)
IE9	Advanced Building Construction (CE)
IE10	Transmission Line (EE)
IE11	Electrical & Mechanical Engineering Work Experience
IE12	Civil Engineering Work Experience
IE13	Workshop
IE15	Advanced Engineering Design & Project Work
IE16	Power System Analysis-Fault Calculation
IE17	Power Line Design
IE18	Building services
IE19	PCB Design
IE20	Maths References
IE21	Electrical Principle

IE22	Co-generation
IE23	Industrial Computer System
IE24	Microprocessor
IE25	Power System Fundamental
IE26	Electrical Communication Fundamental
IE27	Control Concept
IE28	Electronic Signal & System
IE29	Electrical Estimating
IE30	Electronic Workbench
IE31	Introduction to Renewable Energy Technology
IE32	Telecommunication Cabling & Installation
IE33	Hybrid Energy System
IE34	Electricity Supply Industrial Skills

Question

ရရှိမည့် Diploma, BE များကို

1. မြန်မာနိုင်ငံပညာရေးဝန်ကြီးဌာနကအသိအမှတ်ပြုပါသလားခင်ဗျာ
2. ဝန်ထမ်းရွေးချယ်လေ့ကျင့်ရေးကော်မရှင် ယူတုံအခါလျှောက်ထားလို့ရပါသလားခင်ဗျာ
3. အဓိကအရေးအကြီးဆုံးက
အင်ဂျင်နီယာလောကရဲ့အဘ
အင်ဂျင်နီယာကောင်စီကအသိအမှတ်ပြုပါသလားခင်ဗျာ

Answer

(1)

ဒီဂရီများအားလုံးကိုသြစတြေးလျတွင်ပရော်ဖက်ရှင်နယ်အသင်းအဖြစ်မှတ်ပုံတင်ထားသော အင်ဂျင်နီယာပညာရှင်အင်စတီကျုမြန်မာမှအသိအမှတ်ပြုထားပြီး IPEMTU ဒီဂရီ ကောလိပ် သည်သြစတြေးလျားမဟုတ်သောဒီဂရီများပေးရန်မှတ်ပုံတင်ထားခြင်းဖြစ်သည်။

All degrees are accredited by The Institution of Professional Engineers Myanmar which is registered as Professional Association in Australia and IPEMTU Degree College is Australian registered to offer Non Australian degrees.

See

http://www.iqytechnicalcollege.com/IPEMTU-ASIC-Registration_Certificate.pdf

<http://www.ipemyanmar.org/IPEMNSWAustRegistrationCert.pdf>

<http://www.ipemyanmar.org/IFEESIPEM11Oct2018.pdf>

<http://www.iqytechnicalcollege.com/Certificate%20of%20Recognition-IQY-PDipE-2020.pdf>

(2)

မြန်မာနိုင်ငံတွင်နိုင်ငံခြားဘွဲ့အသိအမှတ်ပြုရန်ပညာရေးဥပဒေမရှိပါ။

(3)

မြန်မာအင်ဂျင်နီယာကောင်စီနဲ့ပတ်သက်ပြီးကျွန်တော့်သူငယ်ချင်းစိတ်မကောင်းပါဘူး၊ The Institution of Professional Engineers Myanmar ဟာသူတို့ (Myanmar Engineering Council) နဲ့ဆန့်ကျင်ပါတယ်။ ဗီဒီယိုကြည့်ပါ ဦး

In Myanmar there is no education law to recognize foreign degrees . Regarding Myanmar Engineering Council, sorry my friend, we are against with them .Please see the video

မြန်မာအင်ဂျင်နီယာကောင်စီဥပဒေဝေဖန်မှု

Myanmar Engineering Council Law Criticism

<https://www.facebook.com/100016623752913/videos/798187684078683>

Unicode

The Institution of Professional Engineers Myanmar မှအလုပ်အဖွဲ့များကိုဖွဲ့စည်းခဲ့သည်။

အလုပ်သင်တန်း၊ဗဟုသုတ Share ကြရန်တိုက်တွန်းသည်။

The groups solely managed by The Institution pf Professional Engineers Myanmar

The Institution pf Professional Engineers Myanmar မှစီမံ ဦး ဆောင်သောအဖွဲ့များ

အင်ဂျင်နီယာများကန်ထရိုက်တာများအုပ်စု (Engineers Contractor—(Members- 11519)

<https://www.facebook.com/groups/1608455489446488>

အင်ဂျင်နီယာအလုပ်အဖွဲ့ (Engineering Jobs) —(Members- 18792)

<https://www.facebook.com/groups/2128693697196512>

Myanmar Professional Engineers, Managers and Computer —(Members-31045)

<https://www.facebook.com/groups/1558123277821034/>

Myanmar Professional Engineers and AGTIs (Members—3451)

<https://www.facebook.com/groups/1726726080906514>

Myanmar Civil Defence Engineers and People's Welfare Supporters Group (Members-520)

<https://www.facebook.com/groups/303771553436602>

IQY THS Students Group (Members- 4508)

<https://www.facebook.com/groups/986926511518594/>

Myanmar Vocational Training Collaboration and Alternative Education Group
(Members—1584)

<https://www.facebook.com/groups/214431939023668>

Myanmar BEHS မြန်မာနိုင်ငံအခြေခံပညာကျောင်းသားနှင့်ဆရာများပညာရေးကွန်ယက် (Member 34)

<https://www.facebook.com/groups/165225491449120>

Myanmar Professional Managers (Member =41)

<https://www.facebook.com/groups/206621156759313>

Fiji and South Pacific Education and Employment (Members =27)

<https://www.facebook.com/groups/448209269314722>

Total members 1= 71521

The group in which The Institution of Professional Engineers Myanmar takes the role of Administration.

The Institution of Professional Engineers Myanmar Admin အဖွဲ့ဝင်ဖြစ်သော Group
စစ်ဘိနပ် မှ ကင်းလွတ်သောအင်ဂျင်နီယာများ (Members—15528)

<https://www.facebook.com/groups/795486450553820>

Total members 2= 15528

Open Membership Group ပွင့်လင်းအသင်းဝင်အုပ်စု

Myanmar Civil Engineers Group (Member-11798)

<https://www.facebook.com/groups/1557018534551473>

Total members 3= 11798

Other Groups အခြားအဖွဲ့များ

TU GTC Students Unions & Allied Organizations (Members-446)

<https://www.facebook.com/groups/630414763824938>

Myanmar Construction & Engineering Development Association (Members=5787)

<https://www.facebook.com/groups/815269381980086>

P&S Engineers (Members=5681)

<https://www.facebook.com/groups/490580847815244/>

Total members 4= 11468

Overall Total= 100315

ယခုအလုပ်များစွာကိုကြော်ငြာနေကြပြီ။ ထိုအလုပ်အုပ်စုများတွင်ကျွန်တော်တို့သည်ခွဲခြားခြင်းမပြုပါ။

အင်ဂျင်နီယာဘွဲ့ဒီဂရီအားလုံးသည်ခွဲခြားမှုမရှိဘဲအလုပ်လျှောက်ထားနိုင်သည်။

ဒါဟာကျွန်တော်တို့ရဲ့အခြေအနေနှင့်လုပ်နိုင်တာဖြစ်သည်။

သို့သော်အင်ဂျင်နီယာအားလုံး၏တာဝန်မှာ အစိုးရအင်ဂျင်နီယာ ကိစ္စရပ်များ တွင်ပိုမို လွတ်လပ် ခွင့်ရဘို့ဝိုင်းကြိုးပမ်းရန်ဖြစ်သည်။

Year 8 to Postgraduate Degree ပညာရေးအတွက် IQY Technical College

www.iqytechnicalcollege.com ရှိသလိုအင်ဂျင်နီယာအရည်အချင်းအတွေ့အကြုံကိုထောက်ကူရန်

The Institution of Professional Engineers Myanmar (IPEM) www.ipemyanmar.org ရှိသည်။

တိုင်းပြည်၏အာဏာပိုင်သည်ပြည်သူဖြစ်သည်။

ပြည်သူကရွေးကောက်တင်မြှောက်သောအစိုးရအကြီးအကဲကိုနာယကအဖြစ်ထားဦးညွှတ်ခြင်းသည် ပြည်သူကိုဦးညွှတ်ခြင်းဖြစ်သည်။ထိုမှတစ်ပါးဘယ်နာယကအဖွဲ့ကိုမှဦးညွှတ်စရာမလိုအပ်။

ဤအချက်သည်မြန်မာနိုင်ငံအင်ဂျင်နီယာကောင်စီဥပဒေပြောင်းလဲရန်အဓိကအချက်ဖြစ်သည်။

ကျွန်တော်တို့ဟာမြန်မာနိုင်ငံအင်ဂျင်နီယာကောင်စီဥပဒေပြောင်းလဲမှုကိုလွှတ်တော်မှာအင်ဂျင်နီယာ

အမတ်တွေတလုပ်ပေးတာလိုလားပေမယ့်သူတို့ကအရေးကြီးတဲ့ကိစ္စလို့မယူဆရင်လဲအရေးမကြီးပါ။

အင်ဂျင်နီယာအဖွဲ့စုစုပေါင်းအင်အားတစ်သိန်းဖြင့်ပညာရေး၊အလုပ်အကိုင်အရည်အချင်းအတွေ့အကြုံ

ကိုထောက်ကူမှုပြုခြင်းဖြင့် Myanmar Engineering Council (MEC)

မြန်မာနိုင်ငံအင်ဂျင်နီယာကောင်စီ၏အာဏာကိုတွန်းလှန်မည်ဖြစ်သည်။



ဖက်ဒရယ်ပြည်ထောင်စုမြန်မာနိုင်ငံတော်လွန်ရေးအစိုးရ

Revolutionary Government of the Federal Union of
Burma

Department of Education

www.rgfuburma.org

The Institution of Professional Engineers Myanmar (IPEM)

www.ipemyanmar.org ၏ IPEM IQY Education Group

ကိုနွေဦးတော်လွန်ရေးတိုက်ပွဲဝင်ပညာရေးအဖွဲ့အစည်းအဖြစ်အသိအမှတ်ပြု
သည်။ ပူးတွဲဘွဲ့များအပ်နှင်းခွင့်ပြုသည်။

IPEM IQY Education Group of The Institution of
Professional Engineers Myanmar is recognized as
Revolutionary Education Group in Spring Revolution of
Myanmar.

The issuing of Joint Award Degree is authorized.

အလုပ်အမှုဆောင်ကော်မတီ (Executive Committee)

ဖက်ဒရယ်ပြည်ထောင်စုမြန်မာနိုင်ငံတော်လွန်ရေးအစိုးရ

Revolutionary Government of the Federal Union of Burma

www.rgfuburma.org

ရက်စွဲ-၁၇/၈/၂၀၂၂

Date - 17/8/2022

Which course I should do

Level	Engineering	Management/ Humanities	Information Technology
1-Tertiary Bridging	Advanced Diploma in General Engineering & Drafting	<p>Any one or more courses</p> <p>CERTIFICATE IN AGRICULTURE FOOD PRODUCTION (MVTC201)</p> <p>CERTIFICATE IN ANIMALS HANDLING (MVTC202)</p> <p>CERTIFICATE IN BUSINESS (MVTC203)</p> <p>CERTIFICATE IN LABORATORY WATER OPERATIONS (MVTC204)</p> <p>CERTIFICATE IN COMMUNITY SERVICE (MVTC205)(FOODS SERVICE/HEALTH SERVICES/LIBRARY SERVICES/AGE CARE/CHILD CARE)</p> <p>CERTIFICATE IN PROPERTIES SERVICES (MVTC206)</p> <p>CERTIFICATE IN PERFORMING (MVTC207)</p> <p>CERTIFICATE IN PUBLIC SAFETY (MVTC208)</p> <p>CERTIFICATE IN LOGISTICS (MVTC209)</p> <p>OR</p> <p>CERTIFICATE IN BASIC EDUCATION Year 9 to 12 (MVTC14)-Online or Physical Attendance</p> <p>Enrol- http://www.highlightcomputer.com/mvtc.htm</p>	<p>CERTIFICATE IN INFORMATION TECHNOLOGY (MVTC210)</p> <p>Certificate+ Diploma Information Technology</p> <p>OR</p> <p>CERTIFICATE IN BASIC EDUCATION Year 9 to 12 (MVTC14)-Online or Physical Attendance</p> <p>Enrol- http://www.highlightcomputer.com/mvtc.htm</p>
2-Tertiary First 2 Years	Advanced Diploma in Engineering (Specialist Discipline)	Advanced Diploma in Management/ Advanced Diploma in Humanities Studies	Advanced Diploma in Information Technology
3-Tertiary Final 2 Years	Professional Diploma in Engineering (Specialist Discipline)/Bachelor of Engineering/ or Diploma in Teaching/ Diploma in Education/ Bachelor of Education	Professional Diploma in Management/ Professional Diploma in Humanities Studies/ Bachelor of Applied Management Bachelor of Humanities Studies/ Bachelor of Engineering/ or Diploma in Teaching/ Diploma in Education/ Bachelor of Education	Professional Diploma in Information Technology/ Bachelor of Applied Science (Information Technology)/ Bachelor of Engineering/ or Diploma in Teaching/ Diploma in Education/ Bachelor of Education

(HOW E-LEARNING CAN BE UTILIZED IN ENGINEERING PROGRAMS TO MEET THE MYANMAR ENGINEERING COUNCIL'S ACCREDITATION REQUIREMENTS)

IQY Technical College's academic policy & procedure in line with Myanmar Engineering Council's Accreditation Requirements & Sample of Educational Institution Documents **(By Dr Kyaw Naing)**

www.highlightcomputer.com/Accreditation.htm

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IQY Technical College's academic policy & procedure in line with Myanmar Engineering Council's Accreditation Requirements & Sample of Educational Institution Documents

www.highlightcomputer.com/Accreditation.htm

Executive Summary

This is voluntary information related to IQY Technical College's online engineering programs & this information report related to sample engineering programs, curriculums and learning materials is prepared by citing the accreditation manual of Myanmar Engineering Council

Objective

Although it is not a main objective of IQY Technical College to seek the accreditation in Myanmar, the main reason to prepare this document is to be referred by relevant course developers of the Government Technical Colleges & Technological Universities in Myanmar how to fulfil the international standard accreditation procedures as the writer of this documents have over 25 years experiences in teaching, designing & implementation of engineering programs in Fiji, Australia & New Zealand in accordance with Australian/ New Zealand standards.

It is solely aimed to share the knowledge with engineering educators in Myanmar especially to develop e-Learning which is new to most educators in Myanmar. This submission describes how e-Learning in engineering can be effectively applied to fulfil the accreditation needs of Myanmar Engineering Council because Government Technical Colleges & Technological Universities are spread throughout Myanmar & e-Learning is the only most effective way to equalize teaching & learning at different geographical locations of Myanmar.

The document contains the online links from where the relevant documents can be downloaded.

9.2.1 General Information (MEng C)

i. Provide general information on the Technological Institutions and the specific programme.

- IQY Technical College of Highlight Computer Group teaches St Clements Technological University, St Clements University Higher Education School Niue's Diploma/ Advanced Diploma and Bachelor Degree programs in Engineering, Information Technology and Management courses to the students of Myanmar at the price affordable to average working class people of Myanmar.

- E-Learning system that provides on line & off line DVD/USB based teaching system is utilized for the student to do self directed learning combined with simulated practical video/ slide shows and audio/ visual aids are utilized to effectively apply Information Technology in e-Learning & Teaching.
- The main objective of our program is to maximize the individual student's self directed learning by applying the maximum use of technology & by minimizing the teacher's assistance personally .
- Although IQY Technical College refers & applies the relevant international educational standards, IQY Technical College maintains it's academic independency.

ii. Provide detailed information on programme history of accreditation (year of accreditation, conditions imposed and actions taken). (MEng C)

Further Submission

iii. Describe any self-initiated changes made to the programme and state the year the changes were introduced (MEng C)

Further Submission

Programme Objectives.

<http://www.highlightcomputer.com/objectives.htm>

9.2.2 Programme Objectives

I State the vision and mission of the Technological Institutions. (MEng C)

- IQY Technical College of Highlight Computer Group teaches St Clements Technological University, St Clements University Higher Education School Niue's Diploma/ Advanced Diploma and Bachelor Degree programs in Engineering, Information Technology and Management courses to the students of Myanmar at the price affordable to average working class people of Myanmar.
- IQY Technical College of Highlight Computer Group will independently provide the international standard education & engineering education to the poor students of Myanmar whom are being taught by the voluntary education groups of Myanmar .
- IQY Technical College is Non Profit/ Non Government Educational Organization which assist the needy students of Myanmar as well as the students in other developing countries by co-operating with the international organizations of same objectives/ visions and missions.

li Describe the Programme Objectives and state where they are published. (MEng C)

- IQY Technical College offers three levels of Engineering Programs
 1. One year Diploma in Engineering
 2. Two years Advanced Diploma in Engineering
 3. Four years Professional Diploma in Engineering which is set at the same level of standard to Bachelor of Engineering degree
- The entry requirement for IQY Technical College is Year 12 . The students who have less than year 12 level education will need to undertake IQY Technical College's Year 11+12 programs which are set at Australian NSW State Year 12 Standard.
- Based on the entry Year 12 standard, Year one to four Academic programs are arranged.

The objectives

Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology)

IQY Technical College's one year Diploma in Engineering is designed to train the students to work as Engineering Associate or Engineering Technicians in wide ranges of industries.

It is designed to provide the following competencies.

To train the students to have a wide range of functions within engineering enterprises and engineering teams.

The training is designed for the students

- To be closely familiar with standards and codes of practice, and to become expert in their interpretation and application to a wide variety of situations.
- To develop very extensive experience of practical installations, and may well be more knowledgeable than Professional Engineers or Engineering Technologists on detailed aspects of plant and equipment that can contribute very greatly to safety, cost or effectiveness in operation.
- To develop high levels of expertise in aspects of design and development processes. These might include, for example, the use of advanced software to perform detailed design of structures, mechanical components and systems, manufacturing or process plant, electrical and electronic equipment, information and communications systems, and so on.
- To do the construction of experimental or prototype equipment.
- To develop detailed practical knowledge and experience complementing the broader or more theoretical knowledge of others.

Advanced Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology) Course Outlines

IQY Technical College's two years Advanced Diploma in Engineering is designed to train the students to work as Engineering Technologist in wide ranges of industries.

The training is designed to provide expertise to the students which may be at a high level, and fully equivalent to that of a Professional Engineer. That is designed

- to exercise the same breadth of perspective as Professional Engineers, or carry the same wide-ranging responsibilities for stakeholder interactions, for system integration, and for synthesising overall approaches to complex situations and complex engineering problems.
- to possess for a strong understanding of practical situations and applications, with the intellectual challenge of keeping abreast of leading-edge developments as a specialist in a technology domain and how these relate to established practice. For this purpose Engineering Technologists need a strong understanding of scientific and engineering principles and a well-developed capacity for analysis.
- to apply current and emerging technologies, often in new contexts; or with the application of established principles in the development of new practice.
- To contribute to the advancement of technology.
- to take responsibility for engineering projects, services, functions and facilities within a technology domain, for specific interactions with other aspects of an overall operating context and for managing
- to contribute the specialist work to a broader engineering system or solution. In these roles, Engineering
- to focus on sustainable solutions and practices which optimise technical, social, environmental and economic outcomes within the technology domain and over a whole systems life cycle.
- to have an intimate understanding of the standards and codes of practice that underpin the technology domain and ensure that technology outcomes comply with statutory requirements. Engineering Technologists are required to interact effectively with Professional Engineers and Engineering Associates, with other professionals, tradespersons, clients, stakeholders and society in general, to ensure that technology outcomes and developments fully integrate with the overall system and context.
- to ensure that all aspects of a technological product, or operation are soundly based in theory and fundamental principle.
- to understand how new developments relate to their specific field of expertise.
- to interpret technological possibilities, to investigate interfaces, limitations, consequences, costs and risks.

Professional Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology)

IQY Technical College's four years Professional Diploma in Engineering is designed to train the students to work as Engineering Technologist /Professional Engineer in wide ranges of industries.

It is designed to provide the following competencies.

- To perform the reliable functioning of all materials, components, sub-systems and technologies used; their integration to form a complete, sustainable and self-consistent system; and all interactions between the technical system and the context within which it functions. The latter includes understanding the requirements of clients, wide ranging stakeholders and of society as a whole; working to optimise social, environmental and economic outcomes over the full lifetime of the engineering product or program; interacting effectively with other disciplines, professions and people; and ensuring that the engineering contribution is properly integrated into the totality of the undertaking.
- To do interpreting technological possibilities to society, business and government; and for ensuring as far as possible that policy decisions are properly informed by such possibilities and consequences, and that costs, risks and limitations are properly understood as the desirable outcomes.
- To bring knowledge to bear from multiple sources to develop solutions to complex problems and issues, for ensuring that technical and non-technical considerations are properly integrated, and for managing risk as well as sustainability issues. While the outcomes of engineering have physical forms, the work of
- To train the students to become predominantly intellectual in nature. In a technical sense, Professional Engineers are primarily concerned with the advancement of technologies and with the development of new technologies and their applications through innovation, creativity and change. Professional Engineers may conduct research concerned with advancing the science of engineering and with developing new principles and technologies within a broad engineering discipline.
- To contribute to continual improvement in the practice of engineering, and in devising and updating the codes and standards that govern it.
- To take a particular responsibility for ensuring that all aspects of a project are soundly based in theory and fundamental principle, and for understanding clearly how new developments relate to established practice and experience and to other disciplines with which they may interact. One hallmark of a professional is the capacity to break new ground in an informed, responsible and sustainable fashion.

iii. Describe how the Programme Objectives are consistent with the vision and mission of the Technological Institutions and stakeholder requirements. (MEng C)

Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology)

The training includes feasibility investigation, scoping, establishing criteria/performance measures, assessing and reporting technical and procedural options; design and development; component,

resources and materials sourcing and procurement; construction, prototyping, manufacture, testing, installation, commissioning, service provision and de-commissioning; tools, plant, equipment and facilities acquisition, management, maintenance, calibration and upgrades; operations management; procedures documentation; presentation and reporting; maintenance systems design and management; project and facility management; quality assurance, costing and budget management; document control and quality assurance.

The training is also designed to provide a good grounding in engineering science and the principles underlying their field of expertise, to ensure that their knowledge and skills are portable across different applications and situations within the broad field of practice. Equipment, vendor or context-specific training in a particular job are not sufficient to guarantee generic competency. Given a good knowledge base, however, the graduates may build further on this through high levels of training in particular contexts and in relation to particular equipment.

The competencies of graduates to equip them to certify the quality of engineering work and the condition of equipment and systems in defined circumstances, laid down in recognised standards and codes of practice.

The training is also designed to lead or manage teams appropriate to these activities. Some may establish their own companies or may move into senior management roles in engineering and related enterprises, employing Professional Engineers, Engineering Technologists, and other specialists where appropriate.

Diploma in Electrical Engineering

This program is designed with 30 credit points integrating 15 credit points Certificate in Electrical Engineering. The completion of this program can be articulated into 60 points Advanced Diploma in Electrical Engineering & 120 credit points Professional Diploma in Electrical Engineering which is the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Diploma in Electrical Engineering can apply for Associate Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

Diploma in Mechanical Engineering

This program is designed with 30 credit points integrating 15 credit points Certificate in Mechanical Engineering. The completion of this program can be articulated into 60 points Advanced Diploma in Mechanical Engineering & Mechatronics & 120 credit points Professional Diploma in Mechanical Engineering & Mechatronics which is the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Diploma in Mechanical Engineering can apply for Associate Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

Diploma in Civil Engineering

This program is designed with 30 credit points integrating 15 credit points Certificate in Civil Engineering & Construction Studies . The completion of this program can be articulated into 60 points Advanced Diploma in Civil Engineering & 120 credit points Professional Diploma in Civil Engineering & Building Services which is the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Diploma in Civil Engineering can apply for Associate Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

Diploma in Renewable Energy Engineering

This program is designed with 30 credit points integrating 15 credit points Certificate in Renewable Energy Course Completion Certificate which is delivered through the public seminars . The completion of this program can be articulated into 120 credit points Professional Diploma in Renewable Energy Engineering which is the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Diploma in Renewable Energy Engineering can apply for Associate Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

Diploma in Computer Engineering/ Diploma in Information Technology

This program is designed with 30 credit points integrating 15 credit points Certificate in Information Technology . The completion of this program can be articulated into 60 points Advanced Diploma in Information Technology & 120 credit points Professional Diploma in Information Technology or Professional Diploma in Computer Engineering which is the award of Bachelor of Applied Science (Information Technology)/Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Diploma in Computer Engineering can apply for Associate Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

The graduates of Diploma in Information Technology can apply for membership of International Institute of Science Engineering & Management.

To be awarded Diploma in Computer Engineering, the students need to do Diploma in Information Technology & Diploma in Electrical Engineering at the same time.

Advanced Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology) Course Outlines

It is designed to provide the following competencies.

To train the students to operate within broadly-defined technical environments, and undertake a wide range of functions and responsibilities. They are often specialists in the theory and practice of a particular branch of engineering technology or engineering-related technology (the technology domain), and specifically in its application, adaptation or management, in a variety of contexts. Their expertise often lies in familiarity with the current state of development of a technology domain and most recent applications of the technology.

The training is also designed to provide the skills of Engineering Technologists who may lead teams responsible for the implementation, operation, quality assurance, safety, management, and maintenance of projects, plant, facilities, or processes within specialist practice area(s) of the technology domain. Some Engineering Technologists may establish their own companies or may move into senior management roles in engineering and related enterprises, employing Professional Engineers and other specialists where appropriate.

Advanced Diploma in Engineering can be studied in the following specializations

- Advanced Diploma in Electrical Engineering
- Advanced Diploma in Mechanical Engineering
- Advanced Diploma in Civil Engineering
- Advanced Diploma in Renewable Energy Engineering
- Advanced Diploma in Computer Engineering / Advanced Diploma in Information Technology

Advanced Diploma in Electrical Engineering

This program is designed with 60 credit points integrating 30 credit points Diploma in Electrical Engineering. The completion of this program can be articulated into 60 of 120 credit points Professional Diploma in Electrical Engineering which is the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Advanced Diploma in Electrical Engineering can apply for Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

Advanced Diploma in Mechanical Engineering

This program is designed with 60 credit points integrating 30 credit points Diploma in Mechanical Engineering. The completion of this program can be articulated into 60 of 120 credit points Professional Diploma in Mechanical Engineering which is the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Advanced Diploma in Mechanical Engineering can apply for Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

Advanced Diploma in Civil Engineering

This program is designed with 60 credit points integrating 30 credit points Diploma in Civil Engineering. The completion of this program can be articulated into 60 of 120 credit points Professional Diploma in Civil Engineering which is the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Advanced Diploma in Civil Engineering can apply for Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

Advanced Diploma in Renewable Energy Engineering

This program is designed with 60 credit points integrating 30 credit points Certificate in Renewable Energy Course Completion Certificate which is delivered through the public seminars . The completion of this program can be articulated into 120 credit points Professional Diploma in Renewable Energy Engineering which is the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Advanced Diploma in Renewable Energy Engineering can apply for Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

Advanced Diploma in Computer Engineering/ Advanced Diploma in Information Technology

This program is designed with 30 credit points integrating 30 credit points Diploma in Information Technology . The completion of this program can be articulated into 60 of 120 credit points Professional Diploma in Information Technology or Professional Diploma in Computer Engineering which is the award of Bachelor of Applied Science (Information Technology)/Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Advanced Diploma in Computer Engineering can apply for Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

The graduates of Advanced Diploma in Information Technology can apply for membership of International Institute of Science Engineering & Management.

To be awarded Advanced Diploma in Computer Engineering, the students need to do Advanced Diploma in Information Technology & Diploma in Electrical Engineering at the same time.

Professional Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology)

It is designed at the same academic requirement as to Bachelor of Engineering degree but IQY Technical College is operating as a vocational education & training college not as a university, the award is to be described as Professional Diploma. The graduates of the Professional Diploma in Engineering can be awarded Bachelor of Engineering by the universities which are affiliated to IQY Technical College.

The program is designed to train the students to become Professional Engineers who are required to take responsibility for engineering projects and programs in the most far-reaching sense.

The program is also designed to provide the skills required for the graduated to lead or manage teams appropriate to these activities, and may establish their own companies or move into senior management roles in engineering and related enterprises.

Professional Diploma in Engineering can be studied in the following specializations

- Professional Diploma in Electrical Engineering
- Professional Diploma in Mechanical Engineering
- Professional Diploma in Civil Engineering
- Professional Diploma in Renewable Energy Engineering
- Professional Diploma in Computer Engineering / Professional Diploma in Information Technology

Professional Diploma in Electrical Engineering

This program is designed with 120 credit points integrating 60 credit points Advanced Diploma in Electrical Engineering. The completion of this program can be awarded Professional Diploma in Electrical Engineering together with the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Professional Diploma in Electrical Engineering can apply for Fellow of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technologists or ASEAN Engineer.

Professional Diploma in Mechanical Engineering

This program is designed with 120 credit points integrating 60 credit points Advanced Diploma in Mechanical Engineering. The completion of this program can be awarded Professional Diploma in Mechanical Engineering together with the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Professional Diploma in Mechanical Engineering can apply for Fellow of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technologists or ASEAN Engineer.

Professional Diploma in Civil Engineering

This program is designed with 120 credit points integrating 60 credit points Advanced Diploma in Civil Engineering. The completion of this program can be awarded Professional Diploma in Civil Engineering together with the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Professional Diploma in Civil Engineering can apply for Fellow of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technologists or ASEAN Engineer.

Professional Diploma in Renewable Energy Engineering

This program is designed with 120 credit points integrating 60 credit points Advanced Diploma in Renewable Energy Engineering. The completion of this program can be awarded Professional Diploma in Renewable Energy Engineering together with the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

This program explores the way to make the best use of renewable energy technologies including solar thermal systems, photovoltaics, wind and biomass. Renewable Energy Engineering borrows much of its structure from some other areas of engineering, such as electrical engineering and photovoltaic engineering. It encompasses a broad range of renewable energy technologies including electricity generation from solar thermal systems, photovoltaics, wind and biomass. It also covers solar architecture and energy efficient housing design

The graduates of Professional Diploma in Renewable Energy Engineering can apply for Fellow of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technologists or ASEAN Engineer.

Professional Diploma in Computer Engineering/ Professional Diploma in Information Technology

This program is designed with 120 credit points integrating 60 credit points Advanced Diploma in Information Technology . Professional Diploma in Computer Engineering which is the award of Bachelor of Applied Science (Information Technology)/Bachelor of Engineering degree by the universities affiliated IQY Technical College.

The graduates of Professional Diploma in Computer Engineering can apply for Fellow of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technologist or ASEAN Engineer.

The graduates of Professional Diploma in Information Technology can apply for membership of International Institute of Science Engineering & Management.

To be awarded Professional Diploma in Computer Engineering, the students need to do some Bachelor of Engineering (Electrical) units at the same time.

iv. Describe the processes used to establish and review the Programme Objectives, and the extent to which the programme's various stakeholders are involved in these processes.

v Describe how the Technological Institutions ensures achievement of the Programme Objectives.

vi. Describe the ongoing evaluation of the level of achievement of these objectives, and the extent to which the programme's various stakeholders are involved in these processes.

vii. Describe how the results obtained from evaluation are being used to improve the effectiveness of the program (MEng C)

Please see Attachment 1.Assessment Validation Records 2.Assessment Evidences 3.Quality Assurance Records

9.2.3 Learning Outcomes

I List down the Learning Outcomes and state where are they published. (MEng C)

Diploma / Advanced Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology)

1. KNOWLEDGE AND SKILL BASE

1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain.

1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain.

1.3. In-depth understanding of specialist bodies of knowledge within the technology domain.

1.4. Discernment of knowledge development within the technology domain.

1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.

1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.

2. ENGINEERING APPLICATION ABILITY

2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.

2.2. Application of engineering techniques, tools and resources within the technology domain.

2.3. Application of systematic synthesis and design processes within the technology domain.

2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.

3. PROFESSIONAL AND PERSONAL ATTRIBUTES

- 3.1. Ethical conduct and professional accountability.
- 3.2. Effective oral and written communication in professional and lay domains.
- 3.3. Creative, innovative and pro-active demeanour.
- 3.4. Professional use and management of information.
- 3.5. Orderly management of self, and professional conduct.
- 3.6. Effective team membership and team leadership.

Professional Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology)

COMPETENCIES

1. KNOWLEDGE AND SKILL BASE

- 1.1. Comprehensive, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline.
- 1.2. Conceptual understanding of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the engineering discipline.
- 1.3. In-depth understanding of specialist bodies of knowledge within the engineering discipline.
- 1.4. Discernment of knowledge development and research directions within the engineering discipline.
- 1.5. Knowledge of engineering design practice and contextual factors impacting the engineering discipline.
- 1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the specific discipline.

2. ENGINEERING APPLICATION ABILITY

2.1. Application of established engineering methods to complex engineering problem solving.

2.2. Fluent application of engineering techniques, tools and resources.

2.3. Application of systematic engineering synthesis and design processes.

2.4. Application of systematic approaches to the conduct and management of engineering projects.

3. PROFESSIONAL AND PERSONAL ATTRIBUTES

3.1. Ethical conduct and professional accountability.

3.2. Effective oral and written communication in professional and lay domains.

3.3. Creative, innovative and pro-active demeanour.

3.4. Professional use and management of information.

3.5. Orderly management of self, and professional conduct.

3.6. Effective team membership and team leadership.

ii how the Learning Outcomes relate to the Programme Objectives.

iii. Describe the processes used to establish and review the Learning Outcomes, and the extent to which the programme's various stakeholders are involved in these processes.

i Describe the data gathered and explain the results of the assessment.

v Explain how the assessment results are applied to further develop and improve the programme.

vi. Describe the materials, including student work and other tangible materials that demonstrate

Processes and Results: (MEng C) The programme shall have a clear linkage between Programme

Objectives and Learning Outcomes (Section 4.0); a process of ongoing assessment an

evaluation that demonstrates the achievement of Programme Objectives with documented

results; and evaluation results that are used in the continual improvement of the programme.

Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology)

Program Objective	Learning Outcome
<ul style="list-style-type: none"> • To be closely familiar with standards and codes of practice, and to become expert in their interpretation and application to a wide variety of situations. • To develop very extensive experience of practical installations, and may well be more knowledgeable than Professional Engineers or Engineering Technologists on detailed aspects of plant and equipment that can contribute very greatly to safety, cost or effectiveness in operation. • 	<p><u>1. KNOWLEDGE AND SKILL BASE</u></p> <p>1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain.</p> <p>1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain.</p> <p>1.3. In-depth understanding of specialist bodies of knowledge within the technology domain.</p> <p>1.4. Discernment of knowledge development within the technology domain.</p> <p>1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.</p> <p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.</p>
<ul style="list-style-type: none"> • To develop high levels of expertise in aspects of design and development processes. These might include, for example, the use of advanced software to perform detailed design of structures, 	<p><u>2. ENGINEERING APPLICATION ABILITY</u></p> <p>2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.</p>

<p>mechanical components and systems, manufacturing or process plant, electrical and electronic equipment, information and communications systems, and so on.</p> <ul style="list-style-type: none"> • To do the construction of experimental or prototype equipment. 	<p>2.2. Application of engineering techniques, tools and resources within the technology domain.</p> <p>2.3. Application of systematic synthesis and design processes within the technology domain.</p> <p>2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.</p>
<ul style="list-style-type: none"> • To develop detailed practical knowledge and experience complementing the broader or more theoretical knowledge of others. 	<p><u>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</u></p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p> <p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>

Advanced Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology)

Program Objective	Learning Outcome
<ul style="list-style-type: none"> to exercise the same breadth of perspective as Professional Engineers, or carry the same wide-ranging responsibilities for stakeholder interactions, for system integration, and for synthesising overall approaches to complex situations and complex engineering problems. to possess for a strong understanding of practical situations and applications, with the intellectual challenge of keeping abreast of leading-edge developments as a specialist in a technology domain and how these relate to established practice. For this purpose Engineering Technologists need a strong understanding of scientific and engineering principles and a well-developed capacity for analysis. . 	<p><u>1. KNOWLEDGE AND SKILL BASE</u></p> <p>1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain.</p> <p>1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain.</p> <p>1.3. In-depth understanding of specialist bodies of knowledge within the technology domain.</p> <p>1.4. Discernment of knowledge development within the technology domain.</p> <p>1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.</p> <p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.</p>
<ul style="list-style-type: none"> to apply current and emerging technologies, often in new contexts; or with the application of established principles in the development of new practice. To contribute to the advancement of technology. to take responsibility for engineering projects, services, functions and facilities within a technology domain, for specific interactions with other aspects of an overall operating context and for managing 	<p><u>2. ENGINEERING APPLICATION ABILITY</u></p> <p>2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.</p> <p>2.2. Application of engineering techniques, tools and resources within the technology domain.</p> <p>2.3. Application of systematic synthesis and design processes within the technology domain.</p> <p>2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.</p>

<ul style="list-style-type: none"> • to contribute the specialist work to a broader engineering system or solution. In these roles, Engineering • to focus on sustainable solutions and practices which optimise technical, social, environmental and economic outcomes within the technology domain and over a whole systems life cycle. 	
<ul style="list-style-type: none"> • to have an intimate understanding of the standards and codes of practice that underpin the technology domain and ensure that technology outcomes comply with statutory requirements. Engineering Technologists are required to interact effectively with Professional Engineers and Engineering Associates, with other professionals, tradespersons, clients, stakeholders and society in general, to ensure that technology outcomes and developments fully integrate with the overall system and context. • to ensure that all aspects of a technological product, or operation are soundly based in theory and fundamental principle. • to understand how new developments relate to their specific field of expertise. • to interpret technological possibilities, to investigate interfaces, limitations, consequences, costs and risks 	<p><u>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</u></p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p> <p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>

Professional Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology)

Program Objective	Learning Outcome
<ul style="list-style-type: none"> To perform the reliable functioning of all materials, components, sub-systems and technologies used; their integration to form a complete, sustainable and self-consistent system; and all interactions between the technical system and the context within which it functions. The latter includes understanding the requirements of clients, wide ranging stakeholders and of society as a whole; working to optimise social, environmental and economic outcomes over the full lifetime of the engineering product or program; interacting effectively with other disciplines, professions and people; and ensuring that the engineering contribution is properly integrated into the totality of the undertaking. To do interpreting technological possibilities to society, business and government; and for ensuring as far as possible that policy decisions are properly informed by such possibilities and consequences, and that costs, risks and limitations are properly understood as the desirable outcomes. 	<p>1. KNOWLEDGE AND SKILL BASE</p> <p>1.1. Comprehensive, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline.</p> <p>1.2. Conceptual understanding of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the engineering discipline.</p> <p>1.3. In-depth understanding of specialist bodies of knowledge within the engineering discipline.</p> <p>1.4. Discernment of knowledge development and research directions within the engineering discipline.</p> <p>1.5. Knowledge of engineering design practice and contextual factors impacting the engineering discipline.</p> <p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the specific discipline.</p>
<ul style="list-style-type: none"> To bring knowledge to bear from multiple sources to develop solutions to complex problems and issues, for ensuring that technical and non-technical considerations are properly integrated, and for managing risk as well as sustainability issues. To train the students to become predominantly intellectual in nature. In a 	<p>2. ENGINEERING APPLICATION ABILITY</p> <p>2.1. Application of established engineering methods to complex engineering problem solving.</p> <p>2.2. Fluent application of engineering techniques, tools and resources.</p> <p>2.3. Application of systematic engineering</p>

<p>technical sense, Professional Engineers are primarily concerned with the advancement of technologies and with the development of new technologies and their applications through innovation, creativity and change. Professional Engineers may conduct research concerned with advancing the science of engineering and with developing new principles and technologies within a broad engineering discipline</p>	<p>synthesis and design processes.</p> <p>2.4. Application of systematic approaches to the conduct and management of engineering projects.</p>
<ul style="list-style-type: none"> • To contribute to continual improvement in the practice of engineering, and in devising and updating the codes and standards that govern it. • To take a particular responsibility for ensuring that all aspects of a project are soundly based in theory and fundamental principle, and for understanding clearly how new developments relate to established practice and experience and to other disciplines with which they may interact. One hallmark of a professional is the capacity to break new ground in an informed, responsible and sustainable fashion. 	<p>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p> <p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>

(iii) Stakeholders Involvement: The Technological Universities/Institutions shall provide evidence of stakeholder involvement with regard to (i) and (ii) above

Please see Attachment Industry Consultation Folder

<http://www.highlightcomputer.com/industryconsultation.htm>

8.0 Qualifying Requirements and Accreditation Criteria (MEng C)

An engineering programme shall be assessed by EAC to enable graduates of the programme to register as graduate engineers with the M.Eng.C. The assessment involves a review of qualifying

requirements of the Technological Institutions and an evaluation based on the following criteria, apart from

Programme Objectives (4.0) and Learning Outcomes (5.0):

1 Academic Curriculum

9.2.4 Academic Curriculum

- Discuss the programme structure and course contents to show how they are appropriate to, consistent with, and support the development of the range of intellectual and practical skills and attainment or achievement of the Learning Outcomes. (MEng C)

IQY Technical College's Diploma program is focussed on practical applications, use of materials, tools & equipment by combining with theoretical studies at tradesmen/ technician level, it will provide the foundation of engineering studies.

At the advanced diploma level, more complex level engineering contents, applied science & mathematics contents & cross-disciplinary engineering and management contents are included.

At the professional diploma level, the skills required for the graduated to lead or manage teams appropriate to these activities, and may establish their own companies or move into senior management roles in engineering and related enterprises are provided.

- Discuss the programme delivery and assessment methods and how these are appropriate to, consistent with, and support the development of the range of intellectual and practical skills and attainment or achievement of the Learning Outcomes. (MEng C)

Program delivery & assessment at Diploma & Advanced level

The students are provided with online lessons, study guides which include audio visual explanations in both English & Myanmar languages. The electronic text books and reference books are also provided.

For the students who can not have the access to the high speed internet are provided with DVDs, CDs and USBs consisting of the lessons.

It has established the learning platform from which the study guides & instructions, exercise, assignments, audio & video lessons can be downloaded.

<http://www.highlightcomputer.com/onlineteaching1.htm>

To provide the online teaching to be the same learning environment as to face to face class, IQY Technical College has established the online videos & Youtube videos of lectures.

Youtube videos of lectures

<http://www.highlightcomputer.com/videos2.htm>

Online videos

<http://www.highlightcomputer.com/videos1.htm>

Online practical simulation at Level 1 is also provided.

Practical is important aspect in engineering education. IQY Technical College also provides the engineering practicals by online mode.

It has established the online practical support websites to provide three levels of engineering practicals.

The sites are

<http://www.highlightcomputer.com/PracticalCourses.htm>

&

<http://www.iqytechnicalcollege.com/youtubevideos.htm>

Level 1- Tradesmen Level in which the basic trades tasks videos such as brick laying, motor winding, wiring, engine fittings, machining etc are presented.

Level 2- Technician Level in which the technician tasks such as electrical laboratory, surveying etc are presented

Level 3- Engineer Level in which use of engineering design handbooks are presented.

For all three levels, the reference books related to practical applications are presented.

Assessment

The students need to do the continuous study as per guidelines and instruction provided in study guides and do the exercises. They are required to regularly submit the assignments and sit the online MCQ tests

Online Theory & MCQ Practice

http://www.filefactory.com/file/6m8zvfek7797/n/Online_Theory_MCQ_Practice_pdf

Online Practical Practice

http://www.filefactory.com/file/3ap0vv6o8azx/n/Online_Practical_Practice_pdf

Upon satisfactory completion of the assessments, the progression is granted.

Upon completion of all units / subject in the program, the qualification is awarded.

Program delivery & assessment at Professional Diploma level

The same learning system is applied. But for the professional diploma level, the written tests as well as engineering management, project tasks, design presentation and engineering competency demonstration report writings are included in the assessment.

- The information required in items (i) and (ii) should include but is not limited to the following:
- A matrix linking courses to Learning Outcomes to identify and track the contribution of each course to the Learning Outcomes. (Overall Learning outcomes link to each unit)
- Distribution of engineering courses according to areas specific to each program

(MEng C)

Diploma in Electrical Engineering

Learning Outcome	Subjects	Study Area
<u>1. KNOWLEDGE AND SKILL BASE</u> 1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain. 1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain. 1.3. In-depth understanding of specialist bodies of knowledge within the technology domain. 1.4. Discernment of knowledge development within the technology domain.	EE101 DC Circuit Problems EE113 Electrical Fundamental EE201 Engineering Mathematics (1) EE111 Electromagnetism & Basic Electrical Machines EE112 Alternating Current Principle EE109 Electrical Control Circuits EE114 Electrical Power Principle EE115 Basic Analogue & Digital Electronics EE102 Basic Electrical Fitting & Wiring EE103 Basic Electrical Drafting EE104 Electrical Equipments Safety Protection	Electrical Maths Electrical/Science Electrical/Electronics Electrical/Drafting

<p>1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.</p> <p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.</p>	<p>EE105 Electrical Installation Design EE106 Advanced Electrical Wiring</p> <p>EE107 Electrical Equipments EE108 Electrical Fault Finding</p>	<p>Design/ Trade Work</p> <p>Instrumentation/ TradeWork</p>
<p><u>2. ENGINEERING APPLICATION ABILITY</u></p> <p>2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.</p> <p>2.2. Application of engineering techniques, tools and resources within the technology domain.</p> <p>2.3. Application of systematic synthesis and design processes within the technology domain.</p> <p>2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.</p>	<p>EE121 Electronics Power Control Device EE116 Process Control System</p> <p>EE117 Solar Electrical System EE118 Electrical Energy Supply System EE110 Computer Applications</p> <p>EE105 Electrical Installation Design EE106 Advanced Electrical Wiring</p> <p>EE119 Electrical Risk Assessment EE120 Electrical Contracting & Specification</p>	<p>Electronics/ Instrumentation</p> <p>Renewable Energy Power Engineering Computer</p> <p>Design/ Trade Work</p> <p>Project Management</p>
<p><u>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</u></p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p>	<p>EE120 Electrical Contracting & Specification</p>	<p>Project Management</p>

<p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>	EE120 Electrical Contracting & Specification	Project Management
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Advanced Diploma in Electrical Engineering

Learning Outcome	Subjects	Study Area
<p><u>1. KNOWLEDGE AND SKILL BASE</u></p> <p>1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain.</p> <p>1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain.</p> <p>1.3. In-depth understanding of specialist bodies of knowledge within the technology domain.</p>	<p>EE201 Engineering Mathematics EE302 Advanced Engineering Mathematics</p> <p>EE202 Electrical Circuits</p> <p>EE204 Engineering Physics EE203 Three Phase Power Circuits</p> <p>EE205 Electrical Power System EE206 AC Machines EE207 DC Machine EE208 Operational Amplifiers EE209 Analogue Electronics</p>	<p>Mathematics</p> <p>Electrical</p> <p>Science</p> <p>Electrical</p> <p>Electrical</p> <p>Electronics</p>

<p>1.4. Discernment of knowledge development within the technology domain.</p> <p>1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.</p> <p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.</p>	<p>EE303 Transmission Line</p> <p>EE301 Advanced Electrical Drafting EE307 Energy Efficient Building Design</p> <p>EE308 Sustainability</p>	<p>Power Engineering</p> <p>Electrical Design</p> <p>Renewable Energy</p>
<p><u>2. ENGINEERING APPLICATION ABILITY</u></p> <p>2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.</p> <p>2.2. Application of engineering techniques, tools and resources within the technology domain.</p> <p>2.3. Application of systematic synthesis and design processes within the technology domain.</p> <p>2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.</p>	<p>EE305 Power Transformer EE306 Electro-mechanical Control</p> <p>EE301 Advanced Electrical Drafting</p> <p>EE307 Energy Efficient Building Design</p> <p>EE309 Project Management</p>	<p>Power Engineering</p> <p>Electrical Design</p> <p>Electrical Design</p> <p>Project Management</p>

<p><u>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</u></p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p> <p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>	<p>EE309 Project Management EE310 Engineering Officer Competency Report</p> <p>EE309 Project Management</p> <p>EE310 Engineering Officer Competency Report</p>	<p>Project Management</p> <p>Engineering Ethics</p> <p>Project Management</p> <p>Engineering Ethics</p>
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Professional Diploma in Electrical Engineering

Learning Outcome	Subjects	Study Area
<p>1. KNOWLEDGE AND SKILL BASE</p> <p>1.1. Comprehensive, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline.</p> <p>1.2. Conceptual understanding of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the engineering discipline.</p>	<p><u>BAE 403 Engineering Mechanics</u> (1 pt)</p> <p><u>BAE 404 Engineering Materials & Thermodynamics</u> (3 pt)</p> <p>RE001- Foundation Studies in Renewable Energy and Sustainability (2 pt)</p> <p>BAE 401 Advanced Engineering Mathematics (9 pt)</p> <p><u>BAE 402 Calculus</u> (3 pt)</p> <p>BAE 601 Computer Programming</p> <p>BAE 603 Software Engineering</p>	<p>Mechanical</p> <p>Renewable Energy</p> <p>Mathematics</p> <p>Computer</p>

1.3. In-depth understanding of specialist bodies of knowledge within the engineering discipline.	RE003- Solar and Thermal Energy Systems (2 pt)	Renewable Energy
	RE006- Wind Energy Conversion Systems (2 pt)	
1.4. Discernment of knowledge development and research directions within the engineering discipline.	RE013-Electrical Machines	Electrical
	RE014-Electronics Control	Electronics
	RE007- Energy System Efficiency	Renewable Energy
1.5. Knowledge of engineering design practice and contextual factors impacting the engineering discipline.	RE010-Engineering Materials (2 pt)	Material Science
	RE012a-Electrical Engineering Part 1 (2pt)	Electrical
	RE002- Grid Connected Photovoltaic Power Systems	Electronics
1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the specific discipline.	RE005- Renewable Energy Resource Analysis (2 pt)	Renewable Energy
	BAE 602 Computer Network	Computer
	RE004- Energy Storage Systems (2 pt)	Mechanical
	RE012b-Electrical Engineering Part 2	Electrical
2. ENGINEERING APPLICATION ABILITY		
2.1. Application of established engineering methods to complex engineering problem solving.	BAE 501 Advanced Power Systems & Power Transmission Networks	Power Engineering
	BAE 506 Power System Stability & Protection	
2.2. Fluent application of engineering techniques, tools and resources.	BAE 604 Telecommunication Engineering	Telecommunication

<p>2.3. Application of systematic engineering synthesis and design processes.</p> <p>2.4. Application of systematic approaches to the conduct and management of engineering projects.</p>	<p>RE016-Design& Management (BAE508) (2 pt)</p> <p>RE015-Electrical Project/ Practice</p>	<p>Design</p> <p>Project</p>
<p>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p> <p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>	<p>RE015-Electrical Project/ Practice</p> <p>BAE 608 Professional Engineer Competency Demonstration Report</p>	<p>Project</p> <p>Engineering Ethics+ Practice</p>

Diploma in Civil Engineering

Learning Outcome	Subjects	Study Area
<p><u>1. KNOWLEDGE AND SKILL BASE</u></p> <p>1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain.</p> <p>1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain.</p> <p>1.3. In-depth understanding of specialist bodies of knowledge within the technology domain.</p> <p>1.4. Discernment of knowledge development within the technology domain.</p> <p>1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.</p> <p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.</p>	<p>Certificate in Construction Studies</p> <p>CE 104 A Building Drawing CE 108 Electrical Principle</p> <p>CE 101 Mathematics (EE201) CE 102 Physics (EE204)</p> <p>CE 104 Fluid Dynamics CE 105 Hydraulic CE 106 Hydrology</p> <p>CE 107 Sanitation-and-Water-supply</p> <p>CE 109 Energy Efficient Building Design (EE309) CE 110 Building Construction</p> <p>EE102 Basic Electrical Fitting & Wiring</p> <p>CE 106A Detailed Construction & Building Construction Materials</p>	<p>Construction Electrical</p> <p>Maths/Science</p> <p>Civil</p> <p>Civil</p> <p>Design Construction</p> <p>Electrical/ Building Trade</p>
<p><u>2. ENGINEERING APPLICATION ABILITY</u></p> <p>2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.</p>	<p>CE 108 Electrical Principle CE 107 Sanitation-and-Water-supply</p> <p>CE 110 Building Construction CE 108 Electrical Principle</p>	<p>Electrical/ Building Trade</p>

<p>2.2. Application of engineering techniques, tools and resources within the technology domain.</p> <p>2.3. Application of systematic synthesis and design processes within the technology domain.</p> <p>2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.</p>	<p>CE 107 Sanitation-and-Water-supply</p> <p>CE 110 Building Construction</p> <p>CE 109 Energy Efficient Building Design (EE309)</p> <p>CE 110 Building Construction</p> <p>CE 109 Energy Efficient Building Design (EE309)</p>	<p>Civil</p> <p>Construction</p> <p>Electrical/ Building Trade</p>
<p><u>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</u></p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p> <p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>	<p>CE 109 Energy Efficient Building Design (EE309)</p>	<p>Design</p>

Advanced Diploma in Civil Engineering

Learning Outcome	Subjects	Study Area
<u>1. KNOWLEDGE AND SKILL BASE</u> 1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain. 1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain. 1.3. In-depth understanding of specialist bodies of knowledge within the technology domain. 1.4. Discernment of knowledge development within the technology domain. 1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain. 1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.	CE113 Structure 1 CE114 Structure 2 ME 102 Engineering Thermodynamics CE 112 Engineering Mechanics+ ME 301 Applied Mathematics ME 334 Airconditioning and Refrigeration EE106 Advanced Electrical Wiring ME 334 Airconditioning and Refrigeration EE106 Advanced Electrical Wiring EE105 Electrical Installation Design CE115 Estimating & Specification CE103-Surveying CE111A-Road+Bridges EE308 Sustainability	Structural Engineering Mechanical+Maths Mechanical Electrical Mechanical Electrical Electrical Construction Civil Renewable Energy
<u>2. ENGINEERING APPLICATION ABILITY</u> 2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.	EE104 Electrical Equipments Safety Protection CE113 Structure 1 CE114 Structure 2	Electrical Structural Engineering

<p>2.2. Application of engineering techniques, tools and resources within the technology domain.</p> <p>2.3. Application of systematic synthesis and design processes within the technology domain.</p> <p>2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.</p>	<p>CE 110 Building Construction</p> <p>CE115 Estimating & Specification</p> <p>CE111A-Road+Bridge</p> <p>CE114 Structure 2</p> <p>CE309 Project Management</p>	<p>Construction</p> <p>Civil</p> <p>Structural</p> <p>Project</p>
<p><u>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</u></p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p> <p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>	<p>CE309 Project Management</p> <p>CE310 Engineering Competency Demonstration Report</p>	<p>Project</p> <p>Engineering Ethics+ Practice</p>

Professional Diploma in Civil Engineering

Learning Outcome	Subjects	Study Area
1. KNOWLEDGE AND SKILL BASE		
1.1. Comprehensive, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline.	BAE 403 Engineering Mechanics (1 pt) BAE 404 Engineering Materials & Thermodynamics (3 pt)	Mechanical
1.2. Conceptual understanding of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the engineering discipline.	BAE 401 Advanced Engineering Mathematics (9 pt) BAE 402 Calculus (3 pt)	Mathematics
1.3. In-depth understanding of specialist bodies of knowledge within the engineering discipline.	RE001- Foundation Studies in Renewable Energy and Sustainability (2 pt) RE011a-Civil& Mechanical Engineering Part 1 (2 pt) (Assessment- Study Report)	Renewable Energy Civil/Mechanical
1.4. Discernment of knowledge development and research directions within the engineering discipline.	RE003- Solar and Thermal Energy Systems (2 pt) RE004- Energy Storage Systems (2 pt) RE012a-Electrical Engineering Part 1 (2pt)	Renewable Energy Mechanical Electrical
1.5. Knowledge of engineering design practice and contextual factors impacting the engineering discipline.	RE010-Engineering Materials (2 pt) RE016-Design& Management (BAE508) (2 pt)	Material Computer/Design
1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the specific discipline.	RE011b-Civil& Mechanical Engineering Part 2a (2 pt)(Assessment- Study Report) BAE423 Fluid Mechanics (2 pt) BAE424 Reinforced Concrete (2 pt) BAE522 Rock Mechanics (2 pt)	Civil/Mechanical Civil Structural Civil

<p>2. ENGINEERING APPLICATION ABILITY</p> <p>2.1. Application of established engineering methods to complex engineering problem solving.</p> <p>2.2. Fluent application of engineering techniques, tools and resources.</p> <p>2.3. Application of systematic engineering synthesis and design processes.</p> <p>2.4. Application of systematic approaches to the conduct and management of engineering projects.</p>	<p>BAE421 Building Construction Engineering (2 pt)</p> <p>BAE 606 Building Service Electrical & Mechanical Engineering (2 pt)</p> <p>BAE 523A Environmental Engineering (2 pt)</p> <p>BAE623 Surveying & Traffic Engineering (2 pt)</p> <p>BAE624 Water Supply , Sanitation & Finishing (2 pt)</p> <p>RE005- Renewable Energy Resource Analysis (2 pt)</p> <p>RE006- Wind Energy Conversion Systems (2 pt)</p> <p>BAE621 Structural Engineering (2 pt)</p> <p>BAE422 Estimating (2 pt)</p> <p>BAE 605 Project Management</p>	<p>Construction</p> <p>Building Services</p> <p>Civil</p> <p>Civil</p> <p>Renewable Energy</p> <p>Renewable Energy</p> <p>Structural</p> <p>Structural</p> <p>Project</p>
<p>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p>	<p>BAE 605 Project Management</p> <p>BAE 608 Professional Engineer Competency Demonstration Report</p>	<p>Project</p> <p>Ethics+ Practice</p>

3.3. Creative, innovative and pro-active demeanour.	BAE 605 Project Management	Project
3.4. Professional use and management of information.	BAE 608 Professional Engineer Competency Demonstration Report	Ethics+ Practice
3.5. Orderly management of self, and professional conduct.		
3.6. Effective team membership and team leadership.		

Diploma in Mechanical Engineering

Learning Outcome	Subjects	Study Area
<u>1. KNOWLEDGE AND SKILL BASE</u>		
1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain.	ME 102 Engineering Thermodynamics ME 103 Engineering Mechanics ME 104 Machine Principle ME 105 Electrical Principle	Mechanical/Science Electrical
1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain.	Maths 101 Engineering Mathematics (EE201) ME 101 Applied Mathematics	Mathematics
1.3. In-depth understanding of specialist bodies of knowledge within the technology domain.	ME 106 Electrical Circuits ME 107 Heat Transfer ME 108 Principle of Engines ME201 Introduction to Fluid Mechanics	Electrical Mechanical/Science Mechanical/Science
1.4. Discernment of knowledge development within the technology domain.	ME 207 Chemical Thermodynamics ME 208 Hydrocarbons ME 209 Introduction-to-polymer-science-and-technology	Mechanical/Science Mechanical/Science Mechanical/Science

<p>1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.</p> <p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.</p>	<p>ME 205 Manufacturing Processes-and-Materials</p> <p>ME 202 Introduction to Aero Dynamics</p> <p>ME 203 Control Engineering</p> <p>ME 234 Wind Turbines</p>	<p>Design</p> <p>Design</p> <p>Control</p> <p>Renewable Energy</p>
<p><u>2. ENGINEERING APPLICATION ABILITY</u></p> <p>2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.</p> <p>2.2. Application of engineering techniques, tools and resources within the technology domain.</p> <p>2.3. Application of systematic synthesis and design processes within the technology domain.</p> <p>2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.</p>	<p>ME 204 Engineering Fluid Mechanics</p> <p>ME 206 Introduction to Turbo Machinery</p> <p>ME 205 Manufacturing Processes-and-Materials</p> <p>Mgt 501 Basic Management</p>	<p>Mechanical</p> <p>Mechanical</p> <p>Design</p> <p>Management/Computer</p>
<p><u>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</u></p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p>	<p>Mgt 501 Basic Management</p>	<p>Management/Computer</p>

3.3. Creative, innovative and pro-active demeanour. 3.4. Professional use and management of information. 3.5. Orderly management of self, and professional conduct. 3.6. Effective team membership and team leadership.		
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Advanced Diploma in Mechanical Engineering

Learning Outcome	Subjects	Study Area
<u>1. KNOWLEDGE AND SKILL BASE</u> 1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain. 1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain. 1.3. In-depth understanding of specialist bodies of knowledge within the technology domain. 1.4. Discernment of knowledge development within the technology domain. 1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.	ME 306 Theory-of-waves-in-materials ME 301 Fluid Dynamics Maths 403 Engineering-Mathematics (EE302) ME 304 Introduction to Nonlinearity-in-control-systems ME 301 Fluid Dynamics ME 302 Automation-and-Robotics ME 301 Fluid Dynamics ME 302 Automation-and-Robotics ME 303 Computer Aided Design and Manufacturing	Science/Mechanical Mathematics Science/Mechanical Design/Computer

1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.	ME 305 Corrosion Prevention ME 334 Airconditioning and Refrigeration	Science/Mechanical Mechanical
<u>2. ENGINEERING APPLICATION ABILITY</u> 2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain. 2.2. Application of engineering techniques, tools and resources within the technology domain. 2.3. Application of systematic synthesis and design processes within the technology domain. 2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.	ME 534 Numerical Control EE 624 Process Control ME 434 Mechtronics-Robotics ME 634 Pneumatics EE 617 Building Electrical and Mechanical System Part 1 (EE309) Mgt 503 Production & Operation Management Mgt 505 Quality Management and Manufacturing Engineering	Instrumentation Building Services Production/ Management
<u>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</u> 3.1. Ethical conduct and professional accountability. 3.2. Effective oral and written communication in professional and lay domains.	Mgt 503 Production & Operation Management Mgt 505 Quality Management and Manufacturing Engineering	Production/ Management

3.3. Creative, innovative and pro-active demeanour.	ME310 Engineering Competency Demonstration Report	Ethics+ Engineering Practice
3.4. Professional use and management of information.		
3.5. Orderly management of self, and professional conduct.		
3.6. Effective team membership and team leadership.	ME310 Engineering Competency Demonstration Report	Ethics+ Engineering Practice

Professional Diploma in Mechanical Engineering

Learning Outcome	Subjects	Study Area
1. KNOWLEDGE AND SKILL BASE		
1.1. Comprehensive, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline.	BAE 404 Engineering Materials & Thermodynamics (3 pt) RE001- Foundation Studies in Renewable Energy and Sustainability (2 pt)	Science/Mechanical Renewable Energy
1.2. Conceptual understanding of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the engineering discipline.	BAE 601 Computer Programming(2 pt) BAE 401 Advanced Engineering Mathematics (9 pt) BAE 402 Calculus (3 pt)	Mathematics/ Computer
1.3. In-depth understanding of specialist bodies of knowledge within the engineering discipline.	BAE 403 Engineering Mechanics (1 pt) RE003- Solar and Thermal Energy Systems (2 pt)	Mechanical
1.4. Discernment of knowledge development and research directions within the engineering discipline.	RE004- Energy Storage Systems (2 pt) RE005- Renewable Energy Resource Analysis (2 pt) RE006- Wind Energy Conversion Systems (2 pt)	Renewable Energy

<p>1.5. Knowledge of engineering design practice and contextual factors impacting the engineering discipline.</p> <p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the specific discipline.</p>	<p>RE010-Engineering Materials (2 pt) RE016-Design& Management (BAE508) (2 pt)</p> <p>RE012a-Electrical Engineering Part 1 (2pt)</p> <p>RE011a-Civil & Mechanical Engineering Part 1 (2 pt) (Assessment- Study Report)</p>	<p>Design</p> <p>Electrical</p> <p>Civil/Mechanical</p>
<p>2. ENGINEERING APPLICATION ABILITY</p> <p>2.1. Application of established engineering methods to complex engineering problem solving.</p> <p>2.2. Fluent application of engineering techniques, tools and resources.</p>	<p>RE011b-Civil & Mechanical Engineering Part 2a (2 pt) (Assessment- Study Report)</p> <p>BAE311 Plant Engineering (2 pt)</p> <p>BAE314 Mechanical Power Generation (2 pt)</p> <p>BAE315 Materials Engineering (2 pt) Part 1 Part 2 (2 pt)</p> <p>BAE511 Air-conditioning & Refrigeration Part 1 (2 pt)</p> <p>BAE512 Building Service Water Supply System (2 pt)</p> <p>BAE613 Mechanical Instrumentation Process(2 pt)</p> <p>BAE 606 Building Service Electrical & Mechanical Engineering (2 pt)</p> <p>RE007- Energy System Efficiency(2 pt)</p>	<p>Civil/Mechanical</p> <p>Mechanical</p> <p>Building Services</p> <p>Instrumentation</p> <p>Building Services</p> <p>Mechanical</p>

2.3. Application of systematic engineering synthesis and design processes.	BAE614 Machine Design (2 pt)	Design
2.4. Application of systematic approaches to the conduct and management of engineering projects.	ME309 Project Management	Project
3. PROFESSIONAL AND PERSONAL ATTRIBUTES 3.1. Ethical conduct and professional accountability. 3.2. Effective oral and written communication in professional and lay domains. 3.3. Creative, innovative and pro-active demeanour. 3.4. Professional use and management of information. 3.5. Orderly management of self, and professional conduct. 3.6. Effective team membership and team leadership.	ME309 Project Management ME310 Engineering Competency Demonstration Report	Project Ethics + Engineering Practice

Criterion 1: Academic Curriculum

(curricular design)the philosophy and approach adopted in the programme structure, (MEng C)

The Diploma & Advanced Diploma level engineering curriculums are designed to provide the Engineering Competencies at Technician/ Technologist & Professional Engineer level.

They are based on Year 12 level schooling.

At the diploma level, the basic engineering theories are mixed with trades level practical knowledge and applications. Appropriate contents of mathematics, science and cross disciplinary contents are inserted.

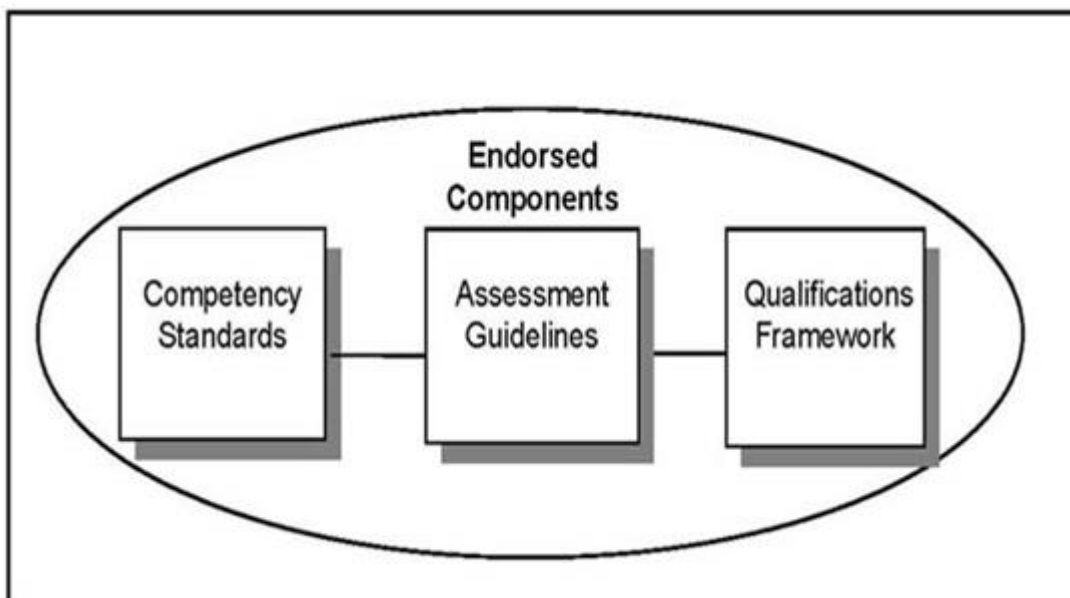
The engineering Industry is subject to high levels of legislation, regulation, codes of practice, guidelines and advisory standards, related to: research, assembly, installation, construction, diagnoses, maintenance, commissioning, programming, testing and repair of networks; systems,

circuits, equipment, components, appliances and facilities in the field of electricity and communications. The regulatory requirements are typically based on the principle of operation of the various systems and associated circuits involving equipment, apparatus and systems, public safety, safety and health of individuals who work on lines/circuits, systems and apparatus/equipment and other codes and practices related to the environment in which they are installed, operate and are maintained.

To fulfil such requirements, IQY Technical College Diploma & Advanced Diploma program are designed with the following requirements

- To provide a consistent and reliable set of components for training, recognising and assessing people's skills, and may also have optional support materials
- To enable the qualifications to be awarded through direct assessment of workplace competencies
- To apply and delivery of flexible training which suits individual and industry requirements
- To encourage learning and assessment in a work-related environment which leads to verifiable workplace outcomes.

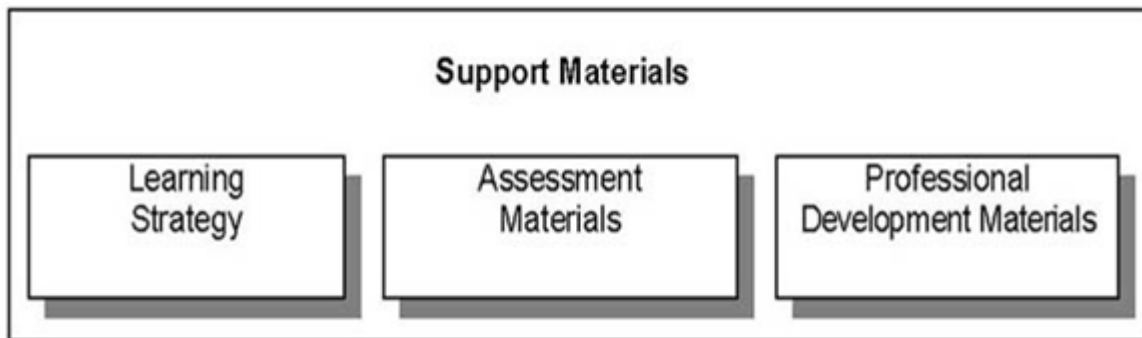
IQY Technical College's Diploma & Advanced Diploma program are largely based on Australian training system that reflect the following structure.



Competency Standards

Each unit of competency identifies a discrete workplace requirement and includes the knowledge and skills that underpin competency as well as language, literacy and numeracy; and occupational health and safety requirements. The units of competency must be adhered to in training and assessment to ensure consistency of outcomes

The online & off line learning support materials are designed with the following features.



The following competency areas are included

- A – Assembly
- C – Commercial
- D – Computer systems
- E – Cross discipline
- F – Data and voice communications
- G – Electrical
- H – Electronic
- I – Instrument and Control
- J – Refrigeration and Air Conditioning
- K – Renewable and sustainable energy
- M – Hazardous areas
- P – Restricted and specialist
- R – Research

Language, Literacy, Numeracy

The study support materials have been written to reflect the technical and operational needs of industry and include appropriate language and literacy requirements of Myanmar students. A new and specific section related to literacy and numeracy skills has been included in the competency standard. It characterises how participants are to be best equipped to achieve the relevant unit, in terms of reading, writing and numeracy skill levels.

Access, Equity and Cultural Diversity

The skills required of employees in the Engineering Industry are comprehensive and are relevant to many different employment situations. The study support materials reflect the range of knowledge and skills and their application, required in the Industry. They are written in a non-exclusive manner so as to increase the participation rates of under-represented groups and to minimise unintentional bias.

Quality Control Aspects

- *Maintenance of Contents Standards* – to initiate and respond to the need to review, vary, delete and add to the Engineering competency standard units, as part of the sector's standards inventory
- *Maintenance of Competency Delivery Processes* – to monitor the effectiveness of the delivery of competency and so initiate and respond to issues which may impact on those processes
- *Maintenance of Assessment Guidelines* – to monitor the effectiveness of the Assessment Guidelines and supporting systems; to initiate and respond to issues which impact, or are likely to impact, on the quality of the assessment systems and to promote quality improvement throughout the system
- *Maintenance of the Qualification and Recognition Systems* – to monitor the effectiveness of the application of the Qualification and Recognition Systems contained in the courses and to review/revise the system as required

Philosophy related to Learning Out comes provided by IQY Technical College Diploma & Advanced Diploma curriculums

Certificate (Part 1)

Characteristics of Learning Outcomes

- Breadth, depth and complexity of knowledge and competencies would cover selecting, adapting and transferring skills and knowledge to Australian environments and providing technical advice and some leadership in resolution of specified problems. This would be applied across a range of roles in a variety of contexts with some complexity in the extent and choice of options available.
- Performance of a defined range of skilled operations, usually within a range of broader related activities involving known routines, methods and procedures, where some discretion and judgement is required in the selection of equipment, services or contingency measures and within known time constraints.
- Applications may involve some responsibility for others. Participation in teams including group or team coordination may be involved.
- Distinguishing Features of Learning Outcomes
- Do the competencies enable an individual with this qualification to:
- demonstrate some relevant theoretical knowledge
- apply a range of well-developed skills
- apply known solutions to a variety of predictable problems
- perform processes that require a range of well-developed skills where some discretion and judgement is required
- interpret available information, using discretion and judgement
- take responsibility for own outputs in work and learning
- take limited responsibility for the output of others

Certificate (Part 2)

Characteristics of Learning Outcomes

- Breadth, depth and complexity of knowledge and competencies would cover a broad range of varied activities or application in a wider variety of contexts most of which are complex and non-routine. Leadership and guidance are involved when organising activities of self and others as well as contributing to technical solutions of a non-routine or contingency nature.
- Performance of a broad range of skilled applications including the requirement to evaluate and analyse current practices, develop Australian criteria and procedures for performing current practices and provision of some leadership and guidance to others in the application and planning of the skills.
- Applications involve responsibility for, and limited organisation of, others.
- Distinguishing Features of Learning Outcomes
- Do the competencies enable an individual with this qualification to:
- demonstrate understanding of a broad knowledge base incorporating some theoretical concepts
- apply solutions to a defined range of unpredictable problems
- identify and apply skill and knowledge areas to a wide variety of contexts, with depth in some areas

- identify, analyse and evaluate information from a variety of sources
- take responsibility for own outputs in relation to specified quality standards
- take limited responsibility for the quantity and quality of the output of others

Diploma

Characteristics of Learning Outcomes

- Breadth, depth and complexity covering planning and initiation of alternative approaches to skills or knowledge applications across a broad range of technical and/or management requirements, evaluation and coordination.
- The self directed application of knowledge and skills, with substantial depth in some areas where judgement is required in planning and selecting appropriate equipment, services and techniques for self and others.
- Applications involve participation in development of strategic initiatives as well as personal responsibility and autonomy in performing complex technical operations or organising others. It may include participation in teams including teams concerned with planning and evaluation functions. Group or team coordination may be involved.
- The degree of emphasis on breadth as against depth of knowledge and skills may vary between qualifications granted at this level.
- Distinguishing Features of Learning Outcomes
- Do the competencies or learning outcomes enable an individual with this qualification to:
demonstrate understanding of a broad knowledge base incorporating theoretical concepts, with substantial depth in some areas
- analyse and plan approaches to technical problems or management requirements
- transfer and apply theoretical concepts and/or technical or creative skills to a range of situations
- evaluate information, using it to forecast for planning or research purposes
- take responsibility for own outputs in relation to broad quantity and quality parameters
- take some responsibility for the achievement of group outcomes

Advanced Diploma

Characteristics of Learning Outcomes

- Breadth, depth and complexity involving analysis, design, planning, execution and evaluation across a range of technical and/or management functions including development of Australian criteria or applications or knowledge or procedures.
- The application of a significant range of fundamental principles and complex techniques across a wide and often unpredictable variety of contexts in relation to either varied or highly specific functions. Contribution to the development of a broad plan, budget or strategy is involved and accountability and responsibility for self and others in achieving the outcomes is involved.
- Applications involve significant judgement in planning, design, technical or leadership/guidance functions related to products, services, operations or procedures.
- The degree of emphasis on breadth as against depth of knowledge and skills may vary between qualifications granted at this level.
- Distinguishing Features of Learning Outcomes
- Do the competencies or learning outcomes enable an individual with this qualification to:
 - demonstrate understanding of specialised knowledge with depth in some areas
 - analyse, diagnose, design and execute judgements across a broad range of technical or management functions
 - generate ideas through the analysis of information and concepts at an abstract level
 - demonstrate a command of wide-ranging, highly specialised technical, creative or conceptual skills
 - demonstrate accountability for personal outputs within broad parameters
 - demonstrate accountability for personal and group outcomes within broad parameters

Professional Diploma

Year 2+3 Learning Outcomes & Teaching /Assessment Strategies

Purpose

Development and consolidation of discipline knowledge and skills, with increasing opportunities for application

Knowledge

comprehensive understanding of the major theoretical approaches, concepts, practices, methodologies, etc.

Skills

- Consolidate and extend key academic skills including:

- high order cognitive skills in processing knowledge
- rigorous techniques of enquiry involving primary and secondary sources and a range of technologies
- problem solving and creativity using various techniques in diverse contexts
- collaborative and independent learning
- communication skills (oral, written, academic, professional) including the use of relevant technologies
- Consolidate and extend key discipline technical skills

Application of Knowledge & Skills

- apply and adapt major theoretical principles and approaches to real world contexts
- develop skills in planning, problem solving, decision-making, teamwork, communication, intellectual independence and accountability in professional practice and/or scholarship

Key Verbs

- organise
- integrate
- differentiate, examine
- distinguish
- discuss, elaborate
- calculate
- collaborate
- discover
- critically review
- explain, interpret
- compare, contrast
- summarise, paraphrase
- demonstrate
- cooperate
- use, modify
- organise

Types of assessments

- critical review
- construct a chart
- analyse data, graph
- create a database
- write a reflective journal
- analyse an argument
- compare theories
- make generalisations

- apply models
- develop and conduct a survey
- investigate an issue
- critical essay
- role play
- make a presentation
- debate
- defend a position
- quiz, test, exam
- tutorial paper

Year 4 Learning Outcomes & Teaching /Assessment Strategies

Purpose

The Professional Diploma comparable to Bachelor Degree qualifies individuals who apply a broad and coherent body of knowledge in a range of contexts to undertake professional work and as a pathway for further learning

Knowledge

- broad and coherent knowledge with depth in one or more disciplines

Skills

- cognitive skills to critically, analyse, consolidate and synthesise knowledge
- cognitive and technical skills to demonstrate a broad understanding of knowledge with depth in some areas
- cognitive and creative skills to exercise critical thinking and judgement in identifying and solving problems with intellectual independence
- communication skills to present a clear, coherent and independent exposition of knowledge and ideas

Application of Knowledge & Skills

- apply knowledge and skills with initiative and judgement in planning, problem solving and decision making in professional practice and/or scholarship
- adapt knowledge and skills in diverse contexts
- with responsibility and accountability for own learning and professional practice and in collaboration with others within broad parameters

Key Verbs

- assemble
- manage
- formulate, devise
- generate, construct
- deconstruct
- solve

- assess, estimate
- investigate, scope
- plan
- convert, translate
- justify, predict
- create, design, compose
- judge, determine, diagnose
- innovate, invent

Types of Assessment

- project
- presentation on a topic/project
- seminar paper and presentation
- report
- case study
- scenarios
- major essay
- plan
- creative writing (story, poem song)
- musical work, sculpture
- performance of a musical work, play
- film making
- translation of a text
- simulation
- organisation of an event
- work-integrated learning
- teamwork
- quiz, test/exam
- reflective journal
- posters
- portfolio
- exam
- viva voce

Preparation for Professional Engineer Program

Purpose

The Professional Engineer Status who apply a body of knowledge in a specific context to undertake professional work and as a pathway for research and further learning.

Knowledge

- coherent advanced knowledge of the principles and concepts in one or more disciplines and knowledge of research principles and methods

Skills

- cognitive skills to review, analyse, consolidate and synthesise knowledge to identify and provide solutions to complex problems with intellectual independence
- cognitive and technical skills to demonstrate a broad understanding of a body of knowledge and theoretical concepts with advanced understanding in some areas
- cognitive skills to exercise critical thinking and judgement in developing new understanding technical skills to design and use research in a project
- communication skills to present a clear and coherent exposition of knowledge and ideas to a variety of audience

Application of knowledge & Skills

- apply knowledge and skills with initiative and judgement in professional practice and/or scholarship
- adapt knowledge and skills in diverse contexts
- with responsibility and accountability for own learning and practice and in collaboration with others within broad parameters
- plan and execute project work and/or a piece of research and scholarship with some independence

Key Verbs

- research work on system/ modification/ re-engineering/ reverse engineering
- adapt the news systems / alternative system/ more efficient system
- initiate the new technology & application
- consolidate the several functions
- execute the planning & management in engineering works

Types of assessment

- literature review on application/ methods/ system report/ project report
- research paper on new engineering development & systems
- report on project
- creative work on engineering design project
- seminar paper and presentation
- conference paper
- journal article
- viva voce

Based on the above learning outcomes & teaching strategies, the curriculums are arranged & relevant contents are integrated as follows.

Detailed Contents

Detailed Contents of BE,B Bus& B App Sc (IT) Programs

[http://highlightcomputer.com/B%20E+B%20App%20Sc\(IT\)+B%20Bus%20Course%20Detailed%20Contents.htm](http://highlightcomputer.com/B%20E+B%20App%20Sc(IT)+B%20Bus%20Course%20Detailed%20Contents.htm)

Detailed Contents of Diploma + Advanced Diploma in Engineering, IT , Management & Business Programs

<http://www.highlightcomputer.com/detailedcontent.htm>

Course Outlines

<http://www.highlightcomputer.com/syllabus.htm>

Diploma Programs (IQY Technical College)

Electrical Engineering Course Outline

Management Course Outline

Information Technology Course Outline

Certificate in Information Technology Course Outline

Diploma in Information Technology Course Outline

Advanced Diploma in Information Technology Course Outline

Mechanical Engineering Course Outline

Civil Engineering Course Outline

Automotive Engineering Course Outline

Marine Engineering Course Outline

Professional Diploma + Bachelor of Engineering (Electrical, Civil, Mechanical Combined with Renewable Energy) Programs

Professional Diploma+ Bachelor Degree in Electrical Engineering

Professional Diploma+ Bachelor Degree in Civil Engineering

Professional Diploma+ Bachelor Degree in Mechanical Engineering

**Bachelor Degree Programs (St Clements University Higher Education School&
St Clements Technological University of British West Indies)**

Bachelor of Engineering (Electrical Engineering) Course Outline

Bachelor of Applied Science (Computer Science & Computer Technology)

Bachelor of Engineering (Mechanical Engineering-Mechatronics) Course Outline

Bachelor of Engineering (Civil Engineering-Building Services) Course Outline

Graduate Diploma of Civil Engineering + Bachelor of Applied Engineering (Final Year
Civil Design) Course Outline

Bachelor of Engineering (Civil) Course outline

Bachelor of Engineering (Mechanical) Course outline

Graduate Diploma of Mechanical Engineering + Bachelor of Applied Engineering
(Final Year Mechanical Design) Course Outline

Bachelor of Business /Bachelor of Applied Management Course Outline

Graduate Diploma of Engineering Practice (Computer Control Engineering) Course
Outline

Certificate in Teaching Support+ Diploma in Teaching Practice+ Bachelor of
Teaching+ Bachelor of Education (School & Vocational)

Scholarship Application Form for Volunteer Teachers

**Myanmar Engineers Board Professional Engineer (PE) (Electrical-Building
Services) Registration Support Program**

Graduate Diploma of Engineering Practice (Mechanical) Course Outline

Graduate Diploma of Engineering Practice (Civil) Course Outline

Graduate Diploma of Engineering (Electrical+ Electronics) Course Outline

AUSTRALIAN ELECTRICIAN TRAINING

Master Degree Programs (St Clements Technological University of British West Indies)

Master of Science (Information Technology)/Master of Information Technology

Master of Management

Master of Science (Engineering) / Master of Engineering

Master of Science (Renewable Energy Engineering)

Learning Outcome/Course/Assessment/ Time Allocation

Diploma in Electrical Engineering Each unit has 1 pt unless stated

Learning Outcome	Subjects	Time Allocation/ Assessment Method
<u>1. KNOWLEDGE AND SKILL BASE</u>	Each unit has 1 pt unless stated	Time Allocation
1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain.	EE101 DC Circuit Problems	1 Credit Point=24 Hr
	EE113 Electrical Fundamental (2 pt)	Assessment
	EE201 Engineering Mathematics (1)	Assignment/Test/ Examination/ Summative/ Formative Assessment Practical Simulation
1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain.	EE111 Electromagnetism & Basic Electrical Machines(2 pt)	
	EE112 Alternating Current Principle (2 pt)	
1.3. In-depth understanding of specialist bodies of knowledge within the technology domain.	EE109 Electrical Control Circuits EE114 Electrical Power Principle EE115 Basic Analogue & Digital Electronics	
1.4. Discernment of knowledge development within the technology domain.	EE102 Basic Electrical Fitting & Wiring EE103 Basic Electrical Drafting EE104 Electrical Equipments Safety Protection (2 pt)	

<p>1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.</p> <p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.</p>	<p>EE105 Electrical Installation Design EE106 Advanced Electrical Wiring</p> <p>EE107 Electrical Equipments EE108 Electrical Fault Finding</p>	
<p><u>2. ENGINEERING APPLICATION ABILITY</u></p> <p>2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.</p> <p>2.2. Application of engineering techniques, tools and resources within the technology domain.</p> <p>2.3. Application of systematic synthesis and design processes within the technology domain.</p> <p>2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.</p>	<p>EE121 Electronics Power Control Device EE116 Process Control System(3 pt)</p> <p>EE117 Solar Electrical System EE118 Electrical Energy Supply System(3 pt) EE110 Computer Applications</p> <p>EE105 Electrical Installation Design EE106 Advanced Electrical Wiring</p> <p>EE119 Electrical Risk Assessment EE120 Electrical Contracting & Specification</p>	

<p><u>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</u></p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p> <p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>	<p>EE120 Electrical Contracting & Specification</p> <p>EE120 Electrical Contracting & Specification</p>	
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Advanced Diploma in Electrical Engineering Each unit has 1 pt unless stated

Learning Outcome	Subjects	Time Allocation/ Assessment Method
<p><u>1. KNOWLEDGE AND SKILL BASE</u></p> <p>1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain.</p> <p>1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain.</p>	<p>EE201 Engineering Mathematics EE302 Advanced Engineering Mathematics</p> <p>EE202 Electrical Circuits</p> <p>EE204 Engineering Physics</p> <p>EE203 Three Phase Power Circuits</p>	<p>Time Allocation</p> <p>1 Credit Point=24 Hr</p> <p>Assessment</p> <p>Assignment/Test/ Examination/ Summative/ Formative Assessment Practical Simulation</p>

1.3. In-depth understanding of specialist bodies of knowledge within the technology domain.	EE205 Electrical Power System(2 pt) EE206 AC Machines(2 pt) EE207 DC Machine EE208 Operational (2 pt)Amplifiers EE209 Analogue Electronics	
1.4. Discernment of knowledge development within the technology domain.	EE303 Transmission Line (2 pt)	
1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.	EE301 Advanced Electrical Drafting EE307 Energy Efficient Building Design(2 pt)	
1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.	EE308 Sustainability	
<u>2. ENGINEERING APPLICATION ABILITY</u>		
2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.	EE305 Power Transformer (2 pt) EE306 Electro-mechanical Control (2 pt)	
2.2. Application of engineering techniques, tools and resources within the technology domain.	EE301 Advanced Electrical Drafting	
2.3. Application of systematic synthesis and design processes within the technology domain.	EE307 Energy Efficient Building Design (2 pt)	

<p>2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.</p>	<p>EE309 Project Management (2 pt)</p>	
<p><u>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</u></p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p> <p>3.3. Creative, innovative and proactive demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>	<p>EE309 Project Management (2 pt) EE310 Engineering Officer Competency Report (2 pt)</p> <p>EE309 Project Management (2 pt)</p> <p>EE310 Engineering Officer Competency Report (2 pt)</p>	

Professional Diploma in Electrical Engineering Each unit has 2 pt unless stated

Learning Outcome	Subjects	Time Allocation/ Assessment Method
<p>1. KNOWLEDGE AND SKILL BASE</p> <p>1.1. Comprehensive, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline.</p> <p>1.2. Conceptual understanding of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the engineering discipline.</p> <p>1.3. In-depth understanding of specialist bodies of knowledge within the engineering discipline.</p> <p>1.4. Discernment of knowledge development and research directions within the engineering discipline.</p> <p>1.5. Knowledge of engineering design practice and contextual factors impacting the engineering discipline.</p>	<p><u>BAE 403 Engineering Mechanics</u> (1 pt)</p> <p><u>BAE 404 Engineering Materials & Thermodynamics</u> (3 pt)</p> <p>RE001- Foundation Studies in Renewable Energy and Sustainability (2 pt)</p> <p>BAE 401 Advanced Engineering Mathematics (9 pt)</p> <p><u>BAE 402 Calculus</u> (3 pt)</p> <p>BAE 601 Computer Programming</p> <p>BAE 603 Software Engineering</p> <p>RE003- Solar and Thermal Energy Systems (2 pt)</p> <p>RE006- Wind Energy Conversion Systems (2 pt)</p> <p>RE013-Electrical Machines</p> <p>RE014-Electronics Control</p> <p>RE007- Energy System Efficiency</p> <p>RE010-Engineering Materials (2 pt)</p> <p>RE012a-Electrical Engineering Part 1 (2pt)</p> <p>RE002- Grid Connected Photovoltaic Power Systems</p>	<p>Time Allocation</p> <p>1 Credit Point=24 Hr</p> <p>Assessment</p> <p>Assignment/Test/ Examination/ Summative/ Formative Assessment Practical Simulation Research Project/ Presentation/ Competency Demonstration Report/ Design Project work</p>

<p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the specific discipline.</p>	<p>RE005- Renewable Energy Resource Analysis (2 pt)</p> <p>BAE 602 Computer Network</p> <p>RE004- Energy Storage Systems (2 pt)</p> <p>RE012b-Electrical Engineering Part 2</p>	
<p>2. ENGINEERING APPLICATION ABILITY</p> <p>2.1. Application of established engineering methods to complex engineering problem solving.</p> <p>2.2. Fluent application of engineering techniques, tools and resources.</p> <p>2.3. Application of systematic engineering synthesis and design processes.</p> <p>2.4. Application of systematic approaches to the conduct and management of engineering projects.</p>	<p>BAE 501 Advanced Power Systems & Power Transmission Networks</p> <p>BAE 506 Power System Stability & Protection</p> <p>BAE 604 Telecommunication Engineering</p> <p>RE016-Design& Management (BAE508) (2 pt)</p> <p>RE015-Electrical Project/ Practice</p>	
<p>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p>	<p>RE015-Electrical Project/ Practice</p> <p>BAE 608 Professional Engineer Competency Demonstration Report</p>	

<p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>		
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Diploma in Civil Engineering Each unit has 2.5 pt unless stated

Learning Outcome	Subjects	Time Allocation/ Assessment Method
<p><u>1. KNOWLEDGE AND SKILL BASE</u></p> <p>1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain.</p> <p>1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain.</p> <p>1.3. In-depth understanding of specialist bodies of knowledge within the technology domain.</p> <p>1.4. Discernment of knowledge development within the technology domain.</p>	<p>Certificate in Construction Studies</p> <p>CE 104 A Building Drawing CE 108 Electrical Principle</p> <p>CE 101 Mathematics (EE201) CE 102 Physics (EE204)</p> <p>CE 104 Fluid Dynamics CE 105 Hydraulic CE 106 Hydrology</p> <p>CE 107 Sanitation-and-Water-supply</p>	<p>Time Allocation</p> <p>1 Credit Point=24 Hr</p> <p>Assessment</p> <p>Assignment/Test/ Examination/ Summative/ Formative Assessment Practical Simulation</p>

<p>1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.</p> <p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.</p>	<p>CE 109 Energy Efficient Building Design (EE309) CE 110 Building Construction</p> <p>EE102 Basic Electrical Fitting & Wiring</p> <p>CE 106A Detailed Construction & Building Construction Materials</p>	
<p><u>2. ENGINEERING APPLICATION ABILITY</u></p> <p>2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.</p> <p>2.2. Application of engineering techniques, tools and resources within the technology domain.</p> <p>2.3. Application of systematic synthesis and design processes within the technology domain.</p> <p>2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.</p>	<p>CE 108 Electrical Principle CE 107 Sanitation-and-Water-supply</p> <p>CE 110 Building Construction CE 108 Electrical Principle CE 107 Sanitation-and-Water-supply</p> <p>CE 110 Building Construction</p> <p>CE 109 Energy Efficient Building Design (EE309) CE 110 Building Construction</p> <p>CE 109 Energy Efficient Building Design (EE309)</p>	
<p><u>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</u></p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p>	<p>CE 109 Energy Efficient Building Design (EE309)</p>	

<p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>		
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Advanced Diploma in Civil Engineering Each unit has 2.5 pt unless stated

Learning Outcome	Subjects	Time Allocation/ Assessment Method
<p><u>1. KNOWLEDGE AND SKILL BASE</u></p> <p>1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain.</p> <p>1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain.</p> <p>1.3. In-depth understanding of specialist bodies of knowledge within the technology domain.</p> <p>1.4. Discernment of knowledge development within the technology domain.</p>	<p>CE113 Structure 1 CE114 Structure 2</p> <p>ME 102 Engineering Thermodynamics CE 112 Engineering Mechanics+ ME 301 Applied Mathematics</p> <p>ME 334 Airconditioning and Refrigeration EE106 Advanced Electrical Wiring</p> <p>ME 334 Airconditioning and Refrigeration EE106 Advanced Electrical Wiring</p>	<p>Time Allocation</p> <p>1 Credit Point=24 Hr</p> <p>Assessment</p> <p>Assignment/Test/ Examination/ Summative/ Formative Assessment Practical Simulation</p>

<p>1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.</p> <p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.</p>	<p>EE105 Electrical Installation Design</p> <p>CE115 Estimating & Specification</p> <p>CE103-Surveying CE111A-Road+Bridges EE308 Sustainability</p>	
<p><u>2. ENGINEERING APPLICATION ABILITY</u></p> <p>2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.</p> <p>2.2. Application of engineering techniques, tools and resources within the technology domain.</p> <p>2.3. Application of systematic synthesis and design processes within the technology domain.</p> <p>2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.</p>	<p>EE104 Electrical Equipments Safety Protection</p> <p>CE113 Structure 1</p> <p>CE114 Structure 2</p> <p>CE 110 Building Construction</p> <p>CE115 Estimating & Specification</p> <p>CE111A-Road+Bridge CE114 Structure 2</p> <p>CE309 Project Management</p>	

<p><u>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</u></p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p> <p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>	<p>CE309 Project Management</p> <p>CE310 Engineering Competency Demonstration Report</p>	
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Professional Diploma in Civil Engineering Each unit has 2 pt unless stated

Learning Outcome	Subjects	Time Allocation/ Assessment Method
<p>1. KNOWLEDGE AND SKILL BASE</p> <p>1.1. Comprehensive, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline.</p> <p>1.2. Conceptual understanding of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the engineering discipline.</p>	<p>BAE 403 Engineering Mechanics (1 pt)</p> <p>BAE 404 Engineering Materials & Thermodynamics (3 pt)</p> <p>BAE 401 Advanced Engineering Mathematics (9 pt)</p> <p>BAE 402 Calculus (3 pt)</p>	<p>Time Allocation</p> <p>1 Credit Point=24 Hr</p> <p>Assessment</p> <p>Assignment/Test/ Examination/ Summative/ Formative Assessment</p> <p>Practical Simulation</p> <p>Research Project/ Presentation/</p>

<p>1.3. In-depth understanding of specialist bodies of knowledge within the engineering discipline.</p> <p>1.4. Discernment of knowledge development and research directions within the engineering discipline.</p> <p>1.5. Knowledge of engineering design practice and contextual factors impacting the engineering discipline.</p> <p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the specific discipline.</p>	<p>RE001- Foundation Studies in Renewable Energy and Sustainability (2 pt)</p> <p>RE011a-Civil& Mechanical Engineering Part 1 (2 pt) (Assessment- Study Report)</p> <p>RE003- Solar and Thermal Energy Systems (2 pt)</p> <p>RE004- Energy Storage Systems (2 pt)</p> <p>RE012a-Electrical Engineering Part 1 (2pt)</p> <p>RE010-Engineering Materials (2 pt)</p> <p>RE016-Design& Management (BAE508) (2 pt)</p> <p>RE011b-Civil& Mechanical Engineering Part 2a (2 pt)(Assessment- Study Report)</p> <p>BAE423 Fluid Mechanics (2 pt)</p> <p>BAE424 Reinforced Concrete (2 pt)</p> <p>BAE522 Rock Mechanics (2 pt)</p>	<p>Competency Demonstration Report/ Design Project work</p>
<p>2. ENGINEERING APPLICATION ABILITY</p> <p>2.1. Application of established engineering methods to complex engineering problem solving.</p> <p>2.2. Fluent application of engineering techniques, tools and resources.</p>	<p>BAE421 Building Construction Engineering (2 pt)</p> <p>BAE 606 Building Service Electrical & Mechanical Engineering (2 pt)</p> <p>BAE 523A Environmental Engineering (2 pt)</p> <p>BAE623 Surveying & Traffic Engineering (2 pt)</p> <p>BAE624 Water Supply , Sanitation & Finishing (2 pt)</p> <p>RE005- Renewable Energy Resource Analysis (2 pt)</p> <p>RE006- Wind Energy Conversion Systems (2 pt)</p>	

<p>2.3. Application of systematic engineering synthesis and design processes.</p> <p>2.4. Application of systematic approaches to the conduct and management of engineering projects.</p>	<p>BAE621 Structural Engineering (2 pt)</p> <p>BAE422 Estimating (2 pt)</p> <p>BAE 605 Project Management</p>	
<p>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p> <p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>	<p>BAE 605 Project Management</p> <p>BAE 608 Professional Engineer Competency Demonstration Report</p> <p>BAE 605 Project Management</p> <p>BAE 608 Professional Engineer Competency Demonstration Report</p>	

Diploma in Mechanical Engineering Each unit has 1.5 pt unless stated

Learning Outcome	Subjects	Time Allocation/ Assessment Method
<p><u>1. KNOWLEDGE AND SKILL BASE</u></p> <p>1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain.</p> <p>1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain.</p> <p>1.3. In-depth understanding of specialist bodies of knowledge within the technology domain.</p> <p>1.4. Discernment of knowledge development within the technology domain.</p> <p>1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.</p> <p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.</p>	<p>ME 102 Engineering Thermodynamics ME 103 Engineering Mechanics ME 104 Machine Principle ME 105 Electrical Principle</p> <p>Maths 101 Engineering Mathematics (EE201) ME 101 Applied Mathematics</p> <p>ME 106 Electrical Circuits ME 107 Heat Transfer ME 108 Principle of Engines ME201 Introduction to Fluid Mechanics ME 207 Chemical Thermodynamics ME 208 Hydrocarbons ME 209 Introduction-to-polymer-science-and-technology ME 205 Manufacturing Processes-and-Materials ME 202 Introduction to Aero Dynamics ME 203 Control Engineering ME 234 Wind Turbines</p>	<p>Time Allocation</p> <p>1 Credit Point=24 Hr</p> <p>Assessment</p> <p>Assignment/Test/ Examination/ Summative/ Formative Assessment Practical Simulation</p>

<p><u>2. ENGINEERING APPLICATION ABILITY</u></p> <p>2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.</p> <p>2.2. Application of engineering techniques, tools and resources within the technology domain.</p> <p>2.3. Application of systematic synthesis and design processes within the technology domain.</p> <p>2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.</p>	<p>ME 204 Engineering Fluid Mechanics</p> <p>ME 206 Introduction to Turbo Machinery</p> <p>ME 205 Manufacturing Processes-and-Materials</p> <p>Mgt 501 Basic Management</p>	
<p><u>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</u></p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p> <p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>	<p>Mgt 501 Basic Management</p>	

Advanced Diploma in Mechanical Engineering Each unit has 1.5 pt unless stated

Learning Outcome	Subjects	Time Allocation/ Assessment Method
<p><u>1. KNOWLEDGE AND SKILL BASE</u></p> <p>1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain.</p> <p>1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain.</p> <p>1.3. In-depth understanding of specialist bodies of knowledge within the technology domain.</p> <p>1.4. Discernment of knowledge development within the technology domain.</p> <p>1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.</p> <p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.</p>	<p>ME 306 Theory-of-waves-in-materials ME 301 Fluid Dynamics</p> <p>Maths 403 Engineering-Mathematics (EE302) ME 304 Introduction to Nonlinearity-in-control-systems</p> <p>ME 301 Fluid Dynamics ME 302 Automation-and-Robotics ME 301 Fluid Dynamics ME 302 Automation-and-Robotics</p> <p>ME 303 Computer Aided Design and Manufacturing</p> <p>ME 305 Corrosion Prevention ME 334 Airconditioning and Refrigeration</p>	<p>Time Allocation</p> <p>1 Credit Point=24 Hr</p> <p>Assessment</p> <p>Assignment/Test/ Examination/ Summative/ Formative Assessment Practical Simulation</p>

<p><u>2. ENGINEERING APPLICATION ABILITY</u></p> <p>2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.</p> <p>2.2. Application of engineering techniques, tools and resources within the technology domain.</p> <p>2.3. Application of systematic synthesis and design processes within the technology domain.</p> <p>2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.</p>	<p>ME 534 Numerical Control</p> <p>EE 624 Process Control</p> <p>ME 434 Mechtronics-Robotics</p> <p>ME 634 Pneumatics</p> <p>EE 617 Building Electrical and Mechanical System Part 1 (EE309)</p> <p>Mgt 503 Production & Operation Management</p> <p>Mgt 505 Quality Management and Manufacturing Engineering</p>	
<p><u>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</u></p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p> <p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>	<p>Mgt 503 Production & Operation Management</p> <p>Mgt 505 Quality Management and Manufacturing Engineering</p> <p>ME310 Engineering Competency Demonstration Report</p> <p>ME310 Engineering Competency Demonstration Report</p>	

Professional Diploma in Mechanical Engineering Each unit has 2 pt unless stated

Learning Outcome	Subjects	Time Allocation/ Assessment Method
<p>1. KNOWLEDGE AND SKILL BASE</p> <p>1.1. Comprehensive, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline.</p> <p>1.2. Conceptual understanding of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the engineering discipline.</p> <p>1.3. In-depth understanding of specialist bodies of knowledge within the engineering discipline.</p> <p>1.4. Discernment of knowledge development and research directions within the engineering discipline.</p> <p>1.5. Knowledge of engineering design practice and contextual factors impacting the engineering discipline.</p> <p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the specific discipline.</p>	<p>BAE 404 Engineering Materials & Thermodynamics (3 pt)</p> <p>RE001- Foundation Studies in Renewable Energy and Sustainability (2 pt)</p> <p>BAE 601 Computer Programming(2 pt) BAE 401 Advanced Engineering Mathematics (9 pt) BAE 402 Calculus (3 pt)</p> <p>BAE 403 Engineering Mechanics (1 pt) RE003- Solar and Thermal Energy Systems (2 pt)</p> <p>RE004- Energy Storage Systems (2 pt) RE005- Renewable Energy Resource Analysis (2 pt) RE006- Wind Energy Conversion Systems (2 pt)</p> <p>RE010-Engineering Materials (2 pt) RE016-Design& Management (BAE508) (2 pt)</p> <p>RE012a-Electrical Engineering Part 1 (2pt)</p> <p>RE011a-Civil & Mechanical Engineering Part 1 (2 pt) (Assessment- Study Report)</p>	<p>Time Allocation</p> <p>1 Credit Point=24 Hr</p> <p>Assessment</p> <p>Assignment/Test/ Examination/ Summative/ Formative Assessment Practical Simulation Research Project/ Presentation/ Competency Demonstration Report/ Design Project work</p>

<p>2. ENGINEERING APPLICATION ABILITY</p> <p>2.1. Application of established engineering methods to complex engineering problem solving.</p> <p>2.2. Fluent application of engineering techniques, tools and resources.</p> <p>2.3. Application of systematic engineering synthesis and design processes.</p> <p>2.4. Application of systematic approaches to the conduct and management of engineering projects.</p>	<p>RE011b-Civil & Mechanical Engineering Part 2a (2 pt) (Assessment- Study Report)</p> <p>BAE311 Plant Engineering (2 pt)</p> <p>BAE314 Mechanical Power Generation (2 pt)</p> <p>BAE315 Materials Engineering (2 pt) Part 1 Part 2 (2 pt)</p> <p>BAE511 Air-conditioning & Refrigeration Part 1 (2 pt)</p> <p>BAE512 Building Service Water Supply System (2 pt) BAE613 Mechanical Instrumentation Process(2 pt)</p> <p>BAE 606 Building Service Electrical & Mechanical Engineering (2 pt)</p> <p>RE007- Energy System Efficiency(2 pt)</p> <p>BAE614 Machine Design (2 pt)</p> <p>ME309 Project Management</p>	
<p>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p>	<p>ME309 Project Management</p> <p>ME310 Engineering Competency Demonstration Report</p>	

3.3. Creative, innovative and pro-active demeanour. 3.4. Professional use and management of information. 3.5. Orderly management of self, and professional conduct. 3.6. Effective team membership and team leadership.		
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- the choice of the teaching-learning (delivery) methods.
- The curricular approach, the educational content and the teaching-learning
- assessment & evaluation methods for the attainment achievement of the Learning Outcomes. (MEng C)

Assessment Validation

<http://www.highlightcomputer.com/assessmentvalidation.htm>

The folder in the above link contains the assessment validation documents for IQY Technical College 's programs

- A balanced curriculum shall include all technical and non-technical attributes listed in the Learning Outcomes, (the essential elements forming the core of the programme and additional specialist or optional studies (electives). (MEng C)
- The curriculum shall integrate theory with practice through adequate exposure to laboratory work and professional engineering(MEng C)
- Time allocation
- Credit points (The academic programme component must consist of a minimum total of 120 credit (a) A minimum of 80 credit hours shall be engineering courses consisting of engineering sciences and engineering design/projects appropriate to the student's field of study. (MEng C)

(b) The remaining credit hours shall include sufficient content of general education component (such as mathematics, computing, languages, general studies, co- curriculum, management, law, accountancy, ec(MEng C)

The following curriculums are prepared to address the above issues

<http://www.highlightcomputer.com/BECurriculum.htm>

<http://www.highlightcomputer.com/DiplomaAdvancedDiplomaCivilEngineeringCurriculum.htm>

<http://www.highlightcomputer.com/DiplomaAdvancedDiplomaElectricalEngineeringCurriculum.htm>

<http://www.highlightcomputer.com/DiplomaAdvancedDiplomaMechanicalEngineeringCurriculum.htm>

Diploma in Engineering

This program is designed with 30 credit points integrating 15 credit points Certificate in Electrical Engineering. The completion of this program can be articulated into 60 points Advanced Diploma in Electrical Engineering & 120 credit points Professional Diploma in Electrical Engineering which is the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

Advanced Diploma in Electrical Engineering

This program is designed with 60 credit points integrating 30 credit points Diploma in Electrical Engineering. The completion of this program can be articulated into 60 of 120 credit points Professional Diploma in Electrical Engineering which is the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

Professional Diploma in Civil Engineering

This program is designed with 120 credit points integrating 60 credit points Advanced Diploma in Civil Engineering. The completion of this program can be awarded Professional Diploma in Civil Engineering together with the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

Curriculum Contents (MEng C)

Diploma in Electrical Engineering the curriculum content should cover the following:

(i) Engineering mathematics, science, engineering principles, skills and tools (computing, experimentation) appropriate to the discipline of study

The curriculums have been designed to cover the following aspects.

Study Areas (Overview)

Electrical circuits, Basic Electronics, Mathematics, Physics, Electrical Wiring, Electrical Machines, Electro-magnetism, Computer Applications, Control System, Process Control, Electrical Contracting, Solar Electrical System, Electrical Drafting

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

Electrical Engineering Course Outline

<http://www.highlightcomputer.com/Diploma & Advanced Diploma in Electrical Engineering Course outline.doc>

Detailed Contents of Diploma + Advanced Diploma in Engineering, IT , Management & Business Programs

<http://www.highlightcomputer.com/detailedcontent.htm>

Diploma in Mechanical Engineering

Study Areas

Mathematics, Physics, Machine Principle, Electrical Circuits, Heat Transfer, Principle of Engines, Fluid Mechanics, Engineering Mechanics, Mechanical Drawing, Hydrocarbon, Wind Turbine, Polymer Science, Turbo Machinery, Basic Management

Specialized Fields

Automotive Engineering, Marine Engineering

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

Mechanical Engineering Course Outline

<http://www.highlightcomputer.com/Diploma in Mechanical Engineering.doc>

Detailed Contents of Diploma + Advanced Diploma in Engineering, IT , Management & Business Programs

<http://www.highlightcomputer.com/detailedcontent.htm>

Diploma in Civil Engineering

Study Areas

Mathematics, Physics, Electrical Principle, Fluid Mechanics, Hydraulics, Hydrology, Building Construction, Sanitation & Water Supply, Energy Efficient Building Design

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

Civil Engineering Course Outline

http://www.highlightcomputer.com/Diploma_in_Civil_Engineering.doc

Detailed Contents of Diploma + Advanced Diploma in Engineering, IT , Management & Business Programs

<http://www.highlightcomputer.com/detailedcontent.htm>

Diploma in Renewable Energy Engineering

Study Areas

Foundation Studies in Renewable Energy and Sustainability, Grid Connected Photovoltaic Power Systems, Solar and Thermal Energy Systems, Energy Storage Systems, Renewable Energy Resource Analysis, Wind Energy Conversion Systems, Energy System Efficiency

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

Renewable Energy Engineering Public Seminar + Diploma& Bachelor of Engineering (Renewable Energy)

<http://www.highlightcomputer.com/re.pdf>

Diploma in Computer Engineering/ Diploma in Information Technology

Study Areas

IT Fundamental , Computer Application, Computer Programming, System Analysis, Software Engineering, IT Project, Business Information System

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

Diploma in Information Technology Course Outline

http://www.highlightcomputer.com/Diploma_in_Information_Technology_Course_outline.doc

Electrical Engineering Course Outline

http://www.highlightcomputer.com/Diploma_&_Advanced_Diploma_in_Electrical_Engineering_Course_outline.doc

Detailed Contents of Diploma + Advanced Diploma in Engineering, IT , Management & Business Programs

<http://www.highlightcomputer.com/detailedcontent.htm>

Advanced Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology) Course Outlines

Advanced Diploma in Engineering can be studied in the following specializations

- Advanced Diploma in Electrical Engineering
- Advanced Diploma in Mechanical Engineering
- Advanced Diploma in Civil Engineering
- Advanced Diploma in Renewable Energy Engineering
- Advanced Diploma in Computer Engineering / Advanced Diploma in Information Technology

Advanced Diploma in Electrical Engineering

Study Areas

Electrical Power Circuits, Electrical Power System, Mathematics, Physics, AC/DC Machines, Control System, Power System Protection, Energy Efficiency, Project Management, Advanced Electrical Drafting, Power Transmission Line, Engineering Officer Competency Report.

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

[Detailed Contents of Diploma + Advanced Diploma in Engineering, IT , Management & Business Programs](http://www.highlightcomputer.com/detailedcontent.htm)

<http://www.highlightcomputer.com/detailedcontent.htm>

Advanced Diploma in Mechanical Engineering

Study Areas

Higher Mathematics, Fluid Dynamics, Automation & Robotics, Computer Aided Design & Manufacturing, Control System, Manufacturing, Mechatronics, Numerical Control, Pneumatics, Building Services. Air-conditioning Refrigeration

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

[Detailed Contents of Diploma + Advanced Diploma in Engineering, IT , Management & Business Programs](http://www.highlightcomputer.com/detailedcontent.htm)

<http://www.highlightcomputer.com/detailedcontent.htm>

Advanced Diploma in Civil Engineering

Study Areas

Surveying, Road & Bridges, Structure, Estimating, Electrical Installation, Electrical Wiring, Air-conditioning Refrigeration, Engineering Mechanics

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

[Detailed Contents of Diploma + Advanced Diploma in Engineering, IT , Management & Business Programs](#)

<http://www.highlightcomputer.com/detailedcontent.htm>

Advanced Diploma in Renewable Energy Engineering

Study Areas

Advanced contents in Renewable Energy, Electrical Engineering, Basic Civil & Mechanical Engineering, Electrical Machines, Electronics Control

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

[Renewable Energy Engineering Public Seminar + Diploma& Bachelor of Engineering \(Renewable Energy\)](#)

<http://www.highlightcomputer.com/re.pdf>

Advanced Diploma in Computer Engineering/ Advanced Diploma in Information Technology

Study Areas

Organizational Behaviour, IT Networking, Information System Analysis & Design, Advanced Programming, Project Work

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

[Advanced Diploma in Information Technology Course Outline](#)

http://www.filefactory.com/file/7dmpqlotj2fn/n/Advanced_Diploma_in_Information_Technology_pdf

[Electrical Engineering Course Outline](#)

http://www.highlightcomputer.com/Diploma & Advanced Diploma in Electrical Engineering Course_outline.doc

Detailed Contents of Diploma + Advanced Diploma in Engineering, IT , Management & Business Programs

<http://www.highlightcomputer.com/detailedcontent.htm>

Professional Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology)

It is designed at the same academic requirement as to Bachelor of Engineering degree but IQY Technical College is operating as a vocational education & training college not as a university, the award is to be described as Professional Diploma. The graduates of the Professional Diploma in Engineering can be awarded Bachelor of Engineering by the universities which are affiliated to IQY Technical College.

The program is designed to train the students to become Professional Engineers who are required to take responsibility for engineering projects and programs in the most far-reaching sense.

The program is also designed to provide the skills required for the graduated to lead or manage teams appropriate to these activities, and may establish their own companies or move into senior management roles in engineering and related enterprises.

Professional Diploma in Engineering can be studied in the following specializations

- Professional Diploma in Electrical Engineering
- Professional Diploma in Mechanical Engineering
- Professional Diploma in Civil Engineering
- Professional Diploma in Renewable Energy Engineering
- Professional Diploma in Computer Engineering / Professional Diploma in Information Technology

Professional Diploma in Electrical Engineering

Study Areas

Mathematics, Engineering Mechanics & Thermodynamics, Electrical Circuit Analysis, Electro-magnetics & Electrical Machines, Control System, Power System, Electronics, Telecommunication, Industrial Management, Computer Programming, Computer Network, Engineering Project, Building Services, Competency Demonstration Report Writing, Renewable Energy.

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

Bachelor of Engineering (Electrical Engineering) Course Outline

<http://www.filefactory.com/file/5ftv3w6yjcrr/BACHELOR%20OF%20APPLIED%20ENGINEERING.doc>

Detailed Contents of BE,B Bus& B App Sc (IT) Programs

[http://highlightcomputer.com/B%20E+B%20App%20Sc\(IT\)+B%20Bus%20Course%20Detailed%20Contents.htm](http://highlightcomputer.com/B%20E+B%20App%20Sc(IT)+B%20Bus%20Course%20Detailed%20Contents.htm)

<http://www.highlightcomputer.com/re.pdf>

Professional Diploma in Mechanical Engineering

Study Areas

Mathematics, Engineering Mechanics & Thermodynamics, Industrial Management, Computer Programming, Computer Network, Engineering Project, Building Services, ,Air-conditioning & Refrigeration, Machine Design, Mechanical Instrumentation, Production Technology, Engineering Materials, Maintenance Engineering , Mechanical Power Generation, Applied Electrical/Electronics & Control System, Competency Demonstration Report Writing, Renewable Energy.

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

Bachelor of Engineering (Mechanical Engineering-Mechatronics) Course Outline

http://www.filefactory.com/file/113wg8regbuh/n/Bachelor_of_Applied_Engineering_Mechanical-Mechatronics_Course_Outline_doc

Bachelor of Applied Engineering (Final Year Mechanical Design) Course Outline

http://www.filefactory.com/file/7greuugxlvyh/n/Graduate_Diploma_of_Mechanical_Engineering_B_App_Eng_Mech_Course_Outline_doc

Detailed Contents of BE,B Bus& B App Sc (IT) Programs

[http://highlightcomputer.com/B%20E+B%20App%20Sc\(IT\)+B%20Bus%20Course%20Detailed%20Contents.htm](http://highlightcomputer.com/B%20E+B%20App%20Sc(IT)+B%20Bus%20Course%20Detailed%20Contents.htm)

<http://www.highlightcomputer.com/re.pdf>

Professional Diploma in Civil Engineering

Study Areas

Mathematics, Engineering Mechanics & Thermodynamics, Industrial Management, Computer Programming, Building Construction, Estimating, Fluid Mechanics, Structural Engineering, Reinforce Concrete, Timber Engineering, Soil & Rock Mechanics, Environmental Engineering, Road & Bridges, Building Service Engineering, Traffic Engineering, Surveying, Water Supply Sanitation, Engineering Competency Demonstration Report Writing, Renewable Energy.

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

Bachelor of Engineering (Civil Engineering-Building Services) Course Outline

<http://www.filefactory.com/file/npiwt5ekau5/Bachelor%20of%20Applied%20Engineering%20%28Civil-Building%20Services%29%20Course%20Outline.doc>

Bachelor of Applied Engineering (Final Year Civil Design) Course Outline

<http://www.filefactory.com/file/37twg21wx97z/Graduate%20Diploma%20of%20Civil%20Engineering%28BB%20App%20Eng%20%28Civil%29%20Course%20Outline.doc>

Detailed Contents of BE, B Bus & B App Sc (IT) Programs

[http://highlightcomputer.com/B%20E+B%20App%20Sc\(IT\)+B%20Bus%20Course%20Detailed%20Contents.htm](http://highlightcomputer.com/B%20E+B%20App%20Sc(IT)+B%20Bus%20Course%20Detailed%20Contents.htm)

<http://www.highlightcomputer.com/re.pdf>

Professional Diploma in Renewable Energy Engineering

Study Areas

Foundation Studies in Renewable Energy and Sustainability, Grid Connected Photovoltaic Power Systems, Solar and Thermal Energy Systems, Energy Storage Systems, Renewable Energy Resource Analysis, Wind Energy Conversion Systems, Energy System Efficiency, Mathematics & Physics, Engineering Materials, Civil & Mechanical Engineering, Electrical Engineering, Electrical Machines, Electronics Control, Design & Management, Project, Engineering Competency Demonstration Report Writing.

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

Renewable Energy Engineering Public Seminar + Diploma & Bachelor of Engineering (Renewable Energy)

<http://www.highlightcomputer.com/re.pdf>

Professional Diploma in Computer Engineering/ Professional Diploma in Information Technology

Study Areas

Computer

Computer Programming, Computer Network, Software Engineering, Artificial Intelligence, Telecommunication Engineering, Project Management,

Electrical/Electronics

Electrical Engineering, Analog & Digital Control, Control System, Engineering Management

Engineering Competency Demonstration Report Writing

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

Detailed Contents of BE,B Bus& B App Sc (IT) Programs

[http://highlightcomputer.com/B%20E+B%20App%20Sc\(IT\)+B%20Bus%20Course%20Detailed%20Contents.htm](http://highlightcomputer.com/B%20E+B%20App%20Sc(IT)+B%20Bus%20Course%20Detailed%20Contents.htm)

Bachelor of Engineering (Electrical Engineering) Course Outline

<http://www.filefactory.com/file/5ftv3w6yjcrr/BACHELOR%20OF%20APPLIED%20ENGINEERING.doc>

Course	Curriculum Contents Analysis
Diploma in Electrical Engineering	Electrical Principle, Application, Electrical Trade Work, Mathematics, Science, Renewable Energy, Computer Application
Advanced Diploma in Electrical Engineering	Electrical Principle, Application, Electrical Trade Work, Mathematics, Science, Renewable Energy, Computer Application/Mechanical/ Project/ Management/ Engineering Ethics/ Engineering Practice
Professional Diploma in Electrical Engineering	Renewable Energy/ Electrical/Mechanical / Civil Engineering Principle/Computer/ Mathematics/ Design/ Management/ Instrumentation /Engineering Practice/ Ethics with Electrical Power & Electronics major
Diploma in Civil Engineering	Construction & Civil Engineering Principle/ Electrical Principle, Application, Electrical Trade Work, Mathematics, Science, Renewable Energy, Computer Application
Advanced Diploma in Civil Engineering	Construction & Civil Engineering Principle, Structural Engineering/Application, Building & Electrical Trade Work, Mathematics, Science, Renewable Energy, Computer Application/Mechanical/ Project/ Management/ Engineering Ethics/

	Engineering Practice
Professional Diploma in Civil Engineering	Renewable Energy/ Electrical/Mechanical / Civil Engineering Principle/Computer/ Mathematics/ Design/ Management/ Engineering Practice/ Ethics with Civil & Structural Engineering major
Diploma in Mechanical Engineering	Engineering Mechanics & Mechanical Engineering Principle/ Electrical Principle, Application, Electrical Trade Work, Mathematics, Science, Renewable Energy, Computer Application
Advanced Diploma in Mechanical Engineering	Engineering Mechanics & Mechanical Engineering Principle, Materials Engineering /Application/uilding & Electrical Trade Work, Mathematics, Science, Renewable Energy, Computer Application/Mechanical/ Project/ Management/ Engineering Ethics/ Engineering Practice
Professional Diploma in Mechanical Engineering	Renewable Energy/ Electrical/Mechanical / Civil Engineering Principle/Computer/ Mathematics/ Design/ Management/ Instrumentation /Engineering Practice/ Ethics with Mechanical Engineering major

(ii) Engineering applications – projects (MEng C)

Engineering Project Unit

The following links contain the evidence of project works

Some students' project works.pdf File

<http://www.highlightcomputer.com/Somestudentsprojectworks.htm>

(iii) Integrated exposure to professional engineering practice, including management

Practical Training Link Level 3

www.highlightcomputer.com/PracticalCourses.htm

(iv) Laboratory work to complement the science, computing and engineering theory;

Practical Training Link Level 2

Practical Resources

www.highlightcomputer.com/PracticalResources.htm

Physical Resources

www.highlightcomputer.com/PhysicalResources.htm

Learner Resources

www.highlightcomputer.com/LearnerResources.htm

(v) Industrial training -exposure to professional engineering practice in an engineering-practice environment;

+

(vi) Exposure to engineering practice; (MEng C)

The simulated online mode of practical is provided in the following link.

Practical Training Link

www.highlightcomputer.com/PracticalCourses.htm

The folder in the above link contains the Online practical courses for IQY Technical College 's programs.

(vii) Relevant tutorial class (MEng C)

Online discussion & tutorial forums are arranged

Credit Hours (MEng C)

- For a 16-week semester (not including examination or mid-term break), one credit hour is defined as:
- One hour per week of lecture (additional independent study of two hours is assumed to have been included).
- Two hours per week of laboratory or workshop lecture (additional independent learning time of one hour is assumed to have been included).
- Two hours per week of supervised and compulsory tutorial session (additional independent learning time of one hour is assumed to have been included), subject to a maximum of one credit hour for each course in that semester.

- Three hours per week of facilitated activities involving other modes of delivery such as problem-based learning, e-learning modules, site visits, discovery learning, integrated design and coursework projects.
- Three hours per week of activities involving final year project inclusive of meeting with supervisor

One hour per week of lecture

Every 1 credit point has the weighted hour of 24 hours. The credit points are expressed in the curriculum. In online delivery mode, the time to view the videos & time to reflect the learning can be equivalent to lecture hours in face to face classes. The lecture times in the following online videos are arranged as to fulfil the class lecture time.

Online Lecture + Youtube Lecture

www.highlightcomputer.com/videos2.htm

www.highlightcomputer.com/videos1.htm

Two hours per week of laboratory or workshop lecture

The time taken to view the Practical Videos/ To read the practical instruction books/ Design Handbooks are counted as laboratory or workshop hour to do the online practicals in the following links.

www.highlightcomputer.com/PracticalCourses.htm

&

<http://www.iqytechnicalcollege.com/youtubevideos.htm>

Students Area/ Forum

<http://www.highlightcomputer.com/students.htm>

Two hours per week of supervised and compulsory tutorial session

The time allocated to download & study the Instruction Powerpoints, Listing to the audio explanations & do the exercises in the following link is arranged as tutorial sessions time.

<http://www.highlightcomputer.com/onlineteaching1.htm>

Click **HERE** to log in the lesson sequences.

Click **HERE** to log in the online study materials

Click **HERE** to log in to the Learning Platform

Three hours per week of facilitated activities

This time can be allocated for participation in online forum, reading the learning support CD/DVD, the time to write the assignments & the accumulated time to take part in residential sessions as well as working in the industry.

Industrial Training

- For industrial training, the following guideline shall be followed:
- Industrial training shall be for a minimum of 8 weeks of continuous training. One credit hour is allocated for every two weeks of training subject to a maximum of six credit hours. The training shall be adequately structured, supervised and recored in log book/ record.

The e-Learning Engineering programs are aimed to provide the on-going professional development for the workers in the industry. The work experience recorded are counted for fulfilling the practical training needs to completion the courses.

Final Year Project

- A final year project is subject to a minimum of six credit hours and a maximum of twelve credit

Some students' project works.pdf File

<http://www.highlightcomputer.com/Somestudentsprojectworks.htm>

The folder in the above link contains the students' project documents related to IQY Technical College 's programs

2 - Students (MEng C)

- Maths+Physics (Remedial)
- Teaching & Learning Environment

9.2.5 Students

- students' performance in relation to Learning Outcomes.
- the requirement and process for admission of students to the programme.
- students' workload.

- iv. Discuss students' activities and involvement in student organisations

The students who need Year 12 level Mathematics & Science are provided with Learning Support online tutorials for Maths & Science at the following link.

<http://www.highlightcomputer.com/y712lessons.htm>

3 - Academic and Support Staff (MEng C)

- (Postgraduate/ Master degree)
- 9.2.6 Academic and Support Staff
- i. Discuss the strength and competencies of the academic staff in covering all areas of the programme.
- ii. Discuss how the overall staff workload enables effective teaching, student-staff interaction, student advising and counselling, Technological Institutions and research activities, professional development and interaction with industry.
- iii. Discuss the sufficiency and competency of technical and administrative staff in providing adequate support to the educational programme.
- iv. The information required in items (i) to (iii) should include but is not limited to the following:
 - A breakdown in terms of numbers of academic staff (full-time, part-time and inter-programme) by year for the past four years
 - An analysis of all academic staff
 - academic qualifications of academic staff
 - the posts held by full time academic staff
 - A summary of teaching workload of academic staff for the current semester
 - An analysis of all support staff
 - A summary of the posts held by support staff
 - The staff: student ratio by year for all academic years for the past four years

The folders in the following links link contains teachers skilled documents of teachers who are teaching the IQY Technical College 's programs

Teacher skilled matrix

<http://www.highlightcomputer.com/teacherskillmatrix.htm>

Staff list

www.highlightcomputer.com/staff.htm

Staff competency

<http://www.highlightcomputer.com/teacherskillmatrix.htm>

4 Facilities

- Library
- Quality Management Systems
- controlling, managing, directing, organising and supervising of the overall management system planning, development, delivery and review of engineering programmes

From www.highlightcomputer.com main page, the following online facilities can be accessed by requesting the relevant links.

- Public Library
- Engineering Resources
- Reference Materials & Resources

9.2.7 Facilities

- Discuss the adequacy of teaching and learning facilities such as classrooms, learning-support facilities, study areas, information resources (library), computing and information-technology systems, laboratories and workshops.
- Describe the adequacy of support facilities such as hostels, sport and recreational centres, health centres, student centres, and transport in facilitating students' life on campus and enhancing character building.
- The information required in items (i) to (ii) should be provided in the supporting documents but is not limited to the following:

- A summary, in tabulated form, of the lecture facilities (give number, capacity, and audio video facilities available).
- A summary, in tabulated form, of the laboratories (list down the equipment available in each laboratory).
- A summary, in tabulated form, of the workshops (list down the equipment/machinery available in each workshop).
- A summary, in tabulated form, of the computer laboratories (list down the hardware and software available).
- A summary, in tabulated form, of the other supporting facilities such as the library (list down the titles of books/journals/magazines/standards of relevance to the programme).

From the following link, online practical facilities can be accessed.

Online Practical

Click **HERE** to log in to the online electrical/
mechanical/civil practical materials. You will need the
password.

The password will be issued to the enrolled students.

5 - Quality Management Systems (MEng C)

8.5.2 Programme Quality Management and Planning

- programme planning, curriculum development, and
- regular curriculum and content review must involve all academic staff. The processes include
- reviewing Programme Objectives and Learning Outcomes, tracking the contributions of individual courses to the Learning Outcomes, tracking performance assessment processes, the comments from
- External Examiners, reviewing feedback and inputs from stakeholders including students and alumni.
- The process of continual quality improvement shall be implemented with full accountability. For a new programme,
- External examiner report

8.5.4 Quality Assurance

- Student admission
- Teaching and learning
- Assessment and evaluation which include: examination regulations and criteria for pass/fail
- preparation and moderation processes
- level of assessment
- assessment processes including final year project/industrial training

From the following links, the documents related to Quality Assurance can be accessed.

Online Assessment / Test / Examination/ MCQ link

[Online Theory & MCQ Practice](#)

http://www.filefactory.com/file/6m8zvfe7797/n/Online_Theory_MCQ_Practice_pdf

[Online Practical Practice](#)

http://www.filefactory.com/file/3ap0vv6o8azx/n/Online_Practical_Practice_pdf

Assessment

From the following links, the documents related to Assessment can be accessed by clicking the relevant menus

www.highlightcomputer.com/assessment.htm

Menus

- **Assessment Cover Sheet+Assessment Information+Assessment Feedbacksheet**
- **Assessment Mapping**
- **Assessment Validation**
- **Components of Assessment Mapping**
- **Test Questions**
- **Units Evaluated by Students-Joe**
- **CC Currency_Checklist_v2.docx**
- **Evaluation-Joe+Keng Goh.docx**
- **Online MCQ Tests+Marking by Joe.doc**

9.2.8 Quality Management System (MEng C)

- Outline the organisational structure of the Technological Institutions as well as the structure within the faculty/department/programme. Discuss the level and adequacy of institutional support, operating environment, financial resources, constructive leadership, policies mechanisms for attracting, appointing, retaining and rewarding well-qualified staff and provision of professional development, and provision of infrastructure and support services to achieve Programme Objectives and assure continuity of the programme. All relevant policies are to be made available during the visit.
- Discuss the mechanism for the following: programme planning; curriculum development; curriculum , course review and course monitoring; internal audit; management review meeting; responding to feedback and inputs from stakeholders including industry advisors, students and alumni; tracking the contribution of individual courses to the Learning Outcomes; tracking outcomes of performance through assessment; responding to External Examiners comments; reviewing of Programme Objectives and Learning Outcomes; and continual quality improvement. Where these are discussed elsewhere in the report, specify their locations.
- Summarise responses to the external examiner's report.
- Discuss how the quality management system of the Technological Institutions provides quality assurance and benchmark.
- The information required items (i) to (iv) should be provided in the supporting document and is not limited to the following:

As this document provides the development of e-Learning in engineering for small and medium size colleges and institutes where the program planning and management tasks are mainly performed by one or two key staff, for the larger institutions, more complex and wider organizational structure can be designed.

1. Evidence on the participation of academic staff, support staff and students in the continual quality improvement process. (MEng C)
2. Evidence on the development of academic staff through opportunities in further education, industrial exposure, as well as research and development.
3. Policies, internal processes and practices that are in place at all levels within the Technological Institutions relating to the five criteria as stated in Section 9 of this Manual.
4. Evidence of the on-going participation of industry advisors in discussions and forums,

From the following links, the documents related to Assessment Validation & Quality Assurance can be accessed by clicking the relevant menus

Quality Assurance/

<http://www.highlightcomputer.com/QualityAssurance.htm>

Menus 1

- Audit Documents
- Assessment Validation
- Completed students assessment
- Unit asessment

Menus 2

1 Assessment Tasks & Related Information

2 Assessment Methods

3 Assessor Guide

4 Assessment Results

5 Assessment Validation

6.StudentsAssessment Information

EKAS-Assessment Validation-EE-OZ+IEAust

9.3 Supporting Material Document – Digital Format (MEng C)

This document is to provide supporting material for the programme in digital format (softcopy) as follows:

9.3.1 Supporting Information

- Provide additional information on the Technological Institutions, faculty/school/department, and programme not provided in the Self-Assessment Report.

9.3.2 Academic and Laboratory Support Staff

- Provide personal file and certificate for each staff member.

Staff file

9.3.3 Programme Structure and Contents

- Provide evidence of the use of tutorials and non-conventional delivery methods such as Problem Based Learning (PBL) techniques alongside traditional lectures. Provide a summary of industrial training schemes, and list of companies involved. Provide evidence of activities relevant to industry exposure.

From the following link, online practical facilities can be accessed.

Online Practical Link

Click **HERE** to log in to the online electrical/
mechanical/civil practical materials. You will need the
password.

The password will be issued to the enrolled students

9.3.4 Equipment, Software and Titles of Books and Journals

- Provide a list of all equipment and software used by the programme including recent additions and planned additions, as well as the titles of books, and journals for the programme.

Physical Resources folder

From the following link, practical resources can be accessed.

Practical Resources

www.highlightcomputer.com/PracticalResources.htm

Physical Resources

www.highlightcomputer.com/PhysicalResources.htm

Learner Resources

www.highlightcomputer.com/LearnerResources.htm

9.3.5 External Examiner and Advisory Board (MEng C)

- Provide the external examiner's reports and reports/minutes from advisory board meetings.

9.4 Institutional Documents and Additional Documentation to be Made Available during the Visit

- The following items, which constitute evidence to support the information requested in Sections 9.2 and 9.3 shall be made available during the visit:

9.4.1 Technological Institutions Documents

- Provide the Handbook, Calendar supplement, or other official publications relating to the faculty/school/department, and containing the statement of programme details; Technological Institutions brochure and any other documents that relate to the faculty/school/department,

9.4.2 Documents Related to Programme Objectives and Outcomes

- Provide all relevant documents and evidence related to Programme Objectives and Learning Outcomes (one copy) as follows:
- Course files – for every course offered by the programme, provide the course information to include the targeted course learning outcomes, course synopsis/syllabus, and a list of references (texts used).
- Final examination papers complete with answer scheme and graded examination papers with low, medium and high grades are also to be provided.
- Any information with regard to other learning activities and assessment measures such as projects, quizzes, tutorial questions, assignments, class projects, copies of the course notes (optional), and any other materials used for the course are also to be included. For laboratory courses,
- Objectives and outcomes assessment instruments – supporting documentation for objectives and
- outcomes assessment including sample questionnaires, portfolios, survey forms, video recordings, etc.
- All evidence related to Continual Quality improvement of the program.

The documents related to above requirements are presented in DVDs and will be available upon request.

DVD Contents

- Mixed DVD Lessons School + Higher Education/ IQY+STCTU Degrees

- Study Guides+Lessons for Adv Dip Eng+Mgt+IT ALL Combined Update Mixed
- Study Guides+Lessons for Bachelor Degree-Common Subjects 1 Mixed
- Students File/ Evidences
- BE Test
- EE Test
- CE Test
- ME Test
- Assessment/
- Assessment Cover Sheet+Assessment Information+Assessment Feedbacksheet
- Assessment Mapping
- Assessment Validation
- Components of Assessment Mapping
- Test Questions
- Unit Evaluation

Self-Assessment Report – Hardcopy (MEng C)

- A Self-Assessment Report is an account of the Technological Institutions' plan, implementation, assessment and evaluation of the programme conducted. It reflects the processes with result obtained used in continual quality improvement at all levels of the programme's activities. This appropriately bound document, ranging between 50 – 100 pages with all pages numbered and a table of contents.

A minimum of 120 credit hours of which 80 credit hours must be core engineering courses offered over a period of four years (It means 3rd, 4th, 5th, 6th).

Final year project (minimum 6 credit hours)

Industrial training (minimum of 8 weeks)

The above requirements have been provided in curriculum section

9.4.3 Final Project Reports

- For a sample of students, provide a copy of the final project report, instruction sheets, and grade
- sheets or other means of evaluation for the project.
- Provide the listing of final project titles for the past few years.

From the following links, the students project works can be accessed.

Some students' project works.pdf File

<http://www.highlightcomputer.com/Somestudentsprojectworks.htm>

9.4.4 Industrial Training Reports (MEng C)

- For a sample of students, provide a copy of the training reports, guidelines for the training, and reviews by the industry sponsors as well as the faculty mentors.

9.4.5 Laboratory Reports

- For a sample of students, provide a copy of the laboratory reports, instruction sheets, and grade sheets or other means of evaluation for the project laboratory report.

From the link below, the above 9.4.4 * & 9.4.5 and the records related to the following points can be accessed.

- Practical participation Record
- Elect Eng Students' taking parts in practicals(Joe).pdf

<http://www.highlightcomputer.com/studentstakingpartinpractical.htm>

9.4.6 Quality Assurance Records (MEng C)

- Provide minutes and records of action and improvement of meetings of the programme teaching team,

From the link below, records related to the above 9.4.6 can be accessed.

<http://www.highlightcomputer.com/QualityAssuranceRecords.htm>

ATTACHMENTS

1. Curriculum

<http://www.highlightcomputer.com/BECurriculum.htm>

2. Assessment Validation Records & Assessment Evidences

www.highlightcomputer.com/assessmentvalidation.htm

☐ **Assessment/**

☐ **Assessment Cover Sheet+Assessment Information+Assessment Feedbacksheet**

☐ **Assessment Mapping**

☐ **Assessment Validation**

☐ **Components of Assessment Mapping**

☐ **Test Questions**

☐ **Unit Evaluation**

3. Quality Assurance Records

<http://www.highlightcomputer.com/QualityAssurance.htm>

Teachers Skills Currency Check List

Students' assessment Evidences

Units evaluated by students

Units evaluated by internal & external assessors

4. Practical Resources

Practical Resources

<http://www.highlightcomputer.com/PracticalCourses.htm>

www.highlightcomputer.com/PracticalResources.htm

5. Students' work Records

<http://www.highlightcomputer.com/Somestudentsprojectworks.htm>

6. Industrial Consultation

<http://www.highlightcomputer.com/industryconsultation.htm>

7. List of Reference Textbooks utilized in Engineering Programs

<http://www.highlightcomputer.com/ReferenceTextBooks.pdf>

8. DVD Containing Lesson Materials

Study Lesson & Reading Materials

<http://www.highlightcomputer.com/studylesson1.htm>

Online Teaching

<http://www.highlightcomputer.com/onlineteaching1.htm>

Public Library

<http://www.highlightcomputer.com/gen1.htm>

Electronic Library

<http://www.highlightcomputer.com/elib.htm>

http://www.filefactory.com/file/7ife2afh5ugr/Gen13Dec2013_.htm

Reference Materials & Resources

<http://www.highlightcomputer.com/usb.htm>

Professional Engineer Support

<http://www.highlightcomputer.com/pesupport.htm>

9. DVD Containing Learner Resources

Physical Resources

www.highlightcomputer.com/PhysicalResources.htm

Learner Resources

www.highlightcomputer.com/LearnerResources.htm

☐ Study Guides+Lessons for Adv Dip Eng+Mgt+IT ALL Combined Update Mixed

☐ Study Guides+Lessons for Bachelor Degree-Common Subjects 1 Mixed

(A)LECTURES

www.highlightcomputer.com/videos1.htm

www.highlightcomputer.com/videos2.htm

www.iqytechnicalcollege.com/youtubevideos.htm

(B)SELF DIRECTED STUDY GUIDES

<http://www.highlightcomputer.com/elearningplatform.htm>

ELECTRICAL

(1) Instruction to Electrical Students

<http://www.iqytechnicalcollege.com/Instruction-Fiji-Elect Engg.pdf>

CIVIL

(1) **Instruction to Civil Students**

<http://www.iqytechnicalcollege.com/Instruction Fiji-Civil Engg.pdf>

MECHANICAL

(1) Instruction to Mechanical students

<http://www.iqytechnicalcollege.com/Instruction-Fiji-MechEngg.pdf>

RENEWABLE ENERGY

www.highlightcomputer.com/RELessons.htm

INDUSTRIAL SAFETY & HAZARDOUS PROTECTION

www.highlightcomputer.com/profdiphazardous.htm

(C)TUTORIAL

Online Class Tutoring & Study Lessons

<http://www.filefactory.com/file/290j43qtca5r/ClassTutoringLessons.htm>

www.highlightcomputer.com/onlineteaching.htm

Study Lessons

- Class Tutoring (Certificate+ Diploma+ Advanced Diploma+ Bachelor Degree) Programs in Electrical, Mechanical, Civil Engineering, Information Technology, Management & E-Business & Management

http://www.filefactory.com/file/2j8u9ccwrlqx/Class_Tutoring_Lessons_hm

- Reference Lessons+Study Guides

Electrical Diploma

http://www.filefactory.com/file/2oojs84b3ovx/highlightcomputergroup1_hm

Electrical Engineering

http://www.filefactory.com/file/7bdts4v3yi49/Bachelor_of_Applied_Engineering_Electrical_Engineering_Home_hm

Mechanical Engineering+ Civil Engineering

http://www.filefactory.com/file/3ud1pk458gqp/highlightcomputergroup5_hm

Management

http://www.filefactory.com/file/53f1g058qq1p/highlightcomputergroup2_hm

Information technology

http://www.filefactory.com/file/2q3y5kyc22f1/highlightcomputergroup3_htm

- Electronics Library General Technical Support Program

http://www.filefactory.com/file/1ulcpevyibu5/gtc_htm

http://www.filefactory.com/file/5vnf7v9roxd/n/E_Lib_Engg_Book_Catalogue_pdf

- Australian Electrical Trainings

http://www.filefactory.com/file/7j01gm1ixvej/electricaldiploma2013Update1_htm

10. DVD Containing Assessment Validation & Quality Assurance Materials

Teacher skilled matrix

<http://www.highlightcomputer.com/teacherskillmatrix.htm>

Staff list

www.highlightcomputer.com/staff.htm

Staff competency

<http://www.highlightcomputer.com/teacherskillmatrix.htm>

11. DVD Contents

Professional Diploma in Engineering (Electrical, Civil, Mechanical, Building Services, Mechatronics)

Tests /Assignment/Project Assessment Questions & Materials

Test Questions

MECHANICAL

P1240529.JPG (3.26MB)

<http://www.filefactory.com/file/1gel78kwehfb/n/P1240529.JPG>

Download now!

BAE 614 Machine Design.doc (0.55MB)

http://www.filefactory.com/file/gbjya1h93g5/n/BAE_614_Machine_Design.doc

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BAE512 Building Service Water.doc (0.02MB)

http://www.filefactory.com/file/4xp0xqnt8o7j/n/BAE512_Building_Service_Water.doc

[Download now!](#)

BAE 614 Machine Design.doc (0.55MB)

http://www.filefactory.com/file/1t9guppp66y5/n/BAE_614_Machine_Design.doc

[Download now!](#)

BAE512 Building Service Water.doc (0.02MB)

http://www.filefactory.com/file/40vcrk1svydp/n/BAE512_Building_Service_Water.doc

[Download now!](#)

BAE 613 Mech Instrumentation Process Test.pdf (2.65MB)

http://www.filefactory.com/file/53r4fs72o1f/n/BAE_613_Mech_Instrumentation_Process_Test.pdf

[Download now!](#)

BAE 512 Building Service water & Fluid Supply Test.pdf (6.65MB)

http://www.filefactory.com/file/32yi87dda2yr/n/BAE_512_Building_Service_water_&Fluid_Supply_Test.pdf

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BAE 315 Material Engg Test.pdf (7.03MB)

http://www.filefactory.com/file/zzlo7bx6tl9/n/BAE_315_Material_Engg_Test.pdf

[Download now!](#)

BAE 511 Air Conditioning refrigeration Heat Transfer Test.pdf (0.27MB)

http://www.filefactory.com/file/2h0bvbjw9vn5/n/BAE_511_Air_Conditioning_refrigeration_Heat_Transfer_Test.pdf

[Download now!](#)

BAE 314 Mech power Generation Test.pdf (3.58MB)

http://www.filefactory.com/file/7ivses407cl1/n/BAE_314_Mech_power_Generation_Test.pdf

[Download now!](#)

BAE 313 Environmental Control Test.pdf (3.6MB)

http://www.filefactory.com/file/4s3gyof02q9v/n/BAE_313_Environmental_Control_Test.pdf

[Download now!](#)

BAE 312 Design Engineering Test.pdf (0.38MB)

http://www.filefactory.com/file/24uqzpscjcot/n/BAE_312_Design_Engineering_Test.pdf

[Download now!](#)

BAE 311 Vibration Control Test.pdf (1.3MB)

http://www.filefactory.com/file/6cwggpepc9tz/n/BAE_311_Vibration_Control_Test.pdf

[Download now!](#)

ELECTRICAL**BAE 604 Telecommunication Engineering.pdf (0.42MB)**

http://www.filefactory.com/file/2nf488wjyc27/n/BAE_604_Telecommunication_Engineering.pdf

[Download now!](#)

BAE 607 Radio Wave Propagation.doc (0.02MB)

http://www.filefactory.com/file/5zckxsn1drj/n/BAE_607_Radio_Wave_Propagation.doc

[Download now!](#)

BAE 606 Building Service Electrical.doc (0.02MB)

http://www.filefactory.com/file/41tubyiy9ab/n/BAE_606_Building_Service_Electrical.doc

[Download now!](#)

BAE 507 Electro Mech Energy Conversion Test.pdf (3.57MB)

http://www.filefactory.com/file/1dfnbz3fn8qx/n/BAE_507_Electro_Mech_Energy_Conversion_Test.pdf

[Download now!](#)

BAE 603 Software Engineering.doc (0.02MB)

http://www.filefactory.com/file/78uis8igintn/n/BAE_603_Software_Engineering.doc

[Download now!](#)**BAE 601+602.docx (1.96MB)**http://www.filefactory.com/file/1re3yf5mtx9t/n/BAE_601+602.docx**[Download now!](#)****BAE 506 Power Syst Protection Test.pdf (3.38MB)**http://www.filefactory.com/file/38f4fltxkay9/n/BAE_506_Power_Syst_Protection_Test.pdf**[Download now!](#)****BAE 505 Power Syst Optimization Tesr.pdf (5.76MB)**http://www.filefactory.com/file/2q2tuys3np77/n/BAE_505_Power_Syst_Optimization_Tesr.pdf**[Download now!](#)****BAE 504 Power Syst Analysis Test.pdf (3.58MB)**http://www.filefactory.com/file/4jymhdbp6phx/n/BAE_504_Power_Syst_Analysis_Test.pdf**[Download now!](#)****BAE 503 Control Syst Test.pdf (3.21MB)**http://www.filefactory.com/file/s0rp735nly3/n/BAE_503_Control_Syst_Test.pdf**[Download now!](#)****BAE 502 Linear Syst Test.pdf (6.49MB)**http://www.filefactory.com/file/1q1dd5vrskb/n/BAE_502_Linear_Syst_Test.pdf**[Download now!](#)****BAE 501 Adv Power Syst Test.pdf (6.07MB)**http://www.filefactory.com/file/2py76q0yb9bb/n/BAE_501_Adv_Power_Syst_Test.pdf**[Download now!](#)****BAE 407 Electromagnetic Field Test.pdf (6.71MB)**http://www.filefactory.com/file/2dk1vqlmkef1/n/BAE_407_Electromagnetic_Field_Test.pdf**[Download now!](#)**

BAE 408 Analog Digital Electronics Test.pdf (2.85MB)

http://www.filefactory.com/file/1icv86jgonvr/n/BAE_408_Analog_Digital_Electronics_Test.pdf

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BAE 406 Electro-mechanics Test.pdf (9.65MB)

http://www.filefactory.com/file/1dyxf2lbeuph/n/BAE_406_Electro-mechanics_Test.pdf

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BAE 405 Adv Ckt Analysis Test.pdf (5.8MB)

http://www.filefactory.com/file/2d8mk01ih7ml/n/BAE_405_Adv_Ckt_Analysis_Test.pdf

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BAE 404 Engg Thermodynamics+Strength of Materials Test.pdf (12.44MB)

http://www.filefactory.com/file/3vsonvnumqt1/n/BAE_404_Engg_Thermodynamics+Strength_of_Materials_Test.pdf

[Download now!](#)

BAE 403 Engineering Mechanics Test.pdf (10.29MB)

http://www.filefactory.com/file/9jx3zdcmedx/n/BAE_403_Engineering_Mechanics_Test.pdf

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BAE 402 Calculus Test.pdf (5.34MB)

http://www.filefactory.com/file/1snvfcaz08y9/n/BAE_402_Calculus_Test.pdf

BAE 401 Adv Engg Maths Test.pdf (6.19MB)

http://www.filefactory.com/file/dbxhi97np5z/n/BAE_401_Adv_Engg_Maths_Test.pdf

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CIVIL**P1240529.JPG (3.26MB)**

<http://www.filefactory.com/file/1uz5r0vgant9/n/P1240529.JPG>

[Download now!](#)

BAE624 Water Supply , Sanitation & Finishing Test.docx (0.01MB)

http://www.filefactory.com/file/6xndp4h8lf47/n/BAE624_Water_Supply_,_Sanitation_&_Finishing_Test.docx

[Download now!](#)

BAE621 Structural Engineering Test.pdf (0.38MB)

http://www.filefactory.com/file/4l4jo76f96fb/n/BAE621_Structural_Engineering_Test.pdf

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BAE621 Structural Engineering Test.pdf (0.38MB)

http://www.filefactory.com/file/62fwl7z5d6rr/n/BAE621_Structural_Engineering_Test.pdf

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BAE523 Environmental Engineering.JPG (3.6MB)

http://www.filefactory.com/file/21h47s7ug4qt/n/BAE523_Environmental_Engineering.JPG

[Download now!](#)

BAE621 Structural Engineering Test.docx (1MB)

http://www.filefactory.com/file/e4qnt7u5y95/n/BAE621_Structural_Engineering_Test.docx

[Download now!](#)

BAE 422 Estimating.Assignment.doc (2.84MB)

http://www.filefactory.com/file/62z3lbp0roox/n/BAE_422_Estimating.Assignment.doc

[Download now!](#)

BAE423 Fluid Mechanics Test.doc (0.03MB)

http://www.filefactory.com/file/36hvor7mj6j5/n/BAE423_Fluid_Mechanics_Test.doc

[Download now!](#)

BAE 623 Surveying + traffic Engineering Test Question.doc (0.44MB)

http://www.filefactory.com/file/1gnlw2rg3ggx/n/BAE_623_Surveying_+_traffic_Engineering_Test_Question.doc

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BAE 525 Timber Engineering Test.doc (0.03MB)

http://www.filefactory.com/file/5vkk2w4he59h/n/BAE_525_Timber_Engineering_Test.doc

[Download now!](#)

BAE 523 Soli Mechanics Test.docx (0.02MB)

http://www.filefactory.com/file/4xxk0dffsist/n/BAE_523_Soli_Mechanics_Test.docx

[Download now!](#)

BAE 522 Rock Mechanics Test.doc (0.03MB)

http://www.filefactory.com/file/6efrp1xjx8yb/n/BAE_522_Rock_Mechanics_Test.doc

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BAE 521 Road & Bridge Test.doc (0.02MB)

[http://www.filefactory.com/file/2fy33msql5yd/n/BAE_521_Road_& Bridge_Test.doc](http://www.filefactory.com/file/2fy33msql5yd/n/BAE_521_Road_&Bridge_Test.doc)

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[Download now!](#)

BAE 421 Building Construction Engineering Test.doc (0.38MB)

http://www.filefactory.com/file/1k877chrwat1/n/BAE_421_Building_Construction_Engineering_Test.doc

[Download now!](#)

(HOW E-LEARNING CAN BE UTILIZED IN ENGINEERING PROGRAMS TO MEET THE MYANMAR ENGINEERING COUNCIL'S ACCREDITATION REQUIREMENTS)

IQY Technical College's academic policy & procedure in line with Myanmar Engineering Council's Accreditation Requirements & Sample of Educational Institution Documents **(By Dr Kyaw Naing)**

www.highlightcomputer.com/Accreditation.htm

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18	Quality Management, Quality Assurance	94, 95
19	Practical Resources, Records, Attachments	96,97,100

IQY Technical College's academic policy & procedure in line with Myanmar Engineering Council's Accreditation Requirements & Sample of Educational Institution Documents

www.highlightcomputer.com/Accreditation.htm

Executive Summary

This is voluntary information related to IQY Technical College's online engineering programs & this information report related to sample engineering programs, curriculums and learning materials is prepared by citing the accreditation manual of Myanmar Engineering Council

Objective

Although it is not a main objective of IQY Technical College to seek the accreditation in Myanmar, the main reason to prepare this document is to be referred by relevant course developers of the Government Technical Colleges & Technological Universities in Myanmar how to fulfil the international standard accreditation procedures as the writer of this documents have over 25 years experiences in teaching, designing & implementation of engineering programs in Fiji, Australia & New Zealand in accordance with Australian/ New Zealand standards.

It is solely aimed to share the knowledge with engineering educators in Myanmar especially to develop e-Learning which is new to most educators in Myanmar. This submission describes how e-Learning in engineering can be effectively applied to fulfil the accreditation needs of Myanmar Engineering Council because Government Technical Colleges & Technological Universities are spread throughout Myanmar & e-Learning is the only most effective way to equalize teaching & learning at different geographical locations of Myanmar.

The document contains the online links from where the relevant documents can be downloaded.

9.2.1 General Information (MEng C)

i. Provide general information on the Technological Institutions and the specific programme.

- IQY Technical College of Highlight Computer Group teaches St Clements Technological University, St Clements University Higher Education School Niue's Diploma/ Advanced Diploma and Bachelor Degree programs in Engineering, Information Technology and Management courses to the students of Myanmar at the price affordable to average working class people of Myanmar.

- E-Learning system that provides on line & off line DVD/USB based teaching system is utilized for the student to do self directed learning combined with simulated practical video/ slide shows and audio/ visual aids are utilized to effectively apply Information Technology in e-Learning & Teaching.
- The main objective of our program is to maximize the individual student's self directed learning by applying the maximum use of technology & by minimizing the teacher's assistance personally .
- Although IQY Technical College refers & applies the relevant international educational standards, IQY Technical College maintains it's academic independency.

ii. Provide detailed information on programme history of accreditation (year of accreditation, conditions imposed and actions taken). (MEng C)

Further Submission

iii. Describe any self-initiated changes made to the programme and state the year the changes were introduced (MEng C)

Further Submission

Programme Objectives.

<http://www.highlightcomputer.com/objectives.htm>

9.2.2 Programme Objectives

I State the vision and mission of the Technological Institutions. (MEng C)

- IQY Technical College of Highlight Computer Group teaches St Clements Technological University, St Clements University Higher Education School Niue's Diploma/ Advanced Diploma and Bachelor Degree programs in Engineering, Information Technology and Management courses to the students of Myanmar at the price affordable to average working class people of Myanmar.
- IQY Technical College of Highlight Computer Group will independently provide the international standard education & engineering education to the poor students of Myanmar whom are being taught by the voluntary education groups of Myanmar .
- IQY Technical College is Non Profit/ Non Government Educational Organization which assist the needy students of Myanmar as well as the students in other developing countries by co-operating with the international organizations of same objectives/ visions and missions.

li Describe the Programme Objectives and state where they are published. (MEng C)

- IQY Technical College offers three levels of Engineering Programs
 1. One year Diploma in Engineering
 2. Two years Advanced Diploma in Engineering
 3. Four years Professional Diploma in Engineering which is set at the same level of standard to Bachelor of Engineering degree
- The entry requirement for IQY Technical College is Year 12 . The students who have less than year 12 level education will need to undertake IQY Technical College's Year 11+12 programs which are set at Australian NSW State Year 12 Standard.
- Based on the entry Year 12 standard, Year one to four Academic programs are arranged.

The objectives

Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology)

IQY Technical College's one year Diploma in Engineering is designed to train the students to work as Engineering Associate or Engineering Technicians in wide ranges of industries.

It is designed to provide the following competencies.

To train the students to have a wide range of functions within engineering enterprises and engineering teams.

The training is designed for the students

- To be closely familiar with standards and codes of practice, and to become expert in their interpretation and application to a wide variety of situations.
- To develop very extensive experience of practical installations, and may well be more knowledgeable than Professional Engineers or Engineering Technologists on detailed aspects of plant and equipment that can contribute very greatly to safety, cost or effectiveness in operation.
- To develop high levels of expertise in aspects of design and development processes. These might include, for example, the use of advanced software to perform detailed design of structures, mechanical components and systems, manufacturing or process plant, electrical and electronic equipment, information and communications systems, and so on.
- To do the construction of experimental or prototype equipment.
- To develop detailed practical knowledge and experience complementing the broader or more theoretical knowledge of others.

Advanced Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology) Course Outlines

IQY Technical College's two years Advanced Diploma in Engineering is designed to train the students to work as Engineering Technologist in wide ranges of industries.

The training is designed to provide expertise to the students which may be at a high level, and fully equivalent to that of a Professional Engineer. That is designed

- to exercise the same breadth of perspective as Professional Engineers, or carry the same wide-ranging responsibilities for stakeholder interactions, for system integration, and for synthesising overall approaches to complex situations and complex engineering problems.
- to possess for a strong understanding of practical situations and applications, with the intellectual challenge of keeping abreast of leading-edge developments as a specialist in a technology domain and how these relate to established practice. For this purpose Engineering Technologists need a strong understanding of scientific and engineering principles and a well-developed capacity for analysis.
- to apply current and emerging technologies, often in new contexts; or with the application of established principles in the development of new practice.
- To contribute to the advancement of technology.
- to take responsibility for engineering projects, services, functions and facilities within a technology domain, for specific interactions with other aspects of an overall operating context and for managing
- to contribute the specialist work to a broader engineering system or solution. In these roles, Engineering
- to focus on sustainable solutions and practices which optimise technical, social, environmental and economic outcomes within the technology domain and over a whole systems life cycle.
- to have an intimate understanding of the standards and codes of practice that underpin the technology domain and ensure that technology outcomes comply with statutory requirements. Engineering Technologists are required to interact effectively with Professional Engineers and Engineering Associates, with other professionals, tradespersons, clients, stakeholders and society in general, to ensure that technology outcomes and developments fully integrate with the overall system and context.
- to ensure that all aspects of a technological product, or operation are soundly based in theory and fundamental principle.
- to understand how new developments relate to their specific field of expertise.
- to interpret technological possibilities, to investigate interfaces, limitations, consequences, costs and risks.

Professional Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology)

IQY Technical College's four years Professional Diploma in Engineering is designed to train the students to work as Engineering Technologist /Professional Engineer in wide ranges of industries.

It is designed to provide the following competencies.

- To perform the reliable functioning of all materials, components, sub-systems and technologies used; their integration to form a complete, sustainable and self-consistent system; and all interactions between the technical system and the context within which it functions. The latter includes understanding the requirements of clients, wide ranging stakeholders and of society as a whole; working to optimise social, environmental and economic outcomes over the full lifetime of the engineering product or program; interacting effectively with other disciplines, professions and people; and ensuring that the engineering contribution is properly integrated into the totality of the undertaking.
- To do interpreting technological possibilities to society, business and government; and for ensuring as far as possible that policy decisions are properly informed by such possibilities and consequences, and that costs, risks and limitations are properly understood as the desirable outcomes.
- To bring knowledge to bear from multiple sources to develop solutions to complex problems and issues, for ensuring that technical and non-technical considerations are properly integrated, and for managing risk as well as sustainability issues. While the outcomes of engineering have physical forms, the work of
- To train the students to become predominantly intellectual in nature. In a technical sense, Professional Engineers are primarily concerned with the advancement of technologies and with the development of new technologies and their applications through innovation, creativity and change. Professional Engineers may conduct research concerned with advancing the science of engineering and with developing new principles and technologies within a broad engineering discipline.
- To contribute to continual improvement in the practice of engineering, and in devising and updating the codes and standards that govern it.
- To take a particular responsibility for ensuring that all aspects of a project are soundly based in theory and fundamental principle, and for understanding clearly how new developments relate to established practice and experience and to other disciplines with which they may interact. One hallmark of a professional is the capacity to break new ground in an informed, responsible and sustainable fashion.

iii. Describe how the Programme Objectives are consistent with the vision and mission of the Technological Institutions and stakeholder requirements. (MEng C)

Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology)

The training includes feasibility investigation, scoping, establishing criteria/performance measures, assessing and reporting technical and procedural options; design and development; component,

resources and materials sourcing and procurement; construction, prototyping, manufacture, testing, installation, commissioning, service provision and de-commissioning; tools, plant, equipment and facilities acquisition, management, maintenance, calibration and upgrades; operations management; procedures documentation; presentation and reporting; maintenance systems design and management; project and facility management; quality assurance, costing and budget management; document control and quality assurance.

The training is also designed to provide a good grounding in engineering science and the principles underlying their field of expertise, to ensure that their knowledge and skills are portable across different applications and situations within the broad field of practice. Equipment, vendor or context-specific training in a particular job are not sufficient to guarantee generic competency. Given a good knowledge base, however, the graduates may build further on this through high levels of training in particular contexts and in relation to particular equipment.

The competencies of graduates to equip them to certify the quality of engineering work and the condition of equipment and systems in defined circumstances, laid down in recognised standards and codes of practice.

The training is also designed to lead or manage teams appropriate to these activities. Some may establish their own companies or may move into senior management roles in engineering and related enterprises, employing Professional Engineers, Engineering Technologists, and other specialists where appropriate.

Diploma in Electrical Engineering

This program is designed with 30 credit points integrating 15 credit points Certificate in Electrical Engineering. The completion of this program can be articulated into 60 points Advanced Diploma in Electrical Engineering & 120 credit points Professional Diploma in Electrical Engineering which is the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Diploma in Electrical Engineering can apply for Associate Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

Diploma in Mechanical Engineering

This program is designed with 30 credit points integrating 15 credit points Certificate in Mechanical Engineering. The completion of this program can be articulated into 60 points Advanced Diploma in Mechanical Engineering & Mechatronics & 120 credit points Professional Diploma in Mechanical Engineering & Mechatronics which is the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Diploma in Mechanical Engineering can apply for Associate Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

Diploma in Civil Engineering

This program is designed with 30 credit points integrating 15 credit points Certificate in Civil Engineering & Construction Studies . The completion of this program can be articulated into 60 points Advanced Diploma in Civil Engineering & 120 credit points Professional Diploma in Civil Engineering & Building Services which is the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Diploma in Civil Engineering can apply for Associate Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

Diploma in Renewable Energy Engineering

This program is designed with 30 credit points integrating 15 credit points Certificate in Renewable Energy Course Completion Certificate which is delivered through the public seminars . The completion of this program can be articulated into 120 credit points Professional Diploma in Renewable Energy Engineering which is the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Diploma in Renewable Energy Engineering can apply for Associate Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

Diploma in Computer Engineering/ Diploma in Information Technology

This program is designed with 30 credit points integrating 15 credit points Certificate in Information Technology . The completion of this program can be articulated into 60 points Advanced Diploma in Information Technology & 120 credit points Professional Diploma in Information Technology or Professional Diploma in Computer Engineering which is the award of Bachelor of Applied Science (Information Technology)/Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Diploma in Computer Engineering can apply for Associate Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

The graduates of Diploma in Information Technology can apply for membership of International Institute of Science Engineering & Management.

To be awarded Diploma in Computer Engineering, the students need to do Diploma in Information Technology & Diploma in Electrical Engineering at the same time.

Advanced Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology) Course Outlines

It is designed to provide the following competencies.

To train the students to operate within broadly-defined technical environments, and undertake a wide range of functions and responsibilities. They are often specialists in the theory and practice of a particular branch of engineering technology or engineering-related technology (the technology domain), and specifically in its application, adaptation or management, in a variety of contexts. Their expertise often lies in familiarity with the current state of development of a technology domain and most recent applications of the technology.

The training is also designed to provide the skills of Engineering Technologists who may lead teams responsible for the implementation, operation, quality assurance, safety, management, and maintenance of projects, plant, facilities, or processes within specialist practice area(s) of the technology domain. Some Engineering Technologists may establish their own companies or may move into senior management roles in engineering and related enterprises, employing Professional Engineers and other specialists where appropriate.

Advanced Diploma in Engineering can be studied in the following specializations

- Advanced Diploma in Electrical Engineering
- Advanced Diploma in Mechanical Engineering
- Advanced Diploma in Civil Engineering
- Advanced Diploma in Renewable Energy Engineering
- Advanced Diploma in Computer Engineering / Advanced Diploma in Information Technology

Advanced Diploma in Electrical Engineering

This program is designed with 60 credit points integrating 30 credit points Diploma in Electrical Engineering. The completion of this program can be articulated into 60 of 120 credit points Professional Diploma in Electrical Engineering which is the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Advanced Diploma in Electrical Engineering can apply for Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

Advanced Diploma in Mechanical Engineering

This program is designed with 60 credit points integrating 30 credit points Diploma in Mechanical Engineering. The completion of this program can be articulated into 60 of 120 credit points Professional Diploma in Mechanical Engineering which is the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Advanced Diploma in Mechanical Engineering can apply for Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

Advanced Diploma in Civil Engineering

This program is designed with 60 credit points integrating 30 credit points Diploma in Civil Engineering. The completion of this program can be articulated into 60 of 120 credit points Professional Diploma in Civil Engineering which is the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Advanced Diploma in Civil Engineering can apply for Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

Advanced Diploma in Renewable Energy Engineering

This program is designed with 60 credit points integrating 30 credit points Certificate in Renewable Energy Course Completion Certificate which is delivered through the public seminars . The completion of this program can be articulated into 120 credit points Professional Diploma in Renewable Energy Engineering which is the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Advanced Diploma in Renewable Energy Engineering can apply for Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

Advanced Diploma in Computer Engineering/ Advanced Diploma in Information Technology

This program is designed with 30 credit points integrating 30 credit points Diploma in Information Technology . The completion of this program can be articulated into 60 of 120 credit points Professional Diploma in Information Technology or Professional Diploma in Computer Engineering which is the award of Bachelor of Applied Science (Information Technology)/Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Advanced Diploma in Computer Engineering can apply for Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

The graduates of Advanced Diploma in Information Technology can apply for membership of International Institute of Science Engineering & Management.

To be awarded Advanced Diploma in Computer Engineering, the students need to do Advanced Diploma in Information Technology & Diploma in Electrical Engineering at the same time.

Professional Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology)

It is designed at the same academic requirement as to Bachelor of Engineering degree but IQY Technical College is operating as a vocational education & training college not as a university, the award is to be described as Professional Diploma. The graduates of the Professional Diploma in Engineering can be awarded Bachelor of Engineering by the universities which are affiliated to IQY Technical College.

The program is designed to train the students to become Professional Engineers who are required to take responsibility for engineering projects and programs in the most far-reaching sense.

The program is also designed to provide the skills required for the graduated to lead or manage teams appropriate to these activities, and may establish their own companies or move into senior management roles in engineering and related enterprises.

Professional Diploma in Engineering can be studied in the following specializations

- Professional Diploma in Electrical Engineering
- Professional Diploma in Mechanical Engineering
- Professional Diploma in Civil Engineering
- Professional Diploma in Renewable Energy Engineering
- Professional Diploma in Computer Engineering / Professional Diploma in Information Technology

Professional Diploma in Electrical Engineering

This program is designed with 120 credit points integrating 60 credit points Advanced Diploma in Electrical Engineering. The completion of this program can be awarded Professional Diploma in Electrical Engineering together with the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Professional Diploma in Electrical Engineering can apply for Fellow of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technologists or ASEAN Engineer.

Professional Diploma in Mechanical Engineering

This program is designed with 120 credit points integrating 60 credit points Advanced Diploma in Mechanical Engineering. The completion of this program can be awarded Professional Diploma in Mechanical Engineering together with the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Professional Diploma in Mechanical Engineering can apply for Fellow of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technologists or ASEAN Engineer.

Professional Diploma in Civil Engineering

This program is designed with 120 credit points integrating 60 credit points Advanced Diploma in Civil Engineering. The completion of this program can be awarded Professional Diploma in Civil Engineering together with the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Professional Diploma in Civil Engineering can apply for Fellow of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technologists or ASEAN Engineer.

Professional Diploma in Renewable Energy Engineering

This program is designed with 120 credit points integrating 60 credit points Advanced Diploma in Renewable Energy Engineering. The completion of this program can be awarded Professional Diploma in Renewable Energy Engineering together with the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

This program explores the way to make the best use of renewable energy technologies including solar thermal systems, photovoltaics, wind and biomass. Renewable Energy Engineering borrows much of its structure from some other areas of engineering, such as electrical engineering and photovoltaic engineering. It encompasses a broad range of renewable energy technologies including electricity generation from solar thermal systems, photovoltaics, wind and biomass. It also covers solar architecture and energy efficient housing design

The graduates of Professional Diploma in Renewable Energy Engineering can apply for Fellow of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technologists or ASEAN Engineer.

Professional Diploma in Computer Engineering/ Professional Diploma in Information Technology

This program is designed with 120 credit points integrating 60 credit points Advanced Diploma in Information Technology . Professional Diploma in Computer Engineering which is the award of Bachelor of Applied Science (Information Technology)/Bachelor of Engineering degree by the universities affiliated IQY Technical College.

The graduates of Professional Diploma in Computer Engineering can apply for Fellow of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technologist or ASEAN Engineer.

The graduates of Professional Diploma in Information Technology can apply for membership of International Institute of Science Engineering & Management.

To be awarded Professional Diploma in Computer Engineering, the students need to do some Bachelor of Engineering (Electrical) units at the same time.

iv. Describe the processes used to establish and review the Programme Objectives, and the extent to which the programme's various stakeholders are involved in these processes.

v Describe how the Technological Institutions ensures achievement of the Programme Objectives.

vi. Describe the ongoing evaluation of the level of achievement of these objectives, and the extent to which the programme's various stakeholders are involved in these processes.

vii. Describe how the results obtained from evaluation are being used to improve the effectiveness of the program (MEng C)

Please see Attachment 1.Assessment Validation Records 2.Assessment Evidences 3.Quality Assurance Records

9.2.3 Learning Outcomes

I List down the Learning Outcomes and state where are they published. (MEng C)

Diploma / Advanced Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology)

1. KNOWLEDGE AND SKILL BASE

1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain.

1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain.

1.3. In-depth understanding of specialist bodies of knowledge within the technology domain.

1.4. Discernment of knowledge development within the technology domain.

1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.

1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.

2. ENGINEERING APPLICATION ABILITY

2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.

2.2. Application of engineering techniques, tools and resources within the technology domain.

2.3. Application of systematic synthesis and design processes within the technology domain.

2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.

3. PROFESSIONAL AND PERSONAL ATTRIBUTES

- 3.1. Ethical conduct and professional accountability.
- 3.2. Effective oral and written communication in professional and lay domains.
- 3.3. Creative, innovative and pro-active demeanour.
- 3.4. Professional use and management of information.
- 3.5. Orderly management of self, and professional conduct.
- 3.6. Effective team membership and team leadership.

Professional Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology)

COMPETENCIES

1. KNOWLEDGE AND SKILL BASE

- 1.1. Comprehensive, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline.
- 1.2. Conceptual understanding of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the engineering discipline.
- 1.3. In-depth understanding of specialist bodies of knowledge within the engineering discipline.
- 1.4. Discernment of knowledge development and research directions within the engineering discipline.
- 1.5. Knowledge of engineering design practice and contextual factors impacting the engineering discipline.
- 1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the specific discipline.

2. ENGINEERING APPLICATION ABILITY

2.1. Application of established engineering methods to complex engineering problem solving.

2.2. Fluent application of engineering techniques, tools and resources.

2.3. Application of systematic engineering synthesis and design processes.

2.4. Application of systematic approaches to the conduct and management of engineering projects.

3. PROFESSIONAL AND PERSONAL ATTRIBUTES

3.1. Ethical conduct and professional accountability.

3.2. Effective oral and written communication in professional and lay domains.

3.3. Creative, innovative and pro-active demeanour.

3.4. Professional use and management of information.

3.5. Orderly management of self, and professional conduct.

3.6. Effective team membership and team leadership.

ii how the Learning Outcomes relate to the Programme Objectives.

iii. Describe the processes used to establish and review the Learning Outcomes, and the extent to which the programme's various stakeholders are involved in these processes.

i Describe the data gathered and explain the results of the assessment.

v Explain how the assessment results are applied to further develop and improve the programme.

vi. Describe the materials, including student work and other tangible materials that demonstrate

Processes and Results: (MEng C) The programme shall have a clear linkage between Programme

Objectives and Learning Outcomes (Section 4.0); a process of ongoing assessment an

evaluation that demonstrates the achievement of Programme Objectives with documented

results; and evaluation results that are used in the continual improvement of the programme.

Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology)

Program Objective	Learning Outcome
<ul style="list-style-type: none"> • To be closely familiar with standards and codes of practice, and to become expert in their interpretation and application to a wide variety of situations. • To develop very extensive experience of practical installations, and may well be more knowledgeable than Professional Engineers or Engineering Technologists on detailed aspects of plant and equipment that can contribute very greatly to safety, cost or effectiveness in operation. • 	<p><u>1. KNOWLEDGE AND SKILL BASE</u></p> <p>1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain.</p> <p>1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain.</p> <p>1.3. In-depth understanding of specialist bodies of knowledge within the technology domain.</p> <p>1.4. Discernment of knowledge development within the technology domain.</p> <p>1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.</p> <p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.</p>
<ul style="list-style-type: none"> • To develop high levels of expertise in aspects of design and development processes. These might include, for example, the use of advanced software to perform detailed design of structures, 	<p><u>2. ENGINEERING APPLICATION ABILITY</u></p> <p>2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.</p>

<p>mechanical components and systems, manufacturing or process plant, electrical and electronic equipment, information and communications systems, and so on.</p> <ul style="list-style-type: none"> • To do the construction of experimental or prototype equipment. 	<p>2.2. Application of engineering techniques, tools and resources within the technology domain.</p> <p>2.3. Application of systematic synthesis and design processes within the technology domain.</p> <p>2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.</p>
<ul style="list-style-type: none"> • To develop detailed practical knowledge and experience complementing the broader or more theoretical knowledge of others. 	<p><u>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</u></p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p> <p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>

Advanced Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology)

Program Objective	Learning Outcome
<ul style="list-style-type: none"> to exercise the same breadth of perspective as Professional Engineers, or carry the same wide-ranging responsibilities for stakeholder interactions, for system integration, and for synthesising overall approaches to complex situations and complex engineering problems. to possess for a strong understanding of practical situations and applications, with the intellectual challenge of keeping abreast of leading-edge developments as a specialist in a technology domain and how these relate to established practice. For this purpose Engineering Technologists need a strong understanding of scientific and engineering principles and a well-developed capacity for analysis. . 	<p><u>1. KNOWLEDGE AND SKILL BASE</u></p> <p>1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain.</p> <p>1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain.</p> <p>1.3. In-depth understanding of specialist bodies of knowledge within the technology domain.</p> <p>1.4. Discernment of knowledge development within the technology domain.</p> <p>1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.</p> <p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.</p>
<ul style="list-style-type: none"> to apply current and emerging technologies, often in new contexts; or with the application of established principles in the development of new practice. To contribute to the advancement of technology. to take responsibility for engineering projects, services, functions and facilities within a technology domain, for specific interactions with other aspects of an overall operating context and for managing 	<p><u>2. ENGINEERING APPLICATION ABILITY</u></p> <p>2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.</p> <p>2.2. Application of engineering techniques, tools and resources within the technology domain.</p> <p>2.3. Application of systematic synthesis and design processes within the technology domain.</p> <p>2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.</p>

<ul style="list-style-type: none"> • to contribute the specialist work to a broader engineering system or solution. In these roles, Engineering • to focus on sustainable solutions and practices which optimise technical, social, environmental and economic outcomes within the technology domain and over a whole systems life cycle. 	
<ul style="list-style-type: none"> • to have an intimate understanding of the standards and codes of practice that underpin the technology domain and ensure that technology outcomes comply with statutory requirements. Engineering Technologists are required to interact effectively with Professional Engineers and Engineering Associates, with other professionals, tradespersons, clients, stakeholders and society in general, to ensure that technology outcomes and developments fully integrate with the overall system and context. • to ensure that all aspects of a technological product, or operation are soundly based in theory and fundamental principle. • to understand how new developments relate to their specific field of expertise. • to interpret technological possibilities, to investigate interfaces, limitations, consequences, costs and risks 	<p><u>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</u></p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p> <p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>

Professional Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology)

Program Objective	Learning Outcome
<ul style="list-style-type: none"> To perform the reliable functioning of all materials, components, sub-systems and technologies used; their integration to form a complete, sustainable and self-consistent system; and all interactions between the technical system and the context within which it functions. The latter includes understanding the requirements of clients, wide ranging stakeholders and of society as a whole; working to optimise social, environmental and economic outcomes over the full lifetime of the engineering product or program; interacting effectively with other disciplines, professions and people; and ensuring that the engineering contribution is properly integrated into the totality of the undertaking. To do interpreting technological possibilities to society, business and government; and for ensuring as far as possible that policy decisions are properly informed by such possibilities and consequences, and that costs, risks and limitations are properly understood as the desirable outcomes. 	<p>1. KNOWLEDGE AND SKILL BASE</p> <p>1.1. Comprehensive, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline.</p> <p>1.2. Conceptual understanding of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the engineering discipline.</p> <p>1.3. In-depth understanding of specialist bodies of knowledge within the engineering discipline.</p> <p>1.4. Discernment of knowledge development and research directions within the engineering discipline.</p> <p>1.5. Knowledge of engineering design practice and contextual factors impacting the engineering discipline.</p> <p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the specific discipline.</p>
<ul style="list-style-type: none"> To bring knowledge to bear from multiple sources to develop solutions to complex problems and issues, for ensuring that technical and non-technical considerations are properly integrated, and for managing risk as well as sustainability issues. To train the students to become predominantly intellectual in nature. In a 	<p>2. ENGINEERING APPLICATION ABILITY</p> <p>2.1. Application of established engineering methods to complex engineering problem solving.</p> <p>2.2. Fluent application of engineering techniques, tools and resources.</p> <p>2.3. Application of systematic engineering</p>

<p>technical sense, Professional Engineers are primarily concerned with the advancement of technologies and with the development of new technologies and their applications through innovation, creativity and change. Professional Engineers may conduct research concerned with advancing the science of engineering and with developing new principles and technologies within a broad engineering discipline</p>	<p>synthesis and design processes.</p> <p>2.4. Application of systematic approaches to the conduct and management of engineering projects.</p>
<ul style="list-style-type: none"> • To contribute to continual improvement in the practice of engineering, and in devising and updating the codes and standards that govern it. • To take a particular responsibility for ensuring that all aspects of a project are soundly based in theory and fundamental principle, and for understanding clearly how new developments relate to established practice and experience and to other disciplines with which they may interact. One hallmark of a professional is the capacity to break new ground in an informed, responsible and sustainable fashion. 	<p>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p> <p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>

(iii) Stakeholders Involvement: The Technological Universities/Institutions shall provide evidence of stakeholder involvement with regard to (i) and (ii) above

Please see Attachment Industry Consultation Folder

<http://www.highlightcomputer.com/industryconsultation.htm>

8.0 Qualifying Requirements and Accreditation Criteria (MEng C)

An engineering programme shall be assessed by EAC to enable graduates of the programme to register as graduate engineers with the M.Eng.C. The assessment involves a review of qualifying

requirements of the Technological Institutions and an evaluation based on the following criteria, apart from

Programme Objectives (4.0) and Learning Outcomes (5.0):

1 Academic Curriculum

9.2.4 Academic Curriculum

- Discuss the programme structure and course contents to show how they are appropriate to, consistent with, and support the development of the range of intellectual and practical skills and attainment or achievement of the Learning Outcomes. (MEng C)

IQY Technical College's Diploma program is focussed on practical applications, use of materials, tools & equipment by combining with theoretical studies at tradesmen/ technician level, it will provide the foundation of engineering studies.

At the advanced diploma level, more complex level engineering contents, applied science & mathematics contents & cross-disciplinary engineering and management contents are included.

At the professional diploma level, the skills required for the graduated to lead or manage teams appropriate to these activities, and may establish their own companies or move into senior management roles in engineering and related enterprises are provided.

- Discuss the programme delivery and assessment methods and how these are appropriate to, consistent with, and support the development of the range of intellectual and practical skills and attainment or achievement of the Learning Outcomes. (MEng C)

Program delivery & assessment at Diploma & Advanced level

The students are provided with online lessons, study guides which include audio visual explanations in both English & Myanmar languages. The electronic text books and reference books are also provided.

For the students who can not have the access to the high speed internet are provided with DVDs, CDs and USBs consisting of the lessons.

It has established the learning platform from which the study guides & instructions, exercise, assignments, audio & video lessons can be downloaded.

<http://www.highlightcomputer.com/onlineteaching1.htm>

To provide the online teaching to be the same learning environment as to face to face class, IQY Technical College has established the online videos & Youtube videos of lectures.

Youtube videos of lectures

<http://www.highlightcomputer.com/videos2.htm>

Online videos

<http://www.highlightcomputer.com/videos1.htm>

Online practical simulation at Level 1 is also provided.

Practical is important aspect in engineering education. IQY Technical College also provides the engineering practicals by online mode.

It has established the online practical support websites to provide three levels of engineering practicals.

The sites are

<http://www.highlightcomputer.com/PracticalCourses.htm>

&

<http://www.iqytechnicalcollege.com/youtubevideos.htm>

Level 1- Tradesmen Level in which the basic trades tasks videos such as brick laying, motor winding, wiring, engine fittings, machining etc are presented.

Level 2- Technician Level in which the technician tasks such as electrical laboratory, surveying etc are presented

Level 3- Engineer Level in which use of engineering design handbooks are presented.

For all three levels, the reference books related to practical applications are presented.

Assessment

The students need to do the continuous study as per guidelines and instruction provided in study guides and do the exercises. They are required to regularly submit the assignments and sit the online MCQ tests

Online Theory & MCQ Practice

http://www.filefactory.com/file/6m8zvfek7797/n/Online_Theory_MCQ_Practice_pdf

Online Practical Practice

http://www.filefactory.com/file/3ap0vv6o8azx/n/Online_Practical_Practice_pdf

Upon satisfactory completion of the assessments, the progression is granted.

Upon completion of all units / subject in the program, the qualification is awarded.

Program delivery & assessment at Professional Diploma level

The same learning system is applied. But for the professional diploma level, the written tests as well as engineering management, project tasks, design presentation and engineering competency demonstration report writings are included in the assessment.

- The information required in items (i) and (ii) should include but is not limited to the following:
- A matrix linking courses to Learning Outcomes to identify and track the contribution of each course to the Learning Outcomes. (Overall Learning outcomes link to each unit)
- Distribution of engineering courses according to areas specific to each program

(MEng C)

Diploma in Electrical Engineering

Learning Outcome	Subjects	Study Area
<u>1. KNOWLEDGE AND SKILL BASE</u> 1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain. 1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain. 1.3. In-depth understanding of specialist bodies of knowledge within the technology domain. 1.4. Discernment of knowledge development within the technology domain.	EE101 DC Circuit Problems EE113 Electrical Fundamental EE201 Engineering Mathematics (1) EE111 Electromagnetism & Basic Electrical Machines EE112 Alternating Current Principle EE109 Electrical Control Circuits EE114 Electrical Power Principle EE115 Basic Analogue & Digital Electronics EE102 Basic Electrical Fitting & Wiring EE103 Basic Electrical Drafting EE104 Electrical Equipments Safety Protection	Electrical Maths Electrical/Science Electrical/Electronics Electrical/Drafting

<p>1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.</p> <p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.</p>	<p>EE105 Electrical Installation Design EE106 Advanced Electrical Wiring</p> <p>EE107 Electrical Equipments EE108 Electrical Fault Finding</p>	<p>Design/ Trade Work</p> <p>Instrumentation/ TradeWork</p>
<p><u>2. ENGINEERING APPLICATION ABILITY</u></p> <p>2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.</p> <p>2.2. Application of engineering techniques, tools and resources within the technology domain.</p> <p>2.3. Application of systematic synthesis and design processes within the technology domain.</p> <p>2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.</p>	<p>EE121 Electronics Power Control Device EE116 Process Control System</p> <p>EE117 Solar Electrical System EE118 Electrical Energy Supply System EE110 Computer Applications</p> <p>EE105 Electrical Installation Design EE106 Advanced Electrical Wiring</p> <p>EE119 Electrical Risk Assessment EE120 Electrical Contracting & Specification</p>	<p>Electronics/ Instrumentation</p> <p>Renewable Energy Power Engineering Computer</p> <p>Design/ Trade Work</p> <p>Project Management</p>
<p><u>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</u></p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p>	<p>EE120 Electrical Contracting & Specification</p>	<p>Project Management</p>

<p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>	EE120 Electrical Contracting & Specification	Project Management
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Advanced Diploma in Electrical Engineering

Learning Outcome	Subjects	Study Area
<p><u>1. KNOWLEDGE AND SKILL BASE</u></p> <p>1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain.</p> <p>1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain.</p> <p>1.3. In-depth understanding of specialist bodies of knowledge within the technology domain.</p>	<p>EE201 Engineering Mathematics EE302 Advanced Engineering Mathematics</p> <p>EE202 Electrical Circuits</p> <p>EE204 Engineering Physics EE203 Three Phase Power Circuits</p> <p>EE205 Electrical Power System EE206 AC Machines EE207 DC Machine EE208 Operational Amplifiers EE209 Analogue Electronics</p>	<p>Mathematics</p> <p>Electrical</p> <p>Science</p> <p>Electrical</p> <p>Electrical</p> <p>Electronics</p>

<p><u>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</u></p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p> <p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>	<p>EE309 Project Management EE310 Engineering Officer Competency Report</p> <p>EE309 Project Management</p> <p>EE310 Engineering Officer Competency Report</p>	<p>Project Management</p> <p>Engineering Ethics</p> <p>Project Management</p> <p>Engineering Ethics</p>
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Professional Diploma in Electrical Engineering

Learning Outcome	Subjects	Study Area
<p>1. KNOWLEDGE AND SKILL BASE</p> <p>1.1. Comprehensive, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline.</p> <p>1.2. Conceptual understanding of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the engineering discipline.</p>	<p><u>BAE 403 Engineering Mechanics</u> (1 pt)</p> <p><u>BAE 404 Engineering Materials & Thermodynamics</u> (3 pt)</p> <p>RE001- Foundation Studies in Renewable Energy and Sustainability (2 pt)</p> <p>BAE 401 Advanced Engineering Mathematics (9 pt)</p> <p><u>BAE 402 Calculus</u> (3 pt)</p> <p>BAE 601 Computer Programming</p> <p>BAE 603 Software Engineering</p>	<p>Mechanical</p> <p>Renewable Energy</p> <p>Mathematics</p> <p>Computer</p>

<p>1.3. In-depth understanding of specialist bodies of knowledge within the engineering discipline.</p> <p>1.4. Discernment of knowledge development and research directions within the engineering discipline.</p> <p>1.5. Knowledge of engineering design practice and contextual factors impacting the engineering discipline.</p> <p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the specific discipline.</p>	<p>RE003- Solar and Thermal Energy Systems (2 pt)</p> <p>RE006- Wind Energy Conversion Systems (2 pt)</p> <p>RE013-Electrical Machines</p> <p>RE014-Electronics Control</p> <p>RE007- Energy System Efficiency</p> <p>RE010-Engineering Materials (2 pt)</p> <p>RE012a-Electrical Engineering Part 1 (2pt)</p> <p>RE002- Grid Connected Photovoltaic Power Systems</p> <p>RE005- Renewable Energy Resource Analysis (2 pt)</p> <p>BAE 602 Computer Network</p> <p>RE004- Energy Storage Systems (2 pt)</p> <p>RE012b-Electrical Engineering Part 2</p>	<p>Renewable Energy</p> <p>Electrical</p> <p>Electronics</p> <p>Renewable Energy</p> <p>Material Science</p> <p>Electrical</p> <p>Electronics</p> <p>Renewable Energy</p> <p>Computer</p> <p>Mechanical</p> <p>Electrical</p>
<p>2. ENGINEERING APPLICATION ABILITY</p> <p>2.1. Application of established engineering methods to complex engineering problem solving.</p> <p>2.2. Fluent application of engineering techniques, tools and resources.</p>	<p>BAE 501 Advanced Power Systems & Power Transmission Networks</p> <p>BAE 506 Power System Stability & Protection</p> <p>BAE 604 Telecommunication Engineering</p>	<p>Power Engineering</p> <p>Telecommunication</p>

<p>2.3. Application of systematic engineering synthesis and design processes.</p> <p>2.4. Application of systematic approaches to the conduct and management of engineering projects.</p>	<p>RE016-Design& Management (BAE508) (2 pt)</p> <p>RE015-Electrical Project/ Practice</p>	<p>Design</p> <p>Project</p>
<p>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p> <p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>	<p>RE015-Electrical Project/ Practice</p> <p>BAE 608 Professional Engineer Competency Demonstration Report</p>	<p>Project</p> <p>Engineering Ethics+ Practice</p>

Diploma in Civil Engineering

Learning Outcome	Subjects	Study Area
<p><u>1. KNOWLEDGE AND SKILL BASE</u></p> <p>1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain.</p> <p>1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain.</p> <p>1.3. In-depth understanding of specialist bodies of knowledge within the technology domain.</p> <p>1.4. Discernment of knowledge development within the technology domain.</p> <p>1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.</p> <p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.</p>	<p>Certificate in Construction Studies</p> <p>CE 104 A Building Drawing CE 108 Electrical Principle</p> <p>CE 101 Mathematics (EE201) CE 102 Physics (EE204)</p> <p>CE 104 Fluid Dynamics CE 105 Hydraulic CE 106 Hydrology</p> <p>CE 107 Sanitation-and-Water-supply</p> <p>CE 109 Energy Efficient Building Design (EE309) CE 110 Building Construction</p> <p>EE102 Basic Electrical Fitting & Wiring</p> <p>CE 106A Detailed Construction & Building Construction Materials</p>	<p>Construction Electrical</p> <p>Maths/Science</p> <p>Civil</p> <p>Civil</p> <p>Design Construction</p> <p>Electrical/ Building Trade</p>
<p><u>2. ENGINEERING APPLICATION ABILITY</u></p> <p>2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.</p>	<p>CE 108 Electrical Principle CE 107 Sanitation-and-Water-supply</p> <p>CE 110 Building Construction CE 108 Electrical Principle</p>	<p>Electrical/ Building Trade</p>

<p>2.2. Application of engineering techniques, tools and resources within the technology domain.</p> <p>2.3. Application of systematic synthesis and design processes within the technology domain.</p> <p>2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.</p>	<p>CE 107 Sanitation-and-Water-supply</p> <p>CE 110 Building Construction</p> <p>CE 109 Energy Efficient Building Design (EE309)</p> <p>CE 110 Building Construction</p> <p>CE 109 Energy Efficient Building Design (EE309)</p>	<p>Civil</p> <p>Construction</p> <p>Electrical/ Building Trade</p>
<p><u>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</u></p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p> <p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>	<p>CE 109 Energy Efficient Building Design (EE309)</p>	<p>Design</p>

Advanced Diploma in Civil Engineering

Learning Outcome	Subjects	Study Area
<u>1. KNOWLEDGE AND SKILL BASE</u> 1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain. 1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain. 1.3. In-depth understanding of specialist bodies of knowledge within the technology domain. 1.4. Discernment of knowledge development within the technology domain. 1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain. 1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.	CE113 Structure 1 CE114 Structure 2 ME 102 Engineering Thermodynamics CE 112 Engineering Mechanics+ ME 301 Applied Mathematics ME 334 Airconditioning and Refrigeration EE106 Advanced Electrical Wiring ME 334 Airconditioning and Refrigeration EE106 Advanced Electrical Wiring EE105 Electrical Installation Design CE115 Estimating & Specification CE103-Surveying CE111A-Road+Bridges EE308 Sustainability	Structural Engineering Mechanical+Maths Mechanical Electrical Mechanical Electrical Electrical Construction Civil Renewable Energy
<u>2. ENGINEERING APPLICATION ABILITY</u> 2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.	EE104 Electrical Equipments Safety Protection CE113 Structure 1 CE114 Structure 2	Electrical Structural Engineering

<p>2.2. Application of engineering techniques, tools and resources within the technology domain.</p> <p>2.3. Application of systematic synthesis and design processes within the technology domain.</p> <p>2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.</p>	<p>CE 110 Building Construction</p> <p>CE115 Estimating & Specification</p> <p>CE111A-Road+Bridge CE114 Structure 2</p> <p>CE309 Project Management</p>	<p>Construction</p> <p>Civil Structural</p> <p>Project</p>
<p><u>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</u></p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p> <p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>	<p>CE309 Project Management</p> <p>CE310 Engineering Competency Demonstration Report</p>	<p>Project</p> <p>Engineering Ethics+ Practice</p>

Professional Diploma in Civil Engineering

Learning Outcome	Subjects	Study Area
1. KNOWLEDGE AND SKILL BASE		
1.1. Comprehensive, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline.	BAE 403 Engineering Mechanics (1 pt) BAE 404 Engineering Materials & Thermodynamics (3 pt)	Mechanical
1.2. Conceptual understanding of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the engineering discipline.	BAE 401 Advanced Engineering Mathematics (9 pt) BAE 402 Calculus (3 pt)	Mathematics
1.3. In-depth understanding of specialist bodies of knowledge within the engineering discipline.	RE001- Foundation Studies in Renewable Energy and Sustainability (2 pt) RE011a-Civil& Mechanical Engineering Part 1 (2 pt) (Assessment- Study Report)	Renewable Energy Civil/Mechanical
1.4. Discernment of knowledge development and research directions within the engineering discipline.	RE003- Solar and Thermal Energy Systems (2 pt) RE004- Energy Storage Systems (2 pt) RE012a-Electrical Engineering Part 1 (2pt)	Renewable Energy Mechanical Electrical
1.5. Knowledge of engineering design practice and contextual factors impacting the engineering discipline.	RE010-Engineering Materials (2 pt) RE016-Design& Management (BAE508) (2 pt)	Material Computer/Design
1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the specific discipline.	RE011b-Civil& Mechanical Engineering Part 2a (2 pt)(Assessment- Study Report) BAE423 Fluid Mechanics (2 pt) BAE424 Reinforced Concrete (2 pt) BAE522 Rock Mechanics (2 pt)	Civil/Mechanical Civil Structural Civil

<p>2. ENGINEERING APPLICATION ABILITY</p> <p>2.1. Application of established engineering methods to complex engineering problem solving.</p> <p>2.2. Fluent application of engineering techniques, tools and resources.</p> <p>2.3. Application of systematic engineering synthesis and design processes.</p> <p>2.4. Application of systematic approaches to the conduct and management of engineering projects.</p>	<p>BAE421 Building Construction Engineering (2 pt)</p> <p>BAE 606 Building Service Electrical & Mechanical Engineering (2 pt)</p> <p>BAE 523A Environmental Engineering (2 pt)</p> <p>BAE623 Surveying & Traffic Engineering (2 pt)</p> <p>BAE624 Water Supply , Sanitation & Finishing (2 pt)</p> <p>RE005- Renewable Energy Resource Analysis (2 pt)</p> <p>RE006- Wind Energy Conversion Systems (2 pt)</p> <p>BAE621 Structural Engineering (2 pt)</p> <p>BAE422 Estimating (2 pt)</p> <p>BAE 605 Project Management</p>	<p>Construction</p> <p>Building Services</p> <p>Civil</p> <p>Civil</p> <p>Renewable Energy</p> <p>Renewable Energy</p> <p>Structural</p> <p>Structural</p> <p>Project</p>
<p>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p>	<p>BAE 605 Project Management</p> <p>BAE 608 Professional Engineer Competency Demonstration Report</p>	<p>Project</p> <p>Ethics+ Practice</p>

3.3. Creative, innovative and pro-active demeanour.	BAE 605 Project Management	Project
3.4. Professional use and management of information.	BAE 608 Professional Engineer Competency Demonstration Report	Ethics+ Practice
3.5. Orderly management of self, and professional conduct.		
3.6. Effective team membership and team leadership.		

Diploma in Mechanical Engineering

Learning Outcome	Subjects	Study Area
<u>1. KNOWLEDGE AND SKILL BASE</u>		
1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain.	ME 102 Engineering Thermodynamics ME 103 Engineering Mechanics ME 104 Machine Principle ME 105 Electrical Principle	Mechanical/Science Electrical
1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain.	Maths 101 Engineering Mathematics (EE201) ME 101 Applied Mathematics	Mathematics
1.3. In-depth understanding of specialist bodies of knowledge within the technology domain.	ME 106 Electrical Circuits ME 107 Heat Transfer ME 108 Principle of Engines ME201 Introduction to Fluid Mechanics	Electrical Mechanical/Science Mechanical/Science
1.4. Discernment of knowledge development within the technology domain.	ME 207 Chemical Thermodynamics ME 208 Hydrocarbons ME 209 Introduction-to-polymer-science-and-technology	Mechanical/Science Mechanical/Science Mechanical/Science

<p>1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.</p> <p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.</p>	<p>ME 205 Manufacturing Processes-and-Materials</p> <p>ME 202 Introduction to Aero Dynamics</p> <p>ME 203 Control Engineering</p> <p>ME 234 Wind Turbines</p>	<p>Design</p> <p>Design</p> <p>Control</p> <p>Renewable Energy</p>
<p><u>2. ENGINEERING APPLICATION ABILITY</u></p> <p>2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.</p> <p>2.2. Application of engineering techniques, tools and resources within the technology domain.</p> <p>2.3. Application of systematic synthesis and design processes within the technology domain.</p> <p>2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.</p>	<p>ME 204 Engineering Fluid Mechanics</p> <p>ME 206 Introduction to Turbo Machinery</p> <p>ME 205 Manufacturing Processes-and-Materials</p> <p>Mgt 501 Basic Management</p>	<p>Mechanical</p> <p>Mechanical</p> <p>Design</p> <p>Management/Computer</p>
<p><u>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</u></p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p>	<p>Mgt 501 Basic Management</p>	<p>Management/Computer</p>

3.3. Creative, innovative and pro-active demeanour. 3.4. Professional use and management of information. 3.5. Orderly management of self, and professional conduct. 3.6. Effective team membership and team leadership.		
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Advanced Diploma in Mechanical Engineering

Learning Outcome	Subjects	Study Area
<u>1. KNOWLEDGE AND SKILL BASE</u> 1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain. 1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain. 1.3. In-depth understanding of specialist bodies of knowledge within the technology domain. 1.4. Discernment of knowledge development within the technology domain. 1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.	ME 306 Theory-of-waves-in-materials ME 301 Fluid Dynamics Maths 403 Engineering-Mathematics (EE302) ME 304 Introduction to Nonlinearity-in-control-systems ME 301 Fluid Dynamics ME 302 Automation-and-Robotics ME 301 Fluid Dynamics ME 302 Automation-and-Robotics ME 303 Computer Aided Design and Manufacturing	Science/Mechanical Mathematics Science/Mechanical Design/Computer

1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.	ME 305 Corrosion Prevention ME 334 Airconditioning and Refrigeration	Science/Mechanical Mechanical
<u>2. ENGINEERING APPLICATION ABILITY</u> 2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain. 2.2. Application of engineering techniques, tools and resources within the technology domain. 2.3. Application of systematic synthesis and design processes within the technology domain. 2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.	ME 534 Numerical Control EE 624 Process Control ME 434 Mechtronics-Robotics ME 634 Pneumatics EE 617 Building Electrical and Mechanical System Part 1 (EE309) Mgt 503 Production & Operation Management Mgt 505 Quality Management and Manufacturing Engineering	Instrumentation Building Services Production/ Management
<u>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</u> 3.1. Ethical conduct and professional accountability. 3.2. Effective oral and written communication in professional and lay domains.	Mgt 503 Production & Operation Management Mgt 505 Quality Management and Manufacturing Engineering	Production/ Management

3.3. Creative, innovative and pro-active demeanour.	ME310 Engineering Competency Demonstration Report	Ethics+ Engineering Practice
3.4. Professional use and management of information.		
3.5. Orderly management of self, and professional conduct.		
3.6. Effective team membership and team leadership.	ME310 Engineering Competency Demonstration Report	Ethics+ Engineering Practice

Professional Diploma in Mechanical Engineering

Learning Outcome	Subjects	Study Area
1. KNOWLEDGE AND SKILL BASE		
1.1. Comprehensive, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline.	BAE 404 Engineering Materials & Thermodynamics (3 pt) RE001- Foundation Studies in Renewable Energy and Sustainability (2 pt)	Science/Mechanical Renewable Energy
1.2. Conceptual understanding of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the engineering discipline.	BAE 601 Computer Programming(2 pt) BAE 401 Advanced Engineering Mathematics (9 pt) BAE 402 Calculus (3 pt)	Mathematics/ Computer
1.3. In-depth understanding of specialist bodies of knowledge within the engineering discipline.	BAE 403 Engineering Mechanics (1 pt) RE003- Solar and Thermal Energy Systems (2 pt)	Mechanical
1.4. Discernment of knowledge development and research directions within the engineering discipline.	RE004- Energy Storage Systems (2 pt) RE005- Renewable Energy Resource Analysis (2 pt) RE006- Wind Energy Conversion Systems (2 pt)	Renewable Energy

<p>1.5. Knowledge of engineering design practice and contextual factors impacting the engineering discipline.</p> <p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the specific discipline.</p>	<p>RE010-Engineering Materials (2 pt) RE016-Design& Management (BAE508) (2 pt)</p> <p>RE012a-Electrical Engineering Part 1 (2pt)</p> <p>RE011a-Civil & Mechanical Engineering Part 1 (2 pt) (Assessment- Study Report)</p>	<p>Design</p> <p>Electrical</p> <p>Civil/Mechanical</p>
<p>2. ENGINEERING APPLICATION ABILITY</p> <p>2.1. Application of established engineering methods to complex engineering problem solving.</p> <p>2.2. Fluent application of engineering techniques, tools and resources.</p>	<p>RE011b-Civil & Mechanical Engineering Part 2a (2 pt) (Assessment- Study Report)</p> <p>BAE311 Plant Engineering (2 pt)</p> <p>BAE314 Mechanical Power Generation (2 pt)</p> <p>BAE315 Materials Engineering (2 pt) Part 1 Part 2 (2 pt)</p> <p>BAE511 Air-conditioning & Refrigeration Part 1 (2 pt)</p> <p>BAE512 Building Service Water Supply System (2 pt)</p> <p>BAE613 Mechanical Instrumentation Process(2 pt)</p> <p>BAE 606 Building Service Electrical & Mechanical Engineering (2 pt)</p> <p>RE007- Energy System Efficiency(2 pt)</p>	<p>Civil/Mechanical</p> <p>Mechanical</p> <p>Building Services</p> <p>Instrumentation</p> <p>Building Services</p> <p>Mechanical</p>

2.3. Application of systematic engineering synthesis and design processes.	BAE614 Machine Design (2 pt)	Design
2.4. Application of systematic approaches to the conduct and management of engineering projects.	ME309 Project Management	Project
3. PROFESSIONAL AND PERSONAL ATTRIBUTES		
3.1. Ethical conduct and professional accountability.	ME309 Project Management	Project
3.2. Effective oral and written communication in professional and lay domains.	ME310 Engineering Competency Demonstration Report	Ethics + Engineering Practice
3.3. Creative, innovative and pro-active demeanour.		
3.4. Professional use and management of information.		
3.5. Orderly management of self, and professional conduct.		
3.6. Effective team membership and team leadership.		

Criterion 1: Academic Curriculum

(curricular design)the philosophy and approach adopted in the programme structure, (MEng C)

The Diploma & Advanced Diploma level engineering curriculums are designed to provide the Engineering Competencies at Technician/ Technologist & Professional Engineer level.

They are based on Year 12 level schooling.

At the diploma level, the basic engineering theories are mixed with trades level practical knowledge and applications. Appropriate contents of mathematics, science and cross disciplinary contents are inserted.

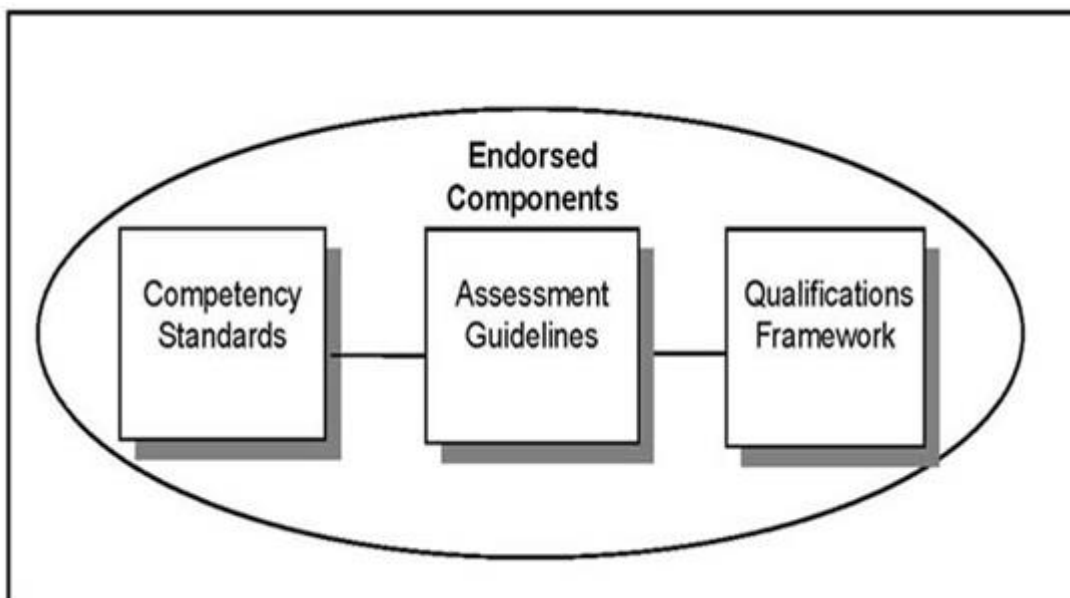
The engineering Industry is subject to high levels of legislation, regulation, codes of practice, guidelines and advisory standards, related to: research, assembly, installation, construction, diagnoses, maintenance, commissioning, programming, testing and repair of networks; systems,

circuits, equipment, components, appliances and facilities in the field of electricity and communications. The regulatory requirements are typically based on the principle of operation of the various systems and associated circuits involving equipment, apparatus and systems, public safety, safety and health of individuals who work on lines/circuits, systems and apparatus/equipment and other codes and practices related to the environment in which they are installed, operate and are maintained.

To fulfil such requirements, IQY Technical College Diploma & Advanced Diploma program are designed with the following requirements

- To provide a consistent and reliable set of components for training, recognising and assessing people's skills, and may also have optional support materials
- To enable the qualifications to be awarded through direct assessment of workplace competencies
- To apply and delivery of flexible training which suits individual and industry requirements
- To encourage learning and assessment in a work-related environment which leads to verifiable workplace outcomes.

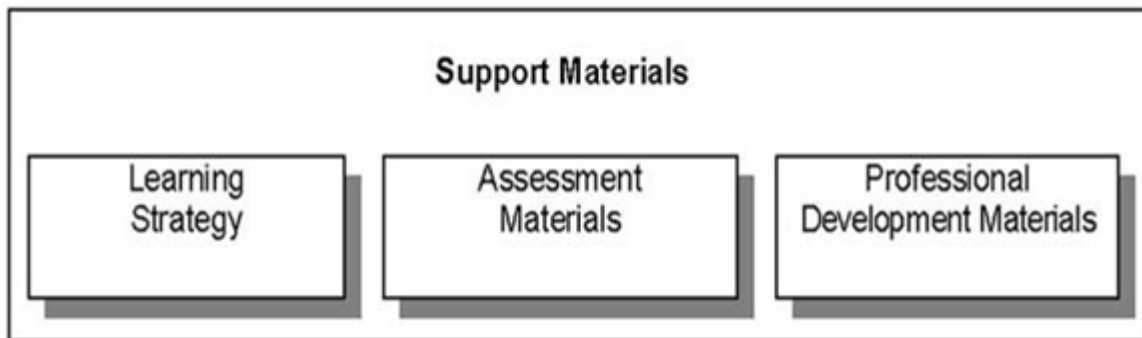
IQY Technical College's Diploma & Advanced Diploma program are largely based on Australian training system that reflect the following structure.



Competency Standards

Each unit of competency identifies a discrete workplace requirement and includes the knowledge and skills that underpin competency as well as language, literacy and numeracy; and occupational health and safety requirements. The units of competency must be adhered to in training and assessment to ensure consistency of outcomes

The online & off line learning support materials are designed with the following features.



The following competency areas are included

- A – Assembly
- C – Commercial
- D – Computer systems
- E – Cross discipline
- F – Data and voice communications
- G – Electrical
- H – Electronic
- I – Instrument and Control
- J – Refrigeration and Air Conditioning
- K – Renewable and sustainable energy
- M – Hazardous areas
- P – Restricted and specialist
- R – Research

Language, Literacy, Numeracy

The study support materials have been written to reflect the technical and operational needs of industry and include appropriate language and literacy requirements of Myanmar students. A new and specific section related to literacy and numeracy skills has been included in the competency standard. It characterises how participants are to be best equipped to achieve the relevant unit, in terms of reading, writing and numeracy skill levels.

Access, Equity and Cultural Diversity

The skills required of employees in the Engineering Industry are comprehensive and are relevant to many different employment situations. The study support materials reflect the range of knowledge and skills and their application, required in the Industry. They are written in a non-exclusive manner so as to increase the participation rates of under-represented groups and to minimise unintentional bias.

Quality Control Aspects

- *Maintenance of Contents Standards* – to initiate and respond to the need to review, vary, delete and add to the Engineering competency standard units, as part of the sector's standards inventory
- *Maintenance of Competency Delivery Processes* – to monitor the effectiveness of the delivery of competency and so initiate and respond to issues which may impact on those processes
- *Maintenance of Assessment Guidelines* – to monitor the effectiveness of the Assessment Guidelines and supporting systems; to initiate and respond to issues which impact, or are likely to impact, on the quality of the assessment systems and to promote quality improvement throughout the system
- *Maintenance of the Qualification and Recognition Systems* – to monitor the effectiveness of the application of the Qualification and Recognition Systems contained in the courses and to review/revise the system as required

Philosophy related to Learning Out comes provided by IQY Technical College Diploma & Advanced Diploma curriculums

Certificate (Part 1)

Characteristics of Learning Outcomes

- Breadth, depth and complexity of knowledge and competencies would cover selecting, adapting and transferring skills and knowledge to Australian environments and providing technical advice and some leadership in resolution of specified problems. This would be applied across a range of roles in a variety of contexts with some complexity in the extent and choice of options available.
- Performance of a defined range of skilled operations, usually within a range of broader related activities involving known routines, methods and procedures, where some discretion and judgement is required in the selection of equipment, services or contingency measures and within known time constraints.
- Applications may involve some responsibility for others. Participation in teams including group or team coordination may be involved.
- Distinguishing Features of Learning Outcomes
- Do the competencies enable an individual with this qualification to:
- demonstrate some relevant theoretical knowledge
- apply a range of well-developed skills
- apply known solutions to a variety of predictable problems
- perform processes that require a range of well-developed skills where some discretion and judgement is required
- interpret available information, using discretion and judgement
- take responsibility for own outputs in work and learning
- take limited responsibility for the output of others

Certificate (Part 2)

Characteristics of Learning Outcomes

- Breadth, depth and complexity of knowledge and competencies would cover a broad range of varied activities or application in a wider variety of contexts most of which are complex and non-routine. Leadership and guidance are involved when organising activities of self and others as well as contributing to technical solutions of a non-routine or contingency nature.
- Performance of a broad range of skilled applications including the requirement to evaluate and analyse current practices, develop Australian criteria and procedures for performing current practices and provision of some leadership and guidance to others in the application and planning of the skills.
- Applications involve responsibility for, and limited organisation of, others.
- Distinguishing Features of Learning Outcomes
- Do the competencies enable an individual with this qualification to:
- demonstrate understanding of a broad knowledge base incorporating some theoretical concepts
- apply solutions to a defined range of unpredictable problems
- identify and apply skill and knowledge areas to a wide variety of contexts, with depth in some areas

- identify, analyse and evaluate information from a variety of sources
- take responsibility for own outputs in relation to specified quality standards
- take limited responsibility for the quantity and quality of the output of others

Diploma

Characteristics of Learning Outcomes

- Breadth, depth and complexity covering planning and initiation of alternative approaches to skills or knowledge applications across a broad range of technical and/or management requirements, evaluation and coordination.
- The self directed application of knowledge and skills, with substantial depth in some areas where judgement is required in planning and selecting appropriate equipment, services and techniques for self and others.
- Applications involve participation in development of strategic initiatives as well as personal responsibility and autonomy in performing complex technical operations or organising others. It may include participation in teams including teams concerned with planning and evaluation functions. Group or team coordination may be involved.
- The degree of emphasis on breadth as against depth of knowledge and skills may vary between qualifications granted at this level.
- Distinguishing Features of Learning Outcomes
- Do the competencies or learning outcomes enable an individual with this qualification to:
demonstrate understanding of a broad knowledge base incorporating theoretical concepts, with substantial depth in some areas
- analyse and plan approaches to technical problems or management requirements
- transfer and apply theoretical concepts and/or technical or creative skills to a range of situations
- evaluate information, using it to forecast for planning or research purposes
- take responsibility for own outputs in relation to broad quantity and quality parameters
- take some responsibility for the achievement of group outcomes

Advanced Diploma

Characteristics of Learning Outcomes

- Breadth, depth and complexity involving analysis, design, planning, execution and evaluation across a range of technical and/or management functions including development of Australian criteria or applications or knowledge or procedures.
- The application of a significant range of fundamental principles and complex techniques across a wide and often unpredictable variety of contexts in relation to either varied or highly specific functions. Contribution to the development of a broad plan, budget or strategy is involved and accountability and responsibility for self and others in achieving the outcomes is involved.
- Applications involve significant judgement in planning, design, technical or leadership/guidance functions related to products, services, operations or procedures.
- The degree of emphasis on breadth as against depth of knowledge and skills may vary between qualifications granted at this level.
- Distinguishing Features of Learning Outcomes
- Do the competencies or learning outcomes enable an individual with this qualification to:
 - demonstrate understanding of specialised knowledge with depth in some areas
 - analyse, diagnose, design and execute judgements across a broad range of technical or management functions
 - generate ideas through the analysis of information and concepts at an abstract level
 - demonstrate a command of wide-ranging, highly specialised technical, creative or conceptual skills
 - demonstrate accountability for personal outputs within broad parameters
 - demonstrate accountability for personal and group outcomes within broad parameters

Professional Diploma

Year 2+3 Learning Outcomes & Teaching /Assessment Strategies

Purpose

Development and consolidation of discipline knowledge and skills, with increasing opportunities for application

Knowledge

comprehensive understanding of the major theoretical approaches, concepts, practices, methodologies, etc.

Skills

- Consolidate and extend key academic skills including:

- high order cognitive skills in processing knowledge
- rigorous techniques of enquiry involving primary and secondary sources and a range of technologies
- problem solving and creativity using various techniques in diverse contexts
- collaborative and independent learning
- communication skills (oral, written, academic, professional) including the use of relevant technologies
- Consolidate and extend key discipline technical skills

Application of Knowledge & Skills

- apply and adapt major theoretical principles and approaches to real world contexts
- develop skills in planning, problem solving, decision-making, teamwork, communication, intellectual independence and accountability in professional practice and/or scholarship

Key Verbs

- organise
- integrate
- differentiate, examine
- distinguish
- discuss, elaborate
- calculate
- collaborate
- discover
- critically review
- explain, interpret
- compare, contrast
- summarise, paraphrase
- demonstrate
- cooperate
- use, modify
- organise

Types of assessments

- critical review
- construct a chart
- analyse data, graph
- create a database
- write a reflective journal
- analyse an argument
- compare theories
- make generalisations

- apply models
- develop and conduct a survey
- investigate an issue
- critical essay
- role play
- make a presentation
- debate
- defend a position
- quiz, test, exam
- tutorial paper

Year 4 Learning Outcomes & Teaching /Assessment Strategies

Purpose

The Professional Diploma comparable to Bachelor Degree qualifies individuals who apply a broad and coherent body of knowledge in a range of contexts to undertake professional work and as a pathway for further learning

Knowledge

- broad and coherent knowledge with depth in one or more disciplines

Skills

- cognitive skills to critically, analyse, consolidate and synthesise knowledge
- cognitive and technical skills to demonstrate a broad understanding of knowledge with depth in some areas
- cognitive and creative skills to exercise critical thinking and judgement in identifying and solving problems with intellectual independence
- communication skills to present a clear, coherent and independent exposition of knowledge and ideas

Application of Knowledge & Skills

- apply knowledge and skills with initiative and judgement in planning, problem solving and decision making in professional practice and/or scholarship
- adapt knowledge and skills in diverse contexts
- with responsibility and accountability for own learning and professional practice and in collaboration with others within broad parameters

Key Verbs

- assemble
- manage
- formulate, devise
- generate, construct
- deconstruct
- solve

- assess, estimate
- investigate, scope
- plan
- convert, translate
- justify, predict
- create, design, compose
- judge, determine, diagnose
- innovate, invent

Types of Assessment

- project
- presentation on a topic/project
- seminar paper and presentation
- report
- case study
- scenarios
- major essay
- plan
- creative writing (story, poem song)
- musical work, sculpture
- performance of a musical work, play
- film making
- translation of a text
- simulation
- organisation of an event
- work-integrated learning
- teamwork
- quiz, test/exam
- reflective journal
- posters
- portfolio
- exam
- viva voce

Preparation for Professional Engineer Program

Purpose

The Professional Engineer Status who apply a body of knowledge in a specific context to undertake professional work and as a pathway for research and further learning.

Knowledge

- coherent advanced knowledge of the principles and concepts in one or more disciplines and knowledge of research principles and methods

Skills

- cognitive skills to review, analyse, consolidate and synthesise knowledge to identify and provide solutions to complex problems with intellectual independence
- cognitive and technical skills to demonstrate a broad understanding of a body of knowledge and theoretical concepts with advanced understanding in some areas
- cognitive skills to exercise critical thinking and judgement in developing new understanding technical skills to design and use research in a project
- communication skills to present a clear and coherent exposition of knowledge and ideas to a variety of audience

Application of knowledge & Skills

- apply knowledge and skills with initiative and judgement in professional practice and/or scholarship
- adapt knowledge and skills in diverse contexts
- with responsibility and accountability for own learning and practice and in collaboration with others within broad parameters
- plan and execute project work and/or a piece of research and scholarship with some independence

Key Verbs

- research work on system/ modification/ re-engineering/ reverse engineering
- adapt the news systems / alternative system/ more efficient system
- initiate the new technology & application
- consolidate the several functions
- execute the planning & management in engineering works

Types of assessment

- literature review on application/ methods/ system report/ project report
- research paper on new engineering development & systems
- report on project
- creative work on engineering design project
- seminar paper and presentation
- conference paper
- journal article
- viva voce

Based on the above learning outcomes & teaching strategies, the curriculums are arranged & relevant contents are integrated as follows.

Detailed Contents

Detailed Contents of BE,B Bus& B App Sc (IT) Programs

[http://highlightcomputer.com/B%20E+B%20App%20Sc\(IT\)+B%20Bus%20Course%20Detailed%20Contents.htm](http://highlightcomputer.com/B%20E+B%20App%20Sc(IT)+B%20Bus%20Course%20Detailed%20Contents.htm)

Detailed Contents of Diploma + Advanced Diploma in Engineering, IT , Management & Business Programs

<http://www.highlightcomputer.com/detailedcontent.htm>

Course Outlines

<http://www.highlightcomputer.com/syllabus.htm>

Diploma Programs (IQY Technical College)

Electrical Engineering Course Outline

Management Course Outline

Information Technology Course Outline

Certificate in Information Technology Course Outline

Diploma in Information Technology Course Outline

Advanced Diploma in Information Technology Course Outline

Mechanical Engineering Course Outline

Civil Engineering Course Outline

Automotive Engineering Course Outline

Marine Engineering Course Outline

Professional Diploma + Bachelor of Engineering (Electrical, Civil, Mechanical Combined with Renewable Energy) Programs

Professional Diploma+ Bachelor Degree in Electrical Engineering

Professional Diploma+ Bachelor Degree in Civil Engineering

Professional Diploma+ Bachelor Degree in Mechanical Engineering

**Bachelor Degree Programs (St Clements University Higher Education School&
St Clements Technological University of British West Indies)**

Bachelor of Engineering (Electrical Engineering) Course Outline

Bachelor of Applied Science (Computer Science & Computer Technology)

Bachelor of Engineering (Mechanical Engineering-Mechatronics) Course Outline

Bachelor of Engineering (Civil Engineering-Building Services) Course Outline

Graduate Diploma of Civil Engineering + Bachelor of Applied Engineering (Final Year
Civil Design) Course Outline

Bachelor of Engineering (Civil) Course outline

Bachelor of Engineering (Mechanical) Course outline

Graduate Diploma of Mechanical Engineering + Bachelor of Applied Engineering
(Final Year Mechanical Design) Course Outline

Bachelor of Business /Bachelor of Applied Management Course Outline

Graduate Diploma of Engineering Practice (Computer Control Engineering) Course
Outline

Certificate in Teaching Support+ Diploma in Teaching Practice+ Bachelor of
Teaching+ Bachelor of Education (School & Vocational)

Scholarship Application Form for Volunteer Teachers

**Myanmar Engineers Board Professional Engineer (PE) (Electrical-Building
Services) Registration Support Program**

Graduate Diploma of Engineering Practice (Mechanical) Course Outline

Graduate Diploma of Engineering Practice (Civil) Course Outline

Graduate Diploma of Engineering (Electrical+ Electronics) Course Outline

AUSTRALIAN ELECTRICIAN TRAINING

Master Degree Programs (St Clements Technological University of British West Indies)

Master of Science (Information Technology)/Master of Information Technology

Master of Management

Master of Science (Engineering) / Master of Engineering

Master of Science (Renewable Energy Engineering)

Learning Outcome/Course/Assessment/ Time Allocation

Diploma in Electrical Engineering Each unit has 1 pt unless stated

Learning Outcome	Subjects	Time Allocation/ Assessment Method
<u>1. KNOWLEDGE AND SKILL BASE</u>	Each unit has 1 pt unless stated	Time Allocation
1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain.	EE101 DC Circuit Problems	1 Credit Point=24 Hr
1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain.	EE113 Electrical Fundamental (2 pt)	Assessment
1.3. In-depth understanding of specialist bodies of knowledge within the technology domain.	EE201 Engineering Mathematics (1)	Assignment/Test/ Examination/ Summative/ Formative Assessment Practical Simulation
1.4. Discernment of knowledge development within the technology domain.	EE111 Electromagnetism & Basic Electrical Machines(2 pt) EE112 Alternating Current Principle (2 pt) EE109 Electrical Control Circuits EE114 Electrical Power Principle EE115 Basic Analogue & Digital Electronics EE102 Basic Electrical Fitting & Wiring EE103 Basic Electrical Drafting EE104 Electrical Equipments Safety Protection (2 pt)	

<p>1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.</p> <p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.</p>	<p>EE105 Electrical Installation Design EE106 Advanced Electrical Wiring</p> <p>EE107 Electrical Equipments EE108 Electrical Fault Finding</p>	
<p><u>2. ENGINEERING APPLICATION ABILITY</u></p> <p>2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.</p> <p>2.2. Application of engineering techniques, tools and resources within the technology domain.</p> <p>2.3. Application of systematic synthesis and design processes within the technology domain.</p> <p>2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.</p>	<p>EE121 Electronics Power Control Device EE116 Process Control System(3 pt)</p> <p>EE117 Solar Electrical System EE118 Electrical Energy Supply System(3 pt) EE110 Computer Applications</p> <p>EE105 Electrical Installation Design EE106 Advanced Electrical Wiring</p> <p>EE119 Electrical Risk Assessment EE120 Electrical Contracting & Specification</p>	

EE120 Electrical Contracting & Specification

EE120 Electrical Contracting & Specification

Learning Outcome

	Time Allocation/ Assessment Method
1. Introduction and Welcome	10 minutes / Lecture
2. Overview of the Course	10 minutes / Lecture
3. Module Objectives and Learning Outcomes	10 minutes / Lecture
4. Key Concepts and Theoretical Framework	20 minutes / Lecture
5. Case Study Analysis	20 minutes / Interactive Discussion
6. Group Work and Problem Solving	30 minutes / Group Activity
7. Summary and Q&A Session	10 minutes / Lecture
8. Assignment Briefing	10 minutes / Lecture
9. Student Feedback and Evaluation	10 minutes / Survey
10. Conclusion and Next Steps	10 minutes / Lecture

1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain.

EE201 Engineering
Mathematics
EE302 Advanced
Engineering Mathematics

EE202 Electrical Circuits

EE204 Engineering Physics

EE203 Three Phase Power Circuits

Time Allocation

1 Credit Point=24 Hr

Assessment

Assignment/Test/
Examination/
Summative/
Formative Assessment
Practical Simulation

1.3. In-depth understanding of specialist bodies of knowledge within the technology domain.	EE205 Electrical Power System(2 pt) EE206 AC Machines(2 pt) EE207 DC Machine EE208 Operational (2 pt)Amplifiers EE209 Analogue Electronics	
1.4. Discernment of knowledge development within the technology domain.	EE303 Transmission Line (2 pt)	
1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.	EE301 Advanced Electrical Drafting EE307 Energy Efficient Building Design(2 pt)	
1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.	EE308 Sustainability	
<u>2. ENGINEERING APPLICATION ABILITY</u>		
2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.	EE305 Power Transformer (2 pt) EE306 Electro-mechanical Control (2 pt)	
2.2. Application of engineering techniques, tools and resources within the technology domain.	EE301 Advanced Electrical Drafting	
2.3. Application of systematic synthesis and design processes within the technology domain.	EE307 Energy Efficient Building Design (2 pt)	

<p>2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.</p>	<p>EE309 Project Management (2 pt)</p>	
<p><u>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</u></p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p> <p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>	<p>EE309 Project Management (2 pt) EE310 Engineering Officer Competency Report (2 pt)</p> <p>EE309 Project Management (2 pt)</p> <p>EE310 Engineering Officer Competency Report (2 pt)</p>	

Professional Diploma in Electrical Engineering Each unit has 2 pt unless stated

Learning Outcome	Subjects	Time Allocation/ Assessment Method
<p>1. KNOWLEDGE AND SKILL BASE</p> <p>1.1. Comprehensive, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline.</p> <p>1.2. Conceptual understanding of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the engineering discipline.</p> <p>1.3. In-depth understanding of specialist bodies of knowledge within the engineering discipline.</p> <p>1.4. Discernment of knowledge development and research directions within the engineering discipline.</p> <p>1.5. Knowledge of engineering design practice and contextual factors impacting the engineering discipline.</p>	<p><u>BAE 403 Engineering Mechanics</u> (1 pt)</p> <p><u>BAE 404 Engineering Materials & Thermodynamics</u> (3 pt)</p> <p>RE001- Foundation Studies in Renewable Energy and Sustainability (2 pt)</p> <p>BAE 401 Advanced Engineering Mathematics (9 pt)</p> <p><u>BAE 402 Calculus</u> (3 pt)</p> <p>BAE 601 Computer Programming</p> <p>BAE 603 Software Engineering</p> <p>RE003- Solar and Thermal Energy Systems (2 pt)</p> <p>RE006- Wind Energy Conversion Systems (2 pt)</p> <p>RE013-Electrical Machines</p> <p>RE014-Electronics Control</p> <p>RE007- Energy System Efficiency</p> <p>RE010-Engineering Materials (2 pt)</p> <p>RE012a-Electrical Engineering Part 1 (2pt)</p> <p>RE002- Grid Connected Photovoltaic Power Systems</p>	<p>Time Allocation</p> <p>1 Credit Point=24 Hr</p> <p>Assessment</p> <p>Assignment/Test/ Examination/ Summative/ Formative Assessment Practical Simulation Research Project/ Presentation/ Competency Demonstration Report/ Design Project work</p>

<p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the specific discipline.</p>	<p>RE005- Renewable Energy Resource Analysis (2 pt)</p> <p>BAE 602 Computer Network</p> <p>RE004- Energy Storage Systems (2 pt)</p> <p>RE012b-Electrical Engineering Part 2</p>	
<p>2. ENGINEERING APPLICATION ABILITY</p> <p>2.1. Application of established engineering methods to complex engineering problem solving.</p> <p>2.2. Fluent application of engineering techniques, tools and resources.</p> <p>2.3. Application of systematic engineering synthesis and design processes.</p> <p>2.4. Application of systematic approaches to the conduct and management of engineering projects.</p>	<p>BAE 501 Advanced Power Systems & Power Transmission Networks</p> <p>BAE 506 Power System Stability & Protection</p> <p>BAE 604 Telecommunication Engineering</p> <p>RE016-Design& Management (BAE508) (2 pt)</p> <p>RE015-Electrical Project/ Practice</p>	
<p>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p>	<p>RE015-Electrical Project/ Practice</p> <p>BAE 608 Professional Engineer Competency Demonstration Report</p>	

<p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>		
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Diploma in Civil Engineering Each unit has 2.5 pt unless stated

Learning Outcome	Subjects	Time Allocation/ Assessment Method
<p><u>1. KNOWLEDGE AND SKILL BASE</u></p> <p>1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain.</p> <p>1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain.</p> <p>1.3. In-depth understanding of specialist bodies of knowledge within the technology domain.</p> <p>1.4. Discernment of knowledge development within the technology domain.</p>	<p>Certificate in Construction Studies</p> <p>CE 104 A Building Drawing CE 108 Electrical Principle</p> <p>CE 101 Mathematics (EE201) CE 102 Physics (EE204)</p> <p>CE 104 Fluid Dynamics CE 105 Hydraulic CE 106 Hydrology</p> <p>CE 107 Sanitation-and-Water-supply</p>	<p>Time Allocation</p> <p>1 Credit Point=24 Hr</p> <p>Assessment</p> <p>Assignment/Test/ Examination/ Summative/ Formative Assessment Practical Simulation</p>

<p>1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.</p> <p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.</p>	<p>CE 109 Energy Efficient Building Design (EE309) CE 110 Building Construction</p> <p>EE102 Basic Electrical Fitting & Wiring</p> <p>CE 106A Detailed Construction & Building Construction Materials</p>	
<p><u>2. ENGINEERING APPLICATION ABILITY</u></p> <p>2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.</p> <p>2.2. Application of engineering techniques, tools and resources within the technology domain.</p> <p>2.3. Application of systematic synthesis and design processes within the technology domain.</p> <p>2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.</p>	<p>CE 108 Electrical Principle CE 107 Sanitation-and-Water-supply</p> <p>CE 110 Building Construction CE 108 Electrical Principle CE 107 Sanitation-and-Water-supply</p> <p>CE 110 Building Construction</p> <p>CE 109 Energy Efficient Building Design (EE309) CE 110 Building Construction</p> <p>CE 109 Energy Efficient Building Design (EE309)</p>	
<p><u>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</u></p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p>	<p>CE 109 Energy Efficient Building Design (EE309)</p>	

<p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>		
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Advanced Diploma in Civil Engineering Each unit has 2.5 pt unless stated

Learning Outcome	Subjects	Time Allocation/ Assessment Method
<p><u>1. KNOWLEDGE AND SKILL BASE</u></p> <p>1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain.</p> <p>1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain.</p> <p>1.3. In-depth understanding of specialist bodies of knowledge within the technology domain.</p> <p>1.4. Discernment of knowledge development within the technology domain.</p>	<p>CE113 Structure 1 CE114 Structure 2</p> <p>ME 102 Engineering Thermodynamics CE 112 Engineering Mechanics+ ME 301 Applied Mathematics</p> <p>ME 334 Airconditioning and Refrigeration EE106 Advanced Electrical Wiring</p> <p>ME 334 Airconditioning and Refrigeration EE106 Advanced Electrical Wiring</p>	<p>Time Allocation</p> <p>1 Credit Point=24 Hr</p> <p>Assessment</p> <p>Assignment/Test/ Examination/ Summative/ Formative Assessment Practical Simulation</p>

<p>1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.</p> <p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.</p>	<p>EE105 Electrical Installation Design</p> <p>CE115 Estimating & Specification</p> <p>CE103-Surveying CE111A-Road+Bridges EE308 Sustainability</p>	
<p><u>2. ENGINEERING APPLICATION ABILITY</u></p> <p>2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.</p> <p>2.2. Application of engineering techniques, tools and resources within the technology domain.</p> <p>2.3. Application of systematic synthesis and design processes within the technology domain.</p> <p>2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.</p>	<p>EE104 Electrical Equipments Safety Protection</p> <p>CE113 Structure 1</p> <p>CE114 Structure 2</p> <p>CE 110 Building Construction</p> <p>CE115 Estimating & Specification</p> <p>CE111A-Road+Bridge CE114 Structure 2</p> <p>CE309 Project Management</p>	

<p><u>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</u></p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p> <p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>	<p>CE309 Project Management</p> <p>CE310 Engineering Competency Demonstration Report</p>	
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Professional Diploma in Civil Engineering Each unit has 2 pt unless stated

Learning Outcome	Subjects	Time Allocation/ Assessment Method
<p>1. KNOWLEDGE AND SKILL BASE</p> <p>1.1. Comprehensive, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline.</p> <p>1.2. Conceptual understanding of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the engineering discipline.</p>	<p>BAE 403 Engineering Mechanics (1 pt)</p> <p>BAE 404 Engineering Materials & Thermodynamics (3 pt)</p> <p>BAE 401 Advanced Engineering Mathematics (9 pt)</p> <p>BAE 402 Calculus (3 pt)</p>	<p>Time Allocation</p> <p>1 Credit Point=24 Hr</p> <p>Assessment</p> <p>Assignment/Test/ Examination/ Summative/ Formative Assessment</p> <p>Practical Simulation</p> <p>Research Project/ Presentation/</p>

<p>1.3. In-depth understanding of specialist bodies of knowledge within the engineering discipline.</p> <p>1.4. Discernment of knowledge development and research directions within the engineering discipline.</p> <p>1.5. Knowledge of engineering design practice and contextual factors impacting the engineering discipline.</p> <p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the specific discipline.</p>	<p>RE001- Foundation Studies in Renewable Energy and Sustainability (2 pt)</p> <p>RE011a-Civil& Mechanical Engineering Part 1 (2 pt) (Assessment- Study Report)</p> <p>RE003- Solar and Thermal Energy Systems (2 pt)</p> <p>RE004- Energy Storage Systems (2 pt)</p> <p>RE012a-Electrical Engineering Part 1 (2pt)</p> <p>RE010-Engineering Materials (2 pt)</p> <p>RE016-Design& Management (BAE508) (2 pt)</p> <p>RE011b-Civil& Mechanical Engineering Part 2a (2 pt)(Assessment- Study Report)</p> <p>BAE423 Fluid Mechanics (2 pt)</p> <p>BAE424 Reinforced Concrete (2 pt)</p> <p>BAE522 Rock Mechanics (2 pt)</p>	<p>Competency Demonstration Report/ Design Project work</p>
<p>2. ENGINEERING APPLICATION ABILITY</p> <p>2.1. Application of established engineering methods to complex engineering problem solving.</p> <p>2.2. Fluent application of engineering techniques, tools and resources.</p>	<p>BAE421 Building Construction Engineering (2 pt)</p> <p>BAE 606 Building Service Electrical & Mechanical Engineering (2 pt)</p> <p>BAE 523A Environmental Engineering (2 pt)</p> <p>BAE623 Surveying & Traffic Engineering (2 pt)</p> <p>BAE624 Water Supply , Sanitation & Finishing (2 pt)</p> <p>RE005- Renewable Energy Resource Analysis (2 pt)</p> <p>RE006- Wind Energy Conversion Systems (2 pt)</p>	

<p>2.3. Application of systematic engineering synthesis and design processes.</p> <p>2.4. Application of systematic approaches to the conduct and management of engineering projects.</p>	<p>BAE621 Structural Engineering (2 pt)</p> <p>BAE422 Estimating (2 pt)</p> <p>BAE 605 Project Management</p>	
<p>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p> <p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>	<p>BAE 605 Project Management</p> <p>BAE 608 Professional Engineer Competency Demonstration Report</p> <p>BAE 605 Project Management</p> <p>BAE 608 Professional Engineer Competency Demonstration Report</p>	

Diploma in Mechanical Engineering Each unit has 1.5 pt unless stated

Learning Outcome	Subjects	Time Allocation/ Assessment Method
<p><u>1. KNOWLEDGE AND SKILL BASE</u></p> <p>1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain.</p> <p>1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain.</p> <p>1.3. In-depth understanding of specialist bodies of knowledge within the technology domain.</p> <p>1.4. Discernment of knowledge development within the technology domain.</p> <p>1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.</p> <p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.</p>	<p>ME 102 Engineering Thermodynamics ME 103 Engineering Mechanics ME 104 Machine Principle ME 105 Electrical Principle</p> <p>Maths 101 Engineering Mathematics (EE201) ME 101 Applied Mathematics</p> <p>ME 106 Electrical Circuits ME 107 Heat Transfer ME 108 Principle of Engines ME201 Introduction to Fluid Mechanics ME 207 Chemical Thermodynamics ME 208 Hydrocarbons ME 209 Introduction-to-polymer-science-and-technology ME 205 Manufacturing Processes-and-Materials ME 202 Introduction to Aero Dynamics ME 203 Control Engineering ME 234 Wind Turbines</p>	<p>Time Allocation</p> <p>1 Credit Point=24 Hr</p> <p>Assessment</p> <p>Assignment/Test/ Examination/ Summative/ Formative Assessment Practical Simulation</p>

<p><u>2. ENGINEERING APPLICATION ABILITY</u></p> <p>2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.</p> <p>2.2. Application of engineering techniques, tools and resources within the technology domain.</p> <p>2.3. Application of systematic synthesis and design processes within the technology domain.</p> <p>2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.</p>	<p>ME 204 Engineering Fluid Mechanics</p> <p>ME 206 Introduction to Turbo Machinery</p> <p>ME 205 Manufacturing Processes-and-Materials</p> <p>Mgt 501 Basic Management</p>	
<p><u>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</u></p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p> <p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>	<p>Mgt 501 Basic Management</p>	

Advanced Diploma in Mechanical Engineering Each unit has 1.5 pt unless stated

Learning Outcome	Subjects	Time Allocation/ Assessment Method
<p><u>1. KNOWLEDGE AND SKILL BASE</u></p> <p>1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain.</p> <p>1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain.</p> <p>1.3. In-depth understanding of specialist bodies of knowledge within the technology domain.</p> <p>1.4. Discernment of knowledge development within the technology domain.</p> <p>1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.</p> <p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.</p>	<p>ME 306 Theory-of-waves-in-materials ME 301 Fluid Dynamics</p> <p>Maths 403 Engineering-Mathematics (EE302) ME 304 Introduction to Nonlinearity-in-control-systems</p> <p>ME 301 Fluid Dynamics ME 302 Automation-and-Robotics ME 301 Fluid Dynamics ME 302 Automation-and-Robotics</p> <p>ME 303 Computer Aided Design and Manufacturing</p> <p>ME 305 Corrosion Prevention ME 334 Airconditioning and Refrigeration</p>	<p>Time Allocation</p> <p>1 Credit Point=24 Hr</p> <p>Assessment</p> <p>Assignment/Test/ Examination/ Summative/ Formative Assessment Practical Simulation</p>

<p><u>2. ENGINEERING APPLICATION ABILITY</u></p> <p>2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.</p> <p>2.2. Application of engineering techniques, tools and resources within the technology domain.</p> <p>2.3. Application of systematic synthesis and design processes within the technology domain.</p> <p>2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.</p>	<p>ME 534 Numerical Control</p> <p>EE 624 Process Control</p> <p>ME 434 Mechtronics-Robotics</p> <p>ME 634 Pneumatics</p> <p>EE 617 Building Electrical and Mechanical System Part 1 (EE309)</p> <p>Mgt 503 Production & Operation Management</p> <p>Mgt 505 Quality Management and Manufacturing Engineering</p>	
<p><u>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</u></p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p> <p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>	<p>Mgt 503 Production & Operation Management</p> <p>Mgt 505 Quality Management and Manufacturing Engineering</p> <p>ME310 Engineering Competency Demonstration Report</p> <p>ME310 Engineering Competency Demonstration Report</p>	

Professional Diploma in Mechanical Engineering Each unit has 2 pt unless stated

Learning Outcome	Subjects	Time Allocation/ Assessment Method
1. KNOWLEDGE AND SKILL BASE 1.1. Comprehensive, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline. 1.2. Conceptual understanding of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the engineering discipline. 1.3. In-depth understanding of specialist bodies of knowledge within the engineering discipline. 1.4. Discernment of knowledge development and research directions within the engineering discipline. 1.5. Knowledge of engineering design practice and contextual factors impacting the engineering discipline. 1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the specific discipline.	BAE 404 Engineering Materials & Thermodynamics (3 pt) RE001- Foundation Studies in Renewable Energy and Sustainability (2 pt) BAE 601 Computer Programming(2 pt) BAE 401 Advanced Engineering Mathematics (9 pt) BAE 402 Calculus (3 pt) BAE 403 Engineering Mechanics (1 pt) RE003- Solar and Thermal Energy Systems (2 pt) RE004- Energy Storage Systems (2 pt) RE005- Renewable Energy Resource Analysis (2 pt) RE006- Wind Energy Conversion Systems (2 pt) RE010-Engineering Materials (2 pt) RE016-Design& Management (BAE508) (2 pt) RE012a-Electrical Engineering Part 1 (2pt) RE011a-Civil & Mechanical Engineering Part 1 (2 pt) (Assessment- Study Report)	Time Allocation 1 Credit Point=24 Hr Assessment Assignment/Test/ Examination/ Summative/ Formative Assessment Practical Simulation Research Project/ Presentation/ Competency Demonstration Report/ Design Project work

<p>2. ENGINEERING APPLICATION ABILITY</p> <p>2.1. Application of established engineering methods to complex engineering problem solving.</p> <p>2.2. Fluent application of engineering techniques, tools and resources.</p> <p>2.3. Application of systematic engineering synthesis and design processes.</p> <p>2.4. Application of systematic approaches to the conduct and management of engineering projects.</p>	<p>RE011b-Civil & Mechanical Engineering Part 2a (2 pt) (Assessment- Study Report)</p> <p>BAE311 Plant Engineering (2 pt)</p> <p>BAE314 Mechanical Power Generation (2 pt)</p> <p>BAE315 Materials Engineering (2 pt) Part 1 Part 2 (2 pt)</p> <p>BAE511 Air-conditioning & Refrigeration Part 1 (2 pt)</p> <p>BAE512 Building Service Water Supply System (2 pt) BAE613 Mechanical Instrumentation Process(2 pt)</p> <p>BAE 606 Building Service Electrical & Mechanical Engineering (2 pt)</p> <p>RE007- Energy System Efficiency(2 pt)</p> <p>BAE614 Machine Design (2 pt)</p> <p>ME309 Project Management</p>	
<p>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p>	<p>ME309 Project Management</p> <p>ME310 Engineering Competency Demonstration Report</p>	

3.3. Creative, innovative and pro-active demeanour. 3.4. Professional use and management of information. 3.5. Orderly management of self, and professional conduct. 3.6. Effective team membership and team leadership.		
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- the choice of the teaching-learning (delivery) methods.
- The curricular approach, the educational content and the teaching-learning
- assessment & evaluation methods for the attainment achievement of the Learning Outcomes. (MEng C)

Assessment Validation

<http://www.highlightcomputer.com/assessmentvalidation.htm>

The folder in the above link contains the assessment validation documents for IQY Technical College 's programs

- A balanced curriculum shall include all technical and non-technical attributes listed in the Learning Outcomes, (the essential elements forming the core of the programme and additional specialist or optional studies (electives). (MEng C)
- The curriculum shall integrate theory with practice through adequate exposure to laboratory work and professional engineering(MEng C)
- Time allocation
- Credit points (The academic programme component must consist of a minimum total of 120 credit (a) A minimum of 80 credit hours shall be engineering courses consisting of engineering sciences and engineering design/projects appropriate to the student's field of study. (MEng C)

(b) The remaining credit hours shall include sufficient content of general education component (such as mathematics, computing, languages, general studies, co- curriculum, management, law, accountancy, ec(MEng C)

The following curriculums are prepared to address the above issues

<http://www.highlightcomputer.com/BECurriculum.htm>

<http://www.highlightcomputer.com/DiplomaAdvancedDiplomaCivilEngineeringCurriculum.htm>

<http://www.highlightcomputer.com/DiplomaAdvancedDiplomaElectricalEngineeringCurriculum.htm>

<http://www.highlightcomputer.com/DiplomaAdvancedDiplomaMechanicalEngineeringCurriculum.htm>

Diploma in Engineering

This program is designed with 30 credit points integrating 15 credit points Certificate in Electrical Engineering. The completion of this program can be articulated into 60 points Advanced Diploma in Electrical Engineering & 120 credit points Professional Diploma in Electrical Engineering which is the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

Advanced Diploma in Electrical Engineering

This program is designed with 60 credit points integrating 30 credit points Diploma in Electrical Engineering. The completion of this program can be articulated into 60 of 120 credit points Professional Diploma in Electrical Engineering which is the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

Professional Diploma in Civil Engineering

This program is designed with 120 credit points integrating 60 credit points Advanced Diploma in Civil Engineering. The completion of this program can be awarded Professional Diploma in Civil Engineering together with the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

Curriculum Contents (MEng C)

Diploma in Electrical Engineering the curriculum content should cover the following:

(i) Engineering mathematics, science, engineering principles, skills and tools (computing, experimentation) appropriate to the discipline of study

The curriculums have been designed to cover the following aspects.

Study Areas (Overview)

Electrical circuits, Basic Electronics, Mathematics, Physics, Electrical Wiring, Electrical Machines, Electro-magnetism, Computer Applications, Control System, Process Control, Electrical Contracting, Solar Electrical System, Electrical Drafting

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

Electrical Engineering Course Outline

<http://www.highlightcomputer.com/Diploma & Advanced Diploma in Electrical Engineering Course outline.doc>

Detailed Contents of Diploma + Advanced Diploma in Engineering, IT , Management & Business Programs

<http://www.highlightcomputer.com/detailedcontent.htm>

Diploma in Mechanical Engineering

Study Areas

Mathematics, Physics, Machine Principle, Electrical Circuits, Heat Transfer, Principle of Engines, Fluid Mechanics, Engineering Mechanics, Mechanical Drawing, Hydrocarbon, Wind Turbine, Polymer Science, Turbo Machinery, Basic Management

Specialized Fields

Automotive Engineering, Marine Engineering

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

Mechanical Engineering Course Outline

<http://www.highlightcomputer.com/Diploma in Mechanical Engineering.doc>

Detailed Contents of Diploma + Advanced Diploma in Engineering, IT , Management & Business Programs

<http://www.highlightcomputer.com/detailedcontent.htm>

Diploma in Civil Engineering

Study Areas

Mathematics, Physics, Electrical Principle, Fluid Mechanics, Hydraulics, Hydrology, Building Construction, Sanitation & Water Supply, Energy Efficient Building Design

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

Civil Engineering Course Outline

http://www.highlightcomputer.com/Diploma_in_Civil_Engineering.doc

Detailed Contents of Diploma + Advanced Diploma in Engineering, IT , Management & Business Programs

<http://www.highlightcomputer.com/detailedcontent.htm>

Diploma in Renewable Energy Engineering

Study Areas

Foundation Studies in Renewable Energy and Sustainability, Grid Connected Photovoltaic Power Systems, Solar and Thermal Energy Systems, Energy Storage Systems, Renewable Energy Resource Analysis, Wind Energy Conversion Systems, Energy System Efficiency

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

Renewable Energy Engineering Public Seminar + Diploma& Bachelor of Engineering (Renewable Energy)

<http://www.highlightcomputer.com/re.pdf>

Diploma in Computer Engineering/ Diploma in Information Technology

Study Areas

IT Fundamental , Computer Application, Computer Programming, System Analysis, Software Engineering, IT Project, Business Information System

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

Diploma in Information Technology Course Outline

http://www.highlightcomputer.com/Diploma_in_Information_Technology_Course_outline.doc

Electrical Engineering Course Outline

http://www.highlightcomputer.com/Diploma_&_Advanced_Diploma_in_Electrical_Engineering_Course_outline.doc

Detailed Contents of Diploma + Advanced Diploma in Engineering, IT , Management & Business Programs

<http://www.highlightcomputer.com/detailedcontent.htm>

Advanced Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology) Course Outlines

Advanced Diploma in Engineering can be studied in the following specializations

- Advanced Diploma in Electrical Engineering
- Advanced Diploma in Mechanical Engineering
- Advanced Diploma in Civil Engineering
- Advanced Diploma in Renewable Energy Engineering
- Advanced Diploma in Computer Engineering / Advanced Diploma in Information Technology

Advanced Diploma in Electrical Engineering

Study Areas

Electrical Power Circuits, Electrical Power System, Mathematics, Physics, AC/DC Machines, Control System, Power System Protection, Energy Efficiency, Project Management, Advanced Electrical Drafting, Power Transmission Line, Engineering Officer Competency Report.

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

[Detailed Contents of Diploma + Advanced Diploma in Engineering, IT , Management & Business Programs](http://www.highlightcomputer.com/detailedcontent.htm)

<http://www.highlightcomputer.com/detailedcontent.htm>

Advanced Diploma in Mechanical Engineering

Study Areas

Higher Mathematics, Fluid Dynamics, Automation & Robotics, Computer Aided Design & Manufacturing, Control System, Manufacturing, Mechatronics, Numerical Control, Pneumatics, Building Services. Air-conditioning Refrigeration

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

[Detailed Contents of Diploma + Advanced Diploma in Engineering, IT , Management & Business Programs](http://www.highlightcomputer.com/detailedcontent.htm)

<http://www.highlightcomputer.com/detailedcontent.htm>

Advanced Diploma in Civil Engineering

Study Areas

Surveying, Road & Bridges, Structure, Estimating, Electrical Installation, Electrical Wiring, Air-conditioning Refrigeration, Engineering Mechanics

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

Detailed Contents of Diploma + Advanced Diploma in Engineering, IT , Management & Business Programs

<http://www.highlightcomputer.com/detailedcontent.htm>

Advanced Diploma in Renewable Energy Engineering

Study Areas

Advanced contents in Renewable Energy, Electrical Engineering, Basic Civil & Mechanical Engineering, Electrical Machines, Electronics Control

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

Renewable Energy Engineering Public Seminar + Diploma& Bachelor of Engineering (Renewable Energy)

<http://www.highlightcomputer.com/re.pdf>

Advanced Diploma in Computer Engineering/ Advanced Diploma in Information Technology

Study Areas

Organizational Behaviour, IT Networking, Information System Analysis & Design, Advanced Programming, Project Work

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

Advanced Diploma in Information Technology Course Outline

http://www.filefactory.com/file/7dmpqlotj2fn/n/Advanced_Diploma_in_Information_Technology_pdf

Electrical Engineering Course Outline

http://www.highlightcomputer.com/Diploma & Advanced Diploma in Electrical Engineering Course_outline.doc

Detailed Contents of Diploma + Advanced Diploma in Engineering, IT , Management & Business Programs

<http://www.highlightcomputer.com/detailedcontent.htm>

Professional Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology)

It is designed at the same academic requirement as to Bachelor of Engineering degree but IQY Technical College is operating as a vocational education & training college not as a university, the award is to be described as Professional Diploma. The graduates of the Professional Diploma in Engineering can be awarded Bachelor of Engineering by the universities which are affiliated to IQY Technical College.

The program is designed to train the students to become Professional Engineers who are required to take responsibility for engineering projects and programs in the most far-reaching sense.

The program is also designed to provide the skills required for the graduated to lead or manage teams appropriate to these activities, and may establish their own companies or move into senior management roles in engineering and related enterprises.

Professional Diploma in Engineering can be studied in the following specializations

- Professional Diploma in Electrical Engineering
- Professional Diploma in Mechanical Engineering
- Professional Diploma in Civil Engineering
- Professional Diploma in Renewable Energy Engineering
- Professional Diploma in Computer Engineering / Professional Diploma in Information Technology

Professional Diploma in Electrical Engineering

Study Areas

Mathematics, Engineering Mechanics & Thermodynamics, Electrical Circuit Analysis, Electro-magnetics & Electrical Machines, Control System, Power System, Electronics, Telecommunication, Industrial Management, Computer Programming, Computer Network, Engineering Project, Building Services, Competency Demonstration Report Writing, Renewable Energy.

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

Bachelor of Engineering (Electrical Engineering) Course Outline

<http://www.filefactory.com/file/5ftv3w6yjcrr/BACHELOR%20OF%20APPLIED%20ENGINEERING.doc>

Detailed Contents of BE,B Bus& B App Sc (IT) Programs

[http://highlightcomputer.com/B%20E+B%20App%20Sc\(IT\)+B%20Bus%20Course%20Detailed%20Contents.htm](http://highlightcomputer.com/B%20E+B%20App%20Sc(IT)+B%20Bus%20Course%20Detailed%20Contents.htm)

<http://www.highlightcomputer.com/re.pdf>

Professional Diploma in Mechanical Engineering

Study Areas

Mathematics, Engineering Mechanics & Thermodynamics, Industrial Management, Computer Programming, Computer Network, Engineering Project, Building Services, ,Air-conditioning & Refrigeration, Machine Design, Mechanical Instrumentation, Production Technology, Engineering Materials, Maintenance Engineering , Mechanical Power Generation, Applied Electrical/Electronics & Control System, Competency Demonstration Report Writing, Renewable Energy.

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

Bachelor of Engineering (Mechanical Engineering-Mechatronics) Course Outline

http://www.filefactory.com/file/113wg8regbuh/n/Bachelor_of_Applied_Engineering_Mechanical-Mechatronics_Course_Outline_doc

Bachelor of Applied Engineering (Final Year Mechanical Design) Course Outline

http://www.filefactory.com/file/7greuugxlvyh/n/Graduate_Diploma_of_Mechanical_Engineering_B_App_Eng_Mech_Course_Outline_doc

Detailed Contents of BE,B Bus& B App Sc (IT) Programs

[http://highlightcomputer.com/B%20E+B%20App%20Sc\(IT\)+B%20Bus%20Course%20Detailed%20Contents.htm](http://highlightcomputer.com/B%20E+B%20App%20Sc(IT)+B%20Bus%20Course%20Detailed%20Contents.htm)

<http://www.highlightcomputer.com/re.pdf>

Professional Diploma in Civil Engineering

Study Areas

Mathematics, Engineering Mechanics & Thermodynamics, Industrial Management, Computer Programming, Building Construction, Estimating, Fluid Mechanics, Structural Engineering, Reinforce Concrete, Timber Engineering, Soil & Rock Mechanics, Environmental Engineering, Road & Bridges, Building Service Engineering, Traffic Engineering, Surveying, Water Supply Sanitation, Engineering Competency Demonstration Report Writing, Renewable Energy.

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

Bachelor of Engineering (Civil Engineering-Building Services) Course Outline

<http://www.filefactory.com/file/npiwt5ekau5/Bachelor%20of%20Applied%20Engineering%20%28Civil-Building%20Services%29%20Course%20Outline.doc>

Bachelor of Applied Engineering (Final Year Civil Design) Course Outline

<http://www.filefactory.com/file/37twg21wx97z/Graduate%20Diploma%20of%20Civil%20Engineering%28BB%20App%20Eng%20%28Civil%29%20Course%20Outline.doc>

Detailed Contents of BE, B Bus & B App Sc (IT) Programs

[http://highlightcomputer.com/B%20E+B%20App%20Sc\(IT\)+B%20Bus%20Course%20Detailed%20Contents.htm](http://highlightcomputer.com/B%20E+B%20App%20Sc(IT)+B%20Bus%20Course%20Detailed%20Contents.htm)

<http://www.highlightcomputer.com/re.pdf>

Professional Diploma in Renewable Energy Engineering

Study Areas

Foundation Studies in Renewable Energy and Sustainability, Grid Connected Photovoltaic Power Systems, Solar and Thermal Energy Systems, Energy Storage Systems, Renewable Energy Resource Analysis, Wind Energy Conversion Systems, Energy System Efficiency, Mathematics & Physics, Engineering Materials, Civil & Mechanical Engineering, Electrical Engineering, Electrical Machines, Electronics Control, Design & Management, Project, Engineering Competency Demonstration Report Writing.

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

Renewable Energy Engineering Public Seminar + Diploma & Bachelor of Engineering (Renewable Energy)

<http://www.highlightcomputer.com/re.pdf>

Professional Diploma in Computer Engineering/ Professional Diploma in Information Technology

Study Areas

Computer

Computer Programming, Computer Network, Software Engineering, Artificial Intelligence, Telecommunication Engineering, Project Management,

Electrical/Electronics

Electrical Engineering, Analog & Digital Control, Control System, Engineering Management

Engineering Competency Demonstration Report Writing

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

Detailed Contents of BE,B Bus& B App Sc (IT) Programs

[http://highlightcomputer.com/B%20E+B%20App%20Sc\(IT\)+B%20Bus%20Course%20Detailed%20Contents.htm](http://highlightcomputer.com/B%20E+B%20App%20Sc(IT)+B%20Bus%20Course%20Detailed%20Contents.htm)

Bachelor of Engineering (Electrical Engineering) Course Outline

<http://www.filefactory.com/file/5ftv3w6yjcrr/BACHELOR%20OF%20APPLIED%20ENGINEERING.doc>

Course	Curriculum Contents Analysis
Diploma in Electrical Engineering	Electrical Principle, Application, Electrical Trade Work, Mathematics, Science, Renewable Energy, Computer Application
Advanced Diploma in Electrical Engineering	Electrical Principle, Application, Electrical Trade Work, Mathematics, Science, Renewable Energy, Computer Application/Mechanical/ Project/ Management/ Engineering Ethics/ Engineering Practice
Professional Diploma in Electrical Engineering	Renewable Energy/ Electrical/Mechanical / Civil Engineering Principle/Computer/ Mathematics/ Design/ Management/ Instrumentation /Engineering Practice/ Ethics with Electrical Power & Electronics major
Diploma in Civil Engineering	Construction & Civil Engineering Principle/ Electrical Principle, Application, Electrical Trade Work, Mathematics, Science, Renewable Energy, Computer Application
Advanced Diploma in Civil Engineering	Construction & Civil Engineering Principle, Structural Engineering/Application, Building & Electrical Trade Work, Mathematics, Science, Renewable Energy, Computer Application/Mechanical/ Project/ Management/ Engineering Ethics/

	Engineering Practice
Professional Diploma in Civil Engineering	Renewable Energy/ Electrical/Mechanical / Civil Engineering Principle/Computer/ Mathematics/ Design/ Management/ Engineering Practice/ Ethics with Civil & Structural Engineering major
Diploma in Mechanical Engineering	Engineering Mechanics & Mechanical Engineering Principle/ Electrical Principle, Application, Electrical Trade Work, Mathematics, Science, Renewable Energy, Computer Application
Advanced Diploma in Mechanical Engineering	Engineering Mechanics & Mechanical Engineering Principle, Materials Engineering /Application/uilding & Electrical Trade Work, Mathematics, Science, Renewable Energy, Computer Application/Mechanical/ Project/ Management/ Engineering Ethics/ Engineering Practice
Professional Diploma in Mechanical Engineering	Renewable Energy/ Electrical/Mechanical / Civil Engineering Principle/Computer/ Mathematics/ Design/ Management/ Instrumentation /Engineering Practice/ Ethics with Mechanical Engineering major

(ii) Engineering applications – projects (MEng C)

Engineering Project Unit

The following links contain the evidence of project works

Some students' project works.pdf File

<http://www.highlightcomputer.com/Somestudentsprojectworks.htm>

(iii) Integrated exposure to professional engineering practice, including management

Practical Training Link Level 3

www.highlightcomputer.com/PracticalCourses.htm

(iv) Laboratory work to complement the science, computing and engineering theory;

Practical Training Link Level 2

Practical Resources

www.highlightcomputer.com/PracticalResources.htm

Physical Resources

www.highlightcomputer.com/PhysicalResources.htm

Learner Resources

www.highlightcomputer.com/LearnerResources.htm

(v) Industrial training -exposure to professional engineering practice in an engineering-practice environment;

+

(vi) Exposure to engineering practice; (MEng C)

The simulated online mode of practical is provided in the following link.

Practical Training Link

www.highlightcomputer.com/PracticalCourses.htm

The folder in the above link contains the Online practical courses for IQY Technical College 's programs.

(vii) Relevant tutorial class (MEng C)

Online discussion & tutorial forums are arranged

Credit Hours (MEng C)

- For a 16-week semester (not including examination or mid-term break), one credit hour is defined as:
- One hour per week of lecture (additional independent study of two hours is assumed to have been included).
- Two hours per week of laboratory or workshop lecture (additional independent learning time of one hour is assumed to have been included).
- Two hours per week of supervised and compulsory tutorial session (additional independent learning time of one hour is assumed to have been included), subject to a maximum of one credit hour for each course in that semester.

- Three hours per week of facilitated activities involving other modes of delivery such as problem-based learning, e-learning modules, site visits, discovery learning, integrated design and coursework projects.
- Three hours per week of activities involving final year project inclusive of meeting with supervisor

One hour per week of lecture

Every 1 credit point has the weighted hour of 24 hours. The credit points are expressed in the curriculum. In online delivery mode, the time to view the videos & time to reflect the learning can be equivalent to lecture hours in face to face classes. The lecture times in the following online videos are arranged as to fulfil the class lecture time.

Online Lecture + Youtube Lecture

www.highlightcomputer.com/videos2.htm

www.highlightcomputer.com/videos1.htm

Two hours per week of laboratory or workshop lecture

The time taken to view the Practical Videos/ To read the practical instruction books/ Design Handbooks are counted as laboratory or workshop hour to do the online practicals in the following links.

www.highlightcomputer.com/PracticalCourses.htm

&

<http://www.iqytechnicalcollege.com/youtubevideos.htm>

Students Area/ Forum

<http://www.highlightcomputer.com/students.htm>

Two hours per week of supervised and compulsory tutorial session

The time allocated to download & study the Instruction Powerpoints, Listing to the audio explanations & do the exercises in the following link is arranged as tutorial sessions time.

<http://www.highlightcomputer.com/onlineteaching1.htm>

Click **HERE** to log in the lesson sequences.

Click **HERE** to log in the online study materials

Click **HERE** to log in to the Learning Platform

Three hours per week of facilitated activities

This time can be allocated for participation in online forum, reading the learning support CD/DVD, the time to write the assignments & the accumulated time to take part in residential sessions as well as working in the industry.

Industrial Training

- For industrial training, the following guideline shall be followed:
- Industrial training shall be for a minimum of 8 weeks of continuous training. One credit hour is allocated for every two weeks of training subject to a maximum of six credit hours. The training shall be adequately structured, supervised and recored in log book/ record.

The e-Learning Engineering programs are aimed to provide the on-going professional development for the workers in the industry. The work experience recorded are counted for fulfilling the practical training needs to completion the courses.

Final Year Project

- A final year project is subject to a minimum of six credit hours and a maximum of twelve credit

Some students' project works.pdf File

<http://www.highlightcomputer.com/Somestudentsprojectworks.htm>

The folder in the above link contains the students' project documents related to IQY Technical College 's programs

2 - Students (MEng C)

- Maths+Physics (Remedial)
- Teaching & Learning Environment

9.2.5 Students

- students' performance in relation to Learning Outcomes.
- the requirement and process for admission of students to the programme.
- students' workload.

- iv. Discuss students' activities and involvement in student organisations

The students who need Year 12 level Mathematics & Science are provided with Learning Support online tutorials for Maths & Science at the following link.

<http://www.highlightcomputer.com/y712lessons.htm>

3 - Academic and Support Staff (MEng C)

- (Postgraduate/ Master degree)
- 9.2.6 Academic and Support Staff
- i. Discuss the strength and competencies of the academic staff in covering all areas of the programme.
- ii. Discuss how the overall staff workload enables effective teaching, student-staff interaction, student advising and counselling, Technological Institutions and research activities, professional development and interaction with industry.
- iii. Discuss the sufficiency and competency of technical and administrative staff in providing adequate support to the educational programme.
- iv. The information required in items (i) to (iii) should include but is not limited to the following:
 - A breakdown in terms of numbers of academic staff (full-time, part-time and inter-programme) by year for the past four years
 - An analysis of all academic staff
 - academic qualifications of academic staff
 - the posts held by full time academic staff
 - A summary of teaching workload of academic staff for the current semester
 - An analysis of all support staff
 - A summary of the posts held by support staff
 - The staff: student ratio by year for all academic years for the past four years

The folders in the following links link contains teachers skilled documents of teachers who are teaching the IQY Technical College 's programs

Teacher skilled matrix

<http://www.highlightcomputer.com/teacherskillmatrix.htm>

Staff list

www.highlightcomputer.com/staff.htm

Staff competency

<http://www.highlightcomputer.com/teacherskillmatrix.htm>

4 Facilities

- Library
- Quality Management Systems
- controlling, managing, directing, organising and supervising of the overall management system planning, development, delivery and review of engineering programmes

From www.highlightcomputer.com main page, the following online facilities can be accessed by requesting the relevant links.

- Public Library
- Engineering Resources
- Reference Materials & Resources

9.2.7 Facilities

- Discuss the adequacy of teaching and learning facilities such as classrooms, learning-support facilities, study areas, information resources (library), computing and information-technology systems, laboratories and workshops.
- Describe the adequacy of support facilities such as hostels, sport and recreational centres, health centres, student centres, and transport in facilitating students' life on campus and enhancing character building.
- The information required in items (i) to (ii) should be provided in the supporting documents but is not limited to the following:

- A summary, in tabulated form, of the lecture facilities (give number, capacity, and audio video facilities available).
- A summary, in tabulated form, of the laboratories (list down the equipment available in each laboratory).
- A summary, in tabulated form, of the workshops (list down the equipment/machinery available in each workshop).
- A summary, in tabulated form, of the computer laboratories (list down the hardware and software available).
- A summary, in tabulated form, of the other supporting facilities such as the library (list down the titles of books/journals/magazines/standards of relevance to the programme).

From the following link, online practical facilities can be accessed.

Online Practical

Click **HERE** to log in to the online electrical/
mechanical/civil practical materials. You will need the
password.

The password will be issued to the enrolled students.

5 - Quality Management Systems (MEng C)

8.5.2 Programme Quality Management and Planning

- programme planning, curriculum development, and
- regular curriculum and content review must involve all academic staff. The processes include
- reviewing Programme Objectives and Learning Outcomes, tracking the contributions of individual courses to the Learning Outcomes, tracking performance assessment processes, the comments from
- External Examiners, reviewing feedback and inputs from stakeholders including students and alumni.
- The process of continual quality improvement shall be implemented with full accountability. For a new programme,
- External examiner report

8.5.4 Quality Assurance

- Student admission
- Teaching and learning
- Assessment and evaluation which include: examination regulations and criteria for pass/fail
- preparation and moderation processes
- level of assessment
- assessment processes including final year project/industrial training

From the following links, the documents related to Quality Assurance can be accessed.

Online Assessment / Test / Examination/ MCQ link

[Online Theory & MCQ Practice](#)

http://www.filefactory.com/file/6m8zvfe7797/n/Online_Theory_MCQ_Practice_pdf

[Online Practical Practice](#)

http://www.filefactory.com/file/3ap0vv6o8azx/n/Online_Practical_Practice_pdf

Assessment

From the following links, the documents related to Assessment can be accessed by clicking the relevant menus

www.highlightcomputer.com/assessment.htm

Menus

- **Assessment Cover Sheet+Assessment Information+Assessment Feedbacksheet**
- **Assessment Mapping**
- **Assessment Validation**
- **Components of Assessment Mapping**
- **Test Questions**
- **Units Evaluated by Students-Joe**
- **CC Currency_Checklist_v2.docx**
- **Evaluation-Joe+Keng Goh.docx**
- **Online MCQ Tests+Marking by Joe.doc**

9.2.8 Quality Management System (MEng C)

- Outline the organisational structure of the Technological Institutions as well as the structure within the faculty/department/programme. Discuss the level and adequacy of institutional support, operating environment, financial resources, constructive leadership, policies mechanisms for attracting, appointing, retaining and rewarding well-qualified staff and provision of professional development, and provision of infrastructure and support services to achieve Programme Objectives and assure continuity of the programme. All relevant policies are to be made available during the visit.
- Discuss the mechanism for the following: programme planning; curriculum development; curriculum , course review and course monitoring; internal audit; management review meeting; responding to feedback and inputs from stakeholders including industry advisors, students and alumni; tracking the contribution of individual courses to the Learning Outcomes; tracking outcomes of performance through assessment; responding to External Examiners comments; reviewing of Programme Objectives and Learning Outcomes; and continual quality improvement. Where these are discussed elsewhere in the report, specify their locations.
- Summarise responses to the external examiner's report.
- Discuss how the quality management system of the Technological Institutions provides quality assurance and benchmark.
- The information required items (i) to (iv) should be provided in the supporting document and is not limited to the following:

As this document provides the development of e-Learning in engineering for small and medium size colleges and institutes where the program planning and management tasks are mainly performed by one or two key staff, for the larger institutions, more complex and wider organizational structure can be designed.

1. Evidence on the participation of academic staff, support staff and students in the continual quality improvement process. (MEng C)
2. Evidence on the development of academic staff through opportunities in further education, industrial exposure, as well as research and development.
3. Policies, internal processes and practices that are in place at all levels within the Technological Institutions relating to the five criteria as stated in Section 9 of this Manual.
4. Evidence of the on-going participation of industry advisors in discussions and forums,

From the following links, the documents related to Assessment Validation & Quality Assurance can be accessed by clicking the relevant menus

Quality Assurance/

<http://www.highlightcomputer.com/QualityAssurance.htm>

Menus 1

- Audit Documents
- Assessment Validation
- Completed students assessment
- Unit asessment

Menus 2

1 Assessment Tasks & Related Information

2 Assessment Methods

3 Assessor Guide

4 Assessment Results

5 Assessment Validation

6.StudentsAssessment Information

EKAS-Assessment Validation-EE-OZ+IEAust

9.3 Supporting Material Document – Digital Format (MEng C)

This document is to provide supporting material for the programme in digital format (softcopy) as follows:

9.3.1 Supporting Information

- Provide additional information on the Technological Institutions, faculty/school/department, and programme not provided in the Self-Assessment Report.

9.3.2 Academic and Laboratory Support Staff

- Provide personal file and certificate for each staff member.

Staff file

9.3.3 Programme Structure and Contents

- Provide evidence of the use of tutorials and non-conventional delivery methods such as Problem Based Learning (PBL) techniques alongside traditional lectures. Provide a summary of industrial training schemes, and list of companies involved. Provide evidence of activities relevant to industry exposure.

From the following link, online practical facilities can be accessed.

Online Practical Link

Click **HERE** to log in to the online electrical/
mechanical/civil practical materials. You will need the
password.

The password will be issued to the enrolled students

9.3.4 Equipment, Software and Titles of Books and Journals

- Provide a list of all equipment and software used by the programme including recent additions and planned additions, as well as the titles of books, and journals for the programme.

Physical Resources folder

From the following link, practical resources can be accessed.

Practical Resources

www.highlightcomputer.com/PracticalResources.htm

Physical Resources

www.highlightcomputer.com/PhysicalResources.htm

Learner Resources

www.highlightcomputer.com/LearnerResources.htm

9.3.5 External Examiner and Advisory Board (MEng C)

- Provide the external examiner's reports and reports/minutes from advisory board meetings.

9.4 Institutional Documents and Additional Documentation to be Made Available during the Visit

- The following items, which constitute evidence to support the information requested in Sections 9.2 and 9.3 shall be made available during the visit:

9.4.1 Technological Institutions Documents

- Provide the Handbook, Calendar supplement, or other official publications relating to the faculty/school/department, and containing the statement of programme details; Technological Institutions brochure and any other documents that relate to the faculty/school/department,

9.4.2 Documents Related to Programme Objectives and Outcomes

- Provide all relevant documents and evidence related to Programme Objectives and Learning Outcomes (one copy) as follows:
- Course files – for every course offered by the programme, provide the course information to include the targeted course learning outcomes, course synopsis/syllabus, and a list of references (texts used).
- Final examination papers complete with answer scheme and graded examination papers with low, medium and high grades are also to be provided.
- Any information with regard to other learning activities and assessment measures such as projects, quizzes, tutorial questions, assignments, class projects, copies of the course notes (optional), and any other materials used for the course are also to be included. For laboratory courses,
- Objectives and outcomes assessment instruments – supporting documentation for objectives and
- outcomes assessment including sample questionnaires, portfolios, survey forms, video recordings, etc.
- All evidence related to Continual Quality improvement of the program.

The documents related to above requirements are presented in DVDs and will be available upon request.

DVD Contents

- Mixed DVD Lessons School + Higher Education/ IQY+STCTU Degrees

- Study Guides+Lessons for Adv Dip Eng+Mgt+IT ALL Combined Update Mixed
- Study Guides+Lessons for Bachelor Degree-Common Subjects 1 Mixed
- Students File/ Evidences
- BE Test
- EE Test
- CE Test
- ME Test
- Assessment/
- Assessment Cover Sheet+Assessment Information+Assessment Feedbacksheet
- Assessment Mapping
- Assessment Validation
- Components of Assessment Mapping
- Test Questions
- Unit Evaluation

Self-Assessment Report – Hardcopy (MEng C)

- A Self-Assessment Report is an account of the Technological Institutions' plan, implementation, assessment and evaluation of the programme conducted. It reflects the processes with result obtained used in continual quality improvement at all levels of the programme's activities. This appropriately bound document, ranging between 50 – 100 pages with all pages numbered and a table of contents.

A minimum of 120 credit hours of which 80 credit hours must be core engineering courses offered over a period of four years (It means 3rd, 4th, 5th, 6th).

Final year project (minimum 6 credit hours)

Industrial training (minimum of 8 weeks)

The above requirements have been provided in curriculum section

9.4.3 Final Project Reports

- For a sample of students, provide a copy of the final project report, instruction sheets, and grade
- sheets or other means of evaluation for the project.
- Provide the listing of final project titles for the past few years.

From the following links, the students project works can be accessed.

Some students' project works.pdf File

<http://www.highlightcomputer.com/Somestudentsprojectworks.htm>

9.4.4 Industrial Training Reports (MEng C)

- For a sample of students, provide a copy of the training reports, guidelines for the training, and reviews by the industry sponsors as well as the faculty mentors.

9.4.5 Laboratory Reports

- For a sample of students, provide a copy of the laboratory reports, instruction sheets, and grade sheets or other means of evaluation for the project laboratory report.

From the link below, the above 9.4.4 * & 9.4.5 and the records related to the following points can be accessed.

- Practical participation Record
- Elect Eng Students' taking parts in practicals(Joe).pdf

<http://www.highlightcomputer.com/studentstakingpartinpractical.htm>

9.4.6 Quality Assurance Records (MEng C)

- Provide minutes and records of action and improvement of meetings of the programme teaching team,

From the link below, records related to the above 9.4.6 can be accessed.

<http://www.highlightcomputer.com/QualityAssuranceRecords.htm>

ATTACHMENTS

1. Curriculum

<http://www.highlightcomputer.com/BECurriculum.htm>

2. Assessment Validation Records & Assessment Evidences

www.highlightcomputer.com/assessmentvalidation.htm

☐ **Assessment/**

☐ **Assessment Cover Sheet+Assessment Information+Assessment Feedbacksheet**

☐ **Assessment Mapping**

☐ **Assessment Validation**

☐ **Components of Assessment Mapping**

☐ **Test Questions**

☐ **Unit Evaluation**

3. Quality Assurance Records

<http://www.highlightcomputer.com/QualityAssurance.htm>

Teachers Skills Currency Check List

Students' assessment Evidences

Units evaluated by students

Units evaluated by internal & external assessors

4. Practical Resources

Practical Resources

<http://www.highlightcomputer.com/PracticalCourses.htm>

www.highlightcomputer.com/PracticalResources.htm

5. Students' work Records

<http://www.highlightcomputer.com/Somestudentsprojectworks.htm>

6. Industrial Consultation

<http://www.highlightcomputer.com/industryconsultation.htm>

7. List of Reference Textbooks utilized in Engineering Programs

<http://www.highlightcomputer.com/ReferenceTextBooks.pdf>

8. DVD Containing Lesson Materials

Study Lesson & Reading Materials

<http://www.highlightcomputer.com/studylesson1.htm>

Online Teaching

<http://www.highlightcomputer.com/onlineteaching1.htm>

Public Library

<http://www.highlightcomputer.com/gen1.htm>

Electronic Library

<http://www.highlightcomputer.com/elib.htm>

http://www.filefactory.com/file/7ife2afh5ugr/Gen13Dec2013_.htm

Reference Materials & Resources

<http://www.highlightcomputer.com/usb.htm>

Professional Engineer Support

<http://www.highlightcomputer.com/pesupport.htm>

9. DVD Containing Learner Resources

Physical Resources

www.highlightcomputer.com/PhysicalResources.htm

Learner Resources

www.highlightcomputer.com/LearnerResources.htm

☐ Study Guides+Lessons for Adv Dip Eng+Mgt+IT ALL Combined Update Mixed

☐ Study Guides+Lessons for Bachelor Degree-Common Subjects 1 Mixed

(A)LECTURES

www.highlightcomputer.com/videos1.htm

www.highlightcomputer.com/videos2.htm

www.iqytechnicalcollege.com/youtubevideos.htm

(B)SELF DIRECTED STUDY GUIDES

<http://www.highlightcomputer.com/elearningplatform.htm>

ELECTRICAL

(1) Instruction to Electrical Students

<http://www.iqytechnicalcollege.com/Instruction-Fiji-Elect Engg.pdf>

CIVIL

(1) **Instruction to Civil Students**

<http://www.iqytechnicalcollege.com/Instruction Fiji-Civil Engg.pdf>

MECHANICAL

(1) Instruction to Mechanical students

<http://www.iqytechnicalcollege.com/Instruction-Fiji-MechEngg.pdf>

RENEWABLE ENERGY

www.highlightcomputer.com/RELessons.htm

INDUSTRIAL SAFETY & HAZARDOUS PROTECTION

www.highlightcomputer.com/profdiphazardous.htm

(C)TUTORIAL

Online Class Tutoring & Study Lessons

<http://www.filefactory.com/file/290j43qtca5r/ClassTutoringLessons.htm>

www.highlightcomputer.com/onlineteaching.htm

Study Lessons

- Class Tutoring (Certificate+ Diploma+ Advanced Diploma+ Bachelor Degree) Programs in Electrical, Mechanical, Civil Engineering, Information Technology, Management & E-Business & Management

http://www.filefactory.com/file/2j8u9ccwrlqx/Class_Tutoring_Lessons.htm

- Reference Lessons+Study Guides

Electrical Diploma

<http://www.filefactory.com/file/2oojs84b3ovx/highlightcomputergroup1.htm>

Electrical Engineering

http://www.filefactory.com/file/7bdts4v3yi49/Bachelor_of_Applied_Engineering_Electrical_Engineering_Home.htm

Mechanical Engineering+ Civil Engineering

<http://www.filefactory.com/file/3ud1pk458gqp/highlightcomputergroup5.htm>

Management

<http://www.filefactory.com/file/53f1g058qq1p/highlightcomputergroup2.htm>

Information technology

http://www.filefactory.com/file/2q3y5kyc22f1/highlightcomputergroup3_htm

- Electronics Library General Technical Support Program

http://www.filefactory.com/file/1ulcpevyibu5/gtc_htm

http://www.filefactory.com/file/5vnf7v9roxd/n/E_Lib_Engg_Book_Catalogue_pdf

- Australian Electrical Trainings

http://www.filefactory.com/file/7j01gm1ixvej/electricaldiploma2013Update1_htm

10. DVD Containing Assessment Validation & Quality Assurance Materials

Teacher skilled matrix

<http://www.highlightcomputer.com/teacherskillmatrix.htm>

Staff list

www.highlightcomputer.com/staff.htm

Staff competency

<http://www.highlightcomputer.com/teacherskillmatrix.htm>

11. DVD Contents

Professional Diploma in Engineering (Electrical, Civil, Mechanical, Building Services, Mechatronics)

Tests /Assignment/Project Assessment Questions & Materials

Test Questions

MECHANICAL

P1240529.JPG (3.26MB)

<http://www.filefactory.com/file/1gel78kwehfb/n/P1240529.JPG>

Download now!

BAE 614 Machine Design.doc (0.55MB)

http://www.filefactory.com/file/gbjya1h93g5/n/BAE_614_Machine_Design.doc

[Download now!](#)

BAE512 Building Service Water.doc (0.02MB)

http://www.filefactory.com/file/4xp0xqnt8o7j/n/BAE512_Building_Service_Water.doc

[Download now!](#)

BAE 614 Machine Design.doc (0.55MB)

http://www.filefactory.com/file/1t9guppp66y5/n/BAE_614_Machine_Design.doc

[Download now!](#)

BAE512 Building Service Water.doc (0.02MB)

http://www.filefactory.com/file/40vcrk1svydp/n/BAE512_Building_Service_Water.doc

[Download now!](#)

BAE 613 Mech Instrumentation Process Test.pdf (2.65MB)

http://www.filefactory.com/file/53r4fs72o1f/n/BAE_613_Mech_Instrumentation_Process_Test.pdf

[Download now!](#)

BAE 512 Building Service water & Fluid Supply Test.pdf (6.65MB)

http://www.filefactory.com/file/32yi87dda2yr/n/BAE_512_Building_Service_water_&Fluid_Supply_Test.pdf

[Download now!](#)

BAE 315 Material Engg Test.pdf (7.03MB)

http://www.filefactory.com/file/zzlo7bx6tl9/n/BAE_315_Material_Engg_Test.pdf

[Download now!](#)

BAE 511 Air Conditioning refrigeration Heat Transfer Test.pdf (0.27MB)

http://www.filefactory.com/file/2h0bvbjw9vn5/n/BAE_511_Air_Conditioning_refrigeration_Heat_Transfer_Test.pdf

[Download now!](#)

BAE 314 Mech power Generation Test.pdf (3.58MB)

http://www.filefactory.com/file/7ivses407cl1/n/BAE_314_Mech_power_Generation_Test.pdf

[Download now!](#)

BAE 313 Environmental Control Test.pdf (3.6MB)

http://www.filefactory.com/file/4s3gyof02q9v/n/BAE_313_Environmental_Control_Test.pdf

[Download now!](#)

BAE 312 Design Engineering Test.pdf (0.38MB)

http://www.filefactory.com/file/24uqzpscjcot/n/BAE_312_Design_Engineering_Test.pdf

[Download now!](#)

BAE 311 Vibration Control Test.pdf (1.3MB)

http://www.filefactory.com/file/6cwggpepc9tz/n/BAE_311_Vibration_Control_Test.pdf

[Download now!](#)

ELECTRICAL**BAE 604 Telecommunication Engineering.pdf (0.42MB)**

http://www.filefactory.com/file/2nf488wjyc27/n/BAE_604_Telecommunication_Engineering.pdf

[Download now!](#)

BAE 607 Radio Wave Propagation.doc (0.02MB)

http://www.filefactory.com/file/5zckxsn1drj/n/BAE_607_Radio_Wave_Propagation.doc

[Download now!](#)

BAE 606 Building Service Electrical.doc (0.02MB)

http://www.filefactory.com/file/41tubyiy9ab/n/BAE_606_Building_Service_Electrical.doc

[Download now!](#)

BAE 507 Electro Mech Energy Conversion Test.pdf (3.57MB)

http://www.filefactory.com/file/1dfnbz3fn8qx/n/BAE_507_Electro_Mech_Energy_Conversion_Test.pdf

[Download now!](#)

BAE 603 Software Engineering.doc (0.02MB)

http://www.filefactory.com/file/78uis8igintn/n/BAE_603_Software_Engineering.doc

[Download now!](#)**BAE 601+602.docx (1.96MB)**http://www.filefactory.com/file/1re3yf5mtx9t/n/BAE_601+602.docx**[Download now!](#)****BAE 506 Power Syst Protection Test.pdf (3.38MB)**http://www.filefactory.com/file/38f4fltxkay9/n/BAE_506_Power_Syst_Protection_Test.pdf**[Download now!](#)****BAE 505 Power Syst Optimization Tesr.pdf (5.76MB)**http://www.filefactory.com/file/2q2tuys3np77/n/BAE_505_Power_Syst_Optimization_Tesr.pdf**[Download now!](#)****BAE 504 Power Syst Analysis Test.pdf (3.58MB)**http://www.filefactory.com/file/4jymhdbp6phx/n/BAE_504_Power_Syst_Analysis_Test.pdf**[Download now!](#)****BAE 503 Control Syst Test.pdf (3.21MB)**http://www.filefactory.com/file/s0rp735nly3/n/BAE_503_Control_Syst_Test.pdf**[Download now!](#)****BAE 502 Linear Syst Test.pdf (6.49MB)**http://www.filefactory.com/file/1q1dd5vrskb/n/BAE_502_Linear_Syst_Test.pdf**[Download now!](#)****BAE 501 Adv Power Syst Test.pdf (6.07MB)**http://www.filefactory.com/file/2py76q0yb9bb/n/BAE_501_Adv_Power_Syst_Test.pdf**[Download now!](#)****BAE 407 Electromagnetic Field Test.pdf (6.71MB)**http://www.filefactory.com/file/2dk1vqlmkef1/n/BAE_407_Electromagnetic_Field_Test.pdf**[Download now!](#)**

BAE 408 Analog Digital Electronics Test.pdf (2.85MB)

http://www.filefactory.com/file/1icv86jgonvr/n/BAE_408_Analog_Digital_Electronics_Test.pdf

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BAE 406 Electro-mechanics Test.pdf (9.65MB)

http://www.filefactory.com/file/1dyxf2lbeuph/n/BAE_406_Electro-mechanics_Test.pdf

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BAE 405 Adv Ckt Analysis Test.pdf (5.8MB)

http://www.filefactory.com/file/2d8mk01ih7ml/n/BAE_405_Adv_Ckt_Analysis_Test.pdf

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BAE 404 Engg Thermodynamics+Strength of Materials Test.pdf (12.44MB)

http://www.filefactory.com/file/3vsonvnumqt1/n/BAE_404_Engg_Thermodynamics+Strength_of_Materials_Test.pdf

[Download now!](#)

BAE 403 Engineering Mechanics Test.pdf (10.29MB)

http://www.filefactory.com/file/9jx3zdcmedx/n/BAE_403_Engineering_Mechanics_Test.pdf

[Download now!](#)

BAE 402 Calculus Test.pdf (5.34MB)

http://www.filefactory.com/file/1snvfcaz08y9/n/BAE_402_Calculus_Test.pdf

BAE 401 Adv Engg Maths Test.pdf (6.19MB)

http://www.filefactory.com/file/dbxhi97np5z/n/BAE_401_Adv_Engg_Maths_Test.pdf

[Download now!](#)

CIVIL**P1240529.JPG (3.26MB)**

<http://www.filefactory.com/file/1uz5r0vgant9/n/P1240529.JPG>

[Download now!](#)

BAE624 Water Supply , Sanitation & Finishing Test.docx (0.01MB)

http://www.filefactory.com/file/6xndp4h8lf47/n/BAE624_Water_Supply_,_Sanitation_&_Finishing_Test.docx

[Download now!](#)

BAE621 Structural Engineering Test.pdf (0.38MB)

http://www.filefactory.com/file/4l4jo76f96fb/n/BAE621_Structural_Engineering_Test.pdf

[Download now!](#)

BAE621 Structural Engineering Test.pdf (0.38MB)

http://www.filefactory.com/file/62fwl7z5d6rr/n/BAE621_Structural_Engineering_Test.pdf

[Download now!](#)

BAE523 Environmental Engineering.JPG (3.6MB)

http://www.filefactory.com/file/21h47s7ug4qt/n/BAE523_Environmental_Engineering.JPG

[Download now!](#)

BAE621 Structural Engineering Test.docx (1MB)

http://www.filefactory.com/file/e4qnt7u5y95/n/BAE621_Structural_Engineering_Test.docx

[Download now!](#)

BAE 422 Estimating.Assignment.doc (2.84MB)

http://www.filefactory.com/file/62z3lbp0roox/n/BAE_422_Estimating.Assignment.doc

[Download now!](#)

BAE423 Fluid Mechanics Test.doc (0.03MB)

http://www.filefactory.com/file/36hvor7mj6j5/n/BAE423_Fluid_Mechanics_Test.doc

[Download now!](#)

BAE 623 Surveying + traffic Engineering Test Question.doc (0.44MB)

http://www.filefactory.com/file/1gnlw2rg3ggx/n/BAE_623_Surveying_+_traffic_Engineering_Test_Question.doc

[Download now!](#)

BAE 525 Timber Engineering Test.doc (0.03MB)

http://www.filefactory.com/file/5vkk2w4he59h/n/BAE_525_Timber_Engineering_Test.doc

[Download now!](#)

BAE 523 Soli Mechanics Test.docx (0.02MB)

http://www.filefactory.com/file/4xxk0dffsist/n/BAE_523_Soli_Mechanics_Test.docx

[Download now!](#)

BAE 522 Rock Mechanics Test.doc (0.03MB)

http://www.filefactory.com/file/6efrp1xjx8yb/n/BAE_522_Rock_Mechanics_Test.doc

[Download now!](#)

BAE 521 Road & Bridge Test.doc (0.02MB)

[http://www.filefactory.com/file/2fy33msql5yd/n/BAE_521_Road_& Bridge_Test.doc](http://www.filefactory.com/file/2fy33msql5yd/n/BAE_521_Road_&Bridge_Test.doc)

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COURSE OBJECTIVES

DIPLOMA IN ENGINEERING (ELECTRICAL/CIVIL/MECHANICAL/COMPUTER/RENEWABLE ENERGY)

DIPLOMA IN INFORMATION TECHNOLOGY

DIPLOMA IN MANAGEMENT

ADVANCED DIPLOMA IN ENGINEERING (ELECTRICAL/CIVIL/MECHANICAL/COMPUTER/RENEWABLE ENERGY)

ADVANCED DIPLOMA IN INFORMATION TECHNOLOGY

ADVANCED DIPLOMA IN MANAGEMENT

PROFESSIONAL DIPLOMA IN ENGINEERING (ELECTRICAL/CIVIL/MECHANICAL/COMPUTER/RENEWABLE ENERGY)

PROFESSIONAL DIPLOMA IN INFORMATION TECHNOLOGY

PROFESSIONAL DIPLOMA IN BUSINESS MANAGEMENT

Diploma in Electrical Engineering
Diploma in Mechanical Engineering
Diploma in Civil Engineering
Diploma in Computer Engineering
Diploma in Renewable Energy Engineering

Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology) Course Outlines

IQY Technical College's one year Diploma in Engineering is designed to train the students to work as Engineering Associate or Engineering Technicians in wide ranges of industries.

It is designed to provide the following competencies.

To train the students to have a wide range of functions within engineering enterprises and engineering teams.

The training includes feasibility investigation, scoping, establishing criteria/performance measures, assessing and reporting technical and procedural options; design and development; component, resources and materials sourcing and procurement; construction, prototyping, manufacture, testing, installation, commissioning, service provision and de-commissioning; tools, plant, equipment and facilities acquisition, management, maintenance, calibration and upgrades; operations management; procedures documentation; presentation and reporting; maintenance systems design and management; project and facility management; quality assurance, costing and budget management; document control and quality assurance.

The training is designed for the students

- To be closely familiar with standards and codes of practice, and to become expert in their interpretation and application to a wide variety of situations.
- To develop very extensive experience of practical installations, and may well be more knowledgeable than Professional Engineers or Engineering Technologists on detailed aspects of plant and equipment that can contribute very greatly to safety, cost or effectiveness in operation.
- To develop high levels of expertise in aspects of design and development processes. These might include, for example, the use of advanced software to perform detailed design of structures, mechanical components and systems, manufacturing or process plant, electrical and electronic equipment, information and communications systems, and so on.
- To do the construction of experimental or prototype equipment.
- To develop detailed practical knowledge and experience complementing the broader or more theoretical knowledge of others.

The training is also designed to provide a good grounding in engineering science and the principles underlying their field of expertise, to ensure that their knowledge and skills are portable across different applications and situations within the broad field of practice. Equipment, vendor or context-specific training in a particular job are not sufficient to guarantee generic competency. Given a good knowledge base, however, the graduates may build further on this through high levels of training in particular contexts and in relation to particular equipment.

The competencies of graduates to equip them to certify the quality of engineering work and the condition of equipment and systems in defined circumstances, laid down in recognised standards and codes of practice.

The training is also designed to lead or manage teams appropriate to these activities. Some may establish their own companies or may move into senior management roles in engineering and related enterprises, employing Professional Engineers, Engineering Technologists, and other specialists where appropriate.

Diploma in Engineering can be studied in the following specializations

- Diploma in Electrical Engineering
- Diploma in Mechanical Engineering
- Diploma in Civil Engineering
- Diploma in Renewable Energy Engineering
- Diploma in Computer Engineering / Diploma in Information Technology

Diploma in Electrical Engineering

This program is designed with 30 credit points integrating 15 credit points Certificate in Electrical Engineering. The completion of this program can be articulated into 60 points Advanced Diploma in Electrical Engineering & 120 credit points Professional Diploma in Electrical Engineering which is the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Diploma in Electrical Engineering can apply for Associate Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

Study Areas

Electrical circuits, Basic Electronics, Mathematics, Physics, Electrical Wiring, Electrical Machines, Electro-magnetism, Computer Applications, Control System, Process Control, Electrical Contracting, Solar Electrical System, Electrical Drafting

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

Electrical Engineering Course Outline

http://www.highlightcomputer.com/Diploma_Advanced_Diploma_in_Electrical_Engineering_Course_outline.doc

Detailed Contents of Diploma + Advanced Diploma in Engineering, IT, Management & Business Programs

<http://www.highlightcomputer.com/detailedcontent.htm>

Diploma in Mechanical Engineering

This program is designed with 30 credit points integrating 15 credit points Certificate in Mechanical Engineering. The completion of this program can be articulated into 60 points Advanced Diploma in Mechanical Engineering & Mechatronics & 120 credit points Professional Diploma in Mechanical Engineering & Mechatronics which is the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Diploma in Mechanical Engineering can apply for Associate Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

Study Areas

Mathematics, Physics, Machine Principle, Electrical Circuits, Heat Transfer, Principle of Engines, Fluid Mechanics, Engineering Mechanics, Mechanical Drawing, Hydrocarbon, Wind Turbine, Polymer Science, Turbo Machinery, Basic Management

Specialized Fields

Automotive Engineering, Marine Engineering

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

Mechanical Engineering Course Outline

http://www.highlightcomputer.com/Diploma_in_Mechanical_Engineering.doc

Detailed Contents of Diploma + Advanced Diploma in Engineering, IT, Management & Business Programs

<http://www.highlightcomputer.com/detailedcontent.htm>

Diploma in Civil Engineering

This program is designed with 30 credit points integrating 15 credit points Certificate in Civil Engineering & Construction Studies. The completion of this program can be articulated into 60 points Advanced Diploma in Civil Engineering & 120 credit points Professional Diploma in Civil Engineering & Building Services which is the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Diploma in Civil Engineering can apply for Associate Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

Study Areas

Mathematics, Physics, Electrical Principle, Fluid Mechanics, Hydraulics, Hydrology, Building Construction, Sanitation & Water Supply, Energy Efficient Building Design

[Detailed contents of the units](#)

Detailed contents of the units can be viewed at the following links.

[Civil Engineering Course Outline](#)

http://www.highlightcomputer.com/Diploma_in_Civil_Engineering.doc

[Detailed Contents of Diploma + Advanced Diploma in Engineering, IT, Management & Business Programs](#)

<http://www.highlightcomputer.com/detailedcontent.htm>

Diploma in Renewable Energy Engineering

This program is designed with 30 credit points integrating 15 credit points Certificate in Renewable Energy Course Completion Certificate which is delivered through the public seminars. The completion of this program can be articulated into 120 credit points Professional Diploma in Renewable Energy Engineering which is the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Diploma in Renewable Energy Engineering can apply for Associate Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

[Study Areas](#)

Foundation Studies in Renewable Energy and Sustainability, Grid Connected Photovoltaic Power Systems, Solar and Thermal Energy Systems, Energy Storage Systems, Renewable Energy Resource Analysis, Wind Energy Conversion Systems, Energy System Efficiency

[Detailed contents of the units](#)

Detailed contents of the units can be viewed at the following links.

[Renewable Energy Engineering Public Seminar + Diploma & Bachelor of Engineering \(Renewable Energy\)](#)

<http://www.highlightcomputer.com/re.pdf>

Diploma in Computer Engineering/ Diploma in Information Technology

This program is designed with 30 credit points integrating 15 credit points Certificate in Information Technology. The completion of this program can be articulated into 60 points Advanced Diploma in Information Technology & 120 credit points Professional Diploma in Information Technology or Professional Diploma in Computer Engineering which is the award of Bachelor of Applied Science (Information Technology)/Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Diploma in Computer Engineering can apply for Associate Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

The graduates of Diploma in Information Technology can apply for membership of International Institute of Science Engineering & Management.

To be awarded Diploma in Computer Engineering, the students need to do Diploma in Information Technology & Diploma in Electrical Engineering at the same time.

[Study Areas](#)

IT Fundamental, Computer Application, Computer Programming, System Analysis, Software Engineering, IT Project, Business Information System

[Detailed contents of the units](#)

Detailed contents of the units can be viewed at the following links.

[Diploma in Information Technology Course Outline](#)

http://www.highlightcomputer.com/Diploma_in_Information_Technology_Course_outline.doc

[Electrical Engineering Course Outline](#)

http://www.highlightcomputer.com/Diploma & Advanced Diploma in Electrical Engineering Course_outline.doc

[Detailed Contents of Diploma + Advanced Diploma in Engineering, IT, Management & Business Programs](#)

<http://www.highlightcomputer.com/detailedcontent.htm>

Advanced Diploma in Electrical Engineering

Advanced Diploma in Mechanical Engineering

Advanced Diploma in Civil Engineering

Advanced Diploma in Computer Engineering

Advanced Diploma in Renewable Energy Engineering

Advanced Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology) Course Outlines

IQY Technical College's two years Advanced Diploma in Engineering is designed to train the students to work as Engineering Technologist in wide ranges of industries.

It is designed to provide the following competencies.

To train the students to operate within broadly-defined technical environments, and undertake a wide range of functions and responsibilities. They are often specialists in the theory and practice of a particular branch of engineering technology or engineering-related technology (the technology domain), and specifically in its application, adaptation or management, in a variety of contexts. Their expertise often lies in familiarity with the current state of development of a technology domain and most recent applications of the technology.

The training is designed to provide expertise to the students which may be at a high level, and fully equivalent to that of a Professional Engineer. That is designed

- to exercise the same breadth of perspective as Professional Engineers, or carry the same wide-ranging responsibilities for stakeholder interactions, for system integration, and for synthesising overall approaches to complex situations and complex engineering problems.
- to possess for a strong understanding of practical situations and applications, with the intellectual challenge of keeping abreast of leading-edge developments as a specialist in a technology domain and how these relate to established practice. For this purpose Engineering Technologists need a strong understanding of scientific and engineering principles and a well-developed capacity for analysis.
- to apply current and emerging technologies, often in new contexts; or with the application of established principles in the development of new practice.
- To contribute to the advancement of technology.
- to take responsibility for engineering projects, services, functions and facilities within a technology domain, for specific interactions with other aspects of an overall operating context and for managing
- to contribute the specialist work to a broader engineering system or solution. In these roles, Engineering
- to focus on sustainable solutions and practices which optimise technical, social, environmental and economic outcomes within the technology domain and over a whole systems life cycle.
- to have an intimate understanding of the standards and codes of practice that underpin the technology domain and ensure that technology outcomes comply with statutory requirements. Engineering Technologists are required to interact effectively with Professional Engineers and Engineering Associates, with other professionals, tradespersons, clients, stakeholders and society in general, to ensure that technology outcomes and developments fully integrate with the overall system and context.
- to ensure that all aspects of a technological product, or operation are soundly based in theory and fundamental principle.
- to understand how new developments relate to their specific field of expertise.
- to interpret technological possibilities, to investigate interfaces, limitations, consequences, costs and risks.

The training is also designed to provide the skills of Engineering Technologists who may lead teams responsible for the implementation, operation, quality assurance, safety, management, and maintenance of projects, plant, facilities, or processes within specialist practice area(s) of the technology domain. Some Engineering Technologists may establish their own companies or may move into senior management roles in engineering and related enterprises, employing Professional Engineers and other specialists where appropriate.

The following competencies are outlined in the Advanced Diploma in Engineering Programs

1. KNOWLEDGE AND SKILL BASE

- 1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain.
- 1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain.
- 1.3. In-depth understanding of specialist bodies of knowledge within the technology domain.
- 1.4. Discernment of knowledge development within the technology domain.
- 1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.
- 1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.

2. ENGINEERING APPLICATION ABILITY

- 2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.
- 2.2. Application of engineering techniques, tools and resources within the technology domain.
- 2.3. Application of systematic synthesis and design processes within the technology domain.
- 2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.

3. PROFESSIONAL AND PERSONAL ATTRIBUTES

- 3.1. Ethical conduct and professional accountability.
- 3.2. Effective oral and written communication in professional and lay domains.
- 3.3. Creative, innovative and pro-active demeanour.
- 3.4. Professional use and management of information.
- 3.5. Orderly management of self, and professional conduct.
- 3.6. Effective team membership and team leadership.

Advanced Diploma in Engineering can be studied in the following specializations

- Advanced Diploma in Electrical Engineering
- Advanced Diploma in Mechanical Engineering
- Advanced Diploma in Civil Engineering
- Advanced Diploma in Renewable Energy Engineering
- Advanced Diploma in Computer Engineering / Advanced Diploma in Information Technology

Advanced Diploma in Electrical Engineering

This program is designed with 60 credit points integrating 30 credit points Diploma in Electrical Engineering. The completion of this program can be articulated into 60 of 120 credit points Professional Diploma in Electrical Engineering which is the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Advanced Diploma in Electrical Engineering can apply for Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

Study Areas

Electrical Power Circuits, Electrical Power System, Mathematics, Physics, AC/DC Machines, Control System, Power System Protection, Energy Efficiency, Project Management, Advanced Electrical Drafting, Power Transmission Line, Engineering Officer Competency Report.

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

[Detailed Contents of Diploma + Advanced Diploma in Engineering, IT, Management & Business Programs](#)

<http://www.highlightcomputer.com/detailedcontent.htm>

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Advanced Diploma in Mechanical Engineering

This program is designed with 60 credit points integrating 30 credit points Diploma in Mechanical Engineering. The completion of this program can be articulated into 60 of 120 credit points Professional Diploma in Mechanical Engineering which is the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Advanced Diploma in Mechanical Engineering can apply for Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

Study Areas

Higher Mathematics, Fluid Dynamics, Automation & Robotics, Computer Aided Design & Manufacturing, Control System, Manufacturing, Mechatronics, Numerical Control, Pneumatics, Building Services. Air-conditioning Refrigeration

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

[Detailed Contents of Diploma + Advanced Diploma in Engineering, IT, Management & Business Programs](#)

<http://www.highlightcomputer.com/detailedcontent.htm>

Advanced Diploma in Civil Engineering

This program is designed with 60 credit points integrating 30 credit points Diploma in Civil Engineering. The completion of this program can be articulated into 60 of 120 credit points Professional Diploma in Civil Engineering which is the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Advanced Diploma in Civil Engineering can apply for Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

Study Areas

Surveying, Road & Bridges, Structure, Estimating, Electrical Installation, Electrical Wiring, Air-conditioning Refrigeration, Engineering Mechanics

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

[Detailed Contents of Diploma + Advanced Diploma in Engineering, IT, Management & Business Programs](#)

<http://www.highlightcomputer.com/detailedcontent.htm>

Advanced Diploma in Renewable Energy Engineering

This program is designed with 60 credit points integrating 30 credit points Certificate in Renewable Energy Course Completion Certificate which is delivered through the public seminars. The completion of this program can be articulated into 120 credit points Professional Diploma in Renewable Energy Engineering which is the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Advanced Diploma in Renewable Energy Engineering can apply for Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

Study Areas

Advanced contents in Renewable Energy, Electrical Engineering, Basic Civil & Mechanical Engineering, Electrical Machines, Electronics Control

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

[Renewable Energy Engineering Public Seminar + Diploma & Bachelor of Engineering \(Renewable Energy\)](#)

<http://www.highlightcomputer.com/re.pdf>

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Advanced Diploma in Computer Engineering/ Advanced Diploma in Information Technology

This program is designed with 30 credit points integrating 30 credit points Diploma in Information Technology. The completion of this program can be articulated into 60 of 120 credit points Professional Diploma in Information Technology or Professional Diploma in Computer Engineering which is the award of Bachelor of Applied Science (Information Technology)/Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Advanced Diploma in Computer Engineering can apply for Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

The graduates of Advanced Diploma in Information Technology can apply for membership of International Institute of Science Engineering & Management. To be awarded Advanced Diploma in Computer Engineering, the students need to do Advanced Diploma in Information Technology & Diploma in Electrical Engineering at the same time.

Study Areas

Organizational Behaviour, IT Networking, Information System Analysis & Design, Advanced Programming, Project Work

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

[Advanced Diploma in Information Technology Course Outline](#)

http://www.filefactory.com/file/7dmpqloj2fn/n/Advanced_Diploma_in_Information_Technology_pdf

[Electrical Engineering Course Outline](#)

<http://www.highlightcomputer.com/Diploma & Advanced Diploma in Electrical Engineering Course outline.doc>

[Detailed Contents of Diploma + Advanced Diploma in Engineering, IT, Management & Business Programs](#)

<http://www.highlightcomputer.com/detailedcontent.htm>

Professional Diploma in Electrical Engineering Professional Diploma in Mechanical Engineering Professional Diploma in Civil Engineering Professional Diploma in Computer Engineering Professional Diploma in Renewable Energy Engineering

Professional Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology) Course Outlines

IQY Technical College's four years Professional Diploma in Engineering is designed to train the students to work as Engineering Technologist /Professional Engineer in wide ranges of industries.

It is designed at the same academic requirement as to Bachelor of Engineering degree but IQY Technical College is operating as a vocational education & training college not as a university, the award is to be described as Professional Diploma. The graduates of the Professional Diploma in Engineering can be awarded Bachelor of Engineering by the universities which are affiliated to IQY Technical College.

The program is designed to train the students to become Professional Engineers who are required to take responsibility for engineering projects and programs in the most far-reaching sense.

It is designed to provide the following competencies.

- To perform the reliable functioning of all materials, components, sub-systems and technologies used; their integration to form a complete, sustainable and self-consistent system; and all interactions between the technical system and the context within which it functions. The latter includes understanding the requirements of clients, wide ranging stakeholders and of society as a whole; working to optimise social, environmental and economic outcomes over the full

lifetime of the engineering product or program; interacting effectively with other disciplines, professions and people; and ensuring that the engineering contribution is properly integrated into the totality of the undertaking.

- To do interpreting technological possibilities to society, business and government; and for ensuring as far as possible that policy decisions are properly informed by such possibilities and consequences, and that costs, risks and limitations are properly understood as the desirable outcomes.
- To bring knowledge to bear from multiple sources to develop solutions to complex problems and issues, for ensuring that technical and non-technical considerations are properly integrated, and for managing risk as well as sustainability issues. While the outcomes of engineering have physical forms, the work of
- To train the students to become predominantly intellectual in nature. In a technical sense, Professional Engineers are primarily concerned with the advancement of technologies and with the development of new technologies and their applications through innovation, creativity and change. Professional Engineers may conduct research concerned with advancing the science of engineering and with developing new principles and technologies within a broad engineering discipline.
- To contribute to continual improvement in the practice of engineering, and in devising and updating the codes and standards that govern it.
- To take a particular responsibility for ensuring that all aspects of a project are soundly based in theory and fundamental principle, and for understanding clearly how new developments relate to established practice and experience and to other disciplines with which they may interact. One hallmark of a professional is the capacity to break new ground in an informed, responsible and sustainable fashion.

The program is also designed to provide the skills required for the graduated to lead or manage teams appropriate to these activities, and may establish their own companies or move into senior management roles in engineering and related enterprises.

COMPETENCIES

1. KNOWLEDGE AND SKILL BASE

- 1.1. Comprehensive, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline.
- 1.2. Conceptual understanding of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the engineering discipline.
- 1.3. In-depth understanding of specialist bodies of knowledge within the engineering discipline.
- 1.4. Discernment of knowledge development and research directions within the engineering discipline.
- 1.5. Knowledge of engineering design practice and contextual factors impacting the engineering discipline.
- 1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the specific discipline.

2. ENGINEERING APPLICATION ABILITY

- 2.1. Application of established engineering methods to complex engineering problem solving.
- 2.2. Fluent application of engineering techniques, tools and resources.
- 2.3. Application of systematic engineering synthesis and design processes.
- 2.4. Application of systematic approaches to the conduct and management of engineering projects.

3. PROFESSIONAL AND PERSONAL ATTRIBUTES

- 3.1. Ethical conduct and professional accountability.
- 3.2. Effective oral and written communication in professional and lay domains.
- 3.3. Creative, innovative and pro-active demeanour.
- 3.4. Professional use and management of information.
- 3.5. Orderly management of self, and professional conduct.
- 3.6. Effective team membership and team leadership.

Professional Diploma in Engineering can be studied in the following specializations

- Professional Diploma in Electrical Engineering
- Professional Diploma in Mechanical Engineering
- Professional Diploma in Civil Engineering
- Professional Diploma in Renewable Energy Engineering
- Professional Diploma in Computer Engineering / Professional Diploma in Information Technology

Professional Diploma in Electrical Engineering

This program is designed with 120 credit points integrating 60 credit points Advanced Diploma in Electrical Engineering. The completion of this program can be awarded Professional Diploma in Electrical Engineering together with the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Professional Diploma in Electrical Engineering can apply for Fellow of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technologists or ASEAN Engineer.

Study Areas

Mathematics, Engineering Mechanics & Thermodynamics, Electrical Circuit Analysis, Electro-magnetics & Electrical Machines, Control System, Power System, Electronics, Telecommunication, Industrial Management, Computer Programming, Computer Network, Engineering Project, Building Services, Competency Demonstration Report Writing

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

Bachelor of Engineering (Electrical Engineering) Course Outline

<http://www.filefactory.com/file/5ftv3w6vjcm/BACHELOR%20OF%20APPLIED%20ENGINEERING.doc>

Detailed Contents of BE B Bus& B App Sc (IT) Programs

[http://highlightcomputer.com/B%20E+B%20App%20Sc\(IT\)+B%20Bus%20Course%20Detailed%20Contents.htm](http://highlightcomputer.com/B%20E+B%20App%20Sc(IT)+B%20Bus%20Course%20Detailed%20Contents.htm)

Professional Diploma in Mechanical Engineering

This program is designed with 120 credit points integrating 60 credit points Advanced Diploma in Mechanical Engineering. The completion of this program can be awarded Professional Diploma in Mechanical Engineering together with the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Professional Diploma in Mechanical Engineering can apply for Fellow of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technologists or ASEAN Engineer.

Study Areas

Mathematics, Engineering Mechanics & Thermodynamics, Industrial Management, Computer Programming, Computer Network, Engineering Project, Building Services, Air-conditioning & Refrigeration, Machine Design, Mechanical Instrumentation, Production Technology, Engineering Materials, Maintenance Engineering, Mechanical Power Generation, Applied Electrical/Electronics & Control System, Competency Demonstration Report Writing

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

Bachelor of Engineering (Mechanical Engineering-Mechatronics) Course Outline

http://www.filefactory.com/file/113wq8regbuh/n/Bachelor_of_Applied_Engineering_Mechanical-Mechatronics_Course_Outline.doc

Bachelor of Applied Engineering (Final Year Mechanical Design) Course Outline

http://www.filefactory.com/file/7greuugxlvvh/n/Graduate_Diploma_of_Mechanical_Engineering_B_App_Eng_Mech_Course_Outline.doc

Detailed Contents of BE B Bus& B App Sc (IT) Programs

[http://highlightcomputer.com/B%20E+B%20App%20Sc\(IT\)+B%20Bus%20Course%20Detailed%20Contents.htm](http://highlightcomputer.com/B%20E+B%20App%20Sc(IT)+B%20Bus%20Course%20Detailed%20Contents.htm)

Professional Diploma in Civil Engineering

This program is designed with 120 credit points integrating 60 credit points Advanced Diploma in Civil Engineering. The completion of this program can be awarded Professional Diploma in Civil Engineering together with the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Professional Diploma in Civil Engineering can apply for Fellow of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technologists or ASEAN Engineer.

Study Areas

Mathematics, Engineering Mechanics & Thermodynamics, Industrial Management, Computer Programming, Building Construction, Estimating, Fluid Mechanics, Structural Engineering, Reinforce Concrete, Timber Engineering, Soil & Rock Mechanics, Environmental Engineering, Road & Bridges, Building Service Engineering, Traffic Engineering, Surveying, Water Supply Sanitation, Engineering Competency Demonstration Report Writing

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

Bachelor of Engineering (Civil Engineering-Building Services) Course Outline

<http://www.filefactory.com/file/npiwt5ekau5/Bachelor%20of%20Applied%20Engineering%20%28Civil-Building%20Services%29%20Course%20Outline.doc>

[Bachelor of Applied Engineering \(Final Year Civil Design\) Course Outline](#)

<http://www.filefactory.com/file/37twg21wx97z/Graduate%20Diploma%20of%20Civil%20Engineering%2B%20App%20Eng%20%28Civil%29%20Course%20Outline.doc>

[Detailed Contents of BE.B Bus& B App Sc \(IT\) Programs](#)

[http://highlightcomputer.com/B%20E+B%20App%20Sc\(IT\)+B%20Bus%20Course%20Detailed%20Contents.htm](http://highlightcomputer.com/B%20E+B%20App%20Sc(IT)+B%20Bus%20Course%20Detailed%20Contents.htm)

Professional Diploma in Renewable Energy Engineering

This program is designed with 120 credit points integrating 60 credit points Advanced Diploma in Renewable Energy Engineering. The completion of this program can be awarded Professional Diploma in Renewable Energy Engineering together with the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

This program explores the way to make the best use of renewable energy technologies including solar thermal systems, photovoltaics, wind and biomass. Renewable Energy Engineering borrows much of its structure from some other areas of engineering, such as electrical engineering and photovoltaic engineering. It encompasses a broad range of renewable energy technologies including electricity generation from solar thermal systems, photovoltaics, wind and biomass. It also covers solar architecture and energy efficient housing design

The graduates of Professional Diploma in Renewable Energy Engineering can apply for Fellow of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technologists or ASEAN Engineer.

Study Areas

Foundation Studies in Renewable Energy and Sustainability, Grid Connected Photovoltaic Power Systems, Solar and Thermal Energy Systems, Energy Storage Systems, Renewable Energy Resource Analysis, Wind Energy Conversion Systems, Energy System Efficiency, Mathematics & Physics, Engineering Materials, Civil & Mechanical Engineering, Electrical Engineering, Electrical Machines, Electronics Control, Design & Management, Project, Engineering Competency Demonstration Report Writing.

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

[Renewable Energy Engineering Public Seminar + Diploma& Bachelor of Engineering \(Renewable Energy\)](#)

<http://www.highlightcomputer.com/re.pdf>

Professional Diploma in Computer Engineering/ Professional Diploma in Information Technology

This program is designed with 120 credit points integrating 60 credit points Advanced Diploma in Information Technology. Professional Diploma in Computer Engineering which is the award of Bachelor of Applied Science (Information Technology)/Bachelor of Engineering degree by the universities affiliated IQY Technical College.

The graduates of Professional Diploma in Computer Engineering can apply for Fellow of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technologist or ASEAN Engineer.

The graduates of Professional Diploma in Information Technology can apply for membership of International Institute of Science Engineering & Management.

To be awarded Professional Diploma in Computer Engineering, the students need to do some Bachelor of Engineering (Electrical) units at the same time.

Study Areas

Computer

Computer Programming, Computer Network, Software Engineering, Artificial Intelligence, Telecommunication Engineering, Project Management,

Electrical/Electronics

Electrical Engineering, Analog & Digital Control, Control System, Engineering Management

Engineering Competency Demonstration Report Writing

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

[Detailed Contents of BE.B Bus& B App Sc \(IT\) Programs](#)

[http://highlightcomputer.com/B%20E+B%20App%20Sc\(IT\)+B%20Bus%20Course%20Detailed%20Contents.htm](http://highlightcomputer.com/B%20E+B%20App%20Sc(IT)+B%20Bus%20Course%20Detailed%20Contents.htm)

[Bachelor of Engineering \(Electrical Engineering\) Course Outline](#)

<http://www.filefactory.com/file/5ftv3w6vjcm/BACHELOR%20OF%20APPLIED%20ENGINEERING.doc>

Diploma in information Technology

Diploma in Information Technology

This course will provide the students with the skills and knowledge to manage information and communications technology (ICT) support in small-to-medium enterprises using a wide range of general ICT technologies. The students will learn skills to support computer systems, involving people, hardware, software and procedures in a networked environment. They will also learn skills that enable them to maintain and guide teams and manage projects.

This program is designed with 30 credit points integrating 15 credit points Certificate in Information Technology. The completion of this program can be articulated into 60 points Advanced Diploma in Information Technology & 120 credit points Professional Diploma in Information Technology or Professional Diploma in Computer Engineering which is the award of Bachelor of Applied Science (Information Technology)/Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Diploma in Computer Engineering can apply for Associate Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

The graduates of Diploma in Information Technology can apply for membership of International Institute of Science Engineering & Management.

To be awarded Diploma in Computer Engineering, the students need to do Diploma in Information Technology & Diploma in Electrical Engineering at the same time.

Study Areas

IT Fundamental, Computer Application, Computer Programming, System Analysis, Software Engineering, IT Project, Business Information System

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

[Diploma in Information Technology Course Outline](#)

http://www.highlightcomputer.com/Diploma_in_Information_Technology_Course_outline.doc

[Electrical Engineering Course Outline](#)

http://www.highlightcomputer.com/Diploma_& Advanced_Diploma_in_Electrical_Engineering_Course_outline.doc

[Detailed Contents of Diploma + Advanced Diploma in Engineering, IT, Management & Business Programs](#)

<http://www.highlightcomputer.com/detailedcontent.htm>

Advanced Diploma in information Technology

Advanced Diploma in Information Technology

The Advanced Diploma in Information Technology provides the students with high level Information and Communications Technology (ICT) process improvement in senior ICT roles within organisations. The qualification builds on a base core of management competencies, with specialist and general elective choices to suit particular ICT and business needs, especially in the areas of knowledge management and systems development.

This qualification is suited to dynamic leaders who wish to broaden their business perspective, enhance [management](#) capability and strengthen leadership

behaviour. The focus is on managing the strategic direction of a business through leadership, financial management and comprehensive business operations. It is

ideal for those in senior management positions with responsibility for strategic leadership across the business or in specialist areas.

The following competencies are integrated in this course

- Provide leadership across the organisation
- Manage employee relations
- Develop and implement a business plan
- Manage organisational change
- Manage innovation and continuous improvement
- Manage risk
- to builds on a solid foundation in software and hardware and through flexible study plans allows students to specialise if desired.
- to include bioinformatics, computer systems and networks, enterprise information systems, human-computer interaction, software design and software information systems at technologist level.
- to be project-focused with studies in programming languages, algorithms and information structure and develop the ability to process data or information in

- order to solve problems at technologist level.
- to provide team dynamics, presentation skills and project management at middle class manager level.
- The completion of this program can be articulated into 60 of 120 credit points Professional Diploma in Information Technology which is the award of Bachelor of Applied Science (Information Technology) or Bachelor of Information Technology degree by the universities affiliated to IQY Technical College.
- [Detailed contents of the units](#)

Detailed contents of the units can be viewed at the following links

[Advanced Diploma in Information Technology Course Outline](#)

http://www.highlightcomputer.com/Advanced_Diploma_in_Information_Technology.pdf

[Diploma in Information Technology Course Outline](#)

http://www.highlightcomputer.com/Diploma_in_Information_Technology_Course_outline.doc

[Management Course Outline](#)

http://www.highlightcomputer.com/Diploma_of_Management.doc

Professional Diploma in Information Technology

IQY Technical College's four years Professional Diploma in Information Technology is designed to train the students to work as computing professionals, to use ICT to be a better scientist, or to empower themselves to better understand the technology behind many of today's careers. Increasingly, employers see an [ICT qualification](#) as a sign of academic well-roundedness. ICT drives innovations such as the human genome project, vaccine research, environmental modelling. Emerging areas include electronic security, earth simulation (related to the mining boom) and bioinformatics. Independent job market surveys show that demand for graduates is escalating, along with salaries. Industry is concerned about a shortage of talent.

It is designed at the same academic requirement as to Bachelor of Information Technology degree but IQY Technical College is operating as a vocational education & training college not as a university, the award is to be described as Professional Diploma. The graduates of the Professional Diploma in Engineering can be awarded Bachelor of Applied Science (Information Technology) & Bachelor of Information Technology by the universities which are affiliated to IQY Technical College. The graduates can apply for membership of International Institute of Science Engineering & Management. The program is designed to train the students to become ICT Professionals who are required to take responsibility for ICT projects and programs in the most far-reaching sense.

It is designed to provide the following competencies.

- to builds on a solid foundation in software and hardware and through flexible study plans allows students to specialise if desired.
- to include bioinformatics, computer systems and networks, enterprise information systems, human-computer interaction, software design and software information systems.
- to be project-focused with studies in programming languages, algorithms and information structure and develop the ability to process data or information in order to solve problems.
- to provide team dynamics, presentation skills and project management.

See the [course list](#) for courses that can be studied as part of the Bachelor of Information Technology.

Study Areas

- [Computer Systems and Networks](#)
- [Enterprise Information Systems](#)
- [Human-Computer Interaction](#)
- [Software Design](#)
- [Software Information Systems](#)
- [Electrical Engineering for the award of Professional Diploma in Computer Engineering](#)

[Detailed contents of the units](#)

Detailed contents of the units can be viewed at the following links.

[Bachelor of Applied Science \(Computer Science & Computer Technology\)](#)

[http://www.highlightcomputer.com/B_App_Sci_\(CS&_CT\)_Course_outline.pdf](http://www.highlightcomputer.com/B_App_Sci_(CS&_CT)_Course_outline.pdf)

[Bachelor of Engineering \(Electrical Engineering\) Course Outline](#)

<http://www.filefactory.com/file/5ftv3w6vjcm/BACHELOR%20OF%20APPLIED%20ENGINEERING.doc>

[Professional Diploma of Engineering Practice \(Computer Control Engineering \) Course Outline](#)

http://www.highlightcomputer.com/Graduate_Diploma_of_Engineering_Practice_Computer_ControlUpdate%5b1%5d.doc

[Detailed Contents of BE.B Bus& B App Sc \(IT\) Programs](#)

[http://highlightcomputer.com/B%20E+B%20App%20Sc\(IT\)+B%20Bus%20Course%20Detailed%20Contents.htm](http://highlightcomputer.com/B%20E+B%20App%20Sc(IT)+B%20Bus%20Course%20Detailed%20Contents.htm)

Diploma in Management

IQY Technical College's one year Diploma in Management is designed to train the students to work as middle class managers in wide ranges of industries & companies.

This program is designed with 30 credit points integrating 15 credit points Certificate in Information Technology or pure management stream. The completion of this program can be articulated into 60 points Advanced Diploma in Information Technology Management & 120 credit points Professional Diploma in Business Management which is the award of Bachelor of Business Management degree by the universities affiliated to IQY Technical College.

The graduates can apply for membership of The Institute of Professional Business and Technical Managers.

It is designed to provide the following competencies.

- To explore the factors for achieving success with a business, management is becoming increasingly challenging.
- To provide the planning on a [management career](#).
- To provide the understanding of the leadership process will form the foundation to build the management skills.
- To be able to effectively manage others to perform at their best while focusing on the growth of a business.
- This course can turn your management experience into a formal qualification, or it can up-skill you to get further ahead in your career.

This course will also train the students to develop a project plan, manage budgets and seek opportunities for further [business](#) improvement. The students will gain knowledge on how to liaise with stakeholders and ensure team effectiveness. This diploma also addresses the multiple challenges faced by managers in today's rapidly changing business environment and provides solutions and strategies to work under various business conditions.

This course is fully flexible with no assessment due dates or classes to attend. Structure your learning around students' current commitments and take the next step in the [business management](#) career.

Potential career outcomes

- business manager
- team leader
- facilities coordinator

- department manager

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

[Management Course Outline](#)

http://www.highlightcomputer.com/Diploma_of_Management.doc

[Detailed Contents of Diploma + Advanced Diploma in Engineering, IT, Management & Business Programs](#)

<http://www.highlightcomputer.com/detailedcontent.htm>

Advanced Diploma in Management

Advanced Diploma of Information Technology Management

The Advanced Diploma in Information Technology Management provides the students with high level Information and Communications Technology (ICT) process improvement in senior ICT roles within organisations. The qualification builds on a base core of management competencies, with specialist and general elective choices to suit particular ICT and business needs, especially in the areas of knowledge management and systems development.

This program is designed with 60 credit points which is integrated with 30 points from Diploma in Information Technology or Diploma in Management.

- The students who complete Diploma in Information Technology attend the Diploma in Management units together with Advanced Diploma in Information Technology units and then can be graduated with Advanced Diploma in Information Technology Management.
- The students who complete Diploma in Management attend the Diploma in Information Technology units together with Advanced Diploma in Information Technology units and then can be graduated with Advanced Diploma in Information Technology Management.

It is designed to provide the following competencies.

The following competencies are integrated in this course

- Provide leadership across the organisation
- Develop and implement strategic plans
- Manage employee relations
- Develop and implement a business plan
- Manage organisational change
- Manage finances
- Manage innovation and continuous improvement
- Manage risk
- to builds on a solid foundation in software and hardware and through flexible study plans allows students to specialise if desired.
- to include bioinformatics, computer systems and networks, enterprise information systems, human-computer interaction, software design and software information systems at technologist level.
- to provide team dynamics, presentation skills and project management at middle class manager level.

The completion of this program can be articulated into 60 of 120 credit points Professional Diploma in Information Technology or Professional Diploma in Business Management which is the award of Bachelor of Applied Science (Information Technology), Bachelor of Information Technology or Bachelor of Business Management degree by the universities affiliated to IQY Technical College.

Detailed contents of the units

Detailed contents of the units can be viewed at the following links

[Advanced Diploma in Information Technology Course Outline](#)

http://www.highlightcomputer.com/Advanced_Diploma_in_Information_Technology.pdf

[Diploma in Information Technology Course Outline](#)

http://www.highlightcomputer.com/Diploma_in_Information_Technology_Course_outline.doc

[Management Course Outline](#)

http://www.highlightcomputer.com/Diploma_of_Management.doc

Professional Diploma in Management

Professional Diploma in Business Management

Professional Diploma in Business (Management) is a highly innovative and flexible program that is designed to develop professional capabilities for tomorrow's managers and business leaders.

As well as providing the operational skills and knowledge required to manage successful organisations, students also participate in workplace learning subjects that provide real-life, practical experience.

An optimum blend of theory and practice is offered, with a combination of subjects to develop both soft skills for working with people and hard skills directed at areas in operations and project management.

This course is designed with 120 Credit points integrating 60 Points Advanced Diploma in Information Technology Management.

It is designed at the same academic requirement as Bachelor of Business Management degree but IQY Technical College is operating as a vocational education & training college not as a university, the award is to be described as Professional Diploma. The graduates of the Professional Diploma in Business (Management) can be awarded Bachelor of Business by the universities which are affiliated to IQY Technical College.

The graduates of Professional Diploma in Business (Management) can apply for Membership of Institute of Professional Business and Technical Managers.

Course structure

[Bachelor of Business /Bachelor of Applied Management Course Outline](#)

<http://www.filefactory.com/file/3dcrz90tirvh/Dip%2BAdv%20Dip%2BB%20Bus%20S%20Course%20Outline.doc>

[Detailed Contents of BE,B Bus& B App Sc \(IT\) Programs](#)

[http://highlightcomputer.com/B%20E+B%20App%20Sc\(IT\)+B%20Bus%20Course%20Detailed%20Contents.htm](http://highlightcomputer.com/B%20E+B%20App%20Sc(IT)+B%20Bus%20Course%20Detailed%20Contents.htm)

[Bachelor of Engineering \(Electrical\)](#)

[Bachelor of Engineering \(Civil\)](#)

[Bachelor of Engineering \(Mechanical\)](#)

[Bachelor of Engineering \(Civil-Building Services\)](#)

[Bachelor of Engineering \(Mechanical-Mechatronics\)](#)

[Bachelor of Applied Science \(Information Technology\)](#)

[Bachelor of Business](#)

[Bachelor of Engineering \(Electrical\)](#)

YEAR 3 +4

Subjects
<u>BAE 401 Advanced Engineering Mathematics</u>
<u>BAE 402 Calculus</u>
<u>BAE 403 Engineering Mechanics</u>
<u>BAE 404 Engineering Materials & Thermodynamics</u>
<u>BAE 405 Advanced Circuit Analysis</u>
<u>BAE 406 Electro-mechanics</u>
<u>BAE 407 Advanced Electro-magnetics Field & Materials</u>
<u>BAE 408 Analogue & Digital Electronics</u>
<u>BAE 501 Advanced Power Systems & Power Transmission Networks</u>
<u>BAE 502 Linear System</u>
<u>BAE 503 Control System</u>
<u>BAE 504 Power System Analysis</u>
<u>BAE 505 Power System Optimization</u>
<u>BAE 506 Power System Stability & Protection</u>
<u>BAE 507 Electro-mechanical Energy Conversion</u>
<u>BAE 508 Industrial Engineering & Industrial Management</u>
<u>BAE 601 Computer Programming</u>
<u>BAE 602 Computer Network</u>
<u>BAE 603 Software Engineering</u>
<u>BAE 604 Telecommunication Engineering</u>
<u>BAE 605 Engineering Management</u>
<u>BAE 606 Building Service Electrical & Mechanical Engineering</u>
<u>BAE 607 Radio Wave Propagation & Microwave Techniques</u>
<u>BAE 608 Professional Engineer Competency Demonstration Report</u>

[Bachelor of Engineering \(Civil\)](#)

Year (3) Part 1 ADVANCED GENERAL CIVIL ENGINEERING DEGREE LEVEL

Subjects

[BAE 401 Advanced Engineering Mathematics](#)

[BAE 402 Calculus](#)

[BAE 403 Engineering Mechanics](#)

[BAE 404 Engineering Materials & Thermodynamics](#)

[BAE 508 Industrial Engineering & Industrial Management](#)

Year (3) Part 2 ADVANCED GENERAL CIVIL ENGINEERING DEGREE LEVEL (18 Pt)

[BAE421 Building Construction Engineering \(4 pt\)](#)

[BAE422 Estimating \(2 pt\)](#)

[BAE423 Fluid Mechanics \(2 pt\)](#)

[BAE424 Reinforced Concrete \(2 pt\)](#)

[BAE425 Timber Engineering \(2 pt \)](#)

[BAE521 Road & Bridge \(2 pt \)](#)

[BAE522 Rock Mechanics \(2 pt \)](#)

[BAE523 Soil Mechanics \(2 pt \)](#)

[BAE 523A Environmental Engineering](#)

TOTAL 35 Pt

Year (4) Part 1

[AE 601 Computer Programming](#)

[AE 605 Engineering Management](#)

[AE 606 Building Service Electrical & Mechanical Engineering](#)

[AE 609 Design Project](#)

otal Credit points in this group

Year (4) Part 1

[\(12 Pt\)](#)

[BAE621 Structural Engineering \(3 pt \)](#)

[BAE623 Surveying & Traffic Engineering \(2 pt\)](#)

[BAE624 Water Supply , Sanitation & Finishing \(2 pt \)](#)

[BAE 608 Engineering Competency Demonstration Report Writing \(2pt\)](#)

SELF STUDY

[BAE622 Architecture \(3 pt \)](#)

Bachelor of Engineering (Mechanical)

Year (3)

GENERAL APPLIED ENGINEERING (MECHANICAL) DEGREE

Subjects

[AE 401 Advanced Engineering Mathematics](#)

[AE 402 Calculus](#)

[AE 403 Engineering Mechanics](#)

[AE 404 Engineering Materials & Thermodynamics](#)

[AE 507 Electro-mechanical Energy Conversion](#)

[AE 508 Industrial Engineering & Industrial Management](#)

[AE511 Air-conditioning & Refrigeration Part 1](#)

[AE613 Mechanical Instrumentation Process](#)

[AE614 Machine Design](#)

[AE512 Building Service Water Supply System](#)

[AE511 Air-conditioning & Refrigeration Part 2](#)

[AE613 Mechanical Instrumentation Process](#)

Year (4) Part 1 BE (Mechanical + General Related Subjects)

[AE 601 Computer Programming](#)

[AE 602 Computer Network](#)

[AE 603 Software Engineering](#)

[AE 605 Engineering Management](#)

[AE 606 Building Service Electrical & Mechanical Engineering](#)

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Year (4) Part 2

Bachelor of Engineering (Mechanical) Specialization (13 pt)

[BAE311 Plant Engineering \(2 pt\)](#)

[BAE312 Design Engineering \(2 pt\)](#)

[BAE313 Environmental Control \(2 pt\)](#)

[BAE314 Mechanical Power Generation \(2 pt\)](#)

[BAE315 Materials Engineering \(2 pt\) Part 1 Part 2](#)

[BAE 608 Engineering Competency Demonstration Report Writing \(3 pt\)](#)

Elective (2 pt)

Subjects
BAE513 Production Technology
BAE611 Maintenance Engineering
BAE612 Engineering Metallurgy

Bachelor of Engineering (Civil-Building Services)

STAGE (3) BASIC ELECTRICAL & ELECTRONICS ENGINEERING (18 Pt)

REFER DIPLOMA/ADVANCED DIPLOMA IN ELECTRICAL ENGINEERING DETAILED CONTENTS

EE101 DC Circuit Problems

EE102 Basic Electrical Fitting & Wiring

EE103 Basic Electrical Drafting
EE104 Electrical Equipments Safety Protection
EE105 Electrical Installation Design
EE107 Electrical Equipments
EE106 Advanced Electrical Wiring
EE108 Electrical Fault Finding
EE109 Electrical Control Circuits
EE111 Electromagnetism & Basic Electrical Machines
EE112 Alternating Current Principle
EE113 Electrical Fundamental
EE115 Basic Analogue & Digital Electronics
EE116 Process Control System
EE117 Solar Electrical System
EE119 Electrical Risk Assessment
EE120 Electrical Contracting & Specifications
EE308 Sustainability

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STAGE (4 A) ADVANCED MECHANICAL ENGINEERING STUDY (6Pt)

REFER DIPLOMA/ADVANCED DIPLOMA IN MECHANICAL ENGINEERING DETAILED CONTENTS

ME 102 Engineering Thermodynamics
ME 109 Engineering Drawing
ME 107 Heat Transfer
ME 201 Introduction to Fluid Mechanics
ME 204 Engineering Fluid Mechanics
ME 301 Fluid Dynamics

STAGE (4B)ADVANCED ELECTRICAL & ELECTRONICS ENGINEERING STUDY

(ADVANCED DIPLOMA) (4 pt)

REFER DIPLOMA/ADVANCED DIPLOMA IN ELECTRICAL ENGINEERING DETAILED CONTENTS

EE201 Engineering Mathematics
EE204 Engineering Physics
EE302 Advanced Engineering Mathematics
EE307 Energy Efficient Building Design

STAGE (5)BACHELOR OF APPLIED ENGINEERING (BUILDING SERVICE) DEGREE (32 pt)

Subjects

AE 401 Advanced Engineering Mathematics

AE 402 Calculus

AE 403 Engineering Mechanics

[AE 404 Engineering Materials & Thermodynamics](#)

[AE 508 Industrial Engineering & Industrial Management](#)

[AE 601 Computer Programming](#)

[AE 605 Engineering Management](#)

[AE 606 Building Service Electrical & Mechanical Engineering](#)

[AE 609 Design Project](#)

Bachelor of Engineering (Mechanical-Mechatronics)

Advanced Diploma of Mechanical Engineering)

REFER DIPLOMA/ADVANCED DIPLOMA IN ELECTRICAL ENGINEERING DETAILED CONTENTS

REFER DIPLOMA/ADVANCED DIPLOMA IN MECHANICAL ENGINEERING DETAILED CONTENTS

(1) ME104 Principle of Machine

(2)EE624 Process Control

EE115 Basic Analogue & Digital Electronics

EE116 Process Control System

(3)ME 334 Airconditioning and Refrigeration

(4) ME202 Aerodynamics

(5) ME 302 Automation-and-Robotics

(6) ME 303 Computer Aided Design and Manufacturing

(7) ME 234 Wind Turbines

(8) ME 201 Introduction to Fluid Mechanics

(9) ME 204 Engineering Fluid Mechanics +
ME 301 Fluid Dynamics

(10) ME 206 Introduction to Turbo Machinery

(11)ME 205 Manufacturing Processes & Materials

(12) ME 207 Chemical Thermodynamics

(13)ME 208 Hydrocarbons

(14) ME 634 Pneumatics

(15) ME 203 Control

(16) ME 534 Numerical Control

(17) ME 434 Mechtronics-Robotics

(18)EE 617 Building Electrical and Mechanical System

(19)EE105 Electrical Installation Design
EE107 Electrical Equipments

EE105 Electrical Installation Design

EE107 Electrical Equipments

(20)EE106 Advanced Electrical Wiring

(21) EE116 Process Control

(22) EE117 Solar Electrical System

(23) EE119 Electrical Risk Assessment
EE120 Electrical Contracting

(24) ME 109 Engineering Drawing

EE301 Advanced Electrical Drafting

(25) EE121 Electronics Power Control Devices

(26) EE206 AC

(27) EE207 DC

(28)EE202 Electrical Circuits

(29)EE203 Three Phase Power Circuits

(30) ME 305 Corrosion Prevention

(31) ME 306 Theory-of-waves-in- materials

Bachelor of Applied Engineering (Mechanical-Mechatronics)

ubjects

AE 401 Advanced Engineering Mathematics

AE 402 Calculus

AE 403 Engineering Mechanics

AE 404 Engineering Materials & Thermodynamics

AE 405 Advanced Circuit Analysis

AE 406 Electro-mechanics

AE 408 Analogue & Digital Electronics

AE 502 Linear System

AE 503 Control System

AE 507 Electro-mechanical Energy Conversion

AE 508 Industrial Engineering & Industrial Management

AE 601 Computer Programming

AE 602 Computer Network

AE 603 Software Engineering

AE 604 Telecommunication Engineering

AE 605 Engineering Management

AE 606 Building Service Electrical & Mechanical Engineering

BAE 401 Advanced Engineering Mathematics (9 pt)

An Introduction to theory of complex variables

Complex numbers

Functions

Differentiability

Integration in the complex plane

Integral theorems

Power series

Introduction of rational functions of trigonometric functions.

Continuous distribution

Exponential distribution
Normal distribution
Gamma distribution
Convergence in distribution
F distribution

Discrete distribution

Binomial distribution
Poisson distribution

Elementary linear algebra

Algebra in F^n Example problems
Geometric meaning of vectors
Geometric meaning of vector addition
Distance between points in R^n Length of vector
Geometric meaning of scalar multiplication
Dot product
Cross product
System of equation geometry
System of equation – Algebraic operation
Matrice arithmetic
Determinants –Basic technique & properties

Integration and differential equations

List of integrals
Introduction to background
Theorem of integration
Improper integrals
Improper integral problems
Integration of rational functions

Differential equations
First order ordinary differential equations
Homogenous equations
The general linear equations

Random variables

Simple introduction examples
Problems
Frequency and distribution functions in 1 dimension

Mathematical modelling preliminary

Introduction
Discrete time model

Maths 301 Introduction to Complex Variables

The residue Theorem

Fourier Transform

Integral theorem of complex analysis with applications to the evaluation of real integral

Introduction

Integral theorems – The green Theorem

Cauchy's integral theorem

Cauchy's residue theorem

Maths 302 Elementary Linear Algebra

A formula for the inverse

Cramer's rule

Example 6.2.3 , 6.2.4 , 6.2.6, 6.2.7

Rank of a matrix

Example 8.2.9 , 8.2.10, 8.3.3 , 8.3.5, 8.3.6, 8.3.7, 8.3.8

Linear independence and bases

Linear transformation

Constructing the matrix of a linear transformation

Linear programming

Maths 401 Continuous Distribution

χ^2 Distribution

F Distribution

F Distribution & "t" Distribution

Estimation of parameters

Maths 402 Discrete Distribution

Geometric distribution

Pascal distribution

Negative binomial distribution

Hyper geometric distribution

Maths 303 Essential Engineering Mathematics

Vectors and matrices

Functions and limits , Example problems

Calculation of one variable (Part 1) Differentiation,

Calculation of one variable (Part 1) Integration,

Calculus of many variables,

Ordinary differential equations,

Complex function theory

Maths 501 Introduction to probability

Theoretical background

Playing card

Binomial distribution

Lotto Example

Conditional probabilities –Baye's formula

Maths 501 Linear algebra and matrices

Linear transformation matrices

Definition 2.1.1 to 2.1.3

i, j Entry of product Definition 2.1.8

Rank of matrices

Row operations

Maths 502 Introductory Finite Difference Method for PDE

Partial differential equations. Example problems

Taylor theorem

Iterative solution methods

Jacobi Iteration

Gauss Seidel Iteration

Successive Relaxation method

Maths 601 Random Variables

Theoretical results

Frequencies and distribution (1 dimension)

Function of random variables

BAE 402 Calculus (3 pt)

Calculus 1 a .pdf

Differentiation, Example problems

Integration, Example problems

Simple differential equations, Example problems

Calculus 2 a .pdf

Integration of trigonometric polynomials

Complex decomposition of a fraction between two polynomials

Chain rule

Calculation of the directional derivatives

An overview of integration in the plane and in the space

Line integrals

Surface integral

Green's theorem in the plane

Calculus 2b 1.pdf

The range of functions in several variables

Line integral

Space integral

Line integral

Calculus 3b. pdf

Power series method in solution of problems, Example problems

Calculus 3C 1. pdf

Sequence in general

Calculus 4C 1. pdf

Sum function of Fourier series

Maths 303 Engineering Mathematics

Introduction and background

Integration of rational functions

Integration of trigonometric functions

Differential equations

Maths 403 Second Order Differential Equations

Power series solutions

Bessel equations and Bessel functions

Legendre polynomials

Differential equations

BAE 403 Engineering Mechanics (1 pt)

Stress Example

Stress lectures

Strain All examples

Strain lessons

Mechanical properties of materials

Mechanical properties of materials

Axial members

Axial members

Torsion of shaft

Torsion of shaft

Symmetric bending of beams

Symmetric bending of beams

Deflection of symmetric beams

Deflection of symmetric beams

Stress transformation

Stress transformation

Strain transformation

Strain transformation

Design and failure

Design and failure

Stability of columns

Stability of columns

Newton motion

One dimensional motion

Simple harmonic motion

Damped oscillation

$$X(t) = A e^{-\gamma t/l} \cos(\omega t - \delta_0)$$

Rotating reference frame equations

Modern Mechanics Part 1

Modern Mechanics Part 2

Modern Mechanics Part 3

Modern Mechanics Part 4

Modern Mechanics Part A

Modern Mechanics Part B

Modern Mechanics Part C

-

ME 301 Applied Mathematics

Kinematics

Projectiles

Forces

Resistance forces

Resolving forces

Rigid bodies

Centre of gravity

Momentum

Energy

Circular motion

Gravitation and planetary motion

The language of vectors

BAE 404 Engineering Materials & Thermodynamics (3 pt)

Heat Transfer. pdf

(1) Heat transfer mode Example problems

(2) Conduction Example problems

(3) Convection Example problems

(4) Radiation Example problems

(5) Heat Exchanger Example problems

Theory of waves in materials.pdf

Materials-Preliminary

Materials- Basic mechanical properties

Basic wave phenomena

Harmonic waves

Elastic volume and shear waves

Rayleigh Elastic waves

Engineering Thermodynamics

General definition

Thermodynamics-Working fluids

Laws of Thermodynamics

Worked Example 3.1 to 3.25

ME434 Wind Turbines

Wind Energy

Theory of wind energy

Wind turbine types and components

Wind energy measurement, Wheel encoder Worked

ME634 Pneumatics

Principle of pneumatics

Linear actuators

Flow control

Pneumatics sensors

Pneumatics symbols

BAE 405 Advanced Circuit Analysis (3 pt)

DC Circuit Analysis

Circuit Theory

Modulators

Analog, digital signals , electric current, power summary

Circuit analysis, electric potential, electric power, sign convection, electric source, Kirchoffs' law

Circuit elements, characteristics KCL, KVL

Resistor (Series, parallel, wheatstone bridge, Nodal analysis

Nodal analysis, mesh analysis

Superposition theorem, Thevenin's theorem, Norton theorem, Maximum power transfer theorem,

Operational amplifier

Inverting amplifier circuit, Summing amplifier, Differential amplifier

Capacitor, Op-amp integrator, stored energy

Mutual inductance, time constant, transient

Transient response of 1 st order circuit, RL transient analysis, sequential switching

RC/RL Circuit , Propagation, Delay, DRAM

Semi conductor

PN Junction diode

Light emitting diode

MOSFET

Digital signal

CMOS Digital circuit

Combinational logic circuits

Flip flops

Propagation delay in timing diagram

Integrated circuit fabrication
Device isolation methods
Interconnected resistance and capacitance
Transistor scaling
Integrated circuit design for application in communications
Small signal amplifiers
Network noise intermodulation distortion
CAD for noise analysis
Sensors & Detectors
Low noise design methodology
Oscillators
Modulators and demodulators

Concepts in Electrical Circuit

Circuit theorem
Sinusoids & phasors
Frequency response

EE303 Engineering Circuit Analysis

Basic circuits
Basic Nodal and Mesh analysis
Linear and Superposition/ Source Transformation
RL/ RC Circuits
RLC Circuits
Sinusoidal steady state analysis
AC Power Circuit Analysis
Polyphase Circuits
Magnetically coupled circuits
Complex Frequency / Laplace Transform
Laplace Transform
Circuit analysis in " S " domain
Pole/ Zero constellation
Frequency Response
Two ports network
Fourier Circuit Analysis
Use of symmetry theory

EE404 Electrical Measurement (1 pt)

Measurement of inductance and capacitance
Measurement of resistance
Magnetic measurement
High voltage measurement and testing
Location of cable fault
Measurement of power
Measurement of energy

BAE 406 Electro-mechanics (2 pt)

Electro-mechanic -1.0.1 Scope of application

1.1 Electro-magnetic theory

1.1.1a Magnetic field system, Table 1.1

1.1.1.b Electric field system Table 1.2

Lumped electro-mechanical elements

Lumped parameter-electro-mechanic

Rotating machines

Lumped parameter-electro mechanical dynamics

EE 502 Electrical Machines

DC Generator, Example problems

DC Motors, Example problems

Efficiency & heating of electrical machines, Example problems

Three phase transformer, Example problems

Three phase induction motors, Example problems

Synchronous generators, Example problems

Synchronous motors, Example problems

Basic of industrial motor control, Example problems

ME 301 Machine Principle

Rotating machines

Machinery mounting

Balancing

Bearing

Power transmission

BAE 407 Advanced Electro-magnetics Field & Materials (1 pt)

Electric field

Electrostatic potential

Dipole and quadrature pole movements

Batteries, resistors, ohm laws

Capacitors

Magnetic effect of an electric current

Force on current in a magnetic field

Electro-dynamics of moving bodies

Magnetic potential

Electro-magnetic Induction

Dimensions

Properties of magnetic materials

Alternating current

Laplace transform

Maxwell Equation

CGS Electricity & Magnetism

Magnetic dipole movement

Outlines

Electric field

Electrostatic Energy

Laplace's equation (1)

Laplace's equation (2)

Remarks on units

Green's functions

Multipole expansion

Electro-static in matter

Boundary condition

Magneto statics (1)

Magneto statics (2)

Macroscopic magneto statics

Maxwell's equation

DISC movement

Electro-magnetic plane waves

Reflection & refraction

Casual relation between D & E

Wave guides and load cavities

Electromagnetic radiation and scattering (1)

Electromagnetic radiation and scattering (2)

Scattering by small di-electric sphere

Electro-magnetism

Electro magnetic fields and moving charges

Multipole expansion

Magnetic constants and materials

Ampere law

Brief history of electro magnetism

Gauss's law

Numerical solutions to Laplace's equation

Small current loop

Curvilinear co-ordinate system

Problems

Dielectric tensors and constants

Analytic solution to Laplace equation

Magnetostatic boundary condition

Electrostatic boundary condition

Electromagnetic field

The gradient vector

Maxwell's equation

Electro-magnetic wave propagation

BAE 407 Advanced Electro-magnetic Field & Materials

Electro dynamics

Introduction to electro statics

Boundary value problems in electro statics (1)

Boundary value problems in electro statics (2)

Multi-poles Macroscopic media –Dielectrics

Static and stationary magnetic fields

Maxwell's equations

Plane wave and wave propagation

Wave guides and cavities

Radiation

The special theory of relativity

Particles and field dynamics

Charged particle collisions-Energy loss, Scattering

Radiation by moving charges

BAE 407 Advanced Electro-magnetic Field & Materials

EMFT book.pdf

Summary of electro statics

Potential

Electro-magnetics waves

Classical optics

Conservation Law

Conservation Law

Conservation Law

Generic wave

Electromagnetic waves in vacuum

Electromagnetic waves in matter

Electromagnetic waves in conductor

Electromagnetic waves propagation

Electromagnetic waves field

Wave guides

Electromagnetic waves radiation

Electro-dynamics

Frequency

EE407 Electro-magnetism

Di-electric materials and capacitance

Transmission Lines

Maxwell's equations and electro-magnetic waves

Electrostatics

Di-electric

Transmission Line

Maxwell Equation

BAE 408 Analogue & Digital Electronics (5 pt)

Semi conductor devices

Digital circuits

Power Electronics Converters

Introduction to Electronic Engineering
Power Electronics & Applied Electronics
Digital System
Digital Signal Processing
Digital Image Processing

Electronics Circuits

Power Electronics Control

Digital System

Number system basics
Introduction to logic gates
Combinational logic
Karnaugh map
Arithmetic circuit
Coders/ Multiplexers
Counters

Digital Signal Processing

Signal system representation
Fourier/ Z Transform
Discrete Fourier Transform
Principle of filter design
FIR filter design

Digital Image Processing

Introduction
Intensity transformation & spatial filtering
Filtering in frequency domain
Discrete Fourier Transform
Butterworth Low Pass Filter
Butterworth High Pass Filter
Image restoration / Noise analysis

Digital Image Processing

Introduction
Intensity transformation & spatial filtering
Filtering in frequency domain
Discrete Fourier Transform
Butterworth Low Pass Filter
Butterworth High Pass Filter
Image restoration / Noise analysis

BAE 501 Advanced Power Systems & Power Transmission Networks (3 pt)

Principle of Power System

Source of energy
Steam power station
Hydro power station
Diesel power station
Nuclear power station

Gas turbine power station
Variable load on power station
Interconnected grid system
Economic of power generation
Importance of high load factor
Tariffs
PF improvement
Supply system
Mechanical design of OH line
Corona
Sag
Electrical design of OH line
Performance of transmission line
Line generalised constants
UG cable
Capacitance in 3 core cable
Distribution system
DC Distribution
DC System
AC Distribution
Voltage control
Introduction to switch gear
Circuit breaker
Fuse
Relays
Protection transformers
Substation

Advanced Power System –Power Transmission Network

Consequence of power quality
Power quality & applications
Power quality analysis
Power quality monitoring
Management, control and automation of power quality improvement

Electrical generation and distribution system and power quality disturbances

Integration of hybrid distribution units in power grid
Optimal location and control of multi hybrid model based wind shunt facts to enhance power quality
Power quality and voltage sags indices in electrical power systems.

Power Transmission Line

AASR Conductors
ARC Fault
Circuit breaker rating
Current transformer
Electrical bushing

Electrical fuse
Induction motor model
IP rating
Load factor
Load redundancy
Over current protection
Partial discharge
Per unit system
Phase conversion
Resonance
RL Switching
Sequence network
Short circuit calculation
Symmetrical component
Transformer impedance

Power Transmission Line 2

AC Power Transmission
Insulation Resistance test
Dry type transformer
Electrical software
Insulation resistance test

Electrical Power Generation System

Designing for high temperature and pressure
Turbine components
Burning of fuel
Facts about fuel
Burning gas and oil
Selecting fuel
Water treatment
Heat exchanger
Computer control
System economics

Power System

Transmission & distribution system
Control of power and frequency
Control of voltage and reactive power
Load flow
Faults
System stability
Over voltage and insulation requirement
Substations and protection

Electrical Power

Power line
Neutral earthing
Switch gear

Instrument

Protection

Power system

Generator response to system faults

Calculation of fault current

Symmetrical components

Commissioning electrical plant

Power System Technology

Power system fundamental

Modern power system

Power control devices

Operational control system

Power conversion

Specialised testing & measurement devices

Generation , Transmission and Distribution of Electric Power

Voltage transient and line surge

Transmission of electrical energy

Corona

UG Cable

Voltage drop in distribution

Regulation

Line and machine chart

Voltage regulation stability

Fault calculation in line

Electrical Power Distribution in Industry & Transmission (Electrical Distribution Engineering)

Planning & design

Electrical design

Mechanical design (Over head)

Mechanical design (Under ground)

Metering

Conductor inductance & capacitance

Power Transmission and Practical Power Distribution

Electric power system

Percentage and per unit quantities

Circuit constants

Assemblies of power system components

Power circuit stability

BAE 502 Linear System (1 pt)

Controllability of linear control system

Finite dimensional linear control system

Linear partial differential equations

Introduction to intelligent control system with high degrees of autonomy

Overview of field

Control system

System identification
Digital and analog
System metrics
System modelling
Classical control
Transform
Transfer functions
Sampled data system
System delays
Poles and zeros
Modern control
State space equation
Linear system solution

BAE 503 Control System (4 pt)

Gain
Block diagram
Feedback control loop
Bode plot
Nichol chart

Stability

Stability
Routh Hurwitz Criterion, Root Locus
Nyquist Criterion
State Space Stability

Controllers & Compensators

Controllability & Observability
System Specifications
Controllers, Compensators
Z - Transform

Non Linear Control Applications

Application of input/ output linearization
Non linear control for 2 stages PF correction converter
Non linear observer based control allocation

Control Engineering MATLAB

Transfer functions and their responses
Frequency response/ Plotting
Closed loop control
Controller design

Feedback and Control System

Introduction to linearized dynamic model
Transfer function model of physical systems
Transient performance / S- Plane
Feedback system modelling / Performance

Dynamic compensation of feedback system

PID Control

Application of PID controllers in motor drive system

Applications of Non Linear Control

Introduction

Phase plane method

Process Control

Analog Signal Conditioning

Digital Signal Conditioning

Final Control

Discrete State Control

Controller Principle

Analog Controller

Digital Controller

Control Loop Characteristics

Numerical Control

Introduction to numerical control machinery

Numerical control system

Programming co-ordinates

Two axis programming

Three axis programming

Maths for numerical control programming

BAE 504 Power System Analysis (1 pt)

Overview

Real & Reactive power injected bus

Classification of buses

Classification of buses

Preparation of data for load flow

Load flow by Gauss Seidel method

Updating load bus voltage

Updating PV bus voltage

Convergence of the algorithm

Solution of a set of non linear equation by Newton Raphson method

Load flow by Newton Raphson method

Load flow algorithm

Formation of Jacobian matrix

Formation of Jacobian matrix

Solution of Newton Raphson load flow

Load flow results

Load flow results

Load flow programs in MATHLAB

Forming Y bus matrix

Gauss Seidel Load Flow

Solving non linear equation using Newton Raphson method

Newton Raphson load flow

Power System Analysis

Transformer

Transmission line model

Gauss Seidel Algorithm

Newton Raphson Iteration

DC Power Flow Algorithm

Modelling

Transient Stability

Power System Analysis

Power Apps Transient Stability validation document for single pole open/ close simulation

(Power flow analysis + FAULT ANALYSIS + Power system dynamics and Stability)

Static Analysis

Introduction

Network model

Active & reactive power flow

Nodal formation of power flow problem

Basic power flow problem

Solution of power flow problems

Fault analysis

Power system dynamics and stability

Synchronous machine model

The swing equation

Power swing in simple system

Oscillation in multi machine system

Voltage stability

Control of reactive power voltage

BAE 505 Power System Optimization (1 pt)

Introduction

Power Flow Analysis

Classic Economic Dispatch

Linear programming method

Mathematical model of economic dispatch

Linear programming model

Optimization of power system performance using facts devices

Optimization of dynamical system

Matrix Eigen Value Method

BAE 506 Power System Stability & Protection (2 pt)

Transient in RL circuit

Symmetrical fault

Transient in RL circuit

DC Source

AC Source

Faults in AC Circuit

Short circuit in unloaded synchronous generator

Symmetrical faults in power system

Calculation of fault current using Z bus matrix

Circuit breaker selection

Symmetrical components & representation of faulted network

Overview

Overview

Real & reactive power

Real & reactive power

Orthogonal Transformation

Sequence circuit for star load

Sequence circuit for delta load

Sequence circuit for synchronous generator

Sequence circuit for symmetrical transmission line

Sequence circuit for transformer

Star/ Star Connected Transformer

Delta/Delta Connected Transformer

Star/ Delta Connected Transformer

Sequence Network

Un- symmetrical Faults

Introduction

Single line to ground fault

Line to line fault

Two lines to ground fault

Fault current computation using sequence network

Transient Stability

Introduction

Power angle relationship

Swing equation

Equal area criterion

Equal area criterion

Multi machine stability

Oscillation in " S " Two areas System

Compensation of power transmission

Introduction

Ideal shunt compensator

Improving voltage profile

Improving power angle characteristics

Improving stability margin

Improving damping power oscillations

Ideal series compensator

Impact of series compensator for voltage profile

Improving power angle characteristics

Improving power angle characteristics

Alternate mode to voltage injection

Alternate mode to voltage injection

Comparison of two modes of operation

Power flow control and power swing damping

Power System Protection

Different types of relays and settings

- Technical feasibility of various options
- Cost of options
- Type of transmission AC/DC
- Number of circuits
- Conductor type
- Transmission loss
- Reactive power support requirements
- Reliability
- Quality of power supply
- Stability aspects of the interconnected system
- Operational planning
- Short circuit levels and breaker requirements
- over voltages and control
- Insulation coordination at substations
- Substation arrangements at the end of line, including switching arrangements.
- Insulation requirements.
- Protection, monitoring, control and automation requirements
- Study of harmonics where needed [as in case of HVDC or when a terminating station is close to sources of harmonics]
- Basic and Detailed engineering related to transmission towers, routes, substations

Philosophy of protective relaying

Fundamental of relaying

Current/ voltage/directional/ differential relay

Distance relaying

Pilot wire relay

Carrier current relay

Voltage transformer

Relay response

Generator protection

Transformer protection

Busbar protection

Line protection

Line protection with distance relay

Line protection with pilot relay

Power system stability

Power system stability Guidelines

Power system stability guidelines for determination and report

Direct stability analysis of electric power system using energy functions

Power system stability –New opportunity for control

Typical power quality and harmonic measurement plots

Robust power system stabilizer design using particle swarm optimisation techniques

Harmonic analysis

Power Quality

Power quality

Electrical protection for power system

Substation automation

Introduction to power quality

Harmonic model of transformer

Substation automation

Modelling analysis of synchronous machines

Life time reduction

Power system modelling under non sinusoidal condition

Impact of power quality on reliability

Role of filters in power system

BAE 507 Electro-mechanical Energy Conversion (2 pt)

Basic semiconductor physics

PN Junction semiconductor

Power switching devices

Electrical rating of switching devices

Cooling

Load/ switch communication

Driving semiconductor & thyristor

Protecting diode / Thyristor/ Transistors

Switching circuit energy recovery

Series , parallel devices operation protection

Naturally commutating converter

AC Voltage Regulator

DC choppers

Power inverters

Switched mode & resonant DC-DC power supplies

Capacitors

Soft magnetic materials

Resistors

Motor Control Electronics

AC Induction motor control

Motor control MCU

Networking for motor control system

DC motor control design

Motor control electronic devices

Power semi conductors

Mechatronics/ Robotics

Robotics Application

Robotic Gears

Interfacing

Robotic Sensors

Communication

BAE 508 Industrial Engineering & Industrial Management (1 pt)

Effective management decision making

Chapter (1) Introduction

Business Information System

Chapter (1) Defining Information System

Chapter (7) Acquiring Information System

Chapter (8) Developing Information System

Managing Human Resources in 21 Century

Chapter (3) Human resources Management

Management Basics

Chapter (2) The Manager's Job

Chapter (4) Planning in Organization

Operation Management

Chapter (1) Introduction

Chapter (2) Operation Strategy

Chapter (10) Work System Design

Chapter (11) Project Management

Chapter (12) Inventory Management

Quality Management

Chapter (7) Leadership in Quality Management

Chapter (8) Strategic Quality Management

Chapter (15) Implementing Quality Management

Strategic Financial Management

Chapter (1) Finance An Overview

Chapter (2) Capital Budgeting

Chapter (5) Equity Valuation & Cost of Capital

Strategic Management

Chapter (2) The Basic of Strategy

Chapter (3) The Levels of formulation of strategy

Chapter (6) External analysis

Chapter (7) Internal analysis

Chapter (10) Strategy implementation

Understanding organization part 1

Chapter (3) Organization structure

Chapter (4) Organization culture

Chapter (5) Managing behaviour

Chapter (6) Effective leadership

Part (2) Competency Units

Mgt 501 Basic Management & Communication Skills (1 pt)

Textbook – Mgt 501 Management Basics

Chapter (1) Management basics

Chapter (3) Planning

Chapter (5) Organizing

Chapter (6) Organizing the organization

Chapter (7) Leading

Textbook—Mgt501 Management Briefs

Chapter (2) Leadership

Chapter (5) Motivation

BAE 601 Computer Programming (3 pt)

Part (1) Overview Knowledge of the subject

Select any of the following textbooks

- C Programming
- C++ Programming
- C# Programming
- Object Oriented Programming
- C Programming in Linux

IT 401 Object Oriented Programming (1 pt)

IT 402 Structured Programming (1 pt)

IT 403 Visual Basic Programming (1 pt)

BAE 602 Computer Network (1 pt)

Computer Network

Peer to peer networking

Client server networking

Network hardware

Network cable

Hub

Wired network

Wireless network card

Firewall

Wiring the network

Wiring the network

Running the network program

Viewing network connection

Network set up on additional computers

Viewing network connection

Introduction

Network model

Data and signals

Data and signals

Data rate limit

Performance

Digital transmission

Digital transmission

Analog transmission

Analog transmission

Bandwidth utilization/ Multiplexing/
Spreading

Bandwidth utilization/ Multiplexing/
Spreading

Transmission media

Error detection & correction

Error detection and correction

Defining needs

Area covered

Organization information requirement

System VS Procedure

Types of systems

What are the systems?

Infrastructure

Support system

Data mart

Organizational structure

Planning for system development

System design

Security of information system

Risk management

BAE 603 Software Engineering (2 pt)

Introduction

Software process

Feasibility study

Project management

Documentation, Requirement analysis

Requirement specification

Business/ Legal aspect

Source code management

Formal specification

Object oriented design 1

Object oriented design 2

Object oriented design 3
System Architecture 1
System Architecture 2
System Architecture 3
Design for utility
Performance of computer system
Coding standard/ Tools for designing 1
Dependable system 1 Reliability
Dependable system 2 Validation
Law aspect
Risks in software engineering
Software engineering as engineering

Nano Technology

What is Nano technology?
Motivation for Nano technology
Scaling laws
Nano technology

BAE 604 Telecommunication Engineering (2 pt)

Communication fundamental
Information & bandwidth
Amplitude modulation transmission
Amplitude modulation reception
Single side banded communication
Frequency modulation –Transmission
Frequency modulation –Reception
Communication Techniques
Communication Receivers
Pulse Modulation
Code transmission
ISDN
Transmission lines
Wave propagation
Antenna
Fibre optics

Data Communication

Overview of data communication
Data terminals
Message and transmission channels
Asynchronous modems and interfaces

Synchronous modem and digital transmission

Protocol and error control

Electronics Telecommunication

RF Transmission

Transmission Lines & Antennas, Video signals

BAE 605 Engineering Management (5 pt)

Part (1) Overview Knowledge of the subject

Completion of BAE 508 Overview also completes BAE 605 Overview

Part (2) Competency Units

Mgt 502 Operation Management (1 pt)

Mgt 503 Production & Operation Management (1 pt)

Mgt 504 Project Management (1 pt)

Mgt 505 Quality Management and Manufacturing Engineering (1 pt)

Mgt 506 Strategic Financial Management (1 pt)

Mgt 502 Operation Management (1 pt)

Chapter (3) Product design and process selection

Chapter (4) Total quality management

Chapter (7) JIT & Lean System

Chapter (8) Capacity planning

Mgt 503 Production & Operation Management (1 pt)

Chapter (6) Planning production

Chapter (7) Managing inventories-Material requirement planning

Chapter (11) Manufacturing

Chapter (13) Dealing with technology and design

Chapter (15) Operation strategy

Mgt 504 Project Management (1 pt)

Chapter (1) Project management

Chapter (2) Project organization

Chapter (4) Project plan

Chapter (5) Progress & performance measurement

Chapter (6) Risk management

Chapter (7) Documentation/ Audit/ Closure

Mgt 505 Quality Management and Manufacturing Engineering (1 pt)

Chapter (2) Background

Chapter (3) Why quality management

Chapter (5) Standards and models

Chapter (5) Progress & performance measurement

Chapter (8) Strategic quality management

Chapter (7) Documentation/ Audit/ Closure

Mgt 506 Strategic Financial Management (1 pt)

Chapter (3) Capital budgeting

Chapter (4) Treatment of uncertainty

Chapter (6) Debt valuation and cost of capital

BAE 606 Building Service Electrical & Mechanical Engineering (2 pt)

Building Construction 1

Making building
Foundations
Wood
Interior finish for wood light frame construction
Wall types
Concrete construction

Air-conditioning & Refrigeration

Controlling the temperature of mass
Electric heat
Humidification
Air-conditioning –Cooling / Comfort
Air-distribution & Balance
Reference Tables

Sanitation & Water Supply

Design of onsite sanitation system
Hydraulic design of sewers

Building Electrical & Mechanical System Part 1

Climate comfort and design strategies
Thermal control
Designing for heating cooling
Large building HVAC system
Water and basic design
Water supply
Water and waste
Fire protection
Fire protection
Illumination
Lighting design
Signal system

Airconditioning and Refrigeration

Theory of heat
Solar heat
Humidification
Air-conditioning-Cooling
Air-distribution & Balance
Air-conditioning Calculation worksheets

BAE 607 Radio Wave Propagation & Microwave Techniques (2 pt)

Radio Wave Propagation

Introduction to radio wave propagation

Propagation features/ Overviews

Electromagnetic waves, Propagation through atmosphere

Antenna

Radio wave propagation fundamentals

Antennas and propagation

Mobile radio propagation

Propagation

Wave propagation

Radio navigation

Wireless communication

Microwave Technique

Microwave antenna and radio wave propagation

Distributed element circuit analysis techniques

Matching networks

Couplers, combiners, dividers

Mixers

Gain and stability

Noise

Electromagnetism and RF Propagation

Antenna Fundamental

Communication system

RF Safety

Rain attenuation of microwave and milli-meter wave signals

Design of microwave filters (Vol 1)

Mechanically & magnetically tunable microwave filters

Design of microwave filters (Vol 1)

General applications of filter structure in microwave engineering

Properties of some common microwave filter elements

BAE 608 Professional Engineer Competency Demonstration Report

- The students will have to write Engineering Competency Demonstration Report based on their academic study and work experiences gained after completion of academic study.
- Competency Demonstration Report is voluntarily to be submitted. It prepares the students to have the necessary skills to gain the membership of Engineers Australia later.
- The outlines of Competency Demonstration Report will be provided to the students after completion of the last course work subject.

BAE421 Building Construction Engineering

1 Basic skills

1 Isometric drawing

1 Retaining walls & Post footings

1 Stair

1 Doors & Windows

1 Trusses

1 Buildings

1 Collar truss

1 Howe truss

- 1 Timber
- 1 Steel
- 1 Brick masonry
- 1 Timber
- 1 Brick-nogging
- 1 Steel
- 1 Reinforced concrete
- 1 Floor plans
- 1 Foundation plan
- 1 Cross section
- 1 Front elevation
- 1 Back elevation
- 1 Left side elevation
- 1 Right elevation
- 1 Culverts
- 1 Bridges
- 1 Buildings
- 1 Pipe culvert
- 1 Box culvert
- 1 Slab culvert
- 1 Deck and girder bridge
- 1 Half top plan of culvert
- 1 Half bottom plan of culvert
- 1 Cross section of culvert
- 1 Longitudinal section of culvert
- 1 Elevation of culvert
- 1 Mix Design
- 1 Permissible water cement ratio

BAE422 Estimating (2 pt)

- 1 Preliminary estimates
- 1 Detailed estimating
 - Culverts
 - Bridges
 - Buildings
 - Roads
- 1 Analysis of rates
- 1 Detailed Estimating
- 1 Buildings
- 1 Up to plinth level
- 1 Above plinth level
- 1 Culverts

- 1 Bridges
- 1 Roads
- 1 Earthworks
- 1 Analysis of Rates
- 1 Total workdone
- 1 Material and labour requirements
- 1 Estimated cost
- 1 Actual PAE or CCE or RFT
- 1 Complete items
- 1 Quantity
- 1 Measurements
- 1 Content calculation
- 1 Rates
- 1 Buildings
- 1 Above plinth level
- 1 Culverts
- 1 Analysis of rates

BAE423 Fluid Mechanics (2 pt)

- 1 *Methods of Application of water*
- 1 *Water Logging, Drainage, land reclamation and irrigation management*
- 1 *Theoretical Concepts of Boundary Layer, Surface Roughness, Velocity Distribution*
- 1 *Gradually varied flow*
- 1 **Scale Model in Hydraulic Engineering**
- 1 Surface irrigation methods
- 1 Subsurface irrigation methods
- 1 Sprinkler irrigation
- 1 Drip or trickle irrigation
- 1 Flooding Methods
- 1 *Wild or uncontrolled Flooding*
- 1 *Controlled Flooding*
- 1 *Flooding from field channels*
- 1 *Border strip methods*
- 1 *Check method*
- 1 *Basin method*
- 1 *Zig-zag method*
- 1 Furrow Method

1 Contour Farming

BAE424 Reinforced Concrete (2 pt)

1 Design of Concrete Structures

1 FUNDAMENTALS OF FLEXURAL BOND

1 Source of bond strength

1 Bond Stress Based on Simple Cracked Section Analysis

1 Actual Distribution of Flexural Bond Stress

1 Development Length

1 Factors influencing Development Length

1 ACI CODE PROVISION FOR DEVELOPMENT OF TENSION REINFORCEMENT

1 ANCHORAGE OF TENSION BARS BY HOOKS

1 Development Length and Modification Factors for Hooked Bars

1 ANCHORAGE REQUIREMENTS FOR WEB REINFORCEMENT

1 Special Requirements near the Point of Zero Moment

1 Structural Integrity Provisions

BAE425+525 Timber Engineering (2 pt)

1 Bending Stress and Deflection of Wood Joists

1 Shearing Stress Caused by Stationary Concentrated Load

1 Shearing Stress Caused by Moving Concentrated Load

1 Strength of Deep Wooden Beams

1 Design of a Wood-Plywood Beam

1 Determining the Capacity of a Solid Column

1 Design of a Solid Wooden Column

1 Investigation of a Spaced Column

1 Compression on an Oblique Plane

1 Design of a Notched Joint

1 Allowable Lateral Load on Nails

1 Capacity of Lag Screws

1 Design of a Bolted splice

1 Investigation of a Timber-Connector Joint

BAE521 Road & Bridge (2 pt)

1 Hydraulic Design of Bridge

1 The establishment of afflux levels

1 Back water levels

1 Long Contraction

1 Yarnell's empirical equation

1 The limiting values of σ

1 Skewed bridges

- 1 Discharge computation
- 1 Scour depth under the bridge
- 1 Scour around bridge piers
- 1 Scour protection works around bridge piers
- 1 Road bridge

BAE522 Rock Mechanics (2 pt)

+

BAE523 Soil Mechanics (2 pt)

- 1 Soil
- 1 Soil Mechanics
- 1 Geotechnical Engineering
- 1 Subsoil Exploration
- 1 Testing (In-situ Tests & Laboratory Tests)
- 1 SPT, CPT, Vane Shear Test
- 1 Moisture content
- 1 Index Properties Tests (LL, PL, SL)
- 1 Grain Size Distribution Test (Sieve Analysis & Hydrometer)
- 1 Specific Gravity
- 1 Shear Strength Tests (Tri-axial Compression:, Direct Shear, Unconfined Compression:)
- 1 Compaction test, CBR Test
- 1 Consolidation Test, Permeability Test

BAE 523A Environmental Engineering

- Distribution of water
- Requirement for good distribution system
- METHOD OF DISTRIBUTION
- Gravity System
- Combined gravity and pumping system
- Pumping system
- PRESSURE IN DISTRIBUTION MAINS
- SYSTEM OF WATER SUPPLY
- CONTINUOUS SYSTEM
- INTERMITTENT SYSTEM

- DRAWBACKS OF INTERMITTENT SYSTEM
- DISTRIBUTION RESERVOIR
- CAPACITY OF DISTRIBUTION RESERVOIR
- **Mac Donald's equation**
- DETERMINATION OF STORAGE CAPACITY
- Hydrograph method
- Mass curve method
- HEAD LOSS DUE TO FRICTION
- Darcy Weisbach formula
- Hazen William formula
- Manning's formula
- Combined Darcy Weisbach and Colebrook White formula
- LAYOUT OF DISTRIBUTION SYSTEM
- Dead end system or Tree system
- Grid iron system or Reticular system
- Circular system or ring system
- Radial system
- ANALYSIS OF PRESSURE IN DISTRIBUTION SYSTEM
- Equivalent pipe method
- Hardy cross method

BAE621 Structural Engineering (3 pt)

- 1 DESIGN OF A SLAB BRIDGE
- 1 FOUNDATION SETTLEMENTS
- 1 Major problems with soil settlement analysis
- 1 Settlement classification
- 1 Immediate settlement & consolidation settlement
- 1 Stresses in soil mass
- 1 Approximate method (2:1 slope)
- 1 Boussinesq's method
- 1 Westergaard's method

BAE623 Surveying & Traffic Engineering (2 pt)

- 1 Airport Runway Orientation
- 1 Wind Rose Diagram
- 1 Highway Pavement Performance
- 1 Traffic
- 1 Roadbed Soils (Sub grade Material)
- 1 Materials of Construction

- 1 Environment
- 1 Drainage
- 1 Reliability
- 1 Transportation Engineering
- 1 Transportation Planning
- 1 Urban Transportation Planning
- 1 Urban Transportation Planning Process
- 1 Coding and Zoning
- 1 Inventory Studies
- 1 Travel Studies
- 1 Forecasts for the Horizontal Year
- 1 Trip General Analysis
- 1 Trip Distribution Analysis
- 1 Modal Split Analysis
- 1 Network Assignment Analysis
- 1 Evaluation

BAE624 Water Supply , Sanitation & Finishing (2 pt)

- 1 Water Quality
- 1 Dissolved Oxygen
- 1 BOD (Biochemical Oxygen Demand)
- 1 COD (Chemical Oxygen Demand)
- 1 Water Sampling
- 1 Requirements for good Sampling Procedure

BAE622 Architecture (3 pt)

Refer any architecture text book , study & prepare the report on practical application problem given by the tutor.

BAE511 Air-conditioning & Refrigeration

- 1 Heat transfer by Conduction
- 1 Convection
- 1 Radition
- 1 Thermal Conductivity, k
- 1 Boundary and Initial Conditions
- 1 Properties and state
- 1 The System
- 1 Internal energy (U)
- 1 Enthalpy (H)
- 1 Work (W)
- 1 Heat (Q)

- 1 Specific Head Capacity (c)
- 1 Heat Engine
- 1 The characteristic equation of a perfect gas
- 1 Expansion processes
- 1 Adiabatic process
- 1 Isothermal Process

BAE613 Mechanical Instrumentation Process

- 1 Problem-solving Methodology
- 1 Matlab Environment
- 1 Initializing Variables
- 1 Data Format
- 1 Printing Matrices
- 1 Useful Commands and Functions
- 1 Fundamental Engineering Computations
- 1 Two-Dimensional Arrays and Matrices
- 1 Variational Method
- 1 Collational Method
- 1 Subdomain Method
- 1 Galerkin's Method
- 1 Least Square Method

BAE614 Machine Design

- **Balancing**
- **Forces**
- **Cam Profile**
- **Resultant Effects of Engine**
- **Arrangement to balance the primary moment (C.W)**
- **V-Engine Mechanism**
- **FORCES IN ENGINE**
- **Inertia Forces and D'Alembert's Principle**

BAE512 Building Service Water Supply System

- Pressure loss in duct
- Pressure loss in duct by loss coefficient method
- Pressure loss in duct by Equivalent Length Method
- To find the duct size by Equal Friction Method
- To find the duct size by Balance Capacity Method
- Design the duct system

BAE311 Plant Engineering (2 pt)

- **Three Degree of freedom**
 - (a) **Newton's method**
 - (b) **Mechanical Impedance method**
 - (c) **Influence coefficients**
 - (d) **Matrix method**
 - (e) **Holzer method**
 - (f) **Matrix Iteration method**
- **INTRODUCTION TO CONTROL SYSTEM**
- **DIFFERENTIAL EQUATIONS**

- **LINEARIZATION OF A NON-LINEAR FUNCTION**
- **MODELLING OF CONTROL SYSTEMS**
- **FREQUENCY RESPONSE METHODS**
- **Stability**

BAE312 Design Engineering (2 pt)

This unit is the same as

[BAE621 Structural Engineering \(3 pt \)](#)

BAE313 Environmental Control (2 pt)

This unit is the same as

[BAE 523A Environmental Engineering](#)

BAE314 Mechanical Power Generation (2 pt)

- **PLC Basics**
- **PLC Structure**
- **PLC in Comparison with Other Control Systems**
- **PLC's CPU**
- **PLC's Memory**
- **PLC in Comparison with Other Control Systems**
- **PLC's CPU**
- **PLC's Memory**
- **Programming Devices**
- **Programming Languages**
- **Instruction Set**
- **Typical Combinations of Languages**
- **Basic Symbols**
- **Elementary Logic Circuit**
- **PLC's Functions**
- **Industrial Programming**
- **PLC PRACTICE**
- **Selection of PLC**
- **Types of I/O & Capacity Needed**
- **Control System Basic**
- **Sequence Control**
- **Automatic Control**
- **Terms of Sequence Control**
- **Basic Knowledge on Contacts**
- **INDUSTRIAL MACHINE CONTROLS**

BAE315 Materials Engineering (2 pt)

- Load, Stress and Strain, Hook's law ,
- Principal of Superposition
- Tensile Test , Factor of Safety
- Strain Energy, Resilience
- Impact Loads
- Varying Cross-section and Loads
- Strain Energy , Resilience
- Compound Bars
- Temperature Stresses

Elective (2 pt)

Subjects
BAE513 Production Technology
BAE611 Maintenance Engineering

BAE612 Engineering Metallurgy

Refer any text book , study & prepare the report on practical application problem given by the tutor.

Bachelor of Applied Science (Information Technology)**Year 1+2 Refer Diploma & Advanced Diploma in Information Technology Detailed Contents****Bachelor of Applied Science (Computer Science & Computer Technology)****Year (3)**

Unit	Topics	Reference	Points
ICT 301	General Electrical Knowledge	EE101	3
ICT 302	Digital Electronics	EE209/H012	3
ICT 303	Amplifier	EE208/H013	3
ICT 304	Material Science	E081	3
EE204	Physics	E046	3
EE201	Mathematics 1	E050	3
EE202	Mathematics 2	E026	3
EE306	Basic Control	I008	3
BAE605	Management		3
BAE408	Analog & Digital Electronics		3
		TOTAL	30

Year (4)

Unit	Topics	Reference	Points
ICT 401	Advanced Mathematics 1	BAE401	3
ICT 402	Advanced Mathematics 2	BAE402	3
BAE604	Telecommunication System		3
BAE508	Project Management		3
ICT 305	Professional Programming (1) C++		3
ICT 403	Professional Programming (2) Object Oriented		3
ICT 404	Professional Programming (3) Java		3
ICT 405	Professional Practice (1) Network		3
ICT 406	Professional Practice (2) Website		3
ICT 407	Artificial Intelligence		3
		TOTAL	30

Refer Diploma & Advanced Diploma in Electrical Engineering Detailed Contents**ICT 305 Professional Programming (1) C++**

- Introduction
- Basic program architecture

- Variables
- Console programs
- Program control
- String
- Arrays
- Object oriented programming
- Classes
- Design of classes
- Methods
- Inheritance
- The class object
- Abstract classes
- Interfaces
- Static members
- More about arrays
- Types
- Enum
- Struct
- Generic types
- Exception handling
- Comments
- Extension methods
- Collection classes
- List Stack
- Linked list
- Dictionary
- Text file
- Binary files
- Object serialization
- Lottery
- Expression

ICT 403 Professional Programming (2) Object Oriented

object-oriented-programming-using-c-sharp

- Introduction to object oriented programming
- Unified Modelling Language (UML)
- Inheritance & Method Overriding
- Object rules & the importance of polymorphism
- Overloading
- Object oriented software analysis and design
- Generic collection & how to serialize them
- C# development tools
- Creating & using exceptions
- Agile programming
- Case studies

ICT 404 Professional Programming (3) Java

object-oriented-programming-using-java

- Introduction to object oriented programming
- Unified Modelling Language (UML)
- Inheritance & Method Overriding
- Object rules & the importance of polymorphism
- Overloading
- Object oriented software analysis and design
- Collection framework
- Java development tools
- Creating & using exception
- Agile programming
- Case study

ICT 405 Professional Practice (1) Network

This competency standard unit covers develop services for network clients for emails, internet access, shared resources and the like. It encompasses safe working practices, installing and configuring Domain Name Server (DNS), email servers, Dynamic Host Configuration Protocol (DHCP), remote access servers, Network Address Translation (NAT), directory services, Authentication Servers and documenting development activities.

Essential knowledge and associated skills

This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices and developing network services.

The extent of the essential knowledge and skills required is given Volume 2 Part 2, Clauses

Network infrastructure

Evidence shall show an understanding of network infrastructure to an extent indicated by the following aspects:

- a. Domain Name Service (DNS) encompassing
 - DNS Server Service
 - Root name server
 - Configuring zones
 - a. *Note:* Examples include configuring for dynamic updates and delegating zone for DNS
 - Caching – only server
 - DNS client
 - Testing DNS Server service
 - Manually creating DNS source
 - Managing and monitoring DNS
- b. Dynamic Host Configuration Protocol (DHCP)
 - Installation of DHCP Server Service
 - DHCP scopes, superscopes and multicast scopes
 - DHCP – DNS integration
 - Active Directory™
 - Managing and monitoring DHCP
- c. Network Infrastructure encompassing
 - Configuring and troubleshooting remote access
 - a. *Note:* Examples include remote access policy, configuration of remote access profile, Virtual Private Network (VPN), multi link connection, routing and remote access for DHCP
 - Managing and monitoring remote access
 - Remote access security
 - *Note.* Examples include authentication protocols, encryption protocols and access policy
- d. Network Protocols encompassing
 - Installation, configuration and troubleshooting of network protocols
 - a. *Note:* Examples include Transmission Control Protocol / Internet Protocol (TCP/IP), NWLink and network bindings
 - Configure TCP/IP packets
 - Configuring and troubleshooting network protocol security and IP Security (IPSec)
 - Managing and monitoring network traffic
- e. Internet Naming Services in a network encompassing
 - Installation, configuring and troubleshooting
 - Configuring Internet Naming Services replication
 - Configuring an application networking interface
 - Managing and monitoring Internet Naming Services
- f. IP Routing encompassing
 - Installation, configuring and troubleshooting of IP routing protocols
 - a. *Note:* This includes updating routing tables, and implementing demand-dial routing
 - Managing and monitoring IP routing
 - a. *Note:* This includes border routing, internal routing and IP routing protocols
- g. Network Address Translation (NAT) encompassing

- Installing Internet connection sharing
- Installing NAT
- Configure NAT properties and interfaces
- h. Certificate Services encompassing
 - Installing and configuring Certificate Authority
 - Issuing and revoking certificates
 - Removing the Encrypted File System recovery keys

· **Directory services**

Evidence shall show an understanding of directory services to an extent indicated by the following aspects:

- a. Installing and configuring directory services encompassing
 - Installing forests, trees and domains including automatic domain controller
 - Creating sites, subnets, site links and connection objects
 - Configuring server objects including site membership and global catalogue designation
 - Transferring of operations master roles
 - Verification and troubleshooting of directory services installation
 - Implementation of and organisational unit structure
- b. Domain Name Service (DNS) for directory services encompassing
 - Installation and configuration of DNS for directory services
 - a. *Note:* Examples are integration with existing DNS infrastructure, configuration of zones for dynamic and secure dynamic updates and creation and configuration of DNS records
 - Management, monitoring and troubleshooting of DNS
- c. Change and Configuration Management encompassing
 - Implementing and troubleshooting Group Policy
 - a. *Note:* Examples are Group Policy Object (GPO), linking to an existing GPO, delegation of administrative control of Group Policy, filtering of Group Policy settings by using security groups and modification of Group Policy prioritisation
 - Managing and troubleshooting user environments using Group Policy
 - Configuring directory services to support Remote Installation Services (RIS) including configuration of RIS options and security.
- d. Components of a directory service infrastructure encompassing
 - Management of directory objects
 - a. *Note:* Examples are moving objects, publishing resources in the directory service infrastructure, location of objects in the directory service infrastructure, creation and management of objects manually and by scripting, access control of objects and delegation of administrative control
 - Monitoring, optimisation and troubleshooting of the directory services infrastructure performance and replication
 - Backup and restoring directory services infrastructure
 - a. *Note:* Examples are authoritative and non authoritative restoration of directory services, restoration from systems failure and the seizing of operations master roles
- e. Security encompassing
 - Applying security policies using Group Policy
 - Creating, analysing and security modification by using Security Configuration and Analysis snap-in and the Security Templates snap-in
 - Implementation of an audit policy
- f. Monitoring and analysing security events

Multi-layer switched networks

Evidence shall show an understanding of multi-layer switched networks to an extent indicated by the following aspects:

a) Campus network design encompassing:

- o core layer
- o distribution layer
- o access layer
- o selection of appropriate devices
- o defining workgroups

b) Managing Redundant Links encompassing:

- o Spanning Tree Protocol (STP)
- o Controlling STP in redundant environments
- o STP in Virtual Local Area Network (VLAN) environments
- o Configuring redundant routing protocols for a fault-tolerant routing

Note. An example is Hot Standby routing protocol (HSRP)

c) Fast layer 2 services encompassing:

- o Fast Ethernet
- o Trunking
- o Fast Ether channels
- o Gigabit services

d) Inter VLAN Routing encompassing:

- o Hardware vs. Software switching
- o Overview of fast switching technologies
- o Elements of a multi-layer switch
- o Configuring multi-layer switches

e) Multicast encompassing:

- o Multi-cast group management
- o Configuring multi-cast control at layer 2
- o Configuring multi-cast control at layer 3

f) Controlling Access to the Campus Network

g) Managing Network Traffic

ICT 406 Professional Practice (2) Website

This unit covers installation, set up, implementation and provision of on-going support of web services. It encompasses working safely, installing and administering server software and databases, server side scripting, configuring access and security and documenting work activities.

Development, implementation and testing HTML pages with at least four of the following features:

Relative and absolute links, images and table formatting
Cascaded styles sheets
Forms
New browser windows
Validation of form data

Development, implementation and testing of server scripting for database access with at least four of the following features:

Form data input response
Form data processing
Database access
Output of database table contents
Insertion of table data to database

Installation and administration of key features of Web and Web application servers

Programming elements

Evidence shall show an understanding of the programming elements to an extent indicated by the following aspects:

- a) Algorithm Design encompassing:
 - o Problem Definition
 - o Steps in Problem-Solving
 - o Modular Design
 - o Top-Down Design
 - o Flow-Charts and Structured Programming
 - o Pseudo-Code
 - o Filtering allowable Data Input
 - o Using standard Input & Output methods
 - o Object-Oriented Design (brief intro.)
 - o Documentation Rationale
 - o Acceptable Documentation Method
- b) Machine-Code, Assemblers and Compilers
- c) Brief History of Languages & Limitations
- d) Parameters of different programming languages encompassing:
 - o Constants and variables
 - o Data types and declarations
 - o Logical flow control
 - o Detecting breaches of structure
 - o Documentation instruction examples
 - o Procedures and function calls
 - o Parameter-passing
 - o Local and global variables
 - o Object-oriented methods
 - o Classes and objects,
 - o encapsulation and inheritance.
 - o Visual programming methods
 - o General-purpose program libraries
- e) Data structures encompassing:
 - o Records
 - o Arrays
 - o File Input/output
- f) Testing and validation encompassing:
 - o Sequencing the process
 - o Inconsistencies detection

Note, An examples is comparing code to documentation, commonly called —Desk-Checking'.

- o Test data selection
- o Modular testing & debug
- o Problems with using

Client side programming

Evidence shall show an understanding of client side programming them to an extent indicated by the following aspects:

- a) Client server architecture
- b) Hyper Text Markup Language (HTML) encompassing:
 - o Forms
 - o Table
 - o Cascading style sheets
- c) Hyper Text Markup Language (HTML) scripting encompassing:
 - o Exposed object model
 - o Events and event handling
 - o Objects methods, properties, events
 - o Window, document, form, and form elements
 - o String object, methods, properties
 - o Form field validation

Note: Examples of scripting language are JavaScript and Visual Basic (VB) Script

- d) Extendable Markup Language (XML) encompassing:
 - o Syntax
 - o Structure (well formed XML)
 - o Schemas
 - o Transformations
 - o Parsing Document Object Model (DOM) and Simple API (SAX)
 - o Scripting to Document Object Model (DOM)

- e) Extendible Stylesheet Language (XSL) generating HTML from XML
- f) Wireless thin client programming

Note. Examples include Java2 Micro Edition (JME), Mobile Information Device Profile (MIDP), Windows CE and Palm OS

- g) Consideration for system architecture
- h) Configurations and profile overview

Server scripting

Evidence shall show an understanding of server scripting the to an extent indicated by the following aspects:

- a) Client server architecture
- b) Web and Application Servers
- c) Server scripting languages e.g. JSP, ASP, PHP, Perl
- d) Server script Tags
- e) Integrating script with HTML
- f) Server script object model
- g) Request, Response, Session, Application
- h) Using server objects
- i) Server components
- j) Using components in server scripts
- k) Scope of server components e.g. session, page, application
- l) Component get / set methods
- m) Deploying server components
- n) Advanced server scripting concepts

Database access

Evidence shall show an understanding of database access to an extent indicated by the following aspects:

- a) Relational Databases encompassing:
 - o Tables, keys, design rules and normalisation
 - o Database management utilities

Note. Example include MSSQL, MYSQL and Access

- b) Structural query language (SQL) queries encompassing:
 - o Select, insert, update and delete processes
 - o Application of conditionals _where', _distinct' and _like'
 - o Create and dropping tables

- c) Data Base connectivity components encompassing:
 - o Drivers, data sources
 - o Database connectivity component loading
 - o Query connection and execution
 - o ResultSets / RecordSets
 - o Rows, columns, cursors, concurrency, pooling
 - o Iterating through ResultSets / RecordSets

Note. Example include ODBC, JDBC, ADO

Web applications and services

Evidence shall show an understanding of web servers to an extent indicated by the following aspects:

- a) Comparison of HTTP servers and platforms

Note. Examples include IIS and Apache

- b) Comparison of Application servers and platforms

Note. Examples include J2EE / tomcat, .NET

- c) HTTP Servers encompassing:
 - o Installation requirements and methods
 - o Security configuration
 - o Content publishing and security

- d) WEB application technologies encompassing:
 - o Server installation and deployment
 - o Security

- e) Server scripting technologies encompassing:
 - o WEB application installation and deployment
 - o Application server administration

- f) Web services overview encompassing:
 - o WEB services XML, API, RPC
 - o XML API processing
 - o XML DOM
 - o SOAP (simple object access protocol)
 - o WEB Services Security

ICT 407 Artificial Intelligence

- Paths to artificial intelligent
- Agents and environment
- Framework for agents environment
- Agent oriented programming languages
- Net logo development
- Movement, Behaviour & Decision making
- Terms of movement
- Animated mapping simulation Embodiment
- Reactive versus cognitive agents
- Emergence, Self organization
- Adaptability evolution
- Communication
- Search behaviour

- Reasoning rules and logic
- Knowledge & reasoning using decision trees
- Intelligence
- Design objectives for artificial intelligence
- Computer problem solving ability

Bachelor of Business

Year 1 Refer Diploma in Management Detailed Contents

Year 2 Refer Diploma & Advanced Diploma in Information Technology Detailed Contents

YEAR (3)

Bachelor of Business (E-Business & Management)

The learning system will be based on self study. Read the given references study materials and prepare the project work. You need to read the books in English.

The following units common to MBA course are to be studied.

[Mgt 301 Electronics Business](#)

[Mgt 302 Information Security](#)

[Mgt 303 Management Information System](#)

[Mgt 304 Electronics Commerce](#)

[Mgt 305 Quantitative Methods for Management](#)

[Mgt 306 Human Resources Management](#)

[Mgt 307 Marketing Management](#)

[Mgt 308 Artificial Intelligence](#)

To assess Level 3, you need to write the report of 10 pages each on what you have learnt in the unit.

YEAR (4)

[Mgt 401 Management Project](#)

[Mgt 402 Electronics Business Project](#)

Mgt 301 Electronics Business

- 1 Project Objective
- 1 Business Capabilities
- 1 Benefits
- 1 Deliverables & Dependencies
- 1 Costs
- 1 Financial Appraisal
- 1 Timescales & Milestones
- 1 Success Criteria
- 1 Risks
- 1 the impacts of electronic commerce
- 1 drivers and inhibitors of electronic commerce from the perspective of the CEOs
- 1 the impacts of Electronic Commerce on the Industry Supply Chain
- 1 Electronic Commerce Maturity Model

Mgt 302 Information Security

Fundamentals of network security

Evidence shall show an understanding of fundamentals of network security to an extent indicated by the following aspects:

- a) Network Security fundamentals
- b) Securing Perimeter Routers
- c) Access Control Lists (ACLs)
- d) Router Authentication, Authorisation and Accounting (AAA) Security
- e) Intrusion Detection
- f) Internet Protocol (IP) Security
- g) Virtual Private Network (VPN)
- h) Firewalls
- i) Translations and Connections
- j) Access Control Lists for Firewalls
- k) AAA and Firewalls
- l) Intrusion
- m) Intrusion Detection Systems (IDS)
- n) Firewall Failover and System Maintenance
- o) Firewall VPN's
- p) Firewall Device Management

q Introduction of Computer Networks and Internet :

- √ Overview of the Internet, client/server program, circuit switching, packet switching, physical media, queuing delay and packet loss, TCP/IP Service models, Internet Protocol Stack (Layers)

q Application Layer :

- √ Service requirements, WWW, HTTP, FTP, Electronic Mail, Domain Name System, Socket programming

q Transport Layer

- √ Service models, Multiplexing/Demultiplexing, Connection-less transport (UDP), Principles of reliable data transfer, Connection-oriented transport (TCP), TCP congestion control

q Network Layer :

- √ Routing and forwarding, IP(The Internet Protocol) IPv4, IPv6 ,Routing algorithms, Routing in the Internet, Multicast

q Link Layer and Local Area Networks :

- √ Link layer services, Error detection and correction, Multiple Access Protocols, Link layer addressing, Ethernet, Hubs and switches, Point-to-Point Protocol

q understand principles of network security:

- √ cryptography and its *many* uses beyond "confidentiality"
- √ authentication
- √ message integrity
- √ key distribution
- √ security in practice:
 - √ firewalls
 - √ security in application, transport, network, link layers
- √ key distribution
- √ security in practice:
 - √ firewalls
 - √ security in application, transport, network, link layers

Mgt 303 Management Information System (MIS)

- The role of information system
- Hardware & software in enterprise
- Database management system
- Business Telecommunication system
- Communication network
- Network application
- Contemporary mobile service
- Examples of information systems
- Management of MIS
- Managing the Digital Firm
- Emergence of the Digital Firm
- The business information value chain
- A Business Perspective on Information Systems
- Variation in returns on information technology investment
- Sociotechnical Systems
- New Options for Organizational Design:
 - The Digital Firm and the Collaborative Enterprise
 - Redesigned workflow for insurance underwriting
- The Challenges of Information Systems: Key Management issues

Mgt 304 Electronics Commerce

- Types of E-commerce
- Understanding E-commerce: Organizing Themes
- E-commerce Business Models and Concepts
- The Internet and World Wide Web: E-commerce Infrastructure
- Building an E-commerce Web Site
- Online Security and Payment Systems
- Marketing Communications
- E-commerce Marketing Concepts
- Ethical, Social, and Political Issues in E-commerce
- Online Retail and Services
- E-commerce Business Models and Concepts
- The Internet and World Wide Web: E-commerce Infrastructure
- Security and Encryption
- E-commerce Payment Systems
- E-commerce Marketing Communications
- Ethical, Social, and Political Issues in E-commerce
- Online Service Industries
- Supply Chain Management and Collaborative Commerce
- Auctions, Portals, and Communities
- Online Content and Media
- Social Networks, Auctions, and Portals
- Online Content Providers: Digital Media
-

Mgt 305 Quantitative Methods for Management

- Research approach
- Data source
- Qualitative method
- Quantitative Methods
- Experiment research & observation
- Questionnaires survey
- Sampling
- Survey analysis
- Statistical analysis
- Writing research report
- Prescriptive Process Models
- Agile Development

Mgt 306 Human Resources Management

- Meeting Present and Emerging Strategic Human Resource Challenges
- **Managing Work Flow and Conducting Job Analysis**
- Understanding Equal Opportunity and the Legal Environment
- Managing Diversity
- Recruiting and Selecting Employees
- Appraising and Managing Performance
- Rewarding Performance
- Managing Compensation

Mgt 307 Marketing Management

- Company (Distributor) background (e.g. brief history, nature of business, etc.)
- Marketing objective(s) on the Chosen product/service
- S.W.O.T Analysis
- Target customers
- Product Positioning in the market
- Describe the current marketing mix:
 - Product
 - Pricing
 - Distribution
 - Marketing Communications (Promotion)
- overall competitive strategy
- planning the details of the marketing mix.

- sales & marketing materials
- understanding of company's competitors
- Marketing Recommendations for improvement
- marketing strategies

Mgt 308 Artificial Intelligence

This is the same as

ICT 407	Artificial Intelligence
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Mgt 401 Management Project

Mgt 402 Electronics Business Project

Two reports one for Management for (Mgt 303+Mgt 305+Mgt 306) & another for Electronics Business + Marketing (Mgt 301+Mgt 302+Mgt 304+Mgt 307+Mgt 308) subjects are required to be presented.

Each should contain 4000 to 6000 words of how you pursue the study in Management,, Marketing, Electronics Business subjects should be described.

The project should contain management plans, business plan & performance, task, job procedures IT integration etc of the topics of your choices.

<http://www.filefactory.com/file/3dcrz90tirvh/Dip%2BAdv%20Dip%2BB%20Bus%20S%20Course%20Outline.doc>

St Clements University Certificate/ Diploma / Advanced Diploma in Electrical Engineering

Course + Credit Outlines

YEAR 1 Certificate in Electrical Engineering 15 credits

	SEMESTER (1)	Credits
EE101	DC Circuit Problems	1
EE102	Basic Electrical Fitting & Wiring	1
EE103	Basic Electrical Drafting	1
EE104	Electrical Equipments Safety Protection	2
EE105	Electrical Installation Design	1
EE106	Advanced Electrical Wiring	1
EE107	Electrical Equipments	1
EE108	Electrical Fault Finding	1
EE109	Electrical Control Circuits	1
EE110	Computer Applications	1
EE111	Electromagnetism & Basic Electrical Machines	2
EE112	Alternating Current Principle	2
		15 Credits
	Diploma in Electrical Engineering 30 credits	Credits
	SEMESTER (2)	-
EE113	Electrical Fundamental	2
EE114	Electrical Power Principle	1
EE115	Basic Analogue & Digital Electronics	2
EE116	Process Control System	3
EE117	Solar Electrical System	1
EE118	Electrical Energy Supply System	3
EE119	Electrical Risk Assessment	1
EE120	Electrical Contracting & Specification	1
EE121	Electronics Power Control Device	1
		30 Credits

	Advanced Diploma in Electrical Engineering 60 credits	Credits
	SEMESTER (1)	
EE201	Engineering Mathematics	1
EE202	Electrical Circuits	1
EE203	Three Phase Power Circuits	1
EE204	Engineering Physics	1
EE205	Electrical Power System	2
EE206	AC Machines	2
EE207	DC Machine	1
EE208	Operational Amplifiers	2
EE209	Analogue Electronics	1

	SEMESTER (2)	
EE301	Advanced Electrical Drafting	1
EE302	Advanced Engineering Mathematics	2
EE303	Transmission Line	2
EE304	Power System Protection	2
EE305	Power Transformer	2
EE306	Electro-mechanical Control	2
EE307	Energy Efficient Building Design	2
EE308	Sustainability	1
EE309	Project Management	2
EE310	Engineering Officer Competency Report	2
		30 Credits

EE101	DC Circuit Problems
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This unit covers determining correct operation of single source d.c. series, parallel and series-parallel circuits and providing solutions as they apply to various electrotechnology work functions. It encompasses working safely, problem solving procedures, including the use of voltage, current and resistance measuring devices, providing solutions derived from measurements and calculations to predictable problems in single and multiple path circuits.

Evidence shall show an understanding of electrical fundamentals and direct current multiple path circuits to an extent indicated by the following aspects:

T1 Basic electrical concepts encompassing:

- ☐ electrotechnology industry
- ☐ static and current electricity
- ☐ production of electricity by renewable and non renewable energy sources
- ☐ transportation of electricity from the source to the load via the transmission and distribution systems
- ☐ utilisation of electricity by the various loads
- ☐ basic calculations involving quantity of electricity, velocity and speed with relationship to the generation and transportation of electricity.

T2 Basic electrical circuit encompassing:

- ☐ symbols used to represent an electrical energy source, a load, a switch and a circuit protection device in a circuit diagram
- ☐ purpose of each component in the circuit
- ☐ effects of an open-circuit, a closed-circuit and a short-circuit
- ☐ multiple and sub-multiple units

T3 Ohm's Law encompassing:

- ☐ basic d.c. single path circuit.
- ☐ voltage and currents levels in a basic d.c. single path circuit.
- ☐ effects of an open-circuit, a closed-circuit and a short-circuit on a basic d.c. single path relationship between voltage and current from measured values in a simple circuit
- ☐ determining voltage, current and resistance in a circuit given any two of these quantities
- ☐ graphical relationships of voltage, current and resistance
- ☐ relationship between voltage, current and resistance

T4 Electrical power encompassing:

- ☐ relationship between force, power, work and energy
- ☐ power dissipated in circuit from voltage, current and resistance values
- ☐ power ratings of devices
- ☐ measurement electrical power in a d.c. circuit
- ☐ effects of power rating of various resistors

T5 Effects of electrical current encompassing:

- physiological effects of current and the fundamental principles (listed in AS/NZS 3000) for protection against the this effect
- basic principles by which electric current can result in the production of heat; the production of magnetic fields; a chemical reaction
- typical uses of the effects of current
- mechanisms by which metals corrode
- fundamental principles (listed in AS/NZS3000) for protection against the damaging effects of current

T6 EMF sources energy sources and conversion electrical energy encompassing:

- basic principles of producing a emf from the interaction of a moving conductor in a magnetic field.
- basic principles of producing an emf from the heating of one junction of a thermocouple.
- basic principles of producing a emf by the application of sun light falling on the surface of photovoltaic cells
- basic principles of generating a emf when a mechanical force is applied to a crystal

(piezo electric effect)

- principles of producing a electrical current from primary, secondary and fuel cells
- input, output, efficiency or losses of electrical systems and machines
- effect of losses in electrical wiring and machines
- principle of conservation of energy

T7 Resistors encompassing:

- features of fixed and variable resistor types and typical applications
- identification of fixed and variable resistors
- various types of fixed resistors used in the Electro technology Industry. e.g. wire-wound, carbon film, tapped resistors.
- various types of variable resistors used in the Electro technology Industry e.g. adjustable resistors: potentiometer and rheostat; light dependent resistor (LDR); voltage dependent resistor (VDR) and temperature dependent resistor (NTC, PTC).
- characteristics of temperature, voltage and light dependent resistors and typical applications of each
- power ratings of a resistor.
- power loss (heat) occurring in a conductor.
- resistance of a colour coded resistor from colour code tables and confirm the value by measurement.
- measurement of resistance of a range of variable' resistors under varying conditions of light, voltage, temperature conditions.
- specifying a resistor for a particular application.

T8 Series circuits encompassing:

- circuit diagram of a single-source d.c. 'series' circuit.
- Identification of the major components of a 'series' circuit: power supply; loads; connecting leads and switch
- applications where 'series' circuits are used in the Electro technology industry.
- characteristics of a 'series' circuit - connection of loads, current path, voltage drops, power dissipation and affects of an open circuit in a 'series' circuit.
- the voltage, current, resistances or power dissipated from measured or given values of any two of these quantities
- relationship between voltage drops and resistance in a simple voltage divider network.
- setting up and connecting a single-source series dc circuit
- measurement of resistance, voltage and current values in a single source series circuit
- effect of an open-circuit on a series connected circuit

T9 Parallel circuits encompassing:

- schematic diagram of a single-source d.c. 'parallel' circuit.
- major components of a 'parallel' circuit (power supply, loads, connecting leads and

· applications where 'parallel' circuits are used in the Electrotechnology industry.

- characteristics of a 'parallel' circuit. (load connection, current paths, voltage drops, power dissipation, affects of an open circuit in a 'parallel' circuit).
- relationship between currents entering a junction and currents leaving a junction
- relationship between branch currents and resistances in a two branch current divider network.
- calculation of the total resistance of a 'parallel' circuit.
- calculation of the total current of a 'parallel' circuit.
- Calculation of the total voltage and the individual voltage drops of a 'parallel' circuit.
- setting up and connecting a single-source d.c. parallel circuit
- resistance, voltage and current measurements in a single-source parallel circuit
- voltage, current, resistance or power dissipated from measured values of any of these quantities
- output current and voltage levels of connecting cells in parallel.

T10 Series/parallel circuits encompassing:

- schematic diagram of a single-source d.c. 'series/parallel' circuit.
- major components of a 'series/parallel' circuit (power supply, loads, connecting leads and switch)
- applications where 'series/parallel' circuits are used in the Electrotechnology industry.
- characteristics of a 'series/parallel' circuit. (load connection, current paths, voltage drops, power dissipation, affects of an open circuit in a 'series/parallel' circuit).
- relationship between voltages, currents and resistances in a bridge network.
- calculation of the total resistance of a 'series/parallel' circuit.
- calculation of the total current of a 'series/parallel' circuit.
- calculation of the total voltage and the individual voltage drops of a 'series/parallel' circuit.
- setting up and connecting a single-source d.c. series/ parallel circuit
- resistance, voltage and current measurements in a single-source d.c. series / parallel circuit
- the voltage, current, resistances or power dissipated from measured values of any two of these quantities

T11 Factors affecting resistance encompassing:

- four factors that affect the resistance of a conductor (type of material, length, cross-sectional area and temperature)
- affect the change in the type of material (resistivity) has on the resistance of a conductor.
- affect the change in 'length' has on the resistance of a conductor.
- affect the change in 'cross-sectional area' has on the resistance of a conductor.

effects of temperature change on the resistance of various conducting materials

· effects of resistance on the current-carrying capacity and voltage drop in cables.

- calculation of the resistance of a conductor from factors such as conductor length, cross-sectional area, resistivity and changes in temperature
- using digital and analogue ohmmeter to measure the change in resistance of different types of conductive materials (copper, aluminium, nichrome, tungsten) when those materials undergo a change in type of material length, cross-sectional area and temperature.

T12 Effects of meters in a circuit encompassing:

- selecting an appropriate meter in terms of units to be measured, range, loading effect and accuracy for a given application.
- measuring resistance using direct, volt-ammeter and bridge methods.
- instruments used in the field to measure voltage, current, resistance and insulation resistance and the typical circumstances in which they are used.
- hazards involved in using electrical instruments and the safety control measures that should be taken.
- operating characteristics of analogue and digital meters.
- correct techniques to read the scale of an analogue meters and how to reduce the 'parallax' error.
- types of voltmeters used in the Electrotechnology industry – bench type, clamp meter, Multimeter, etc.
- purpose and characteristics (internal resistance, range, loading effect and accuracy) of a voltmeter.
- types of voltage indicator testers. e.g. LED, neon, solenoid, volt-stick, series tester, etc. and explain the purpose of each voltage indicator tester.
- operation of various voltage indicator testers.
- advantages and disadvantages of each voltage indicator tester.
- various types of ammeters used in the Electrotechnology industry – bench, clamp meter, multimeter, etc.
- purpose of an ammeter and the correct connection (series) of an ammeter into a circuit.
- reasons why the internal resistance of an ammeter must be extremely low and the dangers and consequences of connecting an ammeter in parallel and/or wrong polarity.

- selecting an appropriate meter in terms of units to be measured, range, loading effect and accuracy for a given application
- connecting an analogue/digital voltmeter into a circuit ensuring the polarities are correct and take various voltage readings.
- loading effect of various voltmeters when measuring voltage across various loads.
- using voltage indicator testers to detect the presence of various voltage levels.
- connecting analogue/digital ammeter into a circuit ensuring the polarities are correct and take various current readings.

T13 Resistance measurement encompassing:

- Identification of instruments used in the field to measure resistance (including insulation resistance) and the typical circumstances in which they are used.
- the purpose of an Insulation Resistance (IR) Tester.
- the parts and functions of various analogue and digital IR Tester (selector range switch, zero ohms adjustment, battery check function, scale and connecting leads).
- reasons why the supply must be isolated prior to using the IR tester.
- where and why the continuity test would be used in an electrical installation.
- where and why the insulation resistance test would be used in an electrical installation.
- the voltage ranges of an IR tester and where each range may be used. e.g. 250 V d.c, 500 V d.c and 1000 V d.c
- AS/NZS3000 Wiring Rules requirements – continuity test and insulation resistance (IR) test.
- purpose of regular IR tester calibration.
- the correct methods of storing the IR tester after use
- carry out a calibration check on a IR Tester
- measurement of low values of resistance using an IR tester continuity functions.
- measurement of high values of resistance using an IR tester insulation resistance function.
- volt-ammeter (short shunt and long shunt) methods of measuring resistance.
- calculation of resistance values using voltmeter and ammeter reading (long and short shunt connections)
- measurement of resistance using volt-ammeter methods

T14 Capacitors and Capacitance encompassing:

- basic construction of standard capacitor, highlighting the: plates, dielectric and connecting leads
- different types of dielectric material and each dielectric's relative permittivity.
- identification of various types of capacitors commonly used in the Electrotechnology industry (fixed value capacitors -stacked plate, rolled, electrolytic, ceramic, mica and Variable value capacitors – tuning and trimmer)
- circuit symbol of various types of capacitors: standard; variable, trimmer and polarised
- terms: Capacitance (C), Electric charge (Q) and Energy (W)
- unit of: Capacitance (Farad), Electric charge (Coulomb) and Energy (Joule)
- factors affecting capacitance (the effective area of the plates, the distance between the plates and the type of dielectric) and explain how these factors are present in all circuits to some extent.
- how a capacitor is charged in a d.c. circuit.
- behaviour of a series d.c. circuit containing resistance and capacitance components. - charge and discharge curves

the term 'Time Constant' and its relationship to the charging and discharging of a capacitor.

- calculation of quantities from given information: Capacitance ($Q = VC$); Energy ($W = \frac{1}{2}CV^2$); Voltage ($V = Q/C$)
- calculation one time constant as well as the time taken to fully charge and discharge a given capacitor. ($\tau = RC$)
- connection of a series d.c. circuit containing capacitance and resistor to determine the time constant of the circuit

T15 Capacitors in Series and Parallel encompassing:

- hazards involved in working with capacitance effects and the safety control measures that should be taken.
- safe handling and the correct methods of discharging various size capacitors
- dangers of a charged capacitor and the consequences of discharging a capacitor through a person

- ☐ factors which determine the capacitance of a capacitor and explain how these factors are present in all circuits to some extent.
- ☐ effects of capacitors connected in parallel by calculating their equivalent capacitance.
- ☐ effects on the total capacitance of capacitors connected in series by calculating their equivalent capacitance.
- ☐ Connecting capacitors in series and/or parallel configurations to achieve various capacitance values.
- ☐ common faults in capacitors.
- ☐ testing of capacitors to determine serviceability.
- ☐ application of capacitors in the Electrotechnology industry.

EE102	Basic Electrical Fitting & Wiring
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This unit covers fixing, securing and mounting techniques as apply in the various electrotechnology work functions. It encompasses the safe use of hand and portable power tools, safe lifting techniques, safe use of ladders and elevated platforms and the selection and safe application of fixing devices and supporting accessories/equipment.

KS01-EE105A Fixing and support devices/techniques

Evidence shall show an understanding of accessories and support and fixing device and methods and their use to an extent indicated by the following aspects:

T1. Device for securing and mounting electrical/electronic/instrumentation/refrigeration/ air-conditioning/telecommunications accessories for supporting, fixing and protecting wiring/cabling/piping and functional accessories to hollow walls encompassing:

- ☐ types and safe application of devices for hollow wall fixing and support
- ☐ methods/techniques used to fix/support to wood, hollow wall, masonry blocks, plasterboard, panelling
- ☐ types and safe application of fixing devices used in the electrotechnology industry for wood and hollow wall structures (wood screws, coach bolts, self-tappers, self

drilling, metal thread, hollow wall anchors, behind plaster brackets, stud brackets, plasterboard devices, toggle devices)

- ☐ types of tools used for hollow wall fixing and supporting.
- ☐ using various fixing methods to fix/support to hollow walls.

T2. Device for securing and mounting electrical/electronic/instrumentation/refrigeration/ air-conditioning/telecommunications accessories for supporting, fixing and protecting wiring/cabling/piping and functional accessories to solid walls encompassing:

- ☐ types and safe application of devices used for solid wall fixing and support
- ☐ methods/techniques used in to fix to masonry and concrete structures
- ☐ fixing devices used in the electrotechnology industry for solid wall structures (wall-plugs, expanding concrete fixing devices, gas powered fixing tools, powder actuated fixing tools, loxins, dynabolts, chemical devices)
- ☐ regulatory requirements for use of powder fixing tools.
- ☐ hand and power tools used in fixing and supporting accessories
- ☐ using various fixing methods to fix/support to solid walls

T3. Device for securing and mounting electrical/electronic/instrumentation/refrigeration/ air-conditioning/telecommunications accessories for supporting, fixing and protecting wiring/cabling/piping and functional accessories to metal fixing encompassing:

- ☐ accessories that may be fixed to metal (saddle clips, conduits, brackets, switches)
- ☐ techniques for fixing to metal
- ☐ fixing devices: coach bolts, self-tappers, metal thread bolts, hollow wall anchors, rivets
- ☐ fixing tools - spanners, screwdrivers, power screw drivers, pop riveters, files, reamers
- ☐ OH&S issues related to drilling, cutting, eye protection, metal filings, swarf, noise
- ☐ Using power drills, drill bits, change drill speeds.
- ☐ Install a fixing device and accessory capable of supporting up to 20 kg on the metal plate.

T4. Securing and mounting electrical/electronic/instrumentation/refrigeration/ air-conditioning/telecommunications accessories for supporting, fixing and protecting wiring/cabling/piping and functional accessories using fixing adhesives and tapes encompassing:

- ☐ types and safe application of using adhesives and tapes as fixing devices (load limits of different commercial products)
- ☐ accessories that may be fixed using adhesives and tapes
- ☐ techniques for the application of adhesives and tapes
- ☐ tools used to apply and cut adhesives and tapes
- ☐ hazards and safety measures when working with adhesives and chemical fixing devices (fumes, cutting, eye protection, physical contact, hand protection, ingestion)

EE103	Basic Electrical Drafting
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This unit covers the use of drawings, diagrams, cable schedules, standards, codes and specifications as they apply to the various electrotechnology work functions. It encompasses the rudiments for communicating with schematic, wiring and mechanical diagrams and equipment and cable/connection schedules, manuals, site and architectural drawings and plans showing the location of services, apparatus, plant and machinery and understanding the use and format of compliance standards and job specifications.

KS01-EE107A Drawings, diagrams and schedules

Evidence shall show an understanding of drawings, diagrams and schedules used in electrotechnology work to an extent indicated by the following aspects:

T1 Architectural drawings encompassing:

- ☐ site plans, floor plans detailed drawings and standard drawings
- ☐ architectural floor plan to determine the power and lighting or communications / audio/ video layouts required in a domestic installation
- ☐ site plan to locate the service point, consumers mains, communication services, main switchboard, distribution boards and/or builders supplies.
- ☐ standard drawing scales to determine the actual lengths represented by dimensions on an architectural drawing.

- reading and interpretation of floor plans to determine the location of the electrical/ communication/audio accessories and appliances.
- Australian standard symbols used on floor plans to show the location of the accessories

and appliances as detailed in an electrical schedule.

T2 Electrical drawings encompassing:

- types of electrical drawings: block, circuit, wiring and ladder diagrams
- purpose and application of block, circuit, wiring diagrams and ladder diagrams
- Australian standard symbols used to represent components on electrical diagrams.
- conventions used in and the features of circuit diagrams
- converting a circuit diagram to a wiring diagram
- identification of cable type, origin and route from a cable schedule.
- developing a cable schedule for a given installation.

T3 Circuit diagrams encompassing:

- purpose of circuit diagrams in the electrotechnology industry
- conventions used in and the features of circuit diagrams
- sketching basic circuit diagrams
- common symbols used in circuit diagram (Australian Drawing Standard AS/NZS 1102)
- developing switching charts to identify the terminals of various types of switches
- connecting equipment using circuit diagrams.

T4 Wiring diagrams encompassing:

- purpose of wiring diagrams in the electrotechnology industry
- conventions used in and the features of wiring diagrams
- sketching basic wiring diagrams
- common symbols used in wiring diagram (Australian Drawing Standard AS/NZS 1102)
- connecting equipment using wiring diagrams.

T5 Building construction drawings and diagrams encompassing:

- building types: timber frame, brick veneer, double brick and metal frame.
- identification of different types of: footings, floors, external walls, roofs, interior walls
- typical cable routes through buildings, structures and premises
- sequence of each constructional stage for brick, brick veneer and timber cottages
- identification of the stages at which the electrical/communications - first and second fixing occurs in the constructional sequence
- areas of cooperation between electrical/communications and other building trades

EE104	Electrical Equipments Safety Protection
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This unit covers the arrangement and termination of circuits, control and protection devices and systems for electrical installations operating at voltages up to 1,000 V a.c. or 1,500 V d.c. It encompass knowledge and application of schemes for protection of persons and property, correct functioning, ensuring compatibility with the supply, arranging installation into circuits and selecting and arranging switchgear/controlgear and protective devices to meet compliance requirements and documenting arrangement decisions

KS01-EG063A Electrical installations — arrangement, control and protection

Evidence shall show an understanding of circuit arrangements, control and protection of electrical installations that comply with the Wiring Rules and Service Rules to an extent indicated by the following aspects:

T1 Safety principles to which electrical systems in building and premises shall comply.

- Safety principles are given in Part1 (Section 1) of the Wiring Rules AS/NZS 3000 with deemed-to-comply requirements given in Sections 2 to 8.
- Compliant methods for providing protection - include those for providing protection against direct and indirect contact; thermal effects; unwanted voltages; overcurrent; fault currents; overload; overvoltage; injury from mechanical movement.
- Requirements for installation design and selection of equipment - includes compliant protection arrangements; correct functioning; compatibility with supply; estimation of maximum demands; voltage drop considerations; arrangement of circuits and the like

T2 Circuit and control arrangements encompassing:

- reason for dividing electrical installations into circuits
- factors that shall be considered in determining the number and type of circuits required for an installation.
- daily and seasonal demand for lighting power, heating and other loads in a given installation.
- number and types of circuits required for a particular installation.
- diagrams/schedules of circuits for given installations.
- application and arrangements of SELV and PELV circuits
- application and arrangement of an isolated supply

T3 Hazards and risks in an electrical installation encompassing:

- effects on the human body of various levels of a.c. and d.c. current and duration of current flow for various current paths.
- risk of ignition of flammable materials due the thermal effects of current or electric

arcs in normal service of an electrical installation.

- risk of injury from mechanical movement of electrically actuated equipment.
- Protection against direct contact (basic protection)
- acceptable methods
- use of extra-low voltage

T4 Protection against indirect contact encompassing:

- indirect contact with live parts of an electrical installation may occur.
- methods and devices that comply with the Wiring Rules for providing protection against indirect contact.
- components of the 'automatic disconnection of supply' method of protection against indirect contact.
- the terms 'touch voltage' and 'touch current'.
- the current path when a short circuit fault to exposed conductive parts of an appliance occurs.

- ☐ protection against indirect contact is by the use of Class II equipment and by electrical separation.
- ☐ additional protection by use of Residual Current Devices (RCDs)
- ☐ protection against indirect contact by use of extra-low voltage and electrical separation.
- ☐ Protection requirements for damp situations.

T5 Earthing encompassing:

- ☐ the terms: earthed, earthed situation, earth electrode, equipotential bonding, multiple earthed neutral (MEN) system, protective earth-neutral (PEN) conductor, main earthing conductor, protective earthing (PE) conductor, functional earthing, MEN link.
- ☐ selection of minimum size-earthing conductor for a range of active conductor sizes and materials.
- ☐ parts of an earthing system and the purpose of each.
- ☐ typical arrangement for a MEN earthing system.
- ☐ arrangements of protective earthing conductors that comply with the Wiring Rules.
- ☐ requirements for equipotential bonding in a range of installation situations.
- ☐ Installation of a MEN earthing system for a single phase installation

T6 Protection against overload and short circuit current encompassing:

- ☐ overload current or fault currents in an electrical installation.
- ☐ equivalent circuit of an earth fault-loop
- ☐ level of fault current possible at a given point in an installation from the fault-loop impedance and data from the electricity distributor.
- ☐ methods and devices that comply with the Wiring Rules AS/NZS 3000 for providing protection against the damaging effects of overload and fault current
- ☐ requirements for co-ordination between protective devices and conductors

requirements for co-ordination of protection devices for discrimination and back-up protection.

T7 Devices for automatic disconnection of supply encompassing:

- ☐ operating principles of thermal/magnet circuit breakers.
- ☐ operating principles of common types of fuses.
- ☐ operating principles of residual current devices (RCD).
- ☐ time/current curves tripping characteristics of various types of circuit breakers that comply with the requirements of the Wiring Rules.
- ☐ time/current curves fusing characteristics of various types of fuses that comply with the requirements of the Wiring Rules.
- ☐ time/current curves tripping characteristics of various types of RCDs that comply with the requirements of the Wiring Rules.
- ☐ factors in a fault loop that will affect the impedance of the circuit.
- ☐ maximum impedance of an earth fault-loop to ensure operating of a protection device.
- ☐ selecting a fuse for fault current limiting protection.
- ☐ drawing switchboard wiring arrangements of 2-pole RCDs, 4-pole RCDs, combination RCD/MCBs.

T8 Protection against over voltage and under voltage encompassing:

- ☐ causes of over voltage and how this may affect the electrical system.
- ☐ methods for protection against over voltage.
- ☐ causes of under voltage and how this may affect the electrical system.
- ☐ methods for protection against under voltage.

T9 Control of an electrical installation and circuits encompassing:

- ☐ switch types, current and voltage ratings and IP rating and where these apply.
- ☐ switching requirements for isolation, emergency, mechanical maintenance and functional control.
- ☐ control arrangement for complete installations with and without safety services and an alternative supply.

T10 Switchboards / distribution boards encompassing:

- ☐ Purpose, types and applications.
- ☐ Physical and circuit arrangements for whole current and CT metering.
- ☐ Physical and circuit arrangements of main switches, circuit protection devices, fault-current limiters and metering equipment and other distributor equipment.
- ☐ compliance requirements (includes location and access, arc fault protection, identification, construction suitability, equipment marking, wiring, fire protection and arc-fault protection).

EE105	Electrical Installation Design
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This unit covers selecting wiring systems and cables for electrical installations operating at voltages up to 1,000V a.c. or 1,500 V d.c. It encompass knowledge and application of wiring systems and cable types, selecting wiring system compatible with the installation conditions, selecting cables that comply with required current-carrying capacity and voltage drop and earth fault-loop impedance limitations, coordination between protective devices and conductors and documenting selection decisions

KS01-EG107A Electrical installation — cable selection and co-ordination

Evidence shall show an understanding of selecting cables and ensuring co-ordination between protection device and conductors in electrical installations that comply with the Wiring Rules, Selection of cables standards and Service Rules to an extent indicated by the following aspects:

T1 Performance requirements - design and safety encompassing:

- ☐ harmful effects against which the design of an electrical installation must provide protection.
- ☐ performance standards of a correctly functioning electrical installation.
- ☐ supply characteristics that shall be considered when designing an electrical installation.
- ☐ acceptable methods for determining the maximum demand in consumer's mains and sub-mains.
- ☐ AS/NZS 3000 requirements limiting voltage drop in an installation.
- ☐ reason for dividing electrical installations into circuits and the factors that shall determine their number and type.
- ☐ typical external factors that may damage an electrical installation and that shall be considered in the installation design.
- ☐ methods for protecting persons and livestock against direct and indirect contact with conductive parts and the typical application of each.
- ☐ acceptable methods of protection against the risks of ignition of flammable materials and injury by burns from the thermal effects of current, in

normal service.

- ☐ likely sources of unwanted voltages and the methods for dealing with this potential hazard.
- ☐ acceptable methods for protecting persons and livestock against injury and property against damage from the effects of over current.
- ☐ requirement for protection against fault current.
- ☐ requirement for protection against the harmful effects of faults between live parts of circuits supplied at different voltages.
- ☐ need for protection against injury from mechanical movement and how this may be achieved.
- ☐ features of 'fire rated construction' and how the integrity of the fire rating can be maintained in relation to electrical installation.

T2 Final subcircuit arrangements encompassing:

- ☐ factors that shall be considered in determining the number and type of circuits required

for an installation.

- ☐ daily and seasonal demand for lighting, power, heating and other loads in a given installation.
- ☐ number and types of circuits required or a particular installation.
- ☐ current requirements for given final subcircuits.
- ☐ layout/schedule of circuits for given installations.

T3 Factors affecting the suitability of wiring systems encompassing:

- ☐ wiring systems typically used with various construction methods and particular environments.
- ☐ installation conditions that may affect the current-carrying capacity of cables.
- ☐ external influences that may affect the current-carrying capacity and/or may cause damage to the wiring system.
- ☐ AS/NZS 3000 requirements for selecting wiring systems for a range of circuits, installation conditions and construction methods into which the wiring system is to be installed. Note: Wiring systems include cable enclosures, underground wiring, aerial wiring, catenary support, emergency systems, busbar trunking and earth sheath return.

T4 Maximum demand on consumer's mains/submains encompassing:

- ☐ acceptable methods for determining the maximum demand on an installation's consumer's mains and submains.
- ☐ maximum demand for the consumer's mains for given installations up to 400 A per phase.
- ☐ maximum demand for given submains.

T5 Cable selection based on current carrying capacity requirements encompassing:

- ☐ installation conditions for a range of wiring systems and applications.
- ☐ external influences that require the use of a derating factor.
- ☐ AS/NZS 3000 requirements for coordination of cables and protection devices.
- ☐ AS/NZS 3008 used to select conductor size based on the maximum current requirement for a given installation condition including any applicable derating factors.

T6 Cable selection based on voltage drop requirements encompassing:

- ☐ AS/NZS 3000 requirements for maximum voltage drop in an installation.
- ☐ relevant tables in AS/NZS 3008 for unit values of voltage drop.
- ☐ calculation of the expected voltage drop in a given circuit.
- ☐ selecting cables to satisfy voltage drop requirements in addition to current carrying capacity requirements.

T7 Cable selection based on fault loop impedance requirements encompassing:

- ☐ AS/NZS 3000 requirements for maximum fault loop impedance in an installation.
- ☐ relevant tables in AS/NZS 3008 to determine cable impedances.
- ☐ calculation of the expected fault loop impedance for a given circuit arrangement.
- ☐ selecting cables to satisfy fault loop impedance requirements in addition to current

carrying capacity requirements and voltage drop requirements.

T8 Selecting protection devices encompassing:

- ☐ acceptable methods of protection against indirect contact.
- ☐ AS/NZS 3000 requirements for selecting methods and devices to protect against indirect contact for a range of installation types and conditions.
- ☐ coordination between conductors and protection devices to ensure the protection of cables from over heating due to over current.
- ☐ possible injuries to persons and livestock from hazards due to a short circuit.
- ☐ AS/NZS 3000 requirements for selecting devices to protect against overload current for a range of circuits and loads.
- ☐ AS/NZS 3000 requirements for selecting devices to protect against short-circuit current for a range of installation conditions.

T9 Selecting devices for isolation and switching encompassing:

- ☐ requirements for the provision of the isolation of every circuit in an electrical installation.
- ☐ need for protection against mechanical movement of electrically activated equipment.
- ☐ AS/NZS 3000 requirements for selecting devices for isolation and switching for a range of installations and conditions.

T10 Switchboards encompassing:

- ☐ AS/NZS 3000 and local supply authority requirements for switchboards.
- ☐ tariff structures for the supply of electricity.
- ☐ equipment installed at the main switchboards with capacities up to 400 A per phase.
- ☐ layout of a main switchboard for an installation supplied with single phase single tariff whole current metering.
- ☐ layout of a main switchboard for an installation supplied with single phase multiple tariff whole current metering.
- ☐ layout of a main switchboard for an installation supplied with multiphase single tariff whole current metering.
- ☐ layout of a main switchboard for an installation supplied with multiphase multiple tariff whole current metering.
- ☐ layout of a main switchboard for a multiple tenancy installation with whole current metering.
- ☐ layout of a main switchboard, including metering, for an installation supplied with three phase CT metering.
- ☐ local supply authority requirements for connection of an electrical installation to the electrical supply system

This unit covers the installation in building and premises of wiring enclosures, cable support systems, cables and accessories and designed to operate at voltages up to 1,000 V a.c. or 1,500 V d.c. It encompasses working safely and to installation standards, routing cables to specified locations, terminating cables and connecting wiring at accessories and completing the necessary installation documentation.

KS01-EG103A Installation of wiring systems

Evidence shall show an understanding of the installation of wiring systems that comply with standards to an extent indicated by the following aspects:

T1 Standards, codes and requirements applicable to the installation of wiring systems encompassing:

- ☐ Cables and methods of mechanical protection and support
- ☐ Protection against and from other services.
- ☐ Prohibited cable locations
- ☐ Building codes affecting the installation of cables in buildings, structures and premises (limitation on penetration of structural elements, maintenance of fire protection integrity, and wiring above suspected ceilings)
- ☐ Issues affecting electrical installations in heritage buildings and premises (limitation on penetration of structural and finished elements, accessing cable routes, types and colour of exposed accessories).

T2 Use of other installation standards called up by the Wiring Rules for special situations encompassing:

- ☐ standards that apply to Electromedical treatment areas.
- ☐ additional requirements for construction and demolition sites.
- ☐ Relocatable installations and their site supply
- ☐ additional requirements for caravan park.
- ☐ additional requirements for marinas and pleasure craft at low voltage.
- ☐ additional requirements for shows and carnivals.

T3 Hazardous areas encompassing:

- ☐ Conditions that apply in an areas that require them to be classified as a 'Hazardous area'.
- ☐ Responsibility for classifying a hazardous area
- ☐ Awareness of standards called up by the Wiring Rules for selection of equipment and installations in Hazardous areas. (AS/NZS 3000 requirements for hazardous areas).

T4 Requirement for the installation of cables and accessories in damp situations and ELV installations encompassing:

- ☐ restricted zones around baths, showers, fixed water containers, pools, sauna heaters and fountains/water features for given installations.
- ☐ selecting equipment suitable for installation in given damp situations.
- ☐ voltage range that defines extra-low voltage.
- ☐ 'Separated extra-low voltage (SELV) system' and a 'Protected extra-low voltage (PELV) system'.
- ☐ AS/NZS 3000 requirements for selecting extra-low voltage systems and devices for a range of installations and conditions.

T5 Aerial cabling encompassing:

- ☐ Describe the types of aerial cabling.
- ☐ State the AS/NZS 3000 and local supply authority requirements for aerial cabling.
- ☐ Termination of aerial cables in accordance with AS/NZS 3000 and local requirements.
- ☐ installation of consumers mains for connection via overhead consumers terminals in

ccordance with AS/NZS 3000 and local requirements.

- ☐ Testing of installed cables compliance with Australian Standards

T6 Underground cabling encompassing:

- ☐ Describe permissible underground cabling systems.
- ☐ Identify other underground services.
- ☐ State the AS/NZS 3000 and local supply authority requirements for underground cabling.
- ☐ List the advantages and disadvantages of underground wiring systems
- ☐ selection of underground consumers mains in accordance with AS/NZS 3000 and local requirements

T7 Techniques for installing cables and wiring systems encompassing:

- ☐ Typical cable routes through buildings, structures and premises.
- ☐ Application of wiring accessories
- ☐ Drawing-in, placing and fixing of cables
- ☐ Cable and conductor terminations
- ☐ Maintaining fire rating integrity.
- ☐ Inspecting and testing installed and terminated cables to ensure they comply with continuity and insulation resistance and are safe to connect to the supply.

EE107	Electrical Equipments
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This unit covers the installation of appliances protection devices, switchgear, controlgear, switchboards, and accessories designed to operate at voltages up to 1,000 V a.c. or 1,500 V d.c. It encompasses working safely and to installation standards, matching appliances and accessories with that specified, making required circuit connections and completing the necessary installation documentation.

vidence shall show an understanding of the installation of appliances (current-using equipment) and accessories to an extent indicated by the following aspects:

T1 Installation standards, codes and requirements applicable to installing electrical equipment encompassing.

- ☐ Protection against thermal effects
- ☐ Connection of electrical equipment (appliances, switchgear and accessories include switchgear and controlgear, switchboards, socket-outlets,

lighting equipment and accessories, lamps and luminaires, smoke and fire detectors, cooking appliances, appliances producing hot water or steam, room heaters, electric heating cables for floors and ceilings, space heating, duct heaters, electricity converters, motors, transformers, capacitors, and batteries).

- Required and permitted locations current-using equipment and accessories
- Control, switching and over current and RCD protection

T2 Terminal configuration for connection of phase, neutral and protective earthing conductors for each type of equipment.

T3 Building codes affecting the installation of current-using equipment and accessories in buildings, structures and premises encompassing:

- maintenance of fire protection integrity, requirements for emergency services (safety services) and the like.

T4 Issues affecting electrical installations in heritage buildings and premises encompassing:

- limitation on types and colour of exposed accessories.

EE108	Electrical Fault Finding
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This unit covers trouble-shooting and repairing faults in electrical apparatus and interconnecting circuits and equipment operating at voltages up to 1,000 V a.c. or 1,500 V d.c. It encompasses working safely, reading circuit diagrams, sketching diagrams from traced wiring, logically applying fault finding procedures, conducting repairs and completing the necessary service documentation.

KS01-EG108A Electrical circuit and equipment faults and fault finding techniques

Evidence shall show an understanding of electrical circuit and equipment faults and fault finding techniques to an extent indicated by the following aspects:

T1 Troubleshooting concepts encompassing:

- need to understand the correct operation of a circuit or equipment, switching and control circuit arrangements.
- common faults with circuits and equipment including operator faults, incorrect connections, open-circuits, short-circuits, device faults (mechanical), supply faults.
- typical faults symptoms and their causes: operation of circuit protective device, appliance does not operate, single phase motor does not develop enough torque to drive the load, three phase motor does not develop enough torque to drive the load, motor overload trips
- factors to consider in clarifying the nature of a fault: initial fault report, confirmation of

symptoms of the fault, comparison of symptoms with normal operation

- effect to cause reasoning — assumptions of possible causes
- methods for testing assumptions: visual inspection, component isolation, test equipment, sectional testing, split-half tests
- repairing the fault and the steps needed to ensure fault doesn't re-occur
- dealing with intermittent faults (typical causes of intermittent faults are vibration, shock, changes in temperature and electromagnetic interference).
- final testing and re commissioning

T2 Troubleshooting water heater and appliance circuits/equipment encompassing:

- circuit diagrams of common single phase and three phase hot water systems
- single phase and three phase element resistance values (determined from measurement and calculation from power and voltage ratings)
- testing single and three phase elements for correct insulation resistance and continuity
- element replacement techniques
- operation of thermostats, thermal cut-outs and pressure relief valves, flow switches and checking sacrificial anodes
- locating faults in common single and three phase hot water systems
- repairing faulty water heating systems

T3 Troubleshooting electrical appliance circuits/equipment encompassing:

- circuit diagrams of common single phase and three phase appliances
- methods to determine the cause of an RCD operation
- identification of appliances that is causing an RCD to trip
- testing single and three phase appliances for correct insulation resistance and continuity
- operation of appliances controls
- locating faults in common single and three phase appliances
- repairing faulty appliances

T4 Troubleshooting lighting circuits encompassing:

- circuit and wiring diagrams of common lighting circuits including single light controlled by a single switch, multiple lights controlled by a single switch, two and three way switching using the loop at the light method and the loop at the switch method.
- causes of wiring faults from supplied symptoms and circuit and/or wiring diagrams
- causes of faults in ELV lighting devices, include transformer (iron core or electronic), voltage drop, heat, over-voltage, poor connections, incompatible dimmers
- diagrams of a basic fluorescent light circuit including lamp, ballast and starter
- locating faults in fluorescent light circuits
- operation of a range of lighting control including passive infra-red (PIR), dimmers, photo electric or day-light switches and time clocks
- locating faults in lighting control circuits

T5 Troubleshooting single phase motor and control circuits encompassing:

circuit diagrams of split phase, capacitor start, capacitor start capacitor run, universal and shaded pole single phase motors

- causes of single phase motor faults from supplied symptoms and circuit diagrams
- causes of electrical faults in single phase motors, include open and partially open circuit winding, short and partially short circuit winding, open circuit rotor, burnt out winding, coil shorted to frame.
- reasons for a thermal overload trip and how often they are to be reset before investigating a cause
- internal mechanical faults and their consequences, include bearings, fans, bent shaft, locked rotor, blocked air vents, centrifugal switches,

environmental factors

- ❑ faults on driven loads and couplings and their consequences, include slipping belts, poorly aligned coupling (shims), vibration, loads bearing failing, load stalling.
- ❑ locating faults in single phase motors and their controls

T6 Troubleshooting three phase induction motor encompassing:

- ❑ circuit diagrams of three phase induction motors
- ❑ causes of three phase motor faults from supplied symptoms and circuit diagrams
- ❑ causes of electrical faults in three phase motors, include open and partially open circuit phase winding, short and partially short circuit phase winding, open circuit rotor, burnt out phase winding, coil shorted to frame.
- ❑ reasons for a thermal overload trip and how often they are to be reset before investigating a cause
- ❑ internal mechanical faults and their consequences, include bearings, fans, bent shaft, locked rotor, blocked air vents, environmental factors.
- ❑ faults on driven loads and couplings and their consequences, include slipping belts, poorly aligned coupling (shims), vibration, loads bearing failing, load stalling.
- ❑ locating faults in three phase induction motors and their controls

T7 Troubleshooting electrical installations encompassing:

- ❑ circuit diagrams, wiring diagrams, cable schedules and specifications of electrical installations
- ❑ causes of electrical installation faults from supplied symptoms and circuit diagrams include open and partially open circuit wiring, short and partially short circuit wiring, low insulation resistance, incorrect polarity, transposition of conductors, RCD tripping.
- ❑ locating faults in electrical installations
- ❑ repairing faulty electrical installation circuits components and wiring.

EE109	Electrical Control Circuits
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This unit covers developing, connecting and functionally testing electrical power and control circuits that perform specific control functions. It encompasses working safely; developing schematic/ladder diagrams and converting them to wiring diagrams; selecting and connecting contactors and control devices to perform a specific function.

KS01-EG109A Electrical control devices and circuits

Evidence shall show an understanding of electrical control devices and circuits to an extent indicated by the following aspects:

T1 Basic relay circuits encompassing:

- ❑ Identification of given circuit diagrams (schematic) symbols and explain the operation of the components represented
- ❑ labelling wires and terminal (numbering systems)
- ❑ control relay - operating principles, basic contact configurations and identification and common applications
- ❑ push button - switching configurations and common applications
- ❑ selecting pushbuttons/pilot lamps from manufacturer's catalogues for specific applications
- ❑ development of simple stop-start relay circuit that incorporates pilot lights and latching circuit.
- ❑ connection and testing of control circuits

T2 Relay circuits and drawing conventions encompassing:

- ❑ circuit diagram drawing conventions
- ❑ selecting relays from manufacturers' catalogue for specified applications
- ❑ circuit development of electrical control circuit in accordance with a written description (specification) and list the sequence of operation of the circuit
- ❑ connecting simple electrical control circuit from circuit diagrams
- ❑ applying safe working practices when testing an electrical control circuit

T3 Remote STOP-START control and electrical interlocking encompassing:

- ❑ operation of local and remote start-stop control of relays
- ❑ operation of an electrically interlocked relay circuit
- ❑ development of a relay circuit incorporating local and remote start and stop buttons and electrical interlocking.
- ❑ connecting electrical circuits with local and remote start-stop control and with electrical interlocking.
- ❑ applying circuit checking and testing techniques to an electrical control circuit.

T4 Time delay relays encompassing:

- ❑ timers - operating principles, basic contact configurations and identification and common applications
- ❑ selecting timers for specified functions from manufactures' catalogues
- ❑ development of timer controlled circuits from a written description and list the sequence of circuit operation
- ❑ connecting a timer controlled circuit using a circuit diagram as a guide.
- ❑ timer circuit checking and testing procedures.

T5 Circuits using contactors encompassing:

- ❑ contactors - operating principles, basic contact configurations and identification and common applications
- ❑ thermal overloads - operating principles, basic contact configurations and identification and common applications
- ❑ circuit diagram symbols
- ❑ circuit development using a contactor
- ❑ using contactors for motor control.
- ❑ compliance requirements for devices for isolating circuits.

T6 Jogging and interlocking encompassing:

- ❑ purpose and application of jogging control of motors
- ❑ operation of motor control using start, stop and jog buttons
- ❑ purpose and application of electrical/mechanical interlocking
- ❑ developing a multiple motor starting circuit from a description of the circuit operation including jog and interlock functions.
- ❑ selecting circuit components using manufacturers' catalogues for appropriate duty

ratings

- connecting and testing a multiple motor starting circuit which incorporates start, stop and jog control.

T7 Control devices encompassing:

- common control devices used in automatic control circuits: limit switches, proximity switches, photoelectric cells, pressure switches, float switches, light sensors and temperature sensors
- basic operating principles of common control devices
- advantages and disadvantages of common control devices
- applications for common control devices
- selecting control devices using manufacturers' catalogues for specified applications
- connection of control devices into control circuits

T8 Programmable relays encompassing:

- programmable relays - advantages over electromagnetic relay circuit control.
- typical applications of programmable relays.
- block diagram representation and basic operating principles
- input and output parameters, listing, connections and output types.
- connecting input and output devices to a programmable relay using a diagram
- basic programming of ladder circuits consisting of inputs, outputs i.e. stop-start circuit
- using the monitoring facility of the programmable relay to verify each ladder circuit operation.
- programming timers and using the monitoring facility of the programmable relay to check the values of the timer
- external devices
- implications of programming normally closed field devices
- conversion of control circuits
- installation of programmable control relays
- common faults and their symptoms

T9 Three-phase induction motor starters encompassing:

- reasons for limiting the starting current of large motors.
- requirements of the wiring rules (AS/NZS 3000) and the local supply authority service rules, with regard to starting and control of induction motors.
- DOL starter operating principles, applications and circuits
- electronic (soft) starter operating principles, applications and circuits
- connecting a DOL motor starter and testing the operation of the power and control circuits
- installation of DOL and soft starters

T10 Three-phase induction motor starters- reduced voltage encompassing:

- star-delta starter operating principles and circuits

primary resistance starter operating principles and circuits

· auto-transformer starter operating principles and circuits

- secondary resistance starter operating principles and circuits
- common applications for each starter type
- comparison of motor starters basic characteristics
- selecting the most suitable motor starter for a given situation
- connecting motor starter power and control circuits for correct operation
- measuring starting current and torque of selected motor starters
- installation of reduced voltage starters

T11 Three-phase induction motor reversal and braking encompassing:

- reversing operating principles and control circuits
- plug braking operating principles and circuits
- dynamic braking operating principles and circuits
- regenerative braking operating principles and circuits
- eddy current brakes operating principles and circuits
- mechanical brakes operating principles and circuits
- comparison of the difference braking methods used.
- typical applications for each braking method.
- connecting a circuit with a braking feature to operate a three-phase motor.
- installation of motor braking control circuits

T12 Three-phase induction motor speed control encompassing:

- pole changing operating principles and circuits
- variable frequency drives operating principles and circuits
- slip-ring motors operating principles and circuits
- installation of motor speed controllers.

EE110	Computer Applications
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This unit covers the basic use of personal computers application relevant to a work function. It encompasses switching the computer on, applying user preferences, selecting basic applications, entering and retrieving information and printing files.

KS01-ED101A Basic Computer Applications

Evidence shall show an understanding of computer use basics to an extent indicated by the following aspects:

T1 Starting up

T2 Selecting application

T3 Entering information

T4 Saving

T5 Printing

EE111	Electromagnetism & Basic Electrical Machines
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This unit covers determining correct operation of electromagnetic devices and related circuits and providing solutions as they apply to electrical installations and equipment. It encompasses working safely, power circuit problems solving processes, including the use of voltage, current and resistance measuring devices, providing solutions derived from measurements and calculations to predictable problems in electromagnetic devices and related circuits

KS01-EG101A Electromagnetic devices and circuits

Evidence shall show an understanding of electromagnetic devices and circuits to an extent indicated by the following aspects:

T1 Magnetism encompassing:

- ☐ magnetic field pattern of bar and horse-shoe magnets.
- ☐ magnets attraction and repulsion when brought in contact with each other.
- ☐ common magnetic and non-magnetic materials and groupings (diamagnetic, paramagnetic and ferromagnetic materials).
- ☐ principle of magnetic screening (shielding) and its applications.
- ☐ practical applications of magnets
- ☐ construction, operation and applications of reed switches.

T2 Electromagnetism encompassing:

- ☐ conventions representing direction of current flow in a conductor.
- ☐ magnetic field pattern around a single conductor and two adjacent conductors

carrying current.

- ☐ Using the “right hand rule” to determine the direction of magnetic field around a current carrying conductor.
- ☐ direction of force between adjacent current carrying conductors.
- ☐ effect of current, length and distance apart on the force between conductors (including forces on bus bars during fault conditions).
- ☐ magnetic field around an electromagnet.
- ☐ Using the “right hand rule” to determine the direction of magnetic field around a current carrying coil.
- ☐ magnetomotive force (m.m.f.) and its relationship to the number of turns in a coil and the current flowing in the coil.
- ☐ practical applications of electromagnets.

T3 Magnetic circuits encompassing:

- ☐ magnetic characteristic curve for various materials and identify the various regions.
- ☐ Identify the various conditions of a magnetic material from its Hysteresis loop.
- ☐ factors which determine losses in magnetic material.
- ☐ methods used to reduce electrical losses in a magnetic circuit.
- ☐ magnetic flux (definition, unit and symbol).
- ☐ reluctance as the opposition to the establishment of magnetic flux.
- ☐ permeability (definition, symbol and unit).
- ☐ difference for magnetic and non-magnetic materials in regards to reluctance and permeability.
- ☐ calculation of m.m.f., flux or reluctance given any two values.
- ☐ flux density (definition, symbol, unit and calculation).
- ☐ magnetising force (definition, symbol, unit and calculation).
- ☐ common magnetic circuit types.
- ☐ effect of an air gap in a magnetic circuit.
- ☐ terms “magnetic leakage” and “magnetic fringing”.

T4 Electromagnetic induction encompassing:

- ☐ principle of electromagnetic induction (Faraday’s law of electromagnetic induction).
- ☐ applying “Fleming’s right hand rule” to a current a carrying conductor under the influence of a magnetic field.
- ☐ calculation of induced e.m.f. in a conductor given the conductor length, flux density and velocity of the conductor.
- ☐ calculation of induced e.m.f. in a coil given the number of turns in a coil and the rate of change of flux.
- ☐ calculation of force on a conductor given the flux density of the magnetic field, length of the conductor and the current being carried by the conductor.

- ☐ Lenz’s law
- ☐ applications of electromagnetic induction

T5 Inductance encompassing:

- ☐ construction of an inductor, including a bifilar winding inductor.
- ☐ Australian Standard circuit diagram symbol for the four types of inductor.
- ☐ effect of physical parameters on the inductance of an inductor.
- ☐ common types of inductor cores.
- ☐ applications of the different types of inductors.
- ☐ definition of terms self induction, inductance and mutual inductance.
- ☐ calculation of value of self induced e.m.f. in a coil.
- ☐ mutual induction occurs between two coils.
- ☐ graphical relationship between load voltage, current and self induced e.m.f. in a single d.c. circuit having inductance.
- ☐ practical applications for the effects of self and mutual induction.
- ☐ undesirable effects of self and mutual induction.
- ☐ definition of term “time constant” and draw the characteristic curve as applied to a series circuit containing an inductor and a resistor. (LR circuit) Calculation of value of the time constant for an LR circuit given the values of the components.
- ☐ time constants required for the current in an LR circuit to reach its final value.
- ☐ determining of instantaneous values of voltage and current in an LR circuit using a universal time constant chart.

T6 Measurement Instruments encompassing:

- ☐ moving coil, moving iron, dynamometer meter movements and clamp testers.
- ☐ practical applications for moving coil, moving iron and dynamometer meter movements.
- ☐ Calculation of resistance of shunts and multipliers to extend the range of ammeters and voltmeters.
- ☐ factors to be considered in selecting meters for a particular application.
- ☐ safety category of meters and their associated applications.
- ☐ steps and procedures for the safe use, care and storage of electrical instruments.

T7 Magnetic devices encompassing:

- ☐ construction, operation and applications of relays.
- ☐ construction, operation and applications of contactors.
- ☐ magnetic methods used to extinguish the arc between opening contacts.
- ☐ construction, operation and applications of Hall Effect devices.
- ☐ operation and applications of magnetostriction equipment.
- ☐ construction, operation and application of magnetic sensing devices.

T8 Machine principles encompassing:

- ☐ basic operating principle of a generator.
- ☐ applying Fleming's right hand rule for generators.
- ☐ basic operating principle of a motor.

applying Fleming's left hand rule for motors.

- calculation of force and torque developed by a motor.

T9 Rotating machine construction, testing and maintenance encompassing:

- ☐ components of a d.c. machine.
- ☐ difference between a generator and a motor in terms of energy conversion.
- ☐ nameplate of a machine.
- ☐ using electrical equipment to make electrical measurements and comparison of readings with nameplate ratings.
- ☐ Identification of faults in a machine from electrical measurements.
- ☐ care and maintenance processes for rotating machines
- ☐ safety risks associated with using rotating machinery.

T10 Generators encompassing:

- ☐ basic operation of a d.c. generator.
- ☐ calculation of generated and terminal voltage of a d.c. shunt generator
- ☐ prime movers, energy sources and energy flow used to generate electricity.
- ☐ types of d.c. generators and their applications.
- ☐ methods of excitation used for d.c. generators.
- ☐ equivalent circuit for a d.c. generator.
- ☐ importance of residual magnetism for a self excited generator.
- ☐ open circuit characteristics of d.c. generators.
- ☐ load characteristics of a d.c. generator.
- ☐ reversing the polarity of a d.c. generator
- ☐ Connect and test a d.c. generator on no-load and load
- ☐ Identify safety risks associated with using generators.

T11 Motors encompassing:

- ☐ operation of a motor and its energy flow.
- ☐ effect of back e.m.f. in d.c. motors
- ☐ torque as the product of the force on the conductors and the radius of the armature/rotor.
- ☐ types of d.c. motors and their applications.
- ☐ circuit diagrams for the types of d.c. motors.
- ☐ equivalent circuit for the types of d.c. motors.
- ☐ calculation of power output of a motor.
- ☐ characteristics of the different types of d.c. motors.
- ☐ connection and testing a d.c. shunt motor on no-load and load
- ☐ reversing the direction of rotation of a d.c. motor.
- ☐ safety risks associated with using motors (include risks of series d.c. motors).

T12 Machine efficiency encompassing:

- ☐ losses that occur in a d.c. machine.

methods used to determine the losses in a d.c. machine.

- calculation of losses and efficiency of a d.c. machine.
- ☐ efficiency characteristic of a d.c. machine and the conditions for maximum efficiency.
- ☐ application of Minimum Energy Performance standards (MEPS).
- ☐ methods used to maintain high efficiency.

EE112	Alternating Current Principle
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This unit covers ascertaining correct operation of single and three phase a.c. circuits and solving circuit problems as they apply to servicing, fault finding, installation and compliance work functions. It encompasses safe working practices, multiphase circuit arrangements, issues related to protection, power factor and MEN systems and solutions to circuit problems derived from calculated and measured parameters.

KS01-EG102A Alternating current power circuits

Evidence shall show an understanding of alternating currents power circuits to an extent indicated by the following aspects:

T1 Alternating Current Quantities encompassing:

- ☐ sine, cosine and tangent ratios of a right angle triangle
- ☐ Pythagoras Theorem to a right angle triangle.
- ☐ use of the CRO to measure d.c. and a.c. voltage levels
- ☐ sinusoidal voltage generated by a single turn coil rotated in a uniform magnetic fields

terms 'period', 'maximum value', 'peak-to-peak value', 'instantaneous value', 'average value', 'root-mean-square (r.m.s.) value', in relation to a sinusoidal waveform.

- ☐ calculation of the instantaneous value of induced voltage of a generated sinusoidal waveform.

- ☐ measurement of instantaneous, peak, peak-to-peak values and the period of a sinusoidal waveform.
- ☐ calculation of root-mean-square (r.m.s.) value and frequency of a sinusoidal waveform from values of peak voltage and period.

T2 Phasors Diagrams encompassing:

- ☐ purpose of phasor diagrams
- ☐ 'in-phase', 'out-of-phase', 'phase angle' lead and 'lag'.
- ☐ phase angle between two or more alternating quantities from a given sinusoidal waveform diagram.
- ☐ convention for representing voltage, current and the reference quantity in a phasor diagram.
- ☐ drawing phasor diagrams to show the relationship between two or more a.c. values of voltage and/or current.
- ☐ determination of phase relationship between two or more sinusoidal waveforms from a given diagram and measurements.

T3 Single Element a.c. circuits encompassing:

- ☐ setting up and connect a single-source resistive a.c. circuit and take voltage and current measurements to determine the resistance
- ☐ determining the voltage, current resistances from measure of given values of any two of these quantities.
- ☐ relationship between voltage drops and current in resistive a.c. circuit
- ☐ applications of resistive a.c. circuits
- ☐ defining 'inductive reactance'.
- ☐ calculation of inductive reactance for a given inductor and the relationship between inductive reactance and frequency.
- ☐ applying Ohm's Law to determine voltage, current of inductive reactance in a purely inductive a.c. circuit given any two to these quantities.
- ☐ applications of inductive a.c. circuits.
- ☐ calculation of capacitive reactance
- ☐ applying Ohm's Law to determine voltage, current or capacitive reactance in a purely capacitive a.c. circuit given any two of the quantities.
- ☐ applications of capacitive a.c. circuits

T4 RC and RL Series a.c. circuits encompassing:

- ☐ impedance and impedance triangle.
- ☐ determining the impedance, current and voltages for a series RC circuit given the resistance, capacitance and supply voltage.
- ☐ drawing and labelling the impedance triangle for a series RC circuit

drawing phasor diagrams for a series RC circuit

- ☐ AS/NZS 3000 requirements for the installation of capacitors.
- ☐ examples of capacitive components in power circuits and systems and the effect on the phase relationship between voltage and current.
- ☐ determining the impedance, current and voltages for a series RL circuit given the resistance, inductance and supply voltage.
- ☐ drawing and labelling the impedance triangle for a series RL circuit
- ☐ drawing the equivalent circuit of a practical inductor
- ☐ Draw phasor diagrams for a series RL circuit.
- ☐ examples of inductive components in power circuits and systems and describe their effect on the phase relationship between voltage and current

T5 RLC Series a.c. circuits encompassing:

- ☐ measuring component voltages in a series RLC circuit and using a phasor diagram to determine the supply voltage and phase angle between circuit voltage and circuit current.
- ☐ determining the impedance, current and voltages for a series RLC circuit given resistance, inductance, capacitance and supply voltage.
- ☐ drawing and labelling the impedance triangle for a series RLC circuit.
- ☐ calculation of total impedance for a series RLC circuit.
- ☐ calculation of voltage drop for cables using the values for reactance and a.c. resistance from AS/NZS 3008.
- ☐ comparison of current limiting characteristics of inductors and resistors.
- ☐ practical examples of RLC series circuits

T6 Parallel a.c. Circuits encompassing:

- ☐ determining the branch currents of a parallel circuit that contain RL, RC or LC in two branches.
- ☐ using a phasor diagram to determine the total circuit current and phase angle in parallel RL, RC or LC circuits.
- ☐ determining the total circuit impedance of parallel RL, RC or LC circuits.
- ☐ measuring the branch currents in a parallel RLC circuit and use a phasor diagram to determine the total current and phase angle between circuit voltage and circuit current.
- ☐ determining the branch impedances, branch currents and phase angles voltages for a parallel RLC circuit given resistance, inductance, capacitance and supply voltage.
- ☐ calculation of impedance for a parallel RLC circuit.
- ☐ practical examples of parallel circuits.

T7 Power in an a.c. circuit encompassing:

- ☐ difference between true power, apparent power and reactive power and the units in which these quantities are measured.
- ☐ drawing the power triangle to show the relationships between true power, apparent power and reactive power
- ☐ defining the term "power factor" and phase angle.

methods used to measure single phase power, energy and demand.

T8 Power Factor Improvement encompassing:

- ☐ effects of low power factor.
- ☐ requirements for power factor improvement.
- ☐ methods used to improve low power factor of an installation.
- ☐ local supply authority and AS/NZS 3000 wiring rules requirements regarding the power factor of an installation and power factor improvement equipment.
- ☐ methods used to measure single phase power factor.
- ☐ using manufacturers catalogues to select power factor equipment for a particular installation

T9 Harmonics and Resonance Effect in a.c. Systems encompassing:

- ☐ term "harmonic" in relation to the sinusoidal waveform of an a.c. power system.
- ☐ sources in a.c. systems that produce harmonics.

- ☐ problems that may arise in a.c. circuits as a result of harmonics and how these are overcome.
- ☐ methods and test equipment used to test for harmonics
- ☐ methods used to reduce harmonics in a.c. power system
- ☐ conditions in a series a.c. circuit that produce resonance.
- ☐ dangers of series resonance circuits
- ☐ conditions in a parallel a.c. circuit that produce resonance.
- ☐ dangers of parallel resonance circuits
- ☐ AS/NZS3000 and the local supply authority requirements concerning harmonics and resonance effect in a.c. power systems.

T10 Three Phase Systems encompassing:

- ☐ features of a multiphase system.
- ☐ comparison of voltages generated by single and multiphase alternators.
- ☐ reasons for the adoption of three phases for power systems.
- ☐ how three phases is generated in a single alternator.
- ☐ Calculation of r.m.s. value of voltage generated in each phase given the maximum value.
- ☐ relationship between the phase voltages generated in a three phase alternator and the conventions for identifying each.
- ☐ term "phase sequence" (also, referred to as "phase rotation").
- ☐ determining the phase sequence of a three phase supply

T11 Three phase star-connections encompassing:

- ☐ connecting a three phase star-connection load.
- ☐ phase relationship between line and phase voltages and line and phase currents of a star-connected system.
- ☐ determining the r.m.s. value of line and phase voltage given any one of these quantities.

determining the r.m.s. value of line and phase current given any one of these quantities.

- ☐ terms "balanced load" and "unbalanced load".
- ☐ effect of a reversed phase winding of a star connected alternator.
- ☐ example of balanced and unbalanced loads in typical power systems.

T12 Three phase four wire systems encompassing:

- ☐ purpose of the neutral conductor in a three phase four wire systems.
- ☐ determining the effects of an high impedance in the neutral conductor of a three phase four wire system supplying an unbalanced load where MEN earthing is employed.
- ☐ determining the value and phase relationship of neutral current in an unbalanced three phase four wire systems given line currents and power factors.
- ☐ AS/NZS 3000 requirements regarding neutral conductors.
- ☐ AS/NZS 3008.1.1 method for determining voltage drop in unbalanced three phase circuits

T13 Three phase delta-connections and Interconnected systems encompassing:

- ☐ connecting three phase delta loads.
- ☐ phase relationship between line and phase voltages and line and phase currents of a delta-connected system.
- ☐ determining the r.m.s. value of line and phase voltage given any one of these quantities.
- ☐ determining the r.m.s. value of line and phase current given any one of these quantities.
- ☐ limitations and uses of open delta connections
- ☐ effect of a reversed phase winding of a delta connected transformer
- ☐ example of loads in typical power systems.
- ☐ drawing the typical combinations of three phase interconnected systems using star-connections and a delta-connection.
- ☐ relationship between line and phase voltages and line and phase currents in the typical interconnected systems using star-connections and delta-connections.

T14 Energy and power requirements of a.c. systems encompassing:

- ☐ purposes for measuring power, energy, power factor and maximum demand of a.c. power systems and loads.
- ☐ difference between true power, apparent power and reactive power and the units in which these quantities are measured in a three phase system.
- ☐ drawing the power triangle to show the relationships between true power, apparent power and reactive power in a three phase system.
- ☐ methods used to measure three phase power, energy, power factor and demand.
- ☐ determining how the power factor of a three phase installation can be improved.
- ☐ using manufacturers catalogues to select measurement equipment for a particular installation

T15 Fault Loop Impedance encompassing:

- ☐ term fault loop impedance of a a.c. power system
- ☐ determining fault loop impedance using resistance and reactance values from AS/NZS

3008.1.1

- ☐ measuring fault loop impedance of typical circuits
- ☐ procedures for testing fault loop impedance

EE113	Electrical Fundamental
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This unit covers the application of calculations required to solve electrotechnical engineering problems. It encompasses working safely, applying problem solving techniques, using a range of mathematical processes and techniques to providing solutions to electrotechnical problems, and justifying such solutions.

Note.

Typical electrotechnical problems are those encountered in meeting requirements in meeting performance requirements and compliance standards, revising systems operating parameters and dealing with system malfunctions

This unit covers ascertaining correct operation of single and three phase machines and solving machine problems as they apply to servicing, fault finding, installation and compliance work functions. It encompasses safe working practices, machine connections circuit arrangements, issues related to machine operation, characteristics and protection and solutions to machine problems derived from calculated and measured parameters.

Evidence shall show an understanding of electrotechnical principles to an extent indicated by the following aspects:

T1 Resistance encompassing:

- ☐ relationship between voltage, current and resistance and the power dissipated in a circuit
- ☐ value of voltage, current and resistance in a circuit given any two of these quantities
- ☐ the factors of length, cross-sectional area and material effect the resistance of conductors
- ☐ effects of temperature change on the resistance of various conducting materials
- ☐ features of fixed and variable resistor types and typical applications
- ☐ characteristics of temperature, voltage and light dependent resistors and typical applications of each

T2 Series circuits encompassing:

- ☐ measurement of resistance, voltage and current values in a single source series circuit
- ☐ the voltage, current, resistances or power dissipated from measured or given values of any two of these quantities
- ☐ relationship between the voltage drops around a circuit and the applied voltage

T3 Parallel circuits encompassing:

- ☐ measurement of resistance, voltage and current values in a single-source parallel circuit
- ☐ the voltage, current, resistance or power dissipated from measured or given values of any of these quantities
- ☐ relationship between currents entering a junction and currents leaving a junction

T4 Series/parallel circuits encompassing:

- ☐ measurement of resistance, voltage and current values in a single-source series / parallel circuit
- ☐ the voltage, current, resistances or power dissipated from measured or given values of any two of these quantities

T5 Measurement of electrical quantities encompassing:

- ☐ operating characteristics of analogue and digital meters
- ☐ selecting an appropriate meter in terms of units to be measured, range, loading effect and accuracy for a given application

T6 Capacitance/Capacitors encompassing:

- ☐ definition of capacitance and explain how a capacitor is charged
- ☐ the units by which capacitance is measured
- ☐ relationship between capacitance, voltage and charge
- ☐ behaviour of a series d.c. circuit containing resistance and capacitance components
- ☐ factors which determine the capacitance of a capacitor and explain how these factors are present in all circuits to some extent

T7 Magnetism and electromagnetism encompassing:

- ☐ field patterns around given permanent magnets
- ☐ magnetic field patterns around a straight current carrying conductor and a solenoid
- ☐ direction in which the magnetic field around a straight current carrying conductor

T8 Electromagnetic induction encompassing:

- ☐ factors required to induce an emf in a conductor

T9 Sinusoidal alternating voltage and current encompassing:

- ☐ how a sinusoidal voltage is generated in a single turn coil rotated in a uniform magnetic field
- ☐ definition of the terms 'period', 'maximum value', 'peak-to-peak value', 'instantaneous value', 'average value' and 'root-mean-square (r.m.s.) value' in relation to a sinusoidal waveform
- ☐ instantaneous value of induced voltage of a generated sinusoidal waveform
- ☐ root-mean-square (r.m.s.) value and frequency of a sinusoidal waveform from values of peak voltage and period

T10 Test equipment encompassing:

- ☐ operating principles of a CRO including block diagram of functional areas
- ☐ set up, calibration and use of an oscilloscope to measure d.c and a.c. voltages and frequency
- ☐ measurement of the instantaneous, peak, peak-to-peak values and the period of sinusoidal and other common waveforms provided by a signal generator
- ☐ calibration and limitation of CRO probes
- ☐ use of signal generator as a voltage source

T11 Phase relationships in a.c. circuits encompassing:

- ☐ phasor representation of graphical waveforms
- ☐ 'in-phase', 'out-of-phase', 'phase angle', 'lead', and 'lag'
- ☐ convention for representing voltage, current and the reference quantity in a phasor diagram
- ☐ phasor diagrams to show the relationship between two or more a.c. values of voltage and/or current

T12 Single-source resistive a.c. circuits of various frequencies encompassing:

single-source a.c. circuit and taking resistance, voltage and current measurements

- ☐ voltage, current, resistances or power dissipated from measured or given values of any two of these quantities

T13 Inductance in a.c. circuits encompassing:

- ☐ concept of inductance, self-inductance and mutual inductance. (in terms of storage of magnetic energy)
- ☐ factors affecting inductance and how the unit of inductance is derived
- ☐ value of induced voltage in a given circuit
- ☐ how a series d.c. circuit containing resistance and inductance behaves
- ☐ 'inductive reactance'
- ☐ inductive reactance of a given inductor and show the relationship between inductive reactance and frequency
- ☐ applying Ohm's law to determine voltage, current or inductive reactance in a purely inductive a.c. circuit given any two of these quantities
- ☐ examples of inductive components in circuits and systems and describe their effect on the phase relationship between voltage and current

T14 Capacitance in a.c. circuits encompassing:

- capacitive reactance of a given capacitor and the relationship between capacitive reactance and frequency
- applying Ohm's law to determine voltage, current or capacitive reactance in a purely capacitive a.c. circuit given any two of these quantities
- examples of capacitive components in electronic circuits and systems and describe their effect on the phase relationship between voltage and current

T15 Impedance in a.c. circuits encompassing:

- definition of 'impedance'
- impedance of series, parallel and series-parallel circuits and draw diagrams showing the relationship between resistive, inductive and capacitive components
- single-source a.c. circuit with resistance, voltage and current measurements
- determination of the voltage, current or impedance from measured or given values of any two of these quantities
- using phasor diagrams to solve problems and show the relationship between voltages and currents in a.c. circuits

EE114	Electrical Power Principle
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KS01-EG006A Single and three-phase transformers

Evidence shall show an understanding of single and three phase transformers to an extent indicated by the following aspects:

T1 Transformer construction encompassing:

- types of lamination style and core construction used in single-phase, three phase, double wound, auto transformers and instrument transformers.
- identification of different winding styles/types used in transformers.
- methods used to insulate low and high voltage transformers.
- construction of transformer tanks for distribution transformers.
- transformer auxiliary equipment. (Bushings, surge-diverters, tap-changers, hot oil & winding indicators, breather, Buchholz relay and conservator).
- function of transformer auxiliary equipment.
- types of information stated on transformer nameplates.
- application of transformers.
- performing basic insulation resistance, continuity and winding identification tests.

T2 Transformer operation encompassing:

- principles of mutual induction of a transformer.
- factors that determine the induced voltage in a transformer winding.
- determining the value of a transformers secondary voltage and current given one winding's electrical details and turns ratio.
- identification of voltage and current components of a phasor diagram for a transformer on no-load.
- principles of power transferred from the primary to secondary when a load is connected using a phasor diagram neglecting impedance drops.
- selecting transformers for specific application/s.
- safety features specified in AS/NZS3000 with respect to transformers and isolating transformers.

T3 Transformer losses, efficiency and cooling encompassing:

- power losses which occur in a transformer.
- tests which allow the power losses of a transformer to be determine.
- determination of transformer losses and efficiency using test results.

relationship between transformer cooling and rating.

- methods used for natural and forced cooling of transformers.
- properties of transformer oil.
- tests conducted on transformer oil.

T4 Transformer voltage regulation and percent impedance encompassing:

- voltage regulation as applicable to a transformer.
- reasons for voltage variation in the output of a transformer.
- determine the voltage regulation of a transformer from voltage and percentage impedance values.
- percentage impedance as applied to transformers.
- determine the percent impedance by using test results.
- determine percent impedance of a transformer by calculation.

T5 Parallel operation of transformers and transformer auxiliary equipment encompassing:

- determine polarity markings for an unidentified single phase double wound transformer.
- need for parallel operation of transformers.
- conditions/restrictions required before two transformers can be connected in parallel.
- connecting transformers in parallel to supply a single load (loading on transformers operating in parallel).
- the consequences/effect of an incorrect connection.

T6 Auto-transformers and instrument transformers encompassing:

- identification of auto-transformers, voltage transformers and current transformers from their winding diagrams.
- determining voltage and current in the windings of an auto-transformer by calculation.
- advantages and disadvantages of an auto-transformer.
- AS/NZS3000 requirements with respect to transformers.
- construction of voltage transformers.
- ratings of voltage transformers.
- construction of current transformers.
- ratings of current transformers.
- precautionary measures taken to connect and disconnect instrument transformers.
- connection diagrams for instrument transformers.
- applications for auto-transformers and instrument transformers.

EE115	Basic Analogue & Digital Electronics
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Part 1 Analogue

This competency standard unit covers developing engineering solutions to solve problems with analogue electronics. It encompasses working safely, apply extensive knowledge of analogue electronics circuit and device operation and their application, gathering and analysing data, applying problem solving techniques, developing and documenting solutions and alternatives.

Note.

Typical analogue electronic problems are those encountered in meeting performance requirements and compliance standards, revising analogue electronics operating parameters and dealing with analogue electronic malfunctions

KS01-EH145A Analogue electronic circuits and systems

Evidence shall show an understanding of analogue electronic circuits, applying safe working practices and relevant Standards, Codes and Regulations to an extent indicated by the following aspects:

Single-stage analogue electronics

T1. Understanding of differential amplifiers using discrete components (transistors) of suitable characteristics to meet system objective

- ☐ differential gain, common mode rejection ratio and the required CMRR
- ☐ variable gain input stage

T2. Operational amplifier circuits

- ☐ use of d.c. offset
- ☐ operation of single-supply inverting and non-inverting amplifiers employing DC offset bias at the input and blocking capacitors
- ☐ operation of a high input resistance unity gain
- ☐ areas of use for single-supply amplifiers.

T3. Comparator circuits (open loop, limited swing and hysteresis) using operational amplifiers:

- ☐ ideal op-amp comparator
- ☐ typical uses of the comparator.
- ☐ comparators with limited (i) negative swing and (ii) both positive negative swing
- ☐ hysteresis comparator with positive resistor divider feedback and calculate the input switching voltages.
- ☐ desirable properties of an operational amplifier for use as comparator and the characteristics of comparator op amps.

T4. Amplifiers with given piecewise linear transfer characteristics

T5. Operation and building precision of half-wave and fullwave rectifiers

- ☐ precision two-diode half-wave and full-wave rectifier
- ☐ typical applications of precision rectifiers.

T6. Oscillators

- ☐ Operation of oscillators
- ☐ Purpose of oscillators
- ☐ Conditions for sustained oscillation
- ☐ Operation of phase shift oscillators
- ☐ The operation and characteristics of a Colpitts oscillator
- ☐ Conditions that cause instability in amplifier circuits

Advanced power amplifiers

- ☐ Analysing the performance of power amplifiers
- ☐ Minimum power, voltage and current rating of an output transistor.
- ☐ Aspects of heat transfer related to heat sinking.
- ☐ Common forms of distortion encountered in power amplifiers. (eg. Total harmonic distortion)
- ☐ Techniques for overcoming common forms of distortion.

T9. (is the number correct?)Classes of power amplifiers and indicate typical maximum efficiencies for each class

- ☐ conduction, angle, output power and efficiency of a power amp.
- ☐ typical and/or maximum efficiencies of each class of power Amp.
- ☐ d.c and/or a.c load line,
- ☐ output power and efficiency of a large signal amplifier

T10. Operation of each class and type of power amplifier circuit

- ☐ load line operation.
- ☐ Class A – direct, RC, transformer coupled. Class B – Complementary symmetry, drivers, single supply/duel supply. Class C and Class D.
- ☐ measure the characteristics of a fully integrated operational power Amplifiers.

T11. Active filters

- ☐ frequency response of low-pass, high-pass, low-Q band-pass, high-Q bandpass, notch and all-pass filters and define pass-band, stop-band and rate of roll-off.
- ☐ main features in the amplitude and phase plots of Butterworth, Chebyshev, Cauer-Elliptic and Bessel filter responses.
- ☐ pros and cons of active and passive filters.
- ☐ non-unity gain Sallen-Key low-pass filter.
- ☐ Types of active filters available in IC form - Variable filter, Switched Capacitor Filters and digital (sampled data) filters.
- ☐ Low-Q (i.e. cascade of lowpass and high-pass) and/or narrow bandpass filters

Part 2 Digital

This unit covers determining correct operation of digital sub-systems. It encompasses working safely, problem solving procedures, including the use of voltage, current and resistance measuring devices, providing solutions derived from measurements and calculations to predictable problems in digital components circuits.

KS01-EH112A Digital sub-system

Evidence shall show an understanding of digital sub-system troubleshooting, applying safe working practices and relevant Standards, Codes and Regulations to an extent indicated by the following aspects:

T1. Analogue and digital signals

- ☐ Comparison between analogue and digital signals
- ☐ Observing digital and analogue waveforms

T2. Numbering systems

- ☐ The binary number system
- ☐ The hexadecimal number system
- ☐ Binary addition and subtraction

T3. Numbering systems - conversions

- ☐ Conversion between numbering systems
- ☐ Binary Coded Decimal (BCD)
- ☐ Gray code
- ☐ The American Standard Code for Information Interchange (ASCII)
- ☐ Unicode

T4. Combinational logic circuits

- ☐ Precautions when handling electronic devices due to electrostatic discharge (ESD)
- ☐ Truth tables
- ☐ Basic operation and characteristics of logic gates

Logic probes

- ☐ Verification of operation of logic circuits

T5. Digital displays

- ☐ Seven segment LED displays
- ☐ Drive requirements
- ☐ Current limiting
- ☐ Multiplexed displays
- ☐ Seven segment Decoders
- ☐ Liquid Crystal Displays (LCD)
- ☐ Emerging display technologies
- ☐ Verification of seven segment display circuit
- ☐ Interfacing with logic circuits

T6. Digital subsystem building blocks

- ☐ Encoders and Decoders
- ☐ Multiplexers and Demultiplexers
- ☐ Timing diagrams
- ☐ Flip flops, Latches and registers
- ☐ Ripple counters
- ☐ MOD counters
- ☐ Synchronous counters Multi-vibrators
- ☐ Clocks
- ☐ Verification and operation (eg. PLDs, ICs)

T7. Digital fault finding

- ☐ General fault finding principles
- ☐ Common digital faults
- ☐ Digital test equipment
- ☐ Digital test equipment (eg. Logic probes, Digital Oscilloscopes, digital trainers)

T8. Logic families and specifications

- ☐ Input and output voltage characteristics
- ☐ Comparison of logic families
- ☐ Unit load
- ☐ Noise margin
- ☐ Interfacing different logic families
- ☐ Tri-state logic devices

Overview and applications of A/D converter and D/A converter

EE116	Process Control System
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This unit covers solving problems in industrial control systems. The unit encompasses safe working practices, interpreting process and circuit diagrams, applying knowledge of industry controls to problem solving techniques, safety and functional testing and completing the necessary documentation.

Note.

Typical basic industrial control system problems are those encountered in meeting performance requirements and compliance standards, revising control operating parameters and dealing with control malfunctions.

KS01-EI120A

Industrial control systems

Evidence shall show an understanding of industrial control systems to an extent indicated by the following aspects:

Control amplifiers encompassing:

- ☐ Introduction
- ☐ Amplifier Operation
- ☐ Operational Amplifiers
- ☐ Operational Amplifier Configurations

Industrial transducers encompassing:

- ☐ Introduction
- ☐ SI Units
- ☐ Forms of Energy
- ☐ Transducer Terminology
- ☐ Temperature Measurement
- ☐ Force Measurement
- ☐ Speed Measurement

SKILLS AND KNOWLEDGE

- ☐ Positional Measurement

Industrial final control elements encompassing:

- ☐ Introduction
- ☐ Electromagnetic Devices
- ☐ Valves
- ☐ Solid State Switching Devices

Industrial control systems encompassing:

- ☐ Automatic Control
- ☐ Open Loop Control
- ☐ Closed Loop Control
- ☐ Control System Terminology
- ☐ Control System Evaluation
- ☐ Two Position Control
- ☐ Proportional Control (P)
- ☐ Proportional + Integral Control (P+I)
- ☐ Proportional + Derivative Control (P+D)
- ☐ Proportional + Integral + Derivative Control (P+I+D)

Industrial control loops and control signals encompassing:

- ☐ Introduction
- ☐ Control Loops
- ☐ Converters (D to A and A to D)
- ☐ Multiplexing

EE117

Solar Electrical System

This unit covers providing known solutions to predictable problems in photovoltaic energy apparatus and systems operated at ELV and LV. It encompasses working safely, problem solving procedures, including the use of basic voltage, current and resistance measuring devices, providing known solutions to predictable circuit problems.

KS01-EK125A

Photovoltaic power systems

Evidence shall show an understanding of photovoltaic power systems to an extent indicated by the following aspects:

T1 Daily irradiation encompassing:

- ☐ definition of the terms: declination angle, reflectance, sunshine hours, extraterrestrial irradiation, Latitude, direct and diffuse radiation, azimuth and altitude angles, radiance, solar window, tilt angle, solstice, equinox
- ☐ units and symbols for irradiation and irradiance
- ☐ interpretation of solar radiation data tables and contour maps.
- ☐ measuring solar irradiance with a solarimeter.

how radiation varies throughout the year on the surface of a fixed collector.

- ☐ determining, using field measurements and a sun path diagram, the times and dates when a PV array will be shaded by obstacles at a particular site.
- ☐ calculation of the daily average irradiation on a horizontal plane given extraterrestrial irradiation, location constants and sunshine hour data.
- ☐ calculation of the monthly mean daily irradiation falling on a PV array for each month of the year, adjusted for the effects of shading, using irradiance and irradiation data tables and a sun path diagram and/or appropriate software.
- ☐ selection of an appropriate tilt angle for fixed and seasonally-adjustable PV arrays at an given latitude

T2 Photovoltaic modules encompassing:

- ☐ definition of the terms: cell, module, array, mono-crystalline, poly-crystalline, amorphous, band gap energy, semi-conductor
- ☐ diagram of a basic crystalline silicon PV cell, showing its physical structure, with at least five major features labelled
- ☐ major steps in the production of PV modules based on bulk silicon cells, in comparison with the production of thin film PV modules.
- ☐ basic physical principles of PV cell operation for the main types of commercially available PV modules.
- ☐ efficiency, spectral response, cost and typical applications of the main types of commercially available PV modules.
- ☐ new photovoltaic technologies currently being developed towards commercialisation, and their major features.
- ☐ mechanical and electrical features necessary for the long life of a PV module under a wide range of operating conditions.

T3 Module characteristics encompassing:

- ☐ definition of the terms: I-V curve, fill factor, operating point, maximum power point (MPP), cell temperature co-efficient, nominal operating cell temperature (NOCT), current, voltage and power output co-efficient.
- ☐ equivalent circuit for a PV cell, labelling each of the elements and the polarity of the terminals.
- ☐ family of I-V curves for a PV module, labelling major points and showing the effects of variation in irradiance and variation in cell temperature.

For ratings of a PV module from manufacturer's information or nameplate data.

- ☐ determination of the operating point of a PV module with a resistive load, a constant voltage source or any other load with known I-V characteristics, using the load line method.
- ☐ configuration of a typical PV array, including the function, placement and ratings of blocking and bypass diodes.
- ☐ the effect of partial shading of a PV module or array, the impact of bypass diodes and the significance of their configuration on output current in typical operating conditions.
- ☐ calculation of the power at MPP, and the power under typical battery charging conditions, of a PV module, given irradiance and ambient air temperature.
- ☐ calculation of the daily energy output of a PV array in accordance with AS 4509.2, and by using "rule of thumb" de-rating factors.
- ☐ the scope and content of Australian or international standards relevant to the performance of PV modules.
- ☐ the electrical characteristics of a PV module according to relevant Australian or International standards, using an outdoor test method.

EE118

Electrical Energy Supply System

2.6.21

a) Generation

primary energy sources
power stations
power station output
acts and legislation relating to generation
renewable energy sources and techniques

b) Transmission

system requirements
principal components of a power system
voltage levels
grid systems
acts/legislation relating to transmission
future trends

c) Distribution

high voltage distribution systems
medium/low voltage distribution systems
radial feeders
parallel feeders
ring main feeders
acts/legislation relating to distribution

d) Substations

purpose
location
layout

e) Overhead and underground systems
relative merits
applications
planning
installation

f) Power distribution system electrical characteristics
transmission and distribution systems
inductance, capacitance and resistance

g) Voltage problems in a power distribution system
low voltage
unbalanced voltages
voltage rises

h) Voltage regulation
autotransformers with OLTC
transformers with OLTC
static capacitors
load control

i) Control of OLTC
regulation relays
control circuits
line drop compensation

j) Power distribution system faults
type/classification of fault
typical causes/effects of faults
three-phase symmetrical fault levels
fault level limitation

k) Voltage surges in a power distribution system
lightning surges
switching surges
typical surge levels
surge impedance, typical values
significance of the system surge impedance.

l) Metering and metered quantities
purpose
energy
maximum demand
accuracy classes for metering systems

m) Energy and demand meters
construction
operation
adjustments
testing

n) Metering circuits
direct metering
instrument transformer metering

o) Electronic metering systems and recording meters
types
applications
connections

p) Load control
purpose
methods

.6.22.1

a) Protection fundamentals encompassing:
purpose of protection
features of a protection scheme

b) Instrument transformers for protection encompassing:

Operating principles
Applications of current transformers
Applications of voltage transformers

c) Feeder protection encompassing:
fuse protection
overcurrent & earth fault
sensitive earth fault
unit schemes
distance protection
trip/close sequences for feeders
recloser/sectionaliser systems

d) Transformer protection encompassing:
overheating protection
overcurrent protection
restricted earth fault protection
differential protection
oil and gas devices

e) Busbar protection encompassing:
types of fault
requirements of busbar protection
system protection
frame-earth protection

f) Surge protection encompassing:
voltage surges (revision)
surge diverters
arcing horns

EE119	Electrical Risk Assessment
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This unit covers the mandatory requirements of persons in a supervisory role to implement and monitor an organisation's occupational health and safety policies, procedures and programs. It encompasses understanding an organisation's OHS obligations, providing safety information to staff, implementing and monitoring participative arrangements, safety procedures and training and maintaining safety records.

KS01-EE117A Energy sector Occupational Health and Safety, supervisory responsibilities

Evidence shall show an understanding of OHS enterprise responsibilities to an extent indicated by the following aspects:

- T1 Provisions of relevant occupational health and safety legislation
- T2 Principles and practice of effective occupational health and safety management
- T3 Workplace hazards, range and selection of control measures
- T4 Organisational health and safety management systems and policies and procedures needed for legislative compliance
- T5 Impact of characteristics and composition of the workforce on occupational health and safety management
- T6 Relevance of occupational health and safety management to other organisational management policies, procedures and systems.
- T7 Analysis of entire work environment and judge occupational health and safety interventions
- T8 Analysis of relevant workplace data
- T9 Ability to assess resources needed for risk control

EE120	Electrical Contracting & Specification
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This unit covers developing requirement to be incorporated into the writing of specifications for electrical engineering projects. It encompasses determining the safety requirements to be met, establishing client expectations, ensuring cost effective solutions are pursued and documenting design and technical requirements.

KS01-EE071B Electrical engineering specification development

Evidence shall show an understanding of electrical engineering specification writing to an extent indicated by the following aspects:

T1 Electrical engineering specifications encompassing:

- ☐ Purpose and nature of specification
- ☐ Performance based specifications
- ☐ Prescriptive specifications
- ☐ Acceptable evidence of compliance
- ☐ Additional service required with the supply of equipment

T2 Dealing with suppliers and manufacturer's encompassing:

- ☐ Documenting specification
- ☐ Customer/client relations encompassing:
 - ☐ Importance of customer/client relations
 - ☐ Interpersonal skills that enhance customer/client
 - ☐ Dispute resolution
- ☐ Customer/client relations strategies

T3 Using basic computers functions encompassing:

- ☐ Starting up
- ☐ Selecting application

- ☐ Entering information
- ☐ Saving
- ☐ Printing

T4 Research skills encompassing:

- ☐ Terminology - Terminology used in a research workplace; Terminology used in research-specific literature and the like.
- ☐ Theory – why conduct research - The history of research; past research successes; past research failures; Research Protocols; Research practices and the like.
- ☐ The research environment - The research work environment; Standard research practices; Industrial, legal, ethical, political and market environment considerations; Legislation and regulation; Contractual obligations of all parties

and the like.

- ☐ Planning to conduct research - Concept development and/or research brief analysis; Research objectives; Research deliverables; Research project plan; Literature reviews; Methodology development, including; Experimental design, Technology selection, Information Management system selection and the like
- ☐ Clients - identifying client viewpoints and stake in project; Identifying client requirements and parameters; Determining research budgets, timelines, milestones and quality attributes with clients.
- ☐ Research, Development and Commercialisation - Research and Development goals versus Commercialisation goals and realities; Research and Development to inspire a commercialisation process

EE121	Electronics Power Control Device
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This unit covers solving problems with electronic aspects of single phase power control devices and circuits. The unit encompasses safe working practices, interpreting diagrams, applying knowledge of electronic power control devices and their application, using effective problem solving techniques, safety and functional testing and reporting work activities and outcomes.

Note.

Typical single phase electronic power control problems are those encountered in meeting performance requirements and compliance standards, revising control operating parameters and dealing with control malfunctions.

KS01-EI148A

Single phase electronic power control circuit

Evidence shall show an understanding of single phase electronic power control circuit to an extent indicated by the following aspects:

Introduction to Power Control

- ☐ Advantages and benefits of power control
- ☐ Need for power control and typical applications
- ☐ Power control methods
- ☐ Types of solid state switches
- ☐ Block diagram of a power converter
- ☐ Power control terminology

Modes of operation.

Single Phase Power Rectifiers

- ☐ Single Phase Rectifier Circuit Configurations
- ☐ Resistive/Inductive Loads
- ☐ Output Voltages/Waveforms
- ☐ Ripple Voltage/Frequency
- ☐ Peak Reverse Voltages
- ☐ Free Wheeling Diodes

Silicon Controlled Rectifiers (SCRs)

- ☐ Construction and Symbol
- ☐ Basic Operating Principles
- ☐ Characteristics
- ☐ Gate Requirements
- ☐ Commutation
- ☐ Electrical Ratings
- ☐ Testing SCRs
- ☐ Applications.

Triacs and Gate Turn Off (GTO) Thyristors

- ☐ Triac Construction and Symbol
- ☐ Triac Basic Operating Principles
- ☐ Triac Characteristics
- ☐ Triac Triggering Modes
- ☐ Triac Electrical Ratings
- ☐ Triac Testing
- ☐ GTO Construction and Symbol
- ☐ GTO Basic Operating Principles
- ☐ GTO Characteristics
- ☐ GTO Electrical Ratings
- ☐ Applications for Triac and GTOs

Power Transistors (BJTs)

- ☐ BJT Construction and Symbol
- ☐ BJT Basic Operating Principles
- ☐ BJT Characteristics
- ☐ BJT Electrical Ratings
- ☐ BJT Testing
- ☐ Applications for BJTs

Power Field Effect Transistors (FET)

- ☐ Types of FETs used for power control
- ☐ Power FETs Construction and Symbol
- ☐ FET Basic Operating Principles and Characteristics
- ☐ IGBT Basic Operating Principles and Characteristics
- ☐ Power FET Electrical Ratings

Power FET Testing

- ☐ Applications for Power FETs

Triggering Devices

Diac:

- ☐ construction and symbol
- ☐ operating principles
- ☐ breakover voltage.
- ☐ Unijunction transistors (UJTs)
- ☐ construction and symbol
- ☐ operating principles
- ☐ intrinsic standoff ratio and peak point voltage

Programmable Unijunction Transistors (PUTs)

- ☐ construction and symbol
- ☐ operating principles
- ☐ programmable standoff ratio
- ☐ peak point voltage

Triggering Circuits

- ☐ R-C Time Constant Circuits
- ☐ Diac Trigger Circuit Operation
- ☐ UJT Relaxation Oscillator Circuit Operation
- ☐ PUT Relaxation Oscillator Circuit

Half Wave Controlled Rectification

Phase shift control

- ☐ Controlled rectifiers
- ☐ Controlled rectifier power output control
- ☐ Single Phase Half-Wave Controlled Rectifier
- ☐ Circuit configuration
- ☐ circuit operation
- ☐ waveforms
- ☐ load voltage
- ☐ applications and limitations
- ☐ Problems Associated with Phase Shift Control

Full Wave Controlled Bridge Rectification

- ☐ Single phase full-wave controlled bridge rectifier circuit
- ☐ Output voltage
- ☐ Output waveforms
- ☐ Applications and limitations
- ☐ Advantages and disadvantages

Fully Controlled Bridge Rectification

- ☐ Single phase fully controlled rectifier bridge circuit
- ☐ Output voltage
- ☐ Output waveforms
- ☐ Applications and limitations
- ☐ Advantages and disadvantages

Single-Phase a.c. Voltage Control

- ☐ Phase control of a.c. power
- ☐ Circuit configurations - half and full control circuits
- ☐ Triggering circuits
- ☐ Circuit performance and operation on resistive and inductive loads
- ☐ Output voltage and waveform, determination of output voltage using circuit characteristics
- ☐ Range of control with inductive loads
- ☐ Triggering problems associated with inductive loads.
- ☐ Applications and limitations

Zero Voltage Switching (ZVS)

- ☐ Operating principles
- ☐ Circuit configuration – including trigger circuits

Circuit operation and waveforms – resistive loads only

- ☐ Relationship between load power and conduction time
- ☐ Solid state relays; types and ratings
- ☐ Applications and limitations

Fault Finding of Power Control Circuits

- ☐ Fault finding procedures
- ☐ Typical faults – power and trigger circuits
- ☐ Characteristics displayed by common faults
- ☐ Comparison of test data with expected data (voltage/current waveforms)
- ☐ Location and replacement of faulty components

EE201	Engineering Mathematics
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This unit covers the application of computational processes to solve engineering problems. It encompasses working safely, applying problem solving techniques, using a range of mathematical processes, providing solutions to electrical/electronics engineering problems and justifying such solutions.

Note. Typical engineering problems are those encountered in meeting requirements in a design brief, meeting performance requirements and compliance standards, revising systems operating parameters and dealing with system malfunctions

KS01-EE126A Electrotechnology engineering maths

Evidence shall show an understanding of electrotechnology engineering maths to an extent indicated by the following aspects:

T1 Rational, irrational numbers and basic algebra

- ☐ simplification of expressions involving square roots and cube roots
- ☐ scientific and engineering notation
- ☐ evaluation of expressions using a calculator
- ☐ convert units of physical quantities using unity brackets
- ☐ substitute given values into formulae to find physical quantities
- ☐ manipulate algebraic expressions using mathematical operations in their correct order, the laws of indices, expansion of brackets and collecting like terms

T2 Algebraic manipulation

- ☐ Factorise algebraic expressions using common factors
- ☐ Factorise quadratic expressions using trial and error on the factors of the coefficients
- ☐ Simplify algebraic fractions using common denominators and cancelling
- ☐ Solve simple one variable equations including algebraic fractions
- ☐ Find the quotient and remainder given a linear divisor.
- ☐ Transpose formulae to find a required variable.

T3 Laws of indices

- ☐ Conversion between decimal notation, scientific notation and engineering notation
- ☐ Laws of indices: positive /negative values, multiplication/division, fractional values, index equals zero
- ☐ Logarithmic laws: multiply/divide
- ☐ solution of exponential equations using logarithms, substitution and solution of relevant formulae involving exponents or logarithms
- ☐ Graphs of exponential functions, 10^x and e^x and the inverses $\log_{10}(x)$ and $\log_e(x)$ functions on log-linear graphs
- ☐ Convert numbers into scientific and engineering notation using the laws of indices
- ☐ Manipulate and simplify arithmetic and algebraic expressions using the laws of indices and logarithms

- ☐ Express logarithms as indices.
- ☐ Perform logarithmic operations.
- ☐ Determine logarithms and antilogarithms to base 10, using a scientific calculator.
- ☐ **Determine logarithms and antilogarithms to base e, using a scientific calculator.**
- ☐ Convert logarithmic values from base 10 to base e and vice versa.
- ☐ **Sketch given functions on log-linear graphs**

T4 Estimations, errors and approximations

- ☐ Errors in measurement
- ☐ **Maximum probable error**
- ☐ **Show awareness of errors in measurement and of giving results in appropriate number of significant figures**
- ☐ Use estimations and approximations to check the reasonableness of results.

T5 Plane figures – triangles and basic trigonometry

- ☐ **Angles in a triangle**
- ☐ Isosceles and equilateral triangles
- ☐ Congruent triangles
- ☐ Similar triangles
- ☐ Pythagoras' theorem
- ☐ Area of triangles
- ☐ Basic trigonometry functions
- ☐ Degrees, radians
- ☐ The ratios: sin, cos, tan, cosec, sec, cot.
- ☐ Inverse trig functions
- ☐ Sine and cosine rules

T6 Plane figures - quadrilaterals and circles

- ☐ Types and properties of quadrilaterals
- ☐ Areas and perimeters of regular quadrilaterals
- ☐ Lengths of arcs
- ☐ **Angles in a circle - degrees**
- ☐ **Angles in a circle - radians**
- ☐ Lengths of chord segments
- ☐ Tangents to circles
- ☐ **Circumference and area of circles**
- ☐ Names and characteristics of common polygons

T7 Graphs of Trigonometric functions

- ☐ Graph trigonometric functions and solve trigonometric equations.
- ☐ Simplify trigonometric expressions using trigonometric identities
- ☐ **Convert angular measure in degrees to radians and vice versa**
- ☐ Graph trigonometric functions including graphs of $y = \sin x$ and $y = \cos x$
- ☐ **Using vocational applications of current or voltage as a function of time, consider changes in amplitude, consider changes in frequency.**
- ☐ Examine relationships of frequency, period and angular velocity.
- ☐ **Sketch graphs of the form $f(t) = a \sin \phi t$ and $f(t) = a \cos \phi t$, where a is the peak voltage or current, and ϕ is the angular velocity**
- ☐ **Solve graphically equations of the form $f(t) = a \sin \phi t$ and $f(t) = a \cos \phi t$**

Show a positive or negative angle on the unit circle.

- Use symmetry properties to find trigonometric ratios for angles greater than $\pi/2$.
- Solve simple vocational problems relating period, frequency and angular velocity.

T8 Graphs of linear functions

- ☐ The number plane
- ☐ Gradient and x and y intercepts of a straight line
- ☐ **Equation of a straight line length and mid-point of a straight line segment**
- ☐ Function notation

T9 Simultaneous equations

- ☐ Graphical solutions
- ☐ Substitution
- ☐ Elimination
- ☐ **Solve 2 linear simultaneous equations both algebraically and graphically.**

T10 Matrices

- ☐ Perform the basic operations on matrices up to 3×3
- ☐ Manipulate matrix equations and expressions
- ☐ **Recognise inverse and identity matrices up to 3×3 and use to solve systems of linear equations.**
- ☐ Find determinants up to 3×3 and use to solve systems of linear equations.
- ☐ Solve problems involving more than two simultaneous equations.
- ☐ State the limitations of graphical methods of solution.
- ☐ Distinguish between a matrix and an array.
- ☐ **Describe the null, diagonal and unit matrix**
- ☐ **Describe and identify a singular/non-singular matrix**

T11 Quadratic functions

- ☐ Graphs of quadratic functions represented by parabolas and the significance of the leading coefficient.
- ☐ Graph quadratic functions and solve quadratic equations.
- ☐ **Sketch and interpret the graphs of quadratic functions showing the significance of the leading coefficient and the zeros**
- ☐ Solve quadratic equations by factoring or using quadratic formula
- ☐ **Solve simultaneously linear and quadratic equations algebraically and geometrically**
- ☐ Interpret verbally formulated problems involving quadratic and linear equations and solve.

T12 Exponential and logarithmic functions

- ☐ Transform non-linear functions (including exponential) to linear forms and plot data.
- ☐ Draw curves of best fit, interpolate data and estimate constants in suggested relationships.

Interpret verbally formulated problems involving growth and decay, and solve.

- Graph exponential and logarithmic functions and solve exponential and logarithmic equations.
- ☐ **Sketch the graphs of simple exponential and logarithmic functions showing behaviour for large and small values**

T13 Vectors and Phasors

- ☐ The vector as an expression of magnitude and direction
- ☐ The vector sum of x and y values in terms of magnitude and direction
- ☐ Rectangular components of vectors in the form $x = r \cos \theta$ and $y = r \sin \theta$
- ☐ Rectangular-polar and polar-rectangular conversion
- ☐ Vector addition and subtraction
- ☐ Express rectangular components of vectors in the form $x = r \cos \theta$ and $y = r \sin \theta$

T14 Complex numbers

- ☐ Definitions and notation of complex numbers
- ☐ Complex numbers as vectors on an Argand diagram
- ☐ laws of complex numbers and apply the laws in suitable calculations.
- ☐ Plot complex numbers on the Argand plane.
- ☐ Express vectors as complex numbers and perform suitable calculations.
- ☐ Calculate the conjugate of a complex number.
- ☐ Using a calculator for rectangular-polar and polar-rectangular conversions.

EE202	Electrical Circuits
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This unit covers determining correct operation of complex multiple path circuits and providing engineering solutions as they apply to various branches of electrotechnology work functions. It encompasses working safely, problem solving procedures, including using electrical measuring devices, applying appropriate circuit theorems and providing solutions derived from measurements and calculations and justification for such solutions.

KS01-EE125A Circuit analysis

Evidence shall show an understanding of circuit analysis to an extent indicated by the following aspects:

T1 Voltage/Current Sources and Kirchhoff's Law for d.c. Linear Circuits encompassing:

- ☐ calculating the effect of the internal resistance on terminal voltage and current delivered for practical voltage sources and current sources
- ☐ calculating current and voltage in any d.c. network of up to two loops and three sources.
- ☐ Kirchhoff's Law using a circuit simulation program.
- ☐ function and operation of an electronics circuit simulation program.
- ☐ using electronics circuit simulation program.

T2 Superposition Principles for d.c. Linear Circuits encompassing:

- ☐ d.c. networks (two loops, three sources)
- ☐ using simulation programs
- ☐ calculating current and voltage in any d.c. network of up to two loops and three sources.
- ☐ Superposition theorem using a circuit simulation program.

T3 Mesh and Nodal Analysis for d.c. Linear Circuits encompassing:

- ☐ writing mesh equations for d.c. networks containing up to three loops.
- ☐ writing Nodal equations for d.c. networks containing up to three nodes.
- ☐ using mesh analysis to find currents in d.c. networks of up to two loops.
- ☐ using nodal analysis to find node voltage and branch currents in d.c. networks of up to two nodes using a circuit simulation program to confirm the results of Mesh analysis or Nodal analysis of d.c. networks.

T4 Thévenin's principles for d.c. Linear Circuits encompassing:

- ☐ calculating the effect of the internal resistance on terminal voltage and current delivered for practical voltage sources and current sources.
- ☐ calculating the Thévenin equivalent voltage and resistance for d.c. networks and determining the load current, voltage and power.
- ☐ converting the Thévenin equivalent circuit to a Norton equivalent circuit and vice versa.
- ☐ verifying the equivalence of Thévenin equivalent circuits by measurement.

T5 Norton's principles for d.c. linear circuits encompassing:

- ☐ calculating the effect of the internal resistance on terminal voltage and current delivered for practical voltage sources and current sources.
- ☐ calculating the Norton equivalent current and resistance for d.c. networks and determining the load current, voltage and power.
- ☐ converting the Thévenin equivalent circuit to a Norton equivalent circuit and vice versa.
- ☐ verifying the equivalence of Norton equivalent circuits by measurement.

T6 Phasors encompassing:

- ☐ time domain and frequency domain
- ☐ frequency, angular frequency and units of measurement
- ☐ defining rms and convert between time domain and rms phasor values for a sine wave.
- ☐ converting between angular frequency and frequency.
- ☐ using a calculator to convert between polar and rectangular forms of phasor.
- ☐ representing a.c. voltages on a phasor diagram.

T7 Complex Impedance encompassing:

- ☐ defining impedance, resistance and reactance.
- ☐ defining admittance, conductance and susceptance.
- ☐ converting between conductance to resistance.
- ☐ converting between susceptance and reactance.
- ☐ converting between impedance and admittance.
- ☐ sketching impedance and admittance diagrams.
- ☐ calculating two-component series equivalent circuits and two-component parallel equivalent circuits and convert between these forms.

T8 Series and parallel a.c. linear circuits encompassing:

- ☐ Kirchhoff's Laws
- ☐ series equivalent impedance
- ☐ parallel equivalent impedance
- ☐ voltage divider and current divider rules
- ☐ calculating and measuring voltage and currents in a series a.c. circuit and draw the phasor diagram.

calculating and measuring currents in a parallel a.c. circuit and draw the phasor diagram.

· calculating and measuring voltage and currents in a series/parallel a.c. circuit and draw the phasor diagram.

T9 Superposition principles and Kirchhoff's Laws applied to a.c. linear circuits encompassing:

- ☐ calculating current and voltage in any a.c. network of up to two loops and two sources.

- ☐ using circuit simulation programs to demonstrate the superposition theorem.
- ☐ function and operation of an electronics circuit simulation program.
- ☐ entering given circuit specifications into an electronic circuit program.
- ☐ setting the circuit simulation program operation parameters including input and output values, ranges and graduation.
- ☐ producing hardcopies of the circuit and analyse results.

T10 Mesh and Nodal analysis for a.c. linear circuits encompassing:

- ☐ Mesh analysis
- ☐ Node voltages and nodal analysis
- ☐ matrix representation
- ☐ method of determinants
- ☐ writing mesh equations for a.c. networks containing up to three loops.
- ☐ writing nodal equations for a.c. networks containing up to three nodes.
- ☐ using mesh analysis to find currents in a.c. networks of up to two loops.
- ☐ using nodal analysis to find node voltage and branch currents in a.c. networks of up to two nodes.
- ☐ using a circuit simulation program to confirm the results of mesh analysis or nodal analysis of a.c. networks.

T11 Thévenin and Norton theorems applied to a.c. linear circuits encompassing:

- ☐ calculating the effect of the internal resistance on terminal voltage and current delivered for practical voltage sources and current sources.
- ☐ calculating the Thévenin equivalent voltage and impedance for a.c. networks and determining the load current, voltage and power.
- ☐ calculating the Norton equivalent current and impedance for a.c. networks and determining the load current, voltage and power.
- ☐ converting the Thévenin equivalent circuit to a Norton equivalent circuit and vice versa.
- ☐ verifying the equivalence of Thévenin and Norton equivalent circuits by measurement.

T12 Star-delta conversions encompassing:

- ☐ Star connections
- ☐ Star-delta transformation formula equations
- ☐ selection of appropriate conversion
- ☐ calculating the delta connected equivalent of a star connected balanced a.c. or d.c. load and vice versa.
- ☐ converting a complex non-series/parallel network to a series/parallel network by means

of star-delta or delta-star conversions.

- ☐ verifying star-delta and delta-star network conversions by measurements.

T13 Complex a.c. power and maximum power transfer theorem encompassing:

- ☐ true power, reactive power and apparent power
- ☐ maximum power transfer
- ☐ calculating real, reactive and apparent power for series/parallel a.c. circuits and state the appropriate units of measurement.
- ☐ calculating the power factor of a.c. series/parallel circuits.
- ☐ drawing power triangle for a given circuit.
- ☐ calculating the load value which would consume maximum power and calculate this power for d.c. networks.
- ☐ calculating the load value which would consume maximum power in an a.c. network when the load is a pure resistance and calculate the power.
- ☐ calculating the load value which would consume maximum power in an a.c. network when the load is an impedance of variable resistance and reactance and calculate the power.
- ☐ verifying load selection by measurement.

T14 Transients encompassing:

- ☐ transients in R-C and R-L circuits
- ☐ growth and decay
- ☐ calculating voltage and currents in R-C series circuits using exponential equations.
- ☐ calculating voltage and currents in R-L series circuits using exponential equations

EE203	Three Phase Power Circuits
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This unit covers determining correct operation of complex polyphase power circuits and providing solutions as they apply to electrical power engineering work functions. It encompasses working safely, problem solving procedures, including using electrical measuring devices, applying appropriate circuit theorems and providing solutions derived from measurements and calculations and justification for such solutions.

KS01-EG149A Polyphase power circuit analysis

Evidence shall show an understanding of polyphase power circuit analysis to an extent indicated by the following aspects:

T1 Polyphase supply system encompassing:

- ☐ advantage of three phase system compared to single phase systems
- ☐ double subscript notation
- ☐ phase sequence
- ☐ 120 degree operator
- ☐ given circuit component parameters, solve practically based problems using:
- ☐ equivalent circuits of transformers, lines and loads.
- ☐ component values using rectangular and polar notation.
- ☐ current divider and potential divider rules using complex impedances.
- ☐ The “per unit” values of voltage, current, VA and impedance to a common VA base.

T2 Types of three phase system connections encompassing:

- ☐ supply to balanced star, 3 and 4 wire loads
- ☐ supply to delta connected loads
- ☐ effects of phase reversal

representation of currents and voltages as complex phasors for 3 phase and 3 phase and neutral quantities.

- ☐ calculation the values of and draw labeled phasor diagrams, not to scale, to represent complex values of current and voltage for balanced and unbalanced loads for star and delta systems.
- ☐ calculation of values of P, Q and S for balanced and unbalanced systems.
- ☐ draw and label single phase diagrams to represent 1 phase of a complex 3 phase system.

- ☐ represent unbalanced voltages or currents as symmetrical components.
 - ☐ Phase to phase currents
 - ☐ Phase to neutral/earth currents.
- T3 Balanced three phase loads encompassing:**
- ☐ calculations of balanced loads connected in star
 - ☐ calculations of balanced loads connected in delta
 - ☐ calculation of steady state values of fault current for various configurations.
 - ☐ evaluation of the symmetrical component impedances for the various distribution system components. Transformers (earthed neutral case).

Generators (high impedance earth)

- ☐ calculation of fault currents using the per unit approach.
- ☐ calculation using the “worst case” values based on transformer impedance only (ie., a short circuit fault)
- ☐ estimation of peak values using accepted multipliers.
- ☐ effects of the d.c. component on the instantaneous magnitudes of fault currents in transformers and generators.

T4 Unbalanced three phase loads encompassing:

- ☐ Star – 4 wire systems
- ☐ Delta systems
- ☐ Star – 3 wire systems
- ☐ Star 4 wire with neutral impedance

T5 Power in three-phase circuits encompassing:

- ☐ summation of phase powers and power in balanced loads
- ☐ measurement of power in balanced loads – 2 Wattmeter methods

T6 Reactive three phase power encompassing:

- ☐ power triangle calculation
- ☐ measurement of VAR
- ☐ power factor correction

T7 Fault currents encompassing:

- ☐ symmetrical components
- ☐ positive, negative and zero sequence impedance

fault current breaking and let-through energy capacities of circuit breakers, fuses

- ☐ importance of fault/arc impedance
- ☐ calculation of fault currents - phase-to-earth faults
- ☐ calculation of fault currents - phase-to-phase faults
- ☐ analysis of asymmetrical faults currents.

T8 Harmonics in three phase systems encompassing:

- ☐ presence of triple in harmonics in 3 phase systems
- ☐ effects of 3 phase harmonics for different star and delta connections.
- ☐ methods for reducing harmonics in three phase systems.

EE204	Engineering Physics
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This unit covers the law of physics and how they apply to solving electrotechnology related problems. It encompasses working safely, knowledge of measurements of physical phenomena, linear and angular motion, harmonic motion, wave theory, optics, acoustics and heat capacity and transfer, use of measurement techniques, solving physics related problems and documenting justification for such solutions.

KS01-EE082A Electrotechnology engineering physics

Evidence shall show an understanding of electro engineering physics to an extent indicated by the following aspects:

T1 Measurement encompassing

- ☐ SI units in measurement of physical phenomena
- ☐ Uncertainty and tolerance

T2 Linear motion

T3 Angular motion

T4 Simple harmonic motion and vibration

T5 Wave theory

- ☐ Interference
- ☐ Diffraction

T6 Electromagnetic waves and propagation

T7 Optics

- ☐ Mirrors and lenses
- ☐ Optical fibre

T8 Acoustics and ultrasonics

T9 Heat capacity and heat transfer

- ☐ Fluid power

EE205	Electrical Power System
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2.6.22.6 Electrical power distribution systems diagnostic

a) Distribution system overview including:

regulatory conditions of supply and utilisation

compliance with Australian Standards.

reticulation system including overhead/underground, urban/rural, HV customers and high-rise building systems. The effects of industrial customers

methods used to ensure continuity of supply.
types of substations in current use.
systems of distribution used, (primary and secondary)
voltage levels, power factor, wave-form distortion and transient loading
supply quality
load curve profiles (residential/industrial/commercial)
types of feeders
distribution systems (urban, rural single-phase systems, SWER, spur, parallel and ring systems etc.)

b) Overhead lines and installation

industry and safety regulations
overhead conductors
conductor material
current rating factors (heating, voltage drops, power losses)
aerial bundled cables (HV and LV)
covered conductors

Note: The characteristics of lines and cables including the calculation of R, X and B for different arrangements of conductor. Typical values for actual lines.

Transposition. Models based on line length. Voltage and line regulation
overhead line poles
types (wood, concrete and steel)
installation of poles (tooling, rake, life, labelling, sinking)
maintenance of poles – above & below ground
pole strength and loads
crossarms
types and standard sizes
insulators
insulation types
types (pin, suspension or disc, shackle)
creepage, necessary clearances
arcing horns, insulator mounting
structure types
mechanical properties (working strength, maximum tension, limiting size)
interpretation of stringing charts

determination of sag (by calculations or measurement and/or tension measurement)
sight and wave sagging, sag correction
stays
components, anchorage

c) Use of design schedules

sample design problems

Note: Examples of common design practice line, voltage, structure types used, line deviation, span sag, crossarms, insulators and stays wind loading and line deviation
loading basic surveying
measurement of levels, deviation angle and compass bearings
perform survey of short distribution line extension of produce field notes

d) Underground cables

cable types, ratings, core material, design considerations, cable dielectrics, insulating materials and abbreviations, electric stress, cable volt drop
and volt drop calculations, cable termination, joints and installation.
induction and eddy currents
cable testing, cable fault location
cable drawing

e) Voltage regulations of feeders and associated equipment

terminology used: distribution system, service line, customer's terminals, customer voltage, utilisation voltage, base voltage, voltage variation and bandwidth
voltage limits and effects of voltage variation
causes of variation: inductance, capacitance and reactance of distribution lines, transformers
methods of voltage control: off-load, on-load tap changers, voltage regulating relays, line drop compensation, different types of voltage regulators
voltage profiles: principles, effect on voltage profiles, limits of voltage, voltage drops due to LV mains transformers, tapsettings feeder and service lines
determining volt drops for components within the profile.

f) Control of voltage. Conditions leading to voltage collapse and system disintegration. Effects on the system of high/low volts. Voltage control devices including:

voltage regulators applied to generators and synchronous phase modifiers
electromagnetic voltage regulators
series and parallel capacitors
OLTC transformers and static Var compensations (SVCs)

g) Range of devices covered by SVCs including:

saturated reactor compensations (SRs)

thyristor controlled reactor compensators (TCRs)
combined TCR/TSCs and
production of wave-form distorting harmonics and control devices

h) Importance of the location in the system of voltage control devices

i) Types of communication systems including telephone, power line carrier, dedicated cable, micro-wave links and fibreoptics. Quantities and signals to be communicated. Advantages and disadvantages of the various systems. Equipment requirements

j) Transient over-voltages in power systems. Switching and lightning overvoltages and their effect on different plant items. Transient over-voltage control and reduction using surge diverters, shield wires and CB are control. Insulation systems, insulation co-ordination, insulation grading in plant items, bushings and capacitor bushings

k) The principles of operation, voltage and current range, breaking capacity and field of use of the following types of circuit breakers. bulk oil, small oil volume, air break, vacuum and SF6 (double pressure and puffer types).

l) The types of isolators in use. Examples include duo-roll, blade and scissor type.

m) Circuit breaker auxiliary systems including:

d.c. systems including battery types, charging and protection systems and earth fault detection systems

SF6 conditioning, storage and handling system

EE206	AC Machines	
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Synchronous Machines

This unit covers developing engineering solutions to resolve problems with synchronous machines and their controls. It encompasses working safely, apply extensive knowledge of synchronous machine operation, construction and their application, gathering and analysing data, applying problem solving techniques, developing and documenting solutions and alternatives

KS01-EG143A Synchronous machine diagnostics

Evidence shall show an understanding of developing engineering solutions for synchronous machine problems to an extent indicated by the following aspects:

T1 a.c. generators – construction, types and cooling encompassing:

- ☐ construction of stator and rotor windings
- ☐ rotor construction (cylindrical and salient pole)
- ☐ advantages of rotating field construction
- ☐ excitation methods
- ☐ cooling methods
- ☐ prime movers

T2 a.c. generators – operating principles and characteristics encompassing:

- ☐ a.c. generator equivalent circuits (synchronous reactance and resistance components)
- ☐ tests – open circuit, short circuit, stator impedance
- ☐ voltage regulation, island generator's terminal voltage load power factor
- ☐ determination of excitation voltage and load angle

T3 Synchronising a.c. generators encompassing:

- ☐ conditions for synchronising (infinite bus)
- ☐ methods for synchronising (lamp methods, synchroscope)
- ☐ alternator load sharing, parallel operation

T4 a.c. generators power, torque and efficiency encompassing:

- ☐ power input, input torque, speed
- ☐ power losses
- ☐ output power, load power factor, rotor angle, pu power
- ☐ efficiency
- ☐ performance chart interpretation

T5 Voltage regulation (AVR) encompassing:

- ☐ need for AVR's
- ☐ features of AVR's
- ☐ effects of rotor inductance
- ☐ connections of AVRs
- ☐ operation of AVRs

T6 a.c. generator operational stability encompassing:

- ☐ power output, VAR effects, rotor angle, excitation
- ☐ control of VAR (OLTC transformers)
- ☐ voltage dependant nature of stability
- ☐ critical clearance angle of a.c. generator
- ☐ stability limits

T7 a.c. generator protection encompassing:

- ☐ restricted, unrestricted primary, back up and duplicated protection
- ☐ overcurrent, short circuit, differential, reverse power, load unbalance, rotor overload, loss-of-field, rotor earth fault, station earth fault, under frequency protection
- ☐ external fault protection

T8 Induction generator encompassing:

- ☐ types operating principles, characteristics
- ☐ excitation methods
- ☐ losses and efficiency
- ☐ synchronising and paralleling

T9 Three phase synchronous motors encompassing:

- ☐ construction – rotor, stator, windings
- ☐ excitation methods
- ☐ operating principles (equivalent circuits, synchronous impedance)
- ☐ hunting and stability limits
- ☐ power factor correction
- ☐ paralleling and synchronisation techniques
- ☐ starting methods
- ☐ braking methods

Part 2 Induction Machines

This unit covers developing engineering solutions to resolve problems with induction machines and their controls. It encompasses working safely; apply extensive knowledge of induction machine operation and construction and their application, gathering and analysing data, applying problem solving techniques, developing and documenting solutions and alternatives.

Note.

Typical motor problems are those encountered in meeting performance requirements and compliance standards, revising a machine operating parameters and dealing with machine malfunctions.

KS01-EG145A Induction machines diagnostics

Evidence shall show an understanding of developing engineering solutions for induction motor problems to an extent indicated by the following aspects:

T1 Operating principles of polyphase induction motors encompassing:

- ☐ rotating magnetic field torque slip
- ☐ MMF relationships
- ☐ Leakage fluxes

T2 Construction of polyphase induction motors encompassing:

- ☐ squirrel cage motors
- ☐ slip-ring motors
- ☐ construction considerations in minimisation of tooth locking

T3 Speed-torque relationships in induction motors encompassing:

- ☐ maximum torque
- ☐ torque – slip relationships
- ☐ squirrel cage rotor types
- ☐ power flow in the motors
- ☐ power distribution
- ☐ torque units
- ☐ slip ring rotors

T4 Induction motor performance testing encompassing:

- ☐ no-load tests

locked rotor tests

- development of motor equivalent circuit from test results
- analysis of motor performance using circle diagrams

T5 Induction motor starters encompassing:

- ☐ starting requirements
- ☐ type of starters
- ☐ starting torque
- ☐ starting dynamics
- ☐ static friction
- ☐ mechanical loads
- ☐ starting duration

T6 Reduced voltage starting encompassing:

- ☐ starting dynamics
- ☐ change over conditions
- ☐ starting duration
- ☐ acceleration curves

T7 Speed control of induction motors encompassing:

- ☐ constant torque, constant power concepts
- ☐ torque-flux-voltage relationships
- ☐ rotor resistance control
- ☐ stator impedance control
- ☐ variable frequency control (e.g. PAM, PWM, Flux vector control)

T8 Braking of induction motors encompassing:

- ☐ electrical braking systems (plugging, d.c. dynamic, regenerative, capacitor-magnetic)
- ☐ mechanical braking systems (mechanical drum, demag, eddy current)

T9 Motor protection encompassing:

- ☐ overload
- ☐ earth fault
- ☐ phase failure

T10 Motor selection criteria and RMS rating

T11 Induction motor maintenance/repair encompassing:

- ☐ routine maintenance schedules
- ☐ type of repairs (mechanical, electrical)

T12 Single phase induction motors encompassing:

- ☐ operating principles (especially RMF)
- ☐ construction types

- speed-torque relationships

EE207	DC Machine
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This unit covers developing engineering solutions to resolve problems with d.c. machines and their controls. It encompasses working safely; apply extensive knowledge of d.c. machine operation and construction and their application, gathering and analysing data, applying problem solving techniques, developing and documenting solutions and alternatives.

Note:

Typical machine problems are those encountered in meeting performance requirements and compliance standards, revising machine operating parameters and dealing with machine malfunctions.

KS01-EG144A Direct current machine diagnostics

Evidence shall show an understanding of developing engineering solutions for d.c. machine problems to an extent indicated by the following aspects:

T1 Basic d.c. machine construction and operation encompassing:

- ☐ General principles of operation
- ☐ Applications of d.c. machines
- ☐ Construction of d.c. machines
- ☐ d.c. machine configurations; series, shunt, compound long shunt and compound short shunt
- ☐ Armature and field currents
- ☐ Insulation
- ☐ Ratings
- ☐ Cooling paths
- ☐ Bearings
- ☐ General maintenance of d.c. machines

T2 Construction and use of lap and wave windings encompassing:

- ☐ coils and elements
- ☐ generated voltage equation for generator
- ☐ generated voltage equation for motors
- ☐ application of lap and wave windings

T3 Commutation process encompassing:

- ☐ use of interpoles
- ☐ loading of machines
- ☐ brush shifting
- ☐ brush selection

classes of brush grades

Note:

Examples include: natural graphite, hard carbon, electrographite, metal-graphite, metal-carbon, “treated” grades

- ☐ carbon brush contact characteristics

Note:

Examples include: specific resistance, thermal conductivity, density and porosity, elastic properties, contact properties

- ☐ carbon brush factors

Note:

Examples are: pressure, current, polarity, speed

- ☐ brush construction

Note:

Examples are: dimensions, tolerances, preferred sizes, surfaces, edges, bevels, flexible shunts, connection of flexible shunt to brush, insulation of flexible connections

- ☐ brush holders

Note:

Examples are: types, brush angles, trailing holders, reaction holders, top bevel angles, reversible rotation, cantilever holders, effective arc of contact, construction of brush holders, pressure mechanism

- ☐ mounting of brush holders and brushes

Note:

Examples are: clearances, brush angle, brush arm spacing, alignment, staggering, brush bedding, brush pressure

- ☐ brush operation

Note:

Examples are: temperature rise, number and size of brushes, current distribution between brushes, slotting brushes, polarity effects, arc of contact, materials for commutators, mica

- ☐ selection of brush grades

Note:

Examples are: machine data, current density, commutator peripheral speed, brush arc, pitch of segments, number of segments covered by brush, cooling surface

T4 Armature reaction in d.c. machines encompassing:

- ☐ effect of armature reaction on d.c. machine characteristics
- ☐ use of compensating winding

T5 d.c. generators encompassing:

- ☐ relative advantages and disadvantages of the various dc generator configurations

and their performance under various load conditions

- ☐ voltage regulation as a percentage or per unit value
- ☐ operation in parallel

T6 d.c. motors encompassing:

- ☐ relative advantages and disadvantages of the various dc motor configurations and their performance under various load conditions
- ☐ shape of motor speed/torque curves
- ☐ reversal of rotation

T7 Starting and protection of d.c. motors encompassing:

- ☐ types of d.c. motor starters in use
- ☐ d.c. motor protection

T8 Speed regulation and speed control of d.c. motors encompassing:

- ☐ methods in use
- ☐ effect on motor design and operation caused by the use of SCR
- ☐ speed control equipment

T9 Braking of d.c. motors encompassing:

- ☐ Plugging
- ☐ Dynamic
- ☐ Regenerative
- ☐ Mechanical

T10 Losses, heating and efficiency encompassing:

- ☐ Copper losses
- ☐ Iron losses
- ☐ Mechanical losses
- ☐ Efficiency

T11 Acceleration of d.c. motors and loads encompassing:

- ☐ characteristics of typical loads
- ☐ matching a suitable motor to a given load
- ☐ heating of windings
- ☐ derating of motors

T12 Special d.c. motors construction, operation and applications encompassing:

- ☐ permanent-magnet motors
- ☐ brushless motors (e.c. motors)
- ☐ coreless and moving coil motors
- ☐ linear motors
- ☐ printed circuit motor
- ☐ stepping motors

voice-coil motors

T13 Maintenance of d.c. machines encompassing:

- ☐ routine maintenance
- ☐ breakdown repairs

T14 types of faults encompassing:

- ☐ brushes/brush gear problems

Note:

Examples are: sparking, excessive heating, excessive wear of brushes, commutator or slip rings, bad surface conditions, excessive maintenance, flexible burning, flexible corrosion, separation or grooving, blackening, copper picking, copper dragging, brush noise

T15 adjustment of machines encompassing:

- ☐ correct brush position
- ☐ machining and finishing of commutators

EE208	Operational Amplifiers
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Part 1- Operational Amplifier

This unit covers determining correct operation of amplifiers. It encompasses working safely, problem solving procedures, including the use of voltage, current and resistance measuring devices, providing solutions derived from measurements and calculations to predictable problems in amplifier sections/circuits.

KS01-EH113A Amplifier fundamentals

Evidence shall show an understanding of amplifier troubleshooting, applying safe working practices and relevant Standards, Codes and Regulations to an extent indicated by the following aspects:

T1. Single stage discrete amplifier d.c. characteristics

- ☐ Risk and safety
- ☐ Field effect transistors (FET) and Bi-junction transistor (BJT) circuit symbols
- ☐ Quiescent (Q) point
- ☐ Biasing methods for BJT and FETs
- ☐ Circuit theory for BJT and FETs
- ☐ Verification of performance of BJT and FET amplifier circuits

T2. Single-stage discrete amplifier small signal characteristics

- ☐ Small signal gain
- ☐ Gain measurements
- ☐ Overdrive conditions

T3. Capacitive coupling in single-stage discrete amplifiers

- ☐ Coupling capacitor functions
- ☐ Coupling capacitor effect on low frequency response
- ☐ Emitter/source bypass capacitor effect on low frequency response
- ☐ Verification of circuit operation and frequency response (eg. Bode Plot).

T4. Multistage amplifier coupling methods

- ☐ Coupling methods
- ☐ Total gain
- ☐ Bandwidth considerations
- ☐ Verification of circuit operation

T5. Differential amplifiers

- ☐ Differential amplifier concept
- ☐ Typical circuit operation
- ☐ Differential and common-mode gain
- ☐ Common mode rejection
- ☐ Constant current and voltage sources
- ☐ Verification of circuit operation

T6. Negative feedback

- ☐ Concept of negative feedback
- ☐ Effects of negative feedback
- ☐ Negative feedback configurations
- ☐ Amplifier gain and negative feedback

T7. Introduction to classes of power amplifier operation

- ☐ Power efficiency
- ☐ Classes and applications
- ☐ Crossover distortion

Class AB operation

- Heat sinking

T8. Complimentary symmetry power amplifiers

- ☐ Biasing and crossover distortion
- ☐ Power efficiency
- ☐ Quasi-complimentary and Darlington output configurations
- ☐ Complete amplifier operation
- ☐ D.C. operating condition calculations
- ☐ Verification of circuit operation

T9. Other solid state power amplifier design

- ☐ Transformer coupled power amplifiers
- ☐ I.C. power amplifiers
- ☐ Class D power amplifiers

Part 2 Three phase electronic power control

This unit covers solving problems with electronic aspects of polyphase power control devices and circuits. The unit encompasses safe working practices, interpreting diagrams, applying knowledge of electronic power control devices and their application, using effective problem solving techniques, safety and functional testing and reporting work activities and outcomes.

Note.

Typical polyphase electronic power control problems are those encountered in meeting performance requirements and compliance standards, revising control operating parameters and dealing with control malfunctions.

KS01-EI149A Polyphase electronic power control circuit

Evidence shall show an understanding of polyphase electronic power control circuit to an extent indicated by the following aspects:

T1 Three-Phase Rectifier Circuits encompassing:

- ☐ Three-Phase Rectifier Configurations
- ☐ Resistive/Inductive Loads
- ☐ Output Voltages/Waveforms
- ☐ Ripple Voltage/Frequency
- ☐ Peak Reverse Voltages
- ☐ Free Wheeling Diodes

Measurement of rectifier output parameters.

T2 Three-Phase Half Wave Controlled Rectifiers encompassing:

- ☐ Phase control
- ☐ Purpose/operation of half controlled rectifiers
- ☐ Circuit configuration
- ☐ Rectifier performance and operation - resistive loads
- ☐ Output voltage – resistive load
- ☐ Rectifier performance and operation - inductive loads
- ☐ Rectifier output waveforms
- ☐ Applications and limitations
- ☐ Advantages and disadvantages three-phase controlled rectifiers.

T3. Three-Phase Half Controlled Bridge Rectifier encompassing:

- ☐ Purpose/operation of a half controlled bridge rectifiers
- ☐ Circuit configuration and connections

- ☐ Rectifier output - resistive loads
- ☐ Output voltage – resistive loads
- ☐ Rectifier output - inductive loads
- ☐ Output voltage - inductive loads
- ☐ Flywheel diode
- ☐ Output voltage calculations
- ☐ Applications and limitations
- ☐ Advantages and disadvantages three-phase half controlled bridge rectifiers.

T4. Three-Phase Fully Controlled Bridge Rectifier encompassing:

- ☐ Purpose/operation of a fully controlled bridge rectifiers
- ☐ Circuit configuration and connections
- ☐ Rectifier output - resistive loads
- ☐ Output voltage – resistive loads
- ☐ Rectifier output - inductive loads
- ☐ Output voltage - inductive loads
- ☐ Flywheel diode
- ☐ Output voltage calculations
- ☐ Applications and limitations
- ☐ Advantages and disadvantages three-phase fully controlled bridge rectifiers.

T5. Three-Phase a.c. Controllers encompassing:

- ☐ Circuit configurations
- ☐ Circuit operation
- ☐ Triacs and SCRs circuits
- ☐ Triggering requirements

Output voltage and waveforms

- Determination of output voltage
- Applications
- Advantages and disadvantages

T6. DC Converters encompassing:

- ☐ Purpose and operation of d.c. converters
- ☐ Circuit configurations
- ☐ Voltage control methods
- ☐ Forced commutation methods
- ☐ Calculation of load voltage
- ☐ Output voltage/waveforms
- ☐ Applications
- ☐ Advantages and disadvantages

T7. Cycloconverters encompassing:

- ☐ Purpose/operation of a cycloconverter
- ☐ Basic circuit configurations
- ☐ Measurement of output voltage
- ☐ Calculation of load voltage
- ☐ Output voltage/waveforms
- ☐ Applications and limitations
- ☐ Advantages and disadvantages

T8. Invertors encompassing:

- ☐ Purpose/operation of an inverter
- ☐ Basic circuit configurations
- ☐ Measurement of inverter outputs
- ☐ Output voltage
- ☐ Applications and limitations
- ☐ Advantages and disadvantages

T9. Thyristor Protection encompassing:

- ☐ Power Control Devices Failure
- ☐ Protection Techniques
- ☐ Snubber Networks
- ☐ Series Inductors
- ☐ Amp Trap (HRC) fuses
- ☐ Gate Pulse Suppression

10. Installation of Thyristor Devices and Circuits encompassing:

- ☐ Need for heat sinking of power thyristor devices
- ☐ Heat sink features and types

Installation methods for all types of thyristor packages

- Basic thermal model, only to demonstrate the effect of different heat sink
- Types and profiles and installation methods on thyristor junction temperature.

T11. Series and Parallel Thyristor Connections encompassing:

- ☐ Purpose of Series/Parallel Connection
- ☐ Series Connections
- ☐ Reasons
- ☐ Operational Problems
- ☐ Parallel Connections
- ☐ Reasons
- ☐ Operational Problems

T12. Fault Finding Three Phase Thyristor Circuits encompassing:

- ☐ Fault finding procedures
- ☐ Typical faults – power and trigger circuits
- ☐ Characteristics displayed by common faults
- ☐ Comparison of test data with expected data (voltage/current waveforms)
- ☐ Location and replacement of faulty components

EE209	Analogue Electronics
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This unit deals the replacement of electronic components, cabling and sub systems of electronic apparatus. It encompasses safe working practices, following written and oral instruction and procedures, basic testing and techniques, dismantling and assembling apparatus and disconnecting and reconnecting components.

KS01-EH102A Component replacement to repair basic electronic apparatus faults

Evidence shall show an understanding of component replacement to repair basic electronic apparatus faults, applying safe working practices and relevant Standards, Codes and Regulations to an extent indicated by the following aspects:

T1. Electronic soldering equipment and techniques

- ☐ Workshop hazards and safety associated with soldering
- ☐ Quality concepts
- ☐ Electronic soldering equipment
- ☐ The soldering process
- ☐ Lead free solder

T2. Printed circuit board soldering techniques

- ☐ Electronic component mounting
- ☐ Solder rework of printed circuit boards.
- ☐ Faulty solder joints

T3. Soldering electronic cables

- ☐ Soldering multi-strand, ribbon and coaxial cables
- ☐ Effects and prevention of electrostatic discharge (ESD)

T4. Electronic component basics

- ☐ Types of components
- ☐ The physical features and primary characteristic of components
- ☐ Marking and codes on components
- ☐ Handling static sensitive components

T5. Electronic cable overview and coaxial cable

- ☐ Coaxial cables types and characteristics
- ☐ Coaxial cable termination

T6. Performance copper cables

- ☐ Twisted pair voice and data cables
- ☐ Insulation displacement (IDC) termination
- ☐ Colour codes
- ☐ Terminating performance cables
- ☐ Harness wiring

T7. Electronic apparatus components

- ☐ Fault finding
- ☐ Testing
- ☐ Replacement

EE301	Advanced Electrical Drafting
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This unit covers the production of detailed electrical drawings, drawing sets and documentation. It includes safe working practices; interpreting technical data and specifications; using advanced computer-aided systems and commands and appropriate drafting peripheral systems, equipment and tools to develop detailed drawings. It also includes applying knowledge of electrical equipment design drawing methods, techniques, procedures and protocols and documenting design, storing and retrieving data, and producing related documentation for presentation of preliminary and final drafts for verification.

KS01-EG179A Electrical Detailed Drawings

Evidence shall show an understanding of electrical detailed drawings to an extent indicated by the following aspects:

T1 (Is the number correct?) Producing final drafts for verification encompassing:

- ☐ principles, purpose and concept of verification of drafting products encompassing: production of electrical drawings for verification by authorised persons, production of drawing sets, production of related documentation, presentations of final drafts
- ☐ processes and procedures related to the verification of final drafts by authorised persons encompassing: accuracy
- ☐ publication of verified electrical drawings

T2 Detailed electrical drawing production covering encompassing:

- ☐ distribution branch circuits and boards, services and load calculations; encompassing panels(HV/LV)/switch boards/motor control centres/final
- ☐ conductor/cable selection and calculations encompassing: electrical, data, communications
- ☐ overcurrent and overvoltage protection
- ☐ cable support systems; encompassing cable trays, trunking, conduits, ducts, guards, saddles, carriers, raceways/cavities, poles
- ☐ box and fitting fill requirements
- ☐ wiring devices and terminations
- ☐ distribution equipment; encompassing power circuit devices
- ☐ distribution system transformers; encompassing specialty transformers, power circuit devices
- ☐ lighting applications; encompassing lamps, ballasts, and components
- ☐ motors; encompassing functional controls, advanced motor controls, motor calculations, motor maintenance arrangements

hazardous areas encompassing: electrical equipment; classification of
· emergency standby systems; encompassing UPS/inverter and battery banks

- ☐ fire alarm systems
- ☐ high-voltage terminations/splices
- ☐ cable size selection for installation cable run
- ☐ cable sizes, voltage drops, conduit sizes, fault levels, fuse/circuit breaker (CB) sizes and working temperatures
- ☐ short circuit calculations

- ☐ earth loop impedance compliance test arrangements on the completed design
- ☐ touch potentials calculations
- ☐ cable schedules creation
- ☐ “single line” and “as built” drawings; encompassing three phase schematic colour

diagrams, marked up cable calculations, short circuit results, earth loop impedance results

- ☐ quantities parts list and drawings for tender drawings issued by electrical consultants/engineers
- ☐ coordination and discrimination studies
- ☐ Building Management Systems (BMS) encompassing: building information modelling and sustainable design
- ☐ fuse and CB trip curves plots and displays
- ☐ troubleshooting/fault finding

T3 Schematic component commands detailed encompassing:

- ☐ schematic symbols editor
- ☐ schematic editor
- ☐ components from lists
- ☐ connectors
- ☐ terminals; encompassing multiple level and jumpers
- ☐ circuits
- ☐ multiple phase circuits

T4 Schematic editing encompassing:

- ☐ advanced utilities
- ☐ copy catalogue and location
- ☐ values
- ☐ swapping and updating blocks
- ☐ using the auditing tools
- ☐ update and retag drawings

T5 Detailed panel layouts encompassing:

- ☐ detailed panel layouts creation
- ☐ din rail tool
- ☐ terminal strip editor
- ☐ detailed panel layout annotation
- ☐ detailed reports

T6 Digitising and scanning encompassing:

- ☐ drawings digitisation; encompassing tablet and software configuration, tablet and puck, grids setup and alignment marks for various size drawings, software parameters setting, hard copy drawings digitisation to tablet parameters
- ☐ digitised drawing editor, manipulation and save
- ☐ digitise and grid setups and alignment marks on a hard copy of a large drawing (e.g. A1)
- ☐ scanning devices and peripherals setup encompassing associated software usage, save (e.g. file formats for use other software applications) and management
- ☐ scanned image conversion to vector format, edit and save in file formats for use in CAD; encompassing importation of scanned images into CAD drawings in image formats for editing

EE302	Advanced Engineering Mathematics
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This unit covers the application of advanced computational processes to solve energy sector engineering problems. It encompasses working safely, applying problem solving techniques, using a range of advanced mathematical processes, providing solutions to electrical/electronics engineering problems and justifying such solutions.

Note. Typical engineering problems are those encountered in meeting requirements in a design brief, meeting performance requirements and compliance standards, revising systems operating parameters and dealing with system malfunctions

KS01-EE127A Advanced Engineering Maths

Evidence shall show an understanding of advanced engineering maths to an extent indicated by the following aspects:

T1 Differential Calculus encompassing:

- ☐ basic concepts of differential calculus, limited to definition of the derivative of a function as the slope of a tangent line (the gradient of a curve); limits; basic examples from 1st principles; Notation and Results of derivative of $k.f(ax + b)$ where $f(x)=x$ to the power of n , $\sin x$, $\cos x$, $\tan x$, e to the power of x , $\ln x$.
- ☐ rules - derivative of sum and difference; product rule; quotient rule; chain rule (function of a function), limited to two rules for any given function, the 2nd derivative.
- ☐ applications - equations of tangents and normals; stationary points; turning points; and curve sketching; rates of change; rectilinear motion
- ☐ verbally formulated problems involving related rates and maxima: minima

T2 Integral Calculus encompassing:

- ☐ integration as the inverse operation to differentiation - results of the integral of $k.f(ax + b)$ where $f(x) = x$ to the power of n , $\sin x$, $\cos x$, $\sec^2 x$, e to the power of x , method of substitution, the definite integral.
- ☐ applications - areas between curves; rectilinear motion including displacement from acceleration and distance travelled; voltage and current relationship in capacitors and inductors and the like.

T3 Linear Algebra encompassing:

- ☐ matrices and inverse matrices;
- ☐ linear mapping,
- ☐ determinants,
- ☐ solution of linear equations.

T4 Vectors encompassing:

- ☐ geometrical representation,
- ☐ addition and scalar multiplication,
- ☐ dot and cross products,
- ☐ equations of lines and planes.

T5 Variables encompassing:

- ☐ graphs, level curves and surfaces
- ☐ partial derivatives; chain rule; directional derivative;
- ☐ maxima and minima.

T6 Sequences and Series encompassing:

- ☐ algebraic and Fourier series, convergence; Taylor's Theorem
- ☐ power series manipulation.

T7 Differential Equations encompassing:

- ☐ first order and separable linear equations
- ☐ second order linear equations.
- ☐ partial differential equations.
- ☐ numerical Techniques.

T8 Number encompassing:

- ☐ integer, irrational and complex numbers.
- ☐ number systems.
- ☐ arithmetic operations.
- ☐ accuracy and stability.

T9 Statistics encompassing:

- ☐ assembly, representation and analysis of data.
- ☐ fitting distributions to data.
- ☐ non-parametric statistics.
- ☐ tests of significance for means, variances and extreme values.
- ☐ correlation

EE303	Transmission Line
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This unit covers diagnosing and rectifying faults in electrical energy transmission systems. The unit encompasses safe working practices, interpreting diagrams and technical data, applying knowledge of energy supply and transmission systems to logical fault finding processes, implementing fault rectification, safety and functional testing and reporting work activities and outcomes

- a) Overview of the transmission system including lines, buses, transformers and cables. Line/bus layouts including single and double switching, breaker and a half systems and HV crossing methods.
- b) The principles involved in high voltage a.c. transmission including tower types and configurations, choice of towers or poles (economic and environmental), insulator types and configuration, types of conductors, their configuration and standard nomenclature. Typical line spacing and ground clearances. Line ratings based on ambient temperature. Conductor terminating and clamping equipment including vibration damping principles and equipment.
- c) The principles involved in d.c. transmission including the economics, harmonic generation, VAR requirements and protection difficulties. Types of connections and transformer requirements. Advantages and disadvantages of d.c. transmission. Typical overseas systems. Likely (future) use in this country.
- d) The principles of operation, voltage and current range, breaking capacity and field of use of the following types of circuit breakers.
- bulk oil
 - small oil volume
 - air break
 - air blast
 - air puffer
 - vacuum and
 - SF6 (double pressure and puffer types).
- e) The types of isolators in use. Examples include duo-roll, blade and scissor type.
- f) Circuit breaker auxiliary systems including:
- high pressure air systems and air storage and handling processes
 - d.c. systems including battery types, charging and protection systems and earth fault detection systems
 - SF6 conditioning, storage and handling system
- g) The characteristics of lines and cables including the calculation of R, X and B for different arrangements of conductor. Typical values for actual lines. Transposition. Models based on line length. Voltage and line regulation. The transmission of power (P) and VARs (Q).
- h) Control of voltage. Conditions leading to voltage collapse and system disintegration. Effects on the system of high/low volts. Voltage control devices including:
- voltage regulators applied to generators and synchronous phase modifiers
 - electromagnetic voltage regulators
 - series and parallel capacitors
 - OLTC transformers and static Var compensations (SVCs)
- i) Range of devices covered by SVCs including:
- saturated reactor compensations (SRs)
 - thyristor controlled reactor compensators (TCRs)
 - combined TCR/TSCs and

production of wave-form distorting harmonics and control devices

j) Importance of the location in the system of voltage control devices

k) Use of graphical methods to calculate the size of Var regulating plant

l) Types of communication systems including telephone, power line carrier, dedicated cable, micro-wave links and fibreoptics. Quantities and signals to be communicated. Advantages and disadvantages of the various systems. Equipment requirements

m) Transient over-voltages in power systems. Switching and lightning overvoltages and their effect on different plant items. Transient over-voltage control and reduction using surge diverters, shield wires and CB are control. Insulation systems, insulation co-ordination, insulation grading in plant items, bushings and capacitor bushings

n) Factors leading to the generation of corona. Consequences of corona. Reduction of corona including conductor bundling, grading rings and conductor surface treatment

EE304	Power System Protection
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This unit covers developing engineering solutions to resolve problems with energy supply system protection. It encompasses working safely, apply extensive knowledge of energy supply system protection operation, protection devices and their application, gathering and analysing data, applying problem solving techniques, developing and documenting solutions and alternatives.

Note:

Typical protection problems are those encountered in meeting performance requirements and compliance standards, revising a protection operating parameters and dealing with protection malfunctions.

a) Protection scheme requirements

Requirements of a protection scheme

Note: Includes relationship to primary system design, purpose of protection, safety of persons, protection of plant, system instability, system break up, loss of customers, loss of revenue, protection zones, restricted schemes, unrestricted schemes, duplicate protection, local backup protection, remote backup protection, selectivity, discrimination, stability, sensitivity, reliability

Components of a protection scheme

Note: Includes current transformers, potential transformers, summation current transformers, interposing transformers, multitapped transformers, all-or-nothing relays, induction relays, balanced beam relays, directional relays, biased relays, solid state relays, microprocessor based relays, gas relays, thermal sensors, hardwired communication, powerline carriers systems, microwave systems, fibre optic systems, need for isolation, need for interfacing

Protection applied to buses

Note: Includes overload, differential, earth leakage, structure leakage, combined schemes, protection overlap

Protection applied to transformers

Note: Includes biased differential, gas, winding temperature, oil temperature

Protection applied to single/radial lines

Note: Includes overcurrent, earth leakage, slow earth leakage, distance, auto reclose, sectionalising, over voltage

Protection applied to interconnected lines

Note: Includes overcurrent, pilot wire, directional, directional overcurrent, current differential, phase comparison, current comparison, distance, impedance, admittance, offset

b) Discrete protection systems

Earth fault protection

Note: Includes master earth leakage schemes, sensitive earth fault relays and schemes, residual earth fault scheme, core balance earth fault scheme, frame/structure earth leakage scheme, time graded discrimination, backup protection

Overcurrent protection

Note: Includes feeder overcurrent protection, instantaneous overcurrent schemes, inverse timed overcurrent schemes, types and location of components of an overcurrent scheme, CT summation, time graded discrimination, backup protection

Alarms and controls

Note: Includes auxiliary relays, voltage regulating relays, line drop compensation, gas relay types, gas relay scheme operation and setting, over temperature schemes

c) Interdependent protection systems

Overcurrent and earth leakage intertripping, interlocking and blocking

Note:

Includes logic mapping, master control, electromechanical, electronic, shading coils

Pilot wire, phase comparison

Note: Includes opposed voltage schemes, circulating current schemes, location of components of a scheme, pilot supervisory techniques,

Load shedding, voltage control, parallel operation, load rejection

CB failure protection

Reclose systems

Note: Includes applications, single shot, multishot, blocking schemes, synchronisation checking

d) Complex protection systems

Distance

Note: Includes characteristics, electromechanical, electronic, impedance, mho, offset mho, switched schemes, non-switched schemes, blocking schemes, bus zone

Differential, transformer differential, bus overcurrent

Note: Includes principles, feeder protection, transformer protection, bias systems, harmonic restraint, CT connections, bus protection, low impedance schemes, high impedance schemes, bus overcurrent schemes, generator protection, CT connections, special considerations, digital systems

Types of revenue metering

Applications of SCADA

Complex protection systems for communications

Harmonic control

Point on wave switching

EE305	Power Transformer
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This unit covers developing engineering solutions to resolve problems with energy supply system protection. It encompasses working safely, apply extensive knowledge of energy supply power transformer operation and their application, gathering and analysing data, applying problem solving techniques, developing and documenting solutions and alternatives.

Note.

Typical transformer problems are those encountered in meeting performance requirements and compliance standards, revising a transformer operating parameters and dealing with transformer malfunctions

a) Transformer construction and operating principles encompassing:
various types of lamination style and core construction used in single-phase, three-phase, double wound and auto transformers.
different winding styles/types used in transformers.
how input current is limited on no load and how power is transferred from primary to secondary when a load is connected.
using the transformation ratio to determine an unknown quantity of V, I, VA.
significance of nameplate data items.
operation of a transformer under load/no load conditions.
the reason any particular type of transformer is used in a specific application.
safety features specified in regulatory standards with respect to transformers.
safety features specified in regulatory standards with respect to isolating transformers.
basic insulation resistance, continuity and winding identification tests.

b) Transformer parameters encompassing:
the percentage impedance of a transformer by test.
percentage impedance of a transformer by calculation.

the equivalent circuit of a transformer.
calculation of voltage regulation.
losses that occur in a transformer.
tests to determine losses.
efficiency and state typical values.
the all day efficiency of a transformer.

c) Cooling methods encompassing:
methods of natural and forced cooling.
properties of transformer oil.
tests performed on transformer oil.
auxiliary equipment
the purpose and operation of the types of auxiliary equipment used on transformers

Note. Examples are bushings, explosion vents, surge diverters, tap changers, conservator, breathers and desiccants, gas relays, temperature indicators.

d) Instrument transformers encompassing:
construction of current transformers.
uses and ratings of current transformers.
construction of voltage transformers.
uses and ratings of voltage transformers.
safety techniques when using instrument transformers.

e) Transformer connections encompassing:
vector group of a transformer from a connection diagram.
connections of a three-phase transformer to create a particular vector group.
reasons for using the different vector groups.
purpose of tertiary windings.
consequences/effect of an incorrect connection.

f) Parallel operation encompassing:
polarity markings for the windings of a transformer.
conditions/restrictions for parallel operation of transformers.
calculation of loading on transformers operating in parallel.
connection of transformers in parallel to supply a common load.
the consequences/effect of an incorrect connection.

g) Harmonics in transformers encompassing:
how harmonics are generated in transformers.
problems caused by harmonics in transformers.
measurement of the harmonics in a transformer.
methods/equipment used to overcome harmonics in transformers.

h) High voltage isolation encompassing:
the term high voltage.
procedures for isolating high voltage apparatus.
regulations with respect to *access permits*.
clearances to be observed with respect to high voltages up to 33kV.

the term *'step'* and *'touch'* potential.

EE306	Electro-mechanical Control
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This unit covers solving problems in industrial control systems. The unit encompasses safe working practices, interpreting process and circuit diagrams, applying knowledge of industry controls to problem solving techniques, safety and functional testing and completing the necessary documentation.

Note.

Typical basic industrial control system problems are those encountered in meeting performance requirements and compliance standards, revising control operating parameters and dealing with control malfunctions.

KS01-EI120A

Industrial control systems

Evidence shall show an understanding of industrial control systems to an extent indicated by the following aspects:

Control amplifiers encompassing:

- ☐ Introduction
- ☐ Amplifier Operation
- ☐ Operational Amplifiers
- ☐ Operational Amplifier Configurations

Industrial transducers encompassing:

- ☐ Introduction
- ☐ SI Units
- ☐ Forms of Energy
- ☐ Transducer Terminology
- ☐ Temperature Measurement
- ☐ Force Measurement
- ☐ Speed Measurement

Positional Measurement

Industrial final control elements encompassing:

- ☐ Introduction
- ☐ Electromagnetic Devices
- ☐ Valves
- ☐ Solid State Switching Devices

Industrial control systems encompassing:

- ☐ Automatic Control
- ☐ Open Loop Control
- ☐ Closed Loop Control
- ☐ Control System Terminology
- ☐ Control System Evaluation
- ☐ Two Position Control
- ☐ Proportional Control (P)
- ☐ Proportional + Integral Control (P+I)
- ☐ Proportional + Derivative Control (P+D)
- ☐ Proportional + Integral + Derivative Control (P+I+D)

Industrial control loops and control signals encompassing:

- ☐ Introduction
- ☐ Control Loops
- ☐ Converters (D to A and A to D)
- ☐ Multiplexing

EE307	Energy Efficient Building Design
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This unit covers evaluating energy used in buildings and developing and documenting strategies/methods to effectively reduce energy use without compromising occupancy standards. It encompasses working safely, setting up and conducting evaluation measurements and evaluating energy use from measured parameters.

T1 Climate and thermal comfort encompassing:

- ☐ characteristics of the different Australian climatic types.
- ☐ use of climatic data in published and electronic forms to extract the quantities relevant to energy efficient design.
- ☐ relationship between climate and comfort using bioclimatic or psychrometric charts.
- ☐ calculation of heating or cooling degree days or degree hours for various locations.
- ☐ calculation of thermal neutrality for a given location.

T2 Solar geometry and radiation encompassing:

- ☐ definition of the terms: declination, hour angle, zenith angle, azimuth and altitude angles, the equation of time.
- ☐ conversion of solar time to local time and vice versa.
- ☐ position of the sun and the length of shadows with the aid of algorithms, tables, sun charts or computer software.
- ☐ daily irradiation incident on a wall, window or roof of a given tilt and orientation.
- ☐ relative summer and winter irradiation of windows facing the cardinal orientations.

T3 Heat transfer encompassing:

- ☐ thermal processes of conduction, convection and radiation apply to the transfer of heat in buildings.
- ☐ calculation of the summer and winter U-values of building elements using tables and software.
- ☐ calculation of the infiltration heat transfer in a building.

T4 Glazing Systems encompassing:

- ☐ different types of glazing systems and their characteristics.
- ☐ different types of shading devices and the window orientations for which they are most appropriate.
- ☐ solar heat gain for different glazing types and angles of incidence
- ☐ calculation of the average daily irradiation of a window partly shaded by eaves, using computer software.
- ☐ calculation of the average daily heat gain through a window partly shaded by eaves.

T5 Insulation encompassing:

- ☐ different types of insulation and where they are used.
- ☐ how different types of insulation are installed in roofs, walls

and floors.

- ☐ determination of the minimum R-values of roof insulation for different locations using Australian Standard AS2627 or similar standards.

T6 Thermal mass encompassing:

- ☐ advantages and disadvantages of using substantial thermal mass in different climate types and for different heating and cooling regimes.
- ☐ where thermal mass can be located in a building.
- ☐ explain what is meant by the following terms: time lag, decrement factor, admittance, response factor.

T7 Comfort control strategies encompassing:

- ☐ interpretation of the usefulness of a design strategy with the aid of a psychrometric chart showing control potential zones for a particular location.
- ☐ selection of the most useful comfort control strategies for Australian climatic regions.

T8 Energy efficiency in buildings encompassing:

- ☐ determination of the direction of the following: both true and magnetic, north winter and summer sunrise, winter and summer sunset.
- ☐ solar access in summer and winter to various possible house locations on a site and room locations within the house.
- ☐ how vegetation can be used to both funnel and deflect wind.
- ☐ using cross ventilation as a cooling strategy.

T9 Thermal performance of a building encompassing:

- heating requirements of a building using the heating degree day or hour method.
- dynamic performance predicted by a computer simulation program such as NatHERS or BERS.

T10 Integration of active solar systems encompassing:

- active solar system types available which can provide hot water, space heating and cooling.
- the best location on the roof, and the optimum tilt and orientation of the collector panels.
- function of the main components of an air or water-based solar space heating system.
- schematic of the fluid circuit of an air or water- based space

heating system.

- main solar cooling system types.

T11 Energy rating schemes encompassing:

- differences in approach used by house energy rating schemes in Australia.
- energy performance of a number of houses using a computer simulation program such as NatHERS or BERS.
- other methods to reduce energy consumption within and outside a building including appliance efficiency, human behaviour changes, building management strategies and transportation minimisation.
- additional cost of energy efficiency measures and cost savings using life cycle cost or simple pay back methods according to Aust. Standard AS3595 and AS4536.

T12 Sustainable and safe building materials encompassing:

- common building materials and their embodied energy content.
- environmental impact of the production of various building materials.
- problems associated with the use or disposal of building materials.

EE308	Sustainability
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This unit covers developing strategies to address environmental and sustainability issues in the energy sector. It encompasses working safely, apply extensive knowledge of sustainable energy systems and components and their operating parameters, gathering and analysing data, applying problem solving techniques, developing and documenting alternatives solutions

KS01-EK132A

**Environmental and Sustainability
strategies**

Evidence shall show an understanding of greenhouse reduction strategies to an extent indicated by the following aspects:

T1 Principles of sustainability encompassing:

- ways in which ecosystems moderate climate. ways in which ecosystems purify and store water.
- ways in which ecosystems recycle waste.

T2 Problems in a sustainable world encompassing:

- changes to Australian forest cover since white settlement, and the resulting loss of ecosystem and human benefits.
- changes to Australia's soils since white settlement, and the resulting loss of ecosystem and human benefits.
- changes to Australia's waterways since white settlement, and the resulting loss of ecosystem and human benefits.
- place of environmental accounting in quantifying Australia's environmental losses.
- limits to Australia's population carrying capacity.

T3 Sustainability principles encompassing:

- principles within sustainability including: environmental accounting and economics; full cost pricing; triple bottom line ethic; ecologically sustainable development; greenhouse gas abatement; energy efficiency; resource and water use efficiency; life cycle costing; renewable energy substitution, cleaner production; waste minimisation, reuse and recycling; ecological footprint.

T4 Addressing the problem of global warming encompassing:

- ☐ greenhouse gases and their sources and quantities that contribute to global warming.
- ☐ global warming impacts for Australia for 2030 and 2070 predicted by CSIRO modelling.
- ☐ requirements to achieve stable atmospheric concentrations of greenhouse gases.
- ☐ ecologically and economically sustainable methods for achieving these stable concentrations.

T5 Greenhouse gas emissions profile encompassing:

- ☐ goals and principles of the National Greenhouse Strategy
- ☐ what a greenhouse gas inventory is, why it is required, and the sectors to which it applies
- ☐ uses to which the National Greenhouse Gas Inventory can be applied.

T6 Understanding and communicating climate change and its impacts encompassing:

- ☐ the possible impact of climate change in Australia.
- ☐ techniques for improving the understanding of climate change
- ☐ techniques for communicating to and educating the general

public on greenhouse gas induced climate change.

T7 Partnerships for greenhouse action encompassing:

- ☐ actions achievable by each level of government to implement the NGS.
- ☐ methods by which the community activity can be engaged in the reduction of greenhouse gas emissions.
- ☐ initiatives that can be undertaken by the private sector to reduce greenhouse gas emissions.
- ☐ advantages of international partnerships.
- ☐ emissions trading system.

T8 Efficient and sustainable energy use and supply encompassing:

- ☐ techniques for reducing the greenhouse intensity of energy supply.
- ☐ types of renewable energy sources suitable for use in Australia.
- ☐ methods and technique for improving end-use efficiency.

T9 Efficient transport and sustainable urban planning encompassing:

- ☐ how integrating land use and transport planning can assist the greenhouse problem.
- ☐ how each of the following can be used to mitigate greenhouse gas; travel demand and traffic management strategies; encouraging greater use of public transport, walking and cycling; freight and logistics systems; improving vehicle fuel efficiency and fuel technologies;

T10 Greenhouse sinks and sustainable land management encompassing:

- ☐ how enhancing greenhouse sinks and encouraging sustainable forestry and vegetation management can complement the AGS.
- ☐ how greenhouse gas emissions are obtained from agricultural production and describe techniques to mitigate the emissions.

T11 Models of greenhouse best practice in industrial processes and waste management encompassing:

- ☐ types and methods of reducing greenhouse gas emissions from industry.
- ☐ methods of reducing methane emissions from waste

treatment and disposal.

T12 Adaptation to climate change encompassing:

- ☐ salient points in each of the key sectors that require analysis and the strategies required in the need for adaptation to climate change

EE309

Project Management

Part 1 Project Management

This unit covers the management of large electrical projects involving design, modifications, installation, and/or maintenance of systems and equipment. The unit encompasses management of safety, budget variation, personnel, resources, critical path timelines and completion documentation.

KS01-EG169A Electrical project management

Evidence shall show an understanding of managing electrical projects to an extent indicated by the following aspects:

T1 Defining project parameters encompassing:

- ☐ Project scope
- ☐ Project stakeholders and clients
- ☐ Project phases and the relationship between phases

T2 Time management concepts and standard practices

T3 Financial management encompassing:

- ☐ Financial management concepts
- ☐ Standard practices for managing project finances
- ☐ Project budgets
- ☐ Costs
- ☐ variations and estimations
- ☐ Invoicing against project phases/deliverables
- ☐ Acquittals and the like

T4 Quality management concepts and practices

T5 Human Resource management concepts and practices within a project

T6 Communication management concepts and practices within a project

T7 Risk management and contingencies encompassing:

- ☐ Risk management concepts
- ☐ Internal risks
- ☐ External risks
- ☐ Contingencies
- ☐ Standard practices for managing risk within a project
- ☐ Risk minimisation
- ☐ Risk removal; and the like

T8 Procurement management concepts and practices

T9 Physical Resource management concepts and practices relating to equipment, technology, information and facilities

T10 Contracts encompassing:

- ☐ Contract format
- ☐ Contract content
- ☐ Interpreting contract clauses
- ☐ Legal obligations of contract parties
- ☐ Working to contract specifications
- ☐ Documentation accompanying contracts such as schedules and the like

T11 Performance assessment and continuous improvement

T12 Engineering ethics principles

T13 Customer/Client relations encompassing:

Importance of customer/client relations

- Interpersonal skills that enhance customer/client
- ☐ Dispute resolution
- ☐ Customer/client relations strategies

T14 Electrical industry sector customs and practice encompassing:

- ☐ Equipment procurement, cost/benefit analysis and performance testing
- ☐ Typical approaches to planning and management
- ☐ Successful planning techniques
- ☐ Best practice management methods and styles

Part 2 Project Planning

This unit covers development and documentation of large electrical project proposals, milestones and completions. The unit encompasses, establishing budgets, critical path analysis, development of workflow strategies, documenting, presenting and negotiating budgets and timelines.

KS01-EG170A Electrical project planning

Evidence shall show an understanding of planning projects and analyzing progress to an extent indicated by the following aspects:

T1 Project planning encompassing:

T2 Purpose of project planning Evidence shall show an understanding of managing electrical projects to an extent indicated by the following aspects:

T3 Defining project parameters encompassing:

- ☐ Project scope
- ☐ Project stakeholders and clients
- ☐ Project phases and the relationship between phases
- ☐ Time requirements and limitations
- ☐ Resource requirements and limitations
- ☐ Quality requirements and limitations

T4 Time management concepts and standard practices

T5 Financial management encompassing:

Financial management concepts

- Standard practices for managing project finances
- Project budgets
- Costs
- variations and estimations
- Invoicing against project phases/deliverables
- ☐ Acquittals and the like

T6 Quality management concepts and practices

T7 Human Resource management concepts and practices within a project

T8 Communication management concepts and practices within a project

T9 Risk management and contingencies encompassing:

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- ☐ Importance of customer/client relations
- ☐ Interpersonal skills that enhance customer/client
- ☐ Dispute resolution
- ☐ Customer/client relations strategies

T16 Electrical industry sector customs and practice encompassing:

- ☐ Equipment procurement, cost/benefit analysis and performance testing

REQUIRED SKILLS AND KNOWLEDGE

- ☐ Typical approaches to planning and management
- ☐ Successful planning techniques
- ☐ Best practice management methods and styles
- ☐ Documents needed to plan a project
- ☐ Factors influencing sequence and restraints of project activities
- ☐ Critical path analysis covering graphical representation methods and methods of representing time/rates

T17 Critical path and project analysis encompassing:

- ☐ Purpose of critical path analysis
- ☐ Essential data
- ☐ Relational sequence of work activities
- ☐ Graphical representation methods
- ☐ Methods of representing time/rates
- ☐ Monitoring methods

T18 Electrical industry sector customs and practice encompassing:

- ☐ Equipment procurement, cost/benefit analysis and performance testing
- ☐ Typical approaches to planning and management
- ☐ Successful planning techniques
- ☐ Best practice management methods and styles

EE310	Engineering Officer Competency Report
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This unit covers complying and producing an energy sector report. It encompasses determining the safety requirements are met and all regulatory responsibilities are adhered to. The person competent in this unit must demonstrate an ability to identify information sources and collect and analyse and format information applicable to the electrotechnology industry and produce a report as required.

KS01-EE124A Energy sector detailed report writing

Evidence shall show an understanding of analysis, decision making and reporting as they apply to engineering work functions to an extent indicated by the following aspects:

T1 Communicating with personnel encompassing:

- ☐ Oral communications
- ☐ Written procedures and work instructions

T2 Communicating with suppliers

T3 Communicating with customers

T4 Purpose and extent of maintaining work activities records in an enterprise encompassing:

- ☐ Types of records for maintaining work activities in an enterprise
- ☐ Methods for recording and maintaining work records
- ☐ Work records required by regulation requirements
- ☐ Using basic computer functions encompassing:

- ☐ Starting up
- ☐ Selecting application
- ☐ Entering information
- ☐ Saving
- ☐ Printing

T5 Techniques of analysis encompassing:

- ☐ use of appropriate sampling techniques to collect data.
- ☐ types of data and classification.
- ☐ effective questionnaire design
- ☐ data collection errors.
- ☐ frequency tables.
- ☐ statistical diagrams – drawing and interpretation.
- ☐ the general shape of a frequency distribution.
- ☐ different types of diagrams.
- ☐ mean time between failures calculations

T6 Summary of statistics encompassing

- measures of central tendency
- measures of dispersion
- a 5-point summary for a given data set, box and whisker plot distribution
- ☐ data sets comparison using measures of centre and spread
- ☐ the effect of outliers on measures of centre and spread
- ☐ use computer programs or calculators to simplify calculations

T7 Correlation and regression encompassing:

- ☐ bivariate data and scatter diagrams.
- ☐ product-moment correlation coefficient calculation and interpretation.
- ☐ difference between causation and correlation.
- ☐ equations of regression lines from bivariate data with a calculator and line plotting on a scatter diagram.
- ☐ using the equation of regression to make predictions in practical situations.
- ☐ investigation of practical problems using correlation and regression.

T8 Investigation and reporting encompassing:

- ☐ presentation of a well formatted report with a clearly stated aim.
- ☐ using the internet to obtain relevant data.
- ☐ description of the statistical method and design chosen to meet the aim of the investigation.
- ☐ statistical analysis and results reporting.
- ☐ evaluation and interpretation of the results of the investigation.
- ☐ discussion of the investigation with reference to real world applications.
- ☐ chronology of the investigation.

STAGE (1) DIPLOMA IN CIVIL ENGINEERING (Each 2.5 Credits) (30 Pt)

Certificate in Construction Studies

[CE 106A Detailed Construction & Building Construction Materials](#)

[CE 104 A Building Drawing](#)

[CE 101 Mathematics \(EE201\)](#)

[CE 102 Physics \(EE204\)](#)

[CE 108 Electrical Principle](#)

DIPLOMA IN CIVIL ENGINEERING

[CE 104 Fluid Dynamics](#)

[CE 105 Hydraulic](#)

[CE 106 Hydrology](#)

[CE 107 Sanitation-and-Water-supply](#)

[CE 109 Energy Efficient Building Design \(EE309\)](#)

[CE 110 Building Construction](#)

[EE102 Basic Electrical Fitting & Wiring](#)

Year (2) Advanced Diploma in Civil Engineering Program(30 pt) (Each 2.5 pt)

YEAR (2) SEMESTER (1)

[CE103-Surveying](#)

[CE111A-Road+Bridges](#)

[CE113 Structure 1](#)

[CE114 Structure 2](#)

[CE115 Estimating & Specification](#)

YEAR (2) SEMESTER (2)

[EE104 Electrical Equipments Safety Protection](#)

[EE105 Electrical Installation Design](#)

[ME 102 Engineering Thermodynamics](#)

[ME 334 Airconditioning and Refrigeration](#)

[EE106 Advanced Electrical Wiring](#)

[CE 112 Engineering Mechanics+ ME 301 Applied Mathematics](#)

[EE308 Sustainability](#)

CE 101	Mathematics (EE201)
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This unit covers the application of computational processes to solve engineering problems. It encompasses working safely, applying problem solving techniques, using a range of mathematical processes, providing solutions to electrical/electronics engineering problems and justifying such solutions.

Note. Typical engineering problems are those encountered in meeting requirements in a design brief, meeting performance requirements and compliance standards, revising systems operating parameters and dealing with system malfunctions

KS01-EE126A Electrotechnology engineering maths

Evidence shall show an understanding of electrotechnology engineering maths to an extent indicated by the following aspects:

T1 Rational, irrational numbers and basic algebra

☐ simplification of expressions involving square roots and cube roots

☐ scientific and engineering notation

☐ evaluation of expressions using a calculator

☐ convert units of physical quantities using unity brackets

☐ substitute given values into formulae to find physical quantities

☐ manipulate algebraic expressions using mathematical operations in their correct order,

the laws of indices, expansion of brackets and collecting like terms

T2 Algebraic manipulation

- Factorise algebraic expressions using common factors
- Factorise quadratic expressions using trial and error on the factors of the coefficients
- Simplify algebraic fractions using common denominators and cancelling
- Solve simple one variable equations including algebraic fractions
- Find the quotient and remainder given a linear divisor.
- Transpose formulae to find a required variable.

T3 Laws of indices

- Conversion between decimal notation, scientific notation and engineering notation
- Laws of indices: positive /negative values, multiplication/division, fractional values, index equals zero
- Logarithmic laws: multiply/divide
- solution of exponential equations using logarithms, substitution and solution of relevant formulae involving exponents or logarithms
- Graphs of exponential functions, 10^x and e^x and the inverses $\log_{10}(x)$ and $\log_e(x)$ functions on log-linear graphs
- Convert numbers into scientific and engineering notation using the laws of indices
- Manipulate and simplify arithmetic and algebraic expressions using the laws of indices and logarithms
- Express logarithms as indices.
- Perform logarithmic operations.
- Determine logarithms and antilogarithms to base 10, using a scientific calculator.
- Determine logarithms and antilogarithms to base e, using a scientific calculator.
- Convert logarithmic values from base 10 to base e and vice versa.
- Sketch given functions on log-linear graphs

T4 Estimations, errors and approximations

- Errors in measurement
- Maximum probable error
- Show awareness of errors in measurement and of giving results in appropriate number of significant figures
- Use estimations and approximations to check the reasonableness of results.

T5 Plane figures – triangles and basic trigonometry

- Angles in a triangle
- Isosceles and equilateral triangles
- Congruent triangles
- Similar triangles
- Pythagoras' theorem
- Area of triangles
- Basic trigonometry functions
- Degrees, radians
- The ratios: sin, cos, tan, cosec, sec, cot.
- Inverse trig functions
- Sine and cosine rules

T6 Plane figures - quadrilaterals and circles

- Types and properties of quadrilaterals
- Areas and perimeters of regular quadrilaterals
- Lengths of arcs
- Angles in a circle - degrees
- Angles in a circle - radians
- Lengths of chord segments
- Tangents to circles
- Circumference and area of circles
- Names and characteristics of common polygons

T7 Graphs of Trigonometric functions

- Graph trigonometric functions and solve trigonometric equations.

- Simplify trigonometric expressions using trigonometric identities
- Convert angular measure in degrees to radians and vice versa
- Graph trigonometric functions including graphs of $y = \sin x$ and $y = \cos x$
- Using vocational applications of current or voltage as a function of time, consider changes in amplitude, consider changes in frequency.
- Examine relationships of frequency, period and angular velocity.
- Sketch graphs of the form $f(t) = a \sin \phi t$ and $f(t) = a \cos \phi t$, where a is the peak voltage or current, and ϕ is the angular velocity
- Solve graphically equations of the form $f(t) = a \sin \phi t$ and $f(t) = a \cos \phi t$

T8 Graphs of linear functions

- The number plane
- Gradient and x and y intercepts of a straight line
- Equation of a straight line length and mid-point of a straight line segment
- Function notation

T9 Simultaneous equations

- Graphical solutions
- Substitution
- Elimination
- Solve 2 linear simultaneous equations both algebraically and graphically.

T10 Matrices

- Perform the basic operations on matrices up to 3×3
- Manipulate matrix equations and expressions
- Recognise inverse and identity matrices up to 3×3 and use to solve systems of linear equations.
- Find determinants up to 3×3 and use to solve systems of linear equations.
- Solve problems involving more than two simultaneous equations.
- State the limitations of graphical methods of solution.
- Distinguish between a matrix and an array.
- Describe the null, diagonal and unit matrix
- Describe and identify a singular/non-singular matrix

T11 Quadratic functions

- Graphs of quadratic functions represented by parabolas and the significance of the leading coefficient.
- Graph quadratic functions and solve quadratic equations.
- Sketch and interpret the graphs of quadratic functions showing the significance of the leading coefficient and the zeros
- Solve quadratic equations by factoring or using quadratic formula
- Solve simultaneously linear and quadratic equations algebraically and geometrically
- Interpret verbally formulated problems involving quadratic and linear equations and solve.

T12 Exponential and logarithmic functions

- Transform non-linear functions (including exponential) to linear forms and plot data.
- Draw curves of best fit, interpolate data and estimate constants in suggested relationships.

□ Graph exponential and logarithmic functions and solve exponential and logarithmic equations.

□ Sketch the graphs of simple exponential and logarithmic functions showing behaviour for large and small values

T13 Vectors and Phasors

- The vector as an expression of magnitude and direction
- The vector sum of x and y values in terms of magnitude and direction
- Rectangular components of vectors in the form $x = r \cos \theta$ and $y = r \sin \theta$
- Rectangular-polar and polar-rectangular conversion
- Vector addition and subtraction
- Express rectangular components of vectors in the form $x = r \cos \theta$ and $y = r \sin \theta$

T14 Complex numbers

- Definitions and notation of complex numbers
- Complex numbers as vectors on an Argand diagram
- laws of complex numbers and apply the laws in suitable calculations.
- Plot complex numbers on the Argand plane.
- Express vectors as complex numbers and perform suitable calculations.
- Calculate the conjugate of a complex number.
- Using a calculator for rectangular-polar and polar-rectangular conversions.

CE 108 Electrical Principle

This unit covers determining correct operation of single source d.c. series, parallel and series-parallel circuits and providing solutions as they apply to various electrotechnology work functions. It encompasses working safely, problem solving procedures, including the use of voltage, current and resistance measuring devices, providing solutions derived from measurements and calculations to predictable problems in single and multiple path circuits.

Evidence shall show an understanding of electrical fundamentals and direct current multiple path circuits to an extent indicated by the following aspects:

T1 Basic electrical concepts encompassing:

- electrotechnology industry
- static and current electricity
- production of electricity by renewable and non renewable energy sources
- transportation of electricity from the source to the load via the transmission and distribution systems
- utilisation of electricity by the various loads
- basic calculations involving quantity of electricity, velocity and speed with relationship to the generation and transportation of electricity.

T2 Basic electrical circuit encompassing:

- symbols used to represent an electrical energy source, a load, a switch and a circuit protection device in a circuit diagram
- purpose of each component in the circuit
- effects of an open-circuit, a closed-circuit and a short-circuit
- multiple and sub-multiple units

T3 Ohm's Law encompassing:

- basic d.c. single path circuit.
- voltage and currents levels in a basic d.c. single path circuit.
- effects of an open-circuit, a closed-circuit and a short-circuit on a basic d.c. single path
- relationship between voltage and current from measured values in a simple circuit
- determining voltage, current and resistance in a circuit given any two of these quantities
- graphical relationships of voltage, current and resistance
- relationship between voltage, current and resistance

T4 Electrical power encompassing:

- relationship between force, power, work and energy
- power dissipated in circuit from voltage, current and resistance values
- power ratings of devices
- measurement electrical power in a d.c. circuit

□ effects of power rating of various resistors

T5 Effects of electrical current encompassing:

- physiological effects of current and the fundamental principles (listed in AS/NZS 3000) for protection against the this effect
- basic principles by which electric current can result in the production of heat; the production of magnetic fields; a chemical reaction
- typical uses of the effects of current
- mechanisms by which metals corrode
- fundamental principles (listed in AS/NZS3000) for protection against the damaging effects of current

T6 EMF sources energy sources and conversion electrical energy encompassing:

- basic principles of producing a emf from the interaction of a moving conductor in a magnetic field.
- basic principles of producing an emf from the heating of one junction of a thermocouple.
- basic principles of producing a emf by the application of sun light falling on the surface of photovoltaic cells
- basic principles of generating a emf when a mechanical force is applied to a crystal (piezo electric effect)
- principles of producing a electrical current from primary, secondary and fuel cells
- input, output, efficiency or losses of electrical systems and machines
- effect of losses in electrical wiring and machines
- principle of conservation of energy

T7 Resistors encompassing:

- features of fixed and variable resistor types and typical applications
- identification of fixed and variable resistors
- various types of fixed resistors used in the Electro technology Industry. e.g. wire-wound, carbon film, tapped resistors.
- various types of variable resistors used in the Electro technology Industry e.g. adjustable resistors: potentiometer and rheostat; light dependent resistor (LDR); voltage dependent resistor (VDR) and temperature dependent resistor (NTC, PTC).
- characteristics of temperature, voltage and light dependent resistors and typical applications of each power ratings of a resistor.
- power loss (heat) occurring in a conductor.
- resistance of a colour coded resistor from colour code tables and confirm the value by measurement.
- measurement of resistance of a range of variable' resistors under varying conditions of light, voltage, temperature conditions.
- specifying a resistor for a particular application.

T8 Series circuits encompassing:

- circuit diagram of a single-source d.c. 'series' circuit.
- Identification of the major components of a 'series' circuit: power supply; loads; connecting leads and switch
- applications where 'series' circuits are used in the Electro technology industry.
- characteristics of a 'series' circuit - connection of loads, current path, voltage drops, power dissipation and affects of an open circuit in a 'series' circuit.
- the voltage, current, resistances or power dissipated from measured or given values of any two of these quantities
- relationship between voltage drops and resistance in a simple voltage divider network.
- setting up and connecting a single-source series dc circuit
- measurement of resistance, voltage and current values in a single source series circuit
- effect of an open-circuit on a series connected circuit

T9 Parallel circuits encompassing:

- schematic diagram of a single-source d.c. 'parallel' circuit.
- major components of a 'parallel' circuit (power supply, loads, connecting leads and applications where 'parallel' circuits are used in the Electrotechnology industry).
- characteristics of a 'parallel' circuit. (load connection, current paths, voltage drops, power dissipation, affects of an open circuit in a 'parallel' circuit).
- relationship between currents entering a junction and currents leaving a junction
- relationship between branch currents and resistances in a two branch current divider network.
- calculation of the total resistance of a 'parallel' circuit.
- calculation of the total current of a 'parallel' circuit.
- Calculation of the total voltage and the individual voltage drops of a 'parallel' circuit.
- setting up and connecting a single-source d.c. parallel circuit
- resistance, voltage and current measurements in a single-source parallel circuit
- voltage, current, resistance or power dissipated from measured values of any of these quantities
- output current and voltage levels of connecting cells in parallel.

T10 Series/parallel circuits encompassing:

- schematic diagram of a single-source d.c. 'series/parallel' circuit.
- major components of a 'series/parallel' circuit (power supply, loads, connecting leads and switch)
- applications where 'series/parallel' circuits are used in the Electrotechnology industry.
- characteristics of a 'series/parallel' circuit. (load connection, current paths, voltage drops, power dissipation, affects of an open circuit in a 'series/parallel' circuit).
- relationship between voltages, currents and resistances in a bridge network.
- calculation of the total resistance of a 'series/parallel' circuit.
- calculation of the total current of a 'series/parallel' circuit.
- calculation of the total voltage and the individual voltage drops of a 'series/parallel' circuit.
- setting up and connecting a single-source d.c. series/ parallel circuit
- resistance, voltage and current measurements in a single-source d.c. series / parallel circuit
- the voltage, current, resistances or power dissipated from measured values of any two of these quantities

T11 Factors affecting resistance encompassing:

- four factors that affect the resistance of a conductor (type of material, length, cross-sectional area and temperature)
- affect the change in the type of material (resistivity) has on the resistance of a conductor.
- affect the change in 'length' has on the resistance of a conductor.
- affect the change in 'cross-sectional area' has on the resistance of a conductor.

[illegible]

- effects of resistance on the current-carrying capacity and voltage drop in cables.
- calculation of the resistance of a conductor from factors such as conductor length, cross-sectional area, resistivity and changes in temperature
- using digital and analogue ohmmeter to measure the change in resistance of different types of conductive materials (copper, aluminium, nichrome, tungsten) when those materials undergo a change in type of material length, cross-sectional area and temperature.

T12 Effects of meters in a circuit encompassing:

- selecting an appropriate meter in terms of units to be measured, range, loading effect and accuracy for a given application.
- measuring resistance using direct, volt-ammeter and bridge methods.

- instruments used in the field to measure voltage, current, resistance and insulation resistance and the typical circumstances in which they are used.
- hazards involved in using electrical instruments and the safety control measures that should be taken.
- operating characteristics of analogue and digital meters.
- correct techniques to read the scale of an analogue meters and how to reduce the 'parallax' error.
- types of voltmeters used in the Electrotechnology industry – bench type, clamp meter, Multimeter, etc.
- purpose and characteristics (internal resistance, range, loading effect and accuracy) of a voltmeter.
- types of voltage indicator testers. e.g. LED, neon, solenoid, volt-stick, series tester, etc. and explain the purpose of each voltage indicator tester.
- operation of various voltage indicator testers.
- advantages and disadvantages of each voltage indicator tester.
- various types of ammeters used in the Electrotechnology industry – bench, clamp meter, multimeter, etc.
- purpose of an ammeter and the correct connection (series) of an ammeter into a circuit.
- reasons why the internal resistance of an ammeter must be extremely low and the dangers and consequences of connecting an ammeter in parallel and/or wrong polarity.
- selecting an appropriate meter in terms of units to be measured, range, loading effect and accuracy for a given application
- connecting an analogue/digital voltmeter into a circuit ensuring the polarities are correct and take various voltage readings.
- loading effect of various voltmeters when measuring voltage across various loads.
- using voltage indicator testers to detect the presence of various voltage levels.
- connecting analogue/digital ammeter into a circuit ensuring the polarities are correct and take various current readings.

T13 Resistance measurement encompassing:

- Identification of instruments used in the field to measure resistance (including insulation resistance) and the typical circumstances in which they are used.
- the purpose of an Insulation Resistance (IR) Tester.
- the parts and functions of various analogue and digital IR Tester (selector range switch, zero ohms adjustment, battery check function, scale and connecting leads).
- reasons why the supply must be isolated prior to using the IR tester.
- where and why the continuity test would be used in an electrical installation.
- where and why the insulation resistance test would be used in an electrical installation.
- the voltage ranges of an IR tester and where each range may be used. e.g. 250 V d.c, 500 V d.c and 1000 V d.c
- AS/NZS3000 Wiring Rules requirements – continuity test and insulation resistance (IR) test.
- purpose of regular IR tester calibration.
- the correct methods of storing the IR tester after use
- carry out a calibration check on a IR Tester
- measurement of low values of resistance using an IR tester continuity functions.
- measurement of high values of resistance using an IR tester insulation resistance function.
- volt-ammeter (short shunt and long shunt) methods of measuring resistance.
- calculation of resistance values using voltmeter and ammeter reading (long and short shunt connections)
- measurement of resistance using volt-ammeter methods

T14 Capacitors and Capacitance encompassing:

- basic construction of standard capacitor, highlighting the: plates, dielectric and connecting leads
- different types of dielectric material and each dielectric's relative permittivity.

- identification of various types of capacitors commonly used in the Electrotechnology industry (fixed value capacitors -stacked plate, rolled, electrolytic, ceramic, mica and Variable value capacitors – tuning and trimmer)
- circuit symbol of various types of capacitors: standard; variable, trimmer and polarised
- terms: Capacitance (C), Electric charge (Q) and Energy (W)
- unit of: Capacitance (Farad), Electric charge (Coulomb) and Energy (Joule)
- factors affecting capacitance (the effective area of the plates, the distance between the plates and the type of dielectric) and explain how these factors are present in all circuits to some extent.
- how a capacitor is charged in a d.c. circuit.
- behaviour of a series d.c. circuit containing resistance and capacitance components. - charge and discharge curves

the term 'Time Constant' and its relationship to the charging and discharging of a capacitor.

- calculation of quantities from given information: Capacitance ($Q = VC$); Energy ($W = \frac{1}{2}CV^2$); Voltage ($V = Q/C$)
- calculation one time constant as well as the time taken to fully charge and discharge a given capacitor. ($\tau = RC$)
- connection of a series d.c. circuit containing capacitance and resistor to determine the time constant of the circuit

T15 Capacitors in Series and Parallel encompassing:

- hazards involved in working with capacitance effects and the safety control measures that should be taken.
- safe handling and the correct methods of discharging various size capacitors
- dangers of a charged capacitor and the consequences of discharging a capacitor through a person
- factors which determine the capacitance of a capacitor and explain how these factors are present in all circuits to some extent.
- effects of capacitors connected in parallel by calculating their equivalent capacitance.

CE 102 Physics (EE 204)

This unit covers the law of physics and how they apply to solving electrotechnology related problems. It encompasses working safely, knowledge of measurements of physical phenomena, linear and angular motion, harmonic motion, wave theory, optics, acoustics and heat capacity and transfer, use of measurement techniques, solving physics related problems and documenting justification for such solutions.

KS01-EE082A Electrotechnology engineering physics

Evidence shall show an understanding of electro engineering physics to an extent indicated by the following aspects:

T1 Measurement encompassing

- SI units in measurement of physical phenomena
- Uncertainty and tolerance

T2 Linear motion

T3 Angular motion

T4 Simple harmonic motion and vibration

T5 Wave theory

- Interference

- Diffraction

T6 Electromagnetic waves and propagation

T7 Optics

- Mirrors and lenses

□ Optical fibre

T8 Acoustics and ultrasonics

T9 Heat capacity and heat transfer

□ Fluid power

CE 109 Energy Efficient Building Design (EE309)

This unit covers evaluating energy used in buildings and developing and documenting strategies/methods to effectively reduce energy use without compromising occupancy standards. It encompasses working safely, setting up and conducting evaluation measurements and evaluating energy use from measured parameters.

T1 Climate and thermal comfort encompassing:

- characteristics of the different Australian climatic types.
- use of climatic data in published and electronic forms to extract the quantities relevant to energy efficient design.
- relationship between climate and comfort using bioclimatic or psychrometric charts.
- calculation of heating or cooling degree days or degree hours for various locations.
- calculation of thermal neutrality for a given location.

T2 Solar geometry and radiation encompassing:

- definition of the terms: declination, hour angle, zenith angle, azimuth and altitude angles, the equation of time.
- conversion of solar time to local time and vice versa.
- position of the sun and the length of shadows with the aid of algorithms, tables, sun charts or computer software.
- daily irradiation incident on a wall, window or roof of a given tilt and orientation.
- relative summer and winter irradiation of windows facing the cardinal orientations.

T3 Heat transfer encompassing:

- thermal processes of conduction, convection and radiation apply to the transfer of heat in buildings.
- calculation of the summer and winter U-values of building elements using tables and software.
- calculation of the infiltration heat transfer in a building.

T4 Glazing Systems encompassing:

- different types of glazing systems and their characteristics.
- different types of shading devices and the window orientations for which they are most appropriate.
- solar heat gain for different glazing types and angles of incidence
- calculation of the average daily irradiation of a window partly shaded by eaves, using computer software.
- calculation of the average daily heat gain through a window partly shaded by eaves.

T5 Insulation encompassing:

- different types of insulation and where they are used.
- how different types of insulation are installed in roofs, walls and floors
- determination of the minimum R-values of roof insulation for different locations using Australian Standard AS2627 or similar standards.

T6 Thermal mass encompassing:

- advantages and disadvantages of using substantial thermal mass in different climate types and for different heating and cooling regimes.
- where thermal mass can be located in a building.
- explain what is meant by the following terms: time lag, decrement factor, admittance, response factor.

T7 Comfort control strategies encompassing:

- interpretation of the usefulness of a design strategy with the aid of a psychrometric chart showing control potential zones for a particular location.
- selection of the most useful comfort control strategies for Australian climatic regions.

T8 Energy efficiency in buildings encompassing:

- determination of the direction of the following: both true and magnetic, north winter and summer sunrise, winter and summer sunset.
- solar access in summer and winter to various possible house locations on a site and room locations within the house.
- how vegetation can be used to both funnel and deflect wind.
- using cross ventilation as a cooling strategy.

T9 Thermal performance of a building encompassing:

- heating requirements of a building using the heating degree day or hour method.
- dynamic performance predicted by a computer simulation program such as NatHERS or BERS.

T10 Integration of active solar systems encompassing:

- active solar system types available which can provide hot water, space heating and cooling.
- the best location on the roof, and the optimum tilt and orientation of the collector panels.
- function of the main components of an air or water-based solar space heating system.
- schematic of the fluid circuit of an air or water-based space heating system.
- main solar cooling system types.

T11 Energy rating schemes encompassing:

- differences in approach used by house energy rating schemes in Australia.
- energy performance of a number of houses using a computer simulation program such as NatHERS or BERS.
- other methods to reduce energy consumption within and outside a building including appliance efficiency, human behaviour changes, building management strategies and transportation minimisation.
- additional cost of energy efficiency measures and cost savings using life cycle cost or simple pay back methods according to Aust. Standard AS3595 and AS4536.

T12 Sustainable and safe building materials encompassing:

- common building materials and their embodied

energy content.

□ environmental impact of the production of various building materials.

□ problems associated with the use or disposal of building materials.

EE102

Basic Electrical Fitting & Wiring

This unit covers fixing, securing and mounting techniques as apply in the various electrotechnology work functions. It encompasses the safe use of hand and portable power tools, safe lifting techniques, safe use of ladders and elevated platforms and the selection and safe application of fixing devices and supporting accessories/equipment.

KS01-EE105A Fixing and support devices/techniques

Evidence shall show an understanding of accessories and support and fixing device and methods and their use to an extent indicated by the following aspects:

T1. Device for securing and mounting electrical/electronic/instrumentation/refrigeration/ air-conditioning/telecommunications accessories for supporting, fixing and protecting wiring/cabling/piping and functional accessories to hollow walls encompassing:

□ types and safe application of devices for hollow wall fixing and support

□ methods/techniques used to fix/support to wood, hollow wall, masonry blocks, plasterboard, panelling

□ types and safe application of fixing devices used in the electrotechnology industry for wood and hollow wall structures (wood screws, coach bolts, self-tappers, self drilling, metal thread, hollow wall anchors, behind plaster brackets, stud brackets, plasterboard devices, toggle devices)

□ types of tools used for hollow wall fixing and supporting.

□ using various fixing methods to fix/support to hollow walls.

T2. Device for securing and mounting electrical/electronic/instrumentation/refrigeration/ air-conditioning/telecommunications accessories for supporting, fixing and protecting wiring/cabling/piping and functional accessories to solid walls encompassing:

□ types and safe application of devices used for solid wall fixing and support

□ methods/techniques used in to fix to masonry and concrete structures

□ fixing devices used in the electrotechnology industry for solid wall structures (wall-plugs, expanding concrete fixing devices, gas powered fixing tools, powder actuated fixing tools, loxins, dynabolts, chemical devices)

□ regulatory requirements for use of powder fixing tools.

□ hand and power tools used in fixing and supporting accessories

□ using various fixing methods to fix/support to solid walls

T3. Device for securing and mounting electrical/electronic/instrumentation/refrigeration/ air-conditioning/telecommunications accessories for supporting, fixing and protecting wiring/cabling/piping and functional accessories to metal fixing encompassing:

□ accessories that may be fixed to metal (saddle clips, conduits, brackets, switches)

□ techniques for fixing to metal

□ fixing devices: coach bolts, self-tappers, metal thread bolts, hollow wall anchors, rivets

□ fixing tools - spanners, screwdrivers, power screw drivers, pop riveters, files, reamers

□ OH&S issues related to drilling, cutting, eye protection, metal filings, swarf, noise

□ Using power drills, drill bits, change drill speeds.

□ Install a fixing device and accessory capable of supporting up to 20 kg on the metal plate.

T4. Securing and mounting electrical/electronic/instrumentation/refrigeration/ air-conditioning/telecommunications accessories for supporting, fixing and protecting wiring/cabling/piping and functional accessories using fixing adhesives and tapes encompassing:

□ types and safe application of using adhesives and tapes as fixing devices (load limits of different commercial products)

□ accessories that may be fixed using adhesives and tapes

- techniques for the application of adhesives and tapes
- tools used to apply and cut adhesives and tapes
- hazards and safety measures when working with adhesives and chemical fixing devices (fumes, cutting, eye protection, physical contact, hand protection, ingestion)

EE104	Electrical Equipments Safety Protection
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This unit covers the arrangement and termination of circuits, control and protection devices and systems for electrical installations operating at voltages up to 1,000 V a.c. or 1,500 V d.c. It encompasses knowledge and application of schemes for protection of persons and property, correct functioning, ensuring compatibility with the supply, arranging installation into circuits and selecting and arranging switchgear/controlgear and protective devices to meet compliance requirements and documenting arrangement decisions

KS01-EG063A Electrical installations — arrangement, control and protection

Evidence shall show an understanding of circuit arrangements, control and protection of electrical installations that comply with the Wiring Rules and Service Rules to an extent indicated by the following aspects:

T1 Safety principles to which electrical systems in building and premises shall comply.

- Safety principles are given in Part1 (Section 1) of the Wiring Rules AS/NZS 3000 with deemed-to-comply requirements given in Sections 2 to 8.
- Compliant methods for providing protection - include those for providing protection against direct and indirect contact; thermal effects; unwanted voltages; overcurrent; fault currents; overload; overvoltage; injury from mechanical movement.
- Requirements for installation design and selection of equipment - includes compliant protection arrangements; correct functioning; compatibility with supply; estimation of maximum demands; voltage drop considerations; arrangement of circuits and the like

T2 Circuit and control arrangements encompassing:

- reason for dividing electrical installations into circuits
- factors that shall be considered in determining the number and type of circuits required for an installation.
- daily and seasonal demand for lighting power, heating and other loads in a given installation.
- number and types of circuits required for a particular installation.
- diagrams/schedules of circuits for given installations.
- application and arrangements of SELV and PELV circuits
- application and arrangement of an isolated supply

T3 Hazards and risks in an electrical installation encompassing:

- effects on the human body of various levels of a.c. and d.c. current and duration of current flow for various current paths.
- risk of ignition of flammable materials due the thermal effects of current or electric arcs in normal service of an electrical installation.
- risk of injury from mechanical movement of electrically actuated equipment.
- Protection against direct contact (basic protection)
- acceptable methods
- use of extra-low voltage

T4 Protection against indirect contact encompassing:

- indirect contact with live parts of an electrical installation may occur.
- methods and devices that comply with the Wiring Rules for providing protection against indirect contact.
- components of the 'automatic disconnection of supply' method of protection against indirect contact.
- the terms 'touch voltage' and 'touch current'.
- the current path when a short circuit fault to exposed conductive parts of an appliance

occurs.

- protection against indirect contact is by the use of Class II equipment and by electrical separation.
- additional protection by use of Residual Current Devices (RCDs)
- protection against indirect contact by use of extra-low voltage and electrical separation.
- Protection requirements for damp situations.

T5 Earthing encompassing:

- the terms: earthed, earthed situation, earth electrode, equipotential bonding, multiple earthed neutral (MEN) system, protective earth-neutral (PEN) conductor, main earthing conductor, protective earthing (PE) conductor, functional earthing, MEN link.
- selection of minimum size-earthing conductor for a range of active conductor sizes and materials.
- parts of an earthing system and the purpose of each.
- typical arrangement for a MEN earthing system.
- arrangements of protective earthing conductors that comply with the Wiring Rules.
- requirements for equipotential bonding in a range of installation situations.
- Installation of a MEN earthing system for a single phase installation

T6 Protection against overload and short circuit current encompassing:

- overload current or fault currents in an electrical installation.
- equivalent circuit of an earth fault-loop
- level of fault current possible at a given point in an installation from the fault-loop impedance and data from the electricity distributor.
- methods and devices that comply with the Wiring Rules AS/NZS 3000 for providing protection against the damaging effects of overload and fault current
- requirements for co-ordination between protective devices and conductors
- requirements for co-ordination of protection devices for discrimination and back-up protection.

T7 Devices for automatic disconnection of supply encompassing:

- operating principles of thermal/magnet circuit breakers.
- operating principles of common types of fuses.
- operating principles of residual current devices (RCD).
- time/current curves tripping characteristics of various types of circuit breakers that comply with the requirements of the Wiring Rules.
- time/current curves fusing characteristics of various types of fuses that comply with the requirements of the Wiring Rules.
- time/current curves tripping characteristics of various types of RCDs that comply with the requirements of the Wiring Rules.
- factors in a fault loop that will affect the impedance of the circuit.
- maximum impedance of an earth fault-loop to ensure operating of a protection device.
- selecting a fuse for fault current limiting protection.
- drawing switchboard wiring arrangements of 2-pole RCDs, 4-pole RCDs, combination RCD/MCBs.

T8 Protection against over voltage and under voltage encompassing:

- causes of over voltage and how this may affect the electrical system.
- methods for protection against over voltage.
- causes of under voltage and how this may affect the electrical system.
- methods for protection against under voltage.

T9 Control of an electrical installation and circuits encompassing:

- switch types, current and voltage ratings and IP rating and where these apply.
- switching requirements for isolation, emergency, mechanical maintenance and functional control.

□ control arrangement for complete installations with and without safety services and an alternative supply.

T10 Switchboards / distribution boards encompassing:

- Purpose, types and applications.
- Physical and circuit arrangements for whole current and CT metering.
- Physical and circuit arrangements of main switches, circuit protection devices, fault-current limiters and metering equipment and other distributor equipment.
- compliance requirements (includes location and access, arc fault protection, identification, construction suitability, equipment marking, wiring, fire protection and arc-fault protection).

EE105	Electrical Installation Design
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This unit covers selecting wiring systems and cables for electrical installations operating at voltages up to 1,000V a.c. or 1,500 V d.c. It encompass knowledge and application of wiring systems and cable types, selecting wiring system compatible with the installation conditions, selecting cables that comply with required current-carrying capacity and voltage drop and earth fault-loop impedance limitations, coordination between protective devices and conductors and documenting selection decisions

KS01-EG107A Electrical installation — cable selection and co-ordination

Evidence shall show an understanding of selecting cables and ensuring co-ordination between protection device and conductors in electrical installations that comply with the Wiring Rules, Selection of cables standards and Service Rules to an extent indicated by the following aspects:

T1 Performance requirements - design and safety encompassing:

- harmful effects against which the design of an electrical installation must provide protection.
- performance standards of a correctly functioning electrical installation.
- supply characteristics that shall be considered when designing an electrical installation.
- acceptable methods for determining the maximum demand in consumer's mains and sub-mains.
- AS/NZS 3000 requirements limiting voltage drop in an installation.
- reason for dividing electrical installations into circuits and the factors that shall determine their number and type.
- typical external factors that may damage an electrical installation and that shall be considered in the installation design.
- methods for protecting persons and livestock against direct and indirect contact with conductive parts and the typical application of each.
- acceptable methods of protection against the risks of ignition of flammable materials and injury by burns from the thermal effects of current, in normal service.
- likely sources of unwanted voltages and the methods for dealing with this potential hazard.
- acceptable methods for protecting persons and livestock against injury and property against damage from the effects of over current.
- requirement for protection against fault current.
- requirement for protection against the harmful effects of faults between live parts of circuits supplied at different voltages.
- need for protection against injury from mechanical movement and how this may be achieved.
- features of 'fire rated construction' and how the integrity of the fire rating can be maintained in relation to electrical installation.

T2 Final subcircuit arrangements encompassing:

- factors that shall be considered in determining the number and type of circuits required for an installation.

- daily and seasonal demand for lighting, power, heating and other loads in a given installation.
- number and types of circuits required for a particular installation.
- current requirements for given final subcircuits.
- layout/schedule of circuits for given installations.

T3 Factors affecting the suitability of wiring systems encompassing:

- wiring systems typically used with various construction methods and particular environments.
- installation conditions that may affect the current-carrying capacity of cables.
- external influences that may affect the current-carrying capacity and/or may cause damage to the wiring system.
- AS/NZS 3000 requirements for selecting wiring systems for a range of circuits, installation conditions and construction methods into which the wiring system is to be installed. Note: Wiring systems include cable enclosures, underground wiring, aerial wiring, catenary support, emergency systems, busbar trunking and earth sheath return.

T4 Maximum demand on consumer's mains/submains encompassing:

- acceptable methods for determining the maximum demand on an installation's consumer's mains and submains.
- maximum demand for the consumer's mains for given installations up to 400 A per phase.
- maximum demand for given submains.

T5 Cable selection based on current carrying capacity requirements encompassing:

- installation conditions for a range of wiring systems and applications.
- external influences that require the use of a derating factor.
- AS/NZS 3000 requirements for coordination of cables and protection devices.
- AS/NZS 3008 used to select conductor size based on the maximum current requirement for a given installation condition including any applicable derating factors.

T6 Cable selection based on voltage drop requirements encompassing:

- AS/NZS 3000 requirements for maximum voltage drop in an installation.
- relevant tables in AS/NZS 3008 for unit values of voltage drop.
- calculation of the expected voltage drop in a given circuit.
- selecting cables to satisfy voltage drop requirements in addition to current carrying capacity requirements.

T7 Cable selection based on fault loop impedance requirements encompassing:

- AS/NZS 3000 requirements for maximum fault loop impedance in an installation.
- relevant tables in AS/NZS 3008 to determine cable impedances.
- calculation of the expected fault loop impedance for a given circuit arrangement.
- selecting cables to satisfy fault loop impedance requirements in addition to current carrying capacity requirements and voltage drop requirements.

T8 Selecting protection devices encompassing:

- acceptable methods of protection against indirect contact.
- AS/NZS 3000 requirements for selecting methods and devices to protect against indirect contact for a range of installation types and conditions.
- coordination between conductors and protection devices to ensure the protection of cables from over heating due to over current.
- possible injuries to persons and livestock from hazards due to a short circuit.
- AS/NZS 3000 requirements for selecting devices to protect against overload current for a range of circuits and loads.
- AS/NZS 3000 requirements for selecting devices to protect against short-circuit current for a range of installation conditions.

T9 Selecting devices for isolation and switching encompassing:

- requirements for the provision of the isolation of every circuit in an electrical installation.
- need for protection against mechanical movement of electrically activated equipment.
- AS/NZS 3000 requirements for selecting devices for isolation and switching for a range of installations and conditions.

T10 Switchboards encompassing:

- AS/NZS 3000 and local supply authority requirements for switchboards.
- tariff structures for the supply of electricity.
- equipment installed at the main switchboards with capacities up to 400 A per phase.
- layout of a main switchboard for an installation supplied with single phase single tariff whole current metering.
- layout of a main switchboard for an installation supplied with single phase multiple tariff whole current metering.
- layout of a main switchboard for an installation supplied with multiphase single tariff whole current metering.
- layout of a main switchboard for an installation supplied with multiphase multiple tariff whole current metering.
- layout of a main switchboard for a multiple tenancy installation with whole current metering.
- layout of a main switchboard, including metering, for an installation supplied with three phase CT metering.
- local supply authority requirements for connection of an electrical installation to the electrical supply system

EE106	Advanced Electrical Wiring
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This unit covers the installation in building and premises of wiring enclosures, cable support systems, cables and accessories and designed to operate at voltages up to 1,000 V a.c. or 1,500 V d.c. It encompasses working safely and to installation standards, routing cables to specified locations, terminating cables and connecting wiring at accessories and completing the necessary installation documentation.

KS01-EG103A Installation of wiring systems

Evidence shall show an understanding of the installation of wiring systems that comply with standards to an extent indicated by the following aspects:

T1 Standards, codes and requirements applicable to the installation of wiring systems encompassing:

- Cables and methods of mechanical protection and support
- Protection against and from other services.
- Prohibited cable locations
- Building codes affecting the installation of cables in buildings, structures and premises (limitation on penetration of structural elements, maintenance of fire protection integrity, and wiring above suspected ceilings)
- Issues affecting electrical installations in heritage buildings and premises (limitation on penetration of structural and finished elements, accessing cable routes, types and colour of exposed accessories).

T2 Use of other installation standards called up by the Wiring Rules for special situations encompassing:

- standards that apply to Electromedical treatment areas.
- additional requirements for construction and demolition sites.
- Relocatable installations and their site supply
- additional requirements for caravan park.
- additional requirements for marinas and pleasure craft at low voltage.

□ additional requirements for shows and carnivals.

T3 Hazardous areas encompassing:

- Conditions that apply in an areas that require them to be classified as a 'Hazardous area'.
- Responsibility for classifying a hazardous area
- Awareness of standards called up by the Wiring Rules for selection of equipment and installations in Hazardous areas. (AS/NZS 3000 requirements for hazardous areas).

T4 Requirement for the installation of cables and accessories in damp situations and ELV installations encompassing:

- restricted zones around baths, showers, fixed water containers, pools, sauna heaters and fountains/water features for given installations.
- selecting equipment suitable for installation in given damp situations.
- voltage range that defines extra-low voltage.
- 'Separated extra-low voltage (SELV) system' and a 'Protected extra-low voltage (PELV) system'.
- AS/NZS 3000 requirements for selecting extra-low voltage systems and devices for a range of installations and conditions.

T5 Aerial cabling encompassing:

- Describe the types of aerial cabling.
- State the AS/NZS 3000 and local supply authority requirements for aerial cabling.
- Termination of aerial cables in accordance with AS/NZS 3000 and local requirements.
- installation of consumers mains for connection via overhead consumers terminals in accordance with AS/NZS 3000 and local requirements.
- Testing of installed cables compliance with Australian Standards

T6 Underground cabling encompassing:

- Describe permissible underground cabling systems.
- Identify other underground services.
- State the AS/NZS 3000 and local supply authority requirements for underground cabling.
- List the advantages and disadvantages of underground wiring systems
- selection of underground consumers mains in accordance with AS/NZS 3000 and local requirements

T7 Techniques for installing cables and wiring systems encompassing:

- Typical cable routes through buildings, structures and premises.
- Application of wiring accessories
- Drawing-in, placing and fixing of cables
- Cable and conductor terminations
- Maintaining fire rating integrity.
- Inspecting and testing installed and terminated cables to ensure they comply with continuity and insulation resistance and are safe to connect to the supply.

EE308	Sustainability
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This unit covers developing strategies to address environmental and sustainability issues in the energy sector. It encompasses working safely, apply extensive knowledge of sustainable energy systems and components and their operating parameters, gathering and analysing data, applying problem solving techniques, developing and documenting alternatives solutions

KS01-EK132A

**Environmental and
Sustainability
strategies**

Evidence shall show an understanding of greenhouse reduction strategies to an extent indicated by the following aspects:

T1 Principles of sustainability encompassing:

- ways in which ecosystems moderate climate. ways in which ecosystems purify and store water.
- ways in which ecosystems recycle waste.

T2 Problems in a sustainable world encompassing:

- changes to Australian forest cover since white settlement, and the resulting loss of ecosystem and human benefits.
- changes to Australia's soils since white settlement, and the resulting loss of ecosystem and human benefits.
- changes to Australia's waterways since white settlement, and the resulting loss of ecosystem and human benefits.
- place of environmental accounting in quantifying Australia's environmental losses.
- limits to Australia's population carrying capacity.

T3 Sustainability principles encompassing:

- principles within sustainability including: environmental accounting and economies; full cost pricing; triple bottom line ethic; ecologically sustainable development; greenhouse gas abatement; energy efficiency; resource and water use efficiency; life cycle costing; renewable energy substitution, cleaner production; waste minimisation, reuse and recycling; ecological footprint.

T4 Addressing the problem of global warming encompassing:

- greenhouse gases and their sources and quantities that contribute to global warming.
- global warming impacts for Australia for 2030 and 2070 predicted by CSIRO modelling.
- requirements to achieve stable atmospheric concentrations of greenhouse gases.
- ecologically and economically sustainable methods for achieving these stable concentrations.

T5 Greenhouse gas emissions profile encompassing:

- goals and principles of the National Greenhouse Strategy
- what a greenhouse gas inventory is, why it is required, and the sectors to which it applies
- uses to which the National Greenhouse Gas Inventory can be applied.

T6 Understanding and communicating climate change and its impacts encompassing:

- the possible impact of climate change in Australia.
- techniques for improving the understanding of climate change
- techniques for communicating to and educating the general

public on greenhouse gas induced climate change.

T7 Partnerships for greenhouse action encompassing:

- actions achievable by each level of government to implement the NGS.
- methods by which the community activity can be engaged in the reduction of greenhouse gas emissions.
- initiatives that can be undertaken by the private sector to reduce greenhouse gas emissions.
- advantages of international partnerships.
- emissions trading system.

T8 Efficient and sustainable energy use and supply encompassing:

- techniques for reducing the greenhouse intensity of energy supply.
- types of renewable energy sources suitable for use in Australia.
- methods and technique for improving end-use efficiency.

T9 Efficient transport and sustainable urban planning encompassing:

- how integrating land use and transport planning can assist the greenhouse problem.
- how each of the following can be used to mitigate greenhouse gas; travel demand and traffic management strategies; encouraging greater use of public transport, walking and cycling; freight and logistics systems; improving vehicle fuel efficiency and fuel technologies;

T10 Greenhouse sinks and sustainable land management encompassing:

- how enhancing greenhouse sinks and encouraging sustainable forestry and vegetation management can complement the AGS.
- how greenhouse gas emissions are obtained from agricultural production and describe techniques to mitigate the emissions.

T11 Models of greenhouse best practice in industrial processes and waste management encompassing:

- types and methods of reducing greenhouse gas emissions from industry.
- methods of reducing methane emissions from waste

treatment and disposal.

T12 Adaptation to climate change encompassing:

□ salient points in each of the key sectors that require analysis and the strategies required in the need for adaptation to climate change

ME 301/ CE 104 Fluid Dynamics

Body forces, compressible flow, Navier stroke equation, fluid energy equation, incompressible flow, turbulent flow, instantaneous & average velocity in turbulent flow, inviscid flow, boundary layer approximation.

CE 105 Hydraulic CE 106 Hydrology

Fluid, hydraulic jack, pressure head of fluid, total pressure in immersion surface, buoyancy, pressure gauge, condition of equilibrium, hydrodynamics, head of liquid, Bernaulli's theorem, Venturi meter, water jet, vortex, orifice, flow through orifice, Francis formula, triangular notch, trapezoidal notch, broad crest weir, friction & flow through pipes, flow through nozzle, turbine.

CE 106A Detailed construction & Building Construction Materials

Brick laying, bonding, junction, wall corner, joint arch, brick paving, brick steps, chimney, roof plumbing, eaves gutter, sprouting mitre, gutter joining, sprouting, external / internal angle making PVC angle, moulded angle, obtuse angle, return stop end, sprouting outlet , pvc outlet, joining sprouting bracket.

CE 104A Building Drawing

Scope, drawing paper, scale, instruments, terms, abbreviations, symbols, building geometry, plan, elevation, sections, re-production of drawings, lettering, perspective drawing, 3 dimensional drawing, drawing layout , setting out detailed drawing, detailed construction, joinery details, room schedule, door schedule, window schedule, hardware schedule, schedules of finishes, painting schedule, colour schedules, miscellaneous schedules, structural drawing, frame, RC, beam schedule, structural steel work, electrical drawing, drainage measured drawing, survey drawings, working drawing, alteration plan.

CE 110 Building Construction

Types of loads, beam, shear diagram, roof trusses, foundation engineering, standard penetration test, soil profile, bearing capacity analysis, retaining wall, footing, steel grades, fasteners, weld, truss applications, bracing tall buildings, wind connection for beam/ columns, brace bay, steel joist floors, roof systems, concrete joints, foundations, wall system, fastenings, timber trusses, timber decking, plank and beam frame, fabrication of structural timber, masonry walls, support condition for walls, stud wall construction, partitions, installation methods, floor systems, window / door structure, sand vibration control, roof insulation.

CE 103 Surveying

Art of measuring, slope correction, surveying instruments, level bench mark booking, observation reduce level, error reduction, change of point, HPC method, two peg test, grid level.

CE 106 Hydrology + ME 204 Fluid Mechanics

Axial flow reaction turbine, inward flow reaction turbine, hydrostatics, centre of pressure, Buoyancy, hydrodynamics, orifice, water turbines, venturi meters, weirs.

CE 107 Sanitation/ Water Supply

Basic principle of plumbing, water supply fittings, sanitary drainage system, storm drainage, compression joints, types of pipes, pipe fitting layout, piping installation, schematic wet column, ferrous metal pipes, piping supports, thermal expansion, hot water piping expansion loop, gate valve, globe valve, check valve, ball valve, plumbing fixture usage, basin sink installation, plumbing fitting diagram, plumbing pumping symbols, piping single line drawing, piping installation system, water circulation systems, piping layout for lot, roof drainage.

CE 112 Engineering Mechanics

- Hydraulic jack, stress/ strain , strength of materials, Hooke's law, stress due to thermal expansion, pressure vessel, rivet joints, bending of beams
- Vector, vector diagram, jig gear, reciprocating engine mechanism, framed structures, non coplanar forces, velocity acceleration , projectile, relative velocity, mass acceleration force, work/ power/ energy/ centripetal

acceleration

- Stress in beams, tension, hydraulics

CE 113 Structure 1

- Strength of materials, elongation, stress/ strain problems, impact stress.
- Mechanical properties of materials, stress, compound bars, torsion, moment of resistance, bending moment and shear force.

CE 114 Structure 2

- Members subject to bending, section moment capacity, member capacity of segments with full lateral restraint, design of webs, shear capacity of webs, interaction of shear and bending
- Design of intermediate transverse web stiffeners
- Members subject to axial compression
- Members subject to axial tension
- Members subject to combined actions.
- Fabrication, erection

Study sequence of structure

CE 113 Structure 1

CE 112 Engineering Mechanics

CE 114 Structure 2

CE 115 Estimating & Specification

- Principle of specification & estimation
- Overheads
- Profit
- Labour cost
- Preliminaries
- Labour constant
- Material motor transport
- Mechanical plant
- Excavator
- Earth work
- Brick work
- Roofing
- Carpentry
- Joinery
- Plumbing installation
- Electrical installation
- Plaster work
- Glazing
- Painting decoration
- Drainage
- Pro-rata rate
- Incentive scheme

CE 111A Road & Bridge

Bridge

Types of bridges, truss, cantilever bridge, arch bridge, suspension bridge, double deck bridge, iron brick bridge, iron brick bridge maintenance

Railways

- Alignment , centrifugal force, track

Road

Technical design, alignment, structural design, road pavement , road alignment, intersection points, final centre design work, technical assessment, final choice, time management plan, construction sequence, daily work planning, gang balancing, work control, site camping, hand tools, maintenance, storage, setting out traveller, earth work, embankment, earth work calculation, drainage, road surface drainage, erosion control, cut off drain, site location, work procedures.

ME 102 Engineering Thermodynamics

-Thermodynamic system, thermodynamic properties, quality of the working substances, thermodynamic processes, ideal gas, gas equation during a change of state, thermodynamic process for gas, vanderwaal gas equation, entropy, properties of steam, thermodynamic of working fluids
 -Gas problems, method of expansion/compression, first law of thermodynamics, throttling valve, second law of thermodynamics, third law of thermodynamics

ME 334 Air-conditioning & Refrigeration

- Refrigerant piping, evaporator, compressor, condenser, compressor-condenser circuit, tools
- Air-conditioning equipment, tubing, joining refrigeration piping
- Nitrogen circuit, system charging, electrical test instruments, control equipments, thermostat, compressor
- Control circuit equipment assembly, dual fuel furnace, humidification, comfort, ventilation duct, plenum system.
- Ventilation installation, ventilation fixtures, evaporator outlet temperature, assembly of units, capillary tube, installation of indoor / outdoor units.

EE308	Sustainability
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This unit covers developing strategies to address environmental and sustainability issues in the energy sector. It encompasses working safely, apply extensive knowledge of sustainable energy systems and components and their operating parameters, gathering and analysing data, applying problem solving techniques, developing and documenting alternatives solutions

KS01-EK132A Environmental and Sustainability strategies

Evidence shall show an understanding of greenhouse reduction strategies to an extent indicated by the following aspects:

T1 Principles of sustainability encompassing:

- ☐ ways in which ecosystems moderate climate. ways in which ecosystems purify and store water.
- ☐ ways in which ecosystems recycle waste.

T2 Problems in a sustainable world encompassing:

- ☐ changes to Australian forest cover since white settlement, and the resulting loss of ecosystem and human benefits.
- ☐ changes to Australia's soils since white settlement, and the resulting loss of ecosystem and human benefits.
- ☐ changes to Australia's waterways since white settlement, and the resulting loss of ecosystem and human benefits.
- ☐ place of environmental accounting in quantifying Australia's environmental losses.
- ☐ limits to Australia's population carrying capacity.

T3 Sustainability principles encompassing:

- ☐ principles within sustainability including: environmental accounting and economics; full cost pricing; triple bottom line ethic; ecologically sustainable development; greenhouse gas abatement; energy efficiency; resource and water use efficiency; life cycle costing; renewable energy substitution, cleaner production; waste minimisation, reuse and recycling; ecological footprint.

T4 Addressing the problem of global warming encompassing:

- ☐ greenhouse gases and their sources and quantities that contribute to global warming.
- ☐ global warming impacts for Australia for 2030 and 2070 predicted by CSIRO modelling.
- ☐ requirements to achieve stable atmospheric concentrations of greenhouse gases.
- ☐ ecologically and economically sustainable methods for achieving these stable concentrations.

T5 Greenhouse gas emissions profile encompassing:

- ☐ goals and principles of the National Greenhouse Strategy
- ☐ what a greenhouse gas inventory is, why it is required, and the sectors to which it applies
- ☐ uses to which the National Greenhouse Gas Inventory can be applied.

T6 Understanding and communicating climate change and its impacts encompassing:

- ☐ the possible impact of climate change in Australia.
- ☐ techniques for improving the understanding of climate change
- ☐ techniques for communicating to and educating the general

public on greenhouse gas induced climate change.

T7 Partnerships for greenhouse action encompassing:

- ☐ actions achievable by each level of government to implement the NGS.
- ☐ methods by which the community activity can be engaged in the reduction of greenhouse gas emissions.
- ☐ initiatives that can be undertaken by the private sector to reduce greenhouse gas emissions.
- ☐ advantages of international partnerships.
- ☐ emissions trading system.

T8 Efficient and sustainable energy use and supply encompassing:

- ☐ techniques for reducing the greenhouse intensity of energy supply.
- ☐ types of renewable energy sources suitable for use in Australia.
- ☐ methods and technique for improving end-use efficiency.

T9 Efficient transport and sustainable urban planning encompassing:

- ☐ how integrating land use and transport planning can assist the greenhouse problem.
- ☐ how each of the following can be used to mitigate greenhouse gas; travel demand and traffic management strategies; encouraging greater use of public transport, walking and cycling; freight and logistics systems; improving vehicle fuel efficiency and fuel technologies;

T10 Greenhouse sinks and sustainable land management encompassing:

- ☐ how enhancing greenhouse sinks and encouraging sustainable forestry and vegetation management can complement the AGS.
- ☐ how greenhouse gas emissions are obtained from agricultural production and describe techniques to mitigate the emissions.

T11 Models of greenhouse best practice in industrial processes and waste management encompassing:

- ☐ types and methods of reducing greenhouse gas emissions from industry.
- ☐ methods of reducing methane emissions from waste treatment and disposal.

T12 Adaptation to climate change encompassing:

- ☐ salient points in each of the key sectors that require analysis and the strategies required in the need for adaptation to climate change

Year (1)

Certificate in Mechanical Engineering (Each 1.5 Credits) (15 Pt_)

Unit Number	Unit Name	Credit Points
Maths 101	Engineering Mathematics (EE201)	1.5
ME 101	Applied Mathematics	1.5
ME 102	Engineering Thermodynamics	1.5
ME 103	Engineering Mechanics	1.5
ME 104	Machine Principle	1.5
ME 105	Electrical Principle	1.5
ME 106	Electrical Circuits	1.5
ME 107	Heat Transfer	1.5
ME 108	Principle of Engines	1.5
ME201	Introduction to Fluid Mechanics	1.5
	Total	15

Diploma in Mechanical Engineering (Each 1.5 Credits) (15 Pt_)

[ME 202 Introduction to Aero Dynamics](#)

[ME 203 Control Engineering](#)

[ME 204 Engineering Fluid Mechanics](#)

[ME 205 Manufacturing Processes-and-Materials](#)

[ME 206 Introduction to Turbo Machinery](#)

[ME 207 Chemical Thermodynamics](#)

[ME 208 Hydrocarbons](#)

[ME 209 Introduction-to-polymer-science-and-technology](#)

[ME 234 Wind Turbines](#)

[Mgt 501 Basic Management](#)

Year (2)

Advanced Diploma in Mechanical Engineering (Each 1.5 Credits) (30 Pt)

Mathematics

[Maths 403 Engineering-Mathematics \(EE302\)](#)

[Maths 301 Introductory Finite Difference Methods-for-pdes](#)

[Maths 302 Elementary-Linear-Algebra \(EE302\)](#)

[Maths 303 Introductory Finite Volume Methods-for-pdes](#)

[Maths 501 Linear Algebra-c-1 \(EE302\)](#)

Mechanical Engineering

[ME 301 Fluid Dynamics](#)

[ME 302 Automation-and-Robotics](#)

[ME 303 Computer Aided Design and Manufacturing](#)

[ME 304 Introduction to Nonlinearity-in-control-systems](#)

[ME 305 Corrosion Prevention](#)

[ME 306 Theory-of-waves-in-materials](#)

[ME 334 Airconditioning and Refrigeration](#)

[ME 434 Mechtronics-Robotics](#)

[ME 534 Numerical Control](#)

[ME 634 Pneumatics](#)

[EE 617 Building Electrical and Mechanical System Part 1 \(EE309\)](#)

[EE 624 Process Control](#)

[Mgt 503 Production & Operation Management](#)

[Mgt 505 Quality Management and Manufacturing Engineering](#)

Maths 101	Engineering Mathematics (EE201)
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This unit covers the application of computational processes to solve engineering problems. It encompasses working safely, applying problem solving techniques, using a range of mathematical processes, providing solutions to electrical/electronics engineering problems and justifying such solutions.

Note. Typical engineering problems are those encountered in meeting requirements in a design brief, meeting performance requirements and compliance standards, revising systems operating parameters and dealing with system malfunctions

KS01-EE126A Electrotechnology engineering maths

Evidence shall show an understanding of electrotechnology engineering maths to an extent indicated by the following aspects:

T1 Rational, irrational numbers and basic algebra

- ☐ simplification of expressions involving square roots and cube roots
- ☐ scientific and engineering notation
- ☐ evaluation of expressions using a calculator
- ☐ convert units of physical quantities using unity brackets
- ☐ substitute given values into formulae to find physical quantities
- ☐ manipulate algebraic expressions using mathematical operations in their correct order, the laws of indices, expansion of brackets and collecting like terms

T2 Algebraic manipulation

- ☐ Factorise algebraic expressions using common factors
- ☐ Factorise quadratic expressions using trial and error on the factors of the coefficients
- ☐ Simplify algebraic fractions using common denominators and cancelling
- ☐ Solve simple one variable equations including algebraic fractions
- ☐ Find the quotient and remainder given a linear divisor.
- ☐ Transpose formulae to find a required variable.

T3 Laws of indices

- ☐ Conversion between decimal notation, scientific notation and engineering notation
- ☐ Laws of indices: positive /negative values, multiplication/division, fractional values, index equals zero
- ☐ Logarithmic laws: multiply/divide
- ☐ solution of exponential equations using logarithms, substitution and solution of relevant formulae involving exponents or logarithms
- ☐ Graphs of exponential functions, 10^x and e^x and the inverses $\log_{10}(x)$ and $\log_e(x)$ functions on log-linear graphs
- ☐ Convert numbers into scientific and engineering notation using the laws of indices
- ☐ Manipulate and simplify arithmetic and algebraic expressions using the laws of indices and logarithms
- ☐ Express logarithms as indices.
- ☐ Perform logarithmic operations.

- Determine logarithms and antilogarithms to base 10, using a scientific calculator.
- Determine logarithms and antilogarithms to base e, using a scientific calculator.
- Convert logarithmic values from base 10 to base e and vice versa.
- Sketch given functions on log-linear graphs

T4 Estimations, errors and approximations

- Errors in measurement
- Maximum probable error
- Show awareness of errors in measurement and of giving results in appropriate number of significant figures
- Use estimations and approximations to check the reasonableness of results.

T5 Plane figures – triangles and basic trigonometry

- Angles in a triangle
- Isosceles and equilateral triangles
- Congruent triangles
- Similar triangles
- Pythagoras' theorem
- Area of triangles
- Basic trigonometry functions
- Degrees, radians
- The ratios: sin, cos, tan, cosec, sec, cot.
- Inverse trig functions
- Sine and cosine rules

T6 Plane figures - quadrilaterals and circles

- Types and properties of quadrilaterals
- Areas and perimeters of regular quadrilaterals
- Lengths of arcs
- Angles in a circle - degrees
- Angles in a circle - radians
- Lengths of chord segments
- Tangents to circles
- Circumference and area of circles
- Names and characteristics of common polygons

T7 Graphs of Trigonometric functions

- Graph trigonometric functions and solve trigonometric equations.
- Simplify trigonometric expressions using trigonometric identities
- Convert angular measure in degrees to radians and vice versa
- Graph trigonometric functions including graphs of $y = \sin x$ and $y = \cos x$
- Using vocational applications of current or voltage as a function of time, consider changes in amplitude, consider changes in frequency.
- Examine relationships of frequency, period and angular velocity.
- Sketch graphs of the form $f(t) = a \sin \phi t$ and $f(t) = a \cos \phi t$, where a is the peak voltage or current, and ϕ is the angular velocity
- Solve graphically equations of the form $f(t) = a \sin \phi t$ and $f(t) = a \cos \phi t$

T8 Graphs of linear functions

- The number plane
- Gradient and x and y intercepts of a straight line
- Equation of a straight line length and mid-point of a straight line segment
- Function notation

T9 Simultaneous equations

- Graphical solutions
- Substitution
- Elimination
- Solve 2 linear simultaneous equations both algebraically and graphically.

T10 Matrices

- Perform the basic operations on matrices up to 3×3
- Manipulate matrix equations and expressions
- Recognise inverse and identity matrices up to 3×3 and use to solve systems of linear equations.
- Find determinants up to 3×3 and use to solve systems of linear equations.
- Solve problems involving more than two simultaneous equations.
- State the limitations of graphical methods of solution.
- Distinguish between a matrix and an array.
- Describe the null, diagonal and unit matrix
- Describe and identify a singular/non-singular matrix

T11 Quadratic functions

- Graphs of quadratic functions represented by parabolas and the significance of the leading coefficient.
- Graph quadratic functions and solve quadratic equations.
- Sketch and interpret the graphs of quadratic functions showing the significance of the leading coefficient and the zeros
- Solve quadratic equations by factoring or using quadratic formula
- Solve simultaneously linear and quadratic equations algebraically and geometrically
- Interpret verbally formulated problems involving quadratic and linear equations and solve.

T12 Exponential and logarithmic functions

- Transform non-linear functions (including exponential) to linear forms and plot data.
- Draw curves of best fit, interpolate data and estimate constants in suggested relationships.

□ Graph exponential and logarithmic functions and solve exponential and logarithmic equations.

- Sketch the graphs of simple exponential and logarithmic functions showing behaviour for large and small values

T13 Vectors and Phasors

- The vector as an expression of magnitude and direction
- The vector sum of x and y values in terms of magnitude and direction
- Rectangular components of vectors in the form $x = r \cos \theta$ and $y = r \sin \theta$
- Rectangular-polar and polar-rectangular conversion
- Vector addition and subtraction
- Express rectangular components of vectors in the form $x = r \cos \theta$ and $y = r \sin \theta$

T14 Complex numbers

- Definitions and notation of complex numbers
- Complex numbers as vectors on an Argand diagram
- laws of complex numbers and apply the laws in suitable calculations.
- Plot complex numbers on the Argand plane.
- Express vectors as complex numbers and perform suitable calculations.
- Calculate the conjugate of a complex number.
- Using a calculator for rectangular-polar and polar-rectangular conversions.

ME 106	Electrical Circuits
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This unit covers determining correct operation of single source d.c. series, parallel and series-parallel circuits and providing solutions as they apply to various electrotechnology work functions. It encompasses working safely, problem solving procedures, including the use of voltage, current and resistance measuring devices, providing solutions derived from measurements and calculations to predictable problems in single and multiple path circuits.

Evidence shall show an understanding of electrical fundamentals and direct current multiple path circuits to an extent indicated by the following aspects:

T1 Basic electrical concepts encompassing:

- ☐ electrotechnology industry
- ☐ static and current electricity
- ☐ production of electricity by renewable and non renewable energy sources
- ☐ transportation of electricity from the source to the load via the transmission and distribution systems
- ☐ utilisation of electricity by the various loads
- ☐ basic calculations involving quantity of electricity, velocity and speed with relationship to the generation and transportation of electricity.

T2 Basic electrical circuit encompassing:

- ☐ symbols used to represent an electrical energy source, a load, a switch and a circuit protection device in a circuit diagram
- ☐ purpose of each component in the circuit
- ☐ effects of an open-circuit, a closed-circuit and a short-circuit
- ☐ multiple and sub-multiple units

T3 Ohm's Law encompassing:

- ☐ basic d.c. single path circuit.
- ☐ voltage and currents levels in a basic d.c. single path circuit.
- ☐ effects of an open-circuit, a closed-circuit and a short-circuit on a basic d.c. single path
- ☐ relationship between voltage and current from measured values in a simple circuit
- ☐ determining voltage, current and resistance in a circuit given any two of these quantities
- ☐ graphical relationships of voltage, current and resistance
- ☐ relationship between voltage, current and resistance

T4 Electrical power encompassing:

- ☐ relationship between force, power, work and energy
- ☐ power dissipated in circuit from voltage, current and resistance values
- ☐ power ratings of devices
- ☐ measurement electrical power in a d.c. circuit
- ☐ effects of power rating of various resistors

T5 Effects of electrical current encompassing:

- ☐ physiological effects of current and the fundamental principles (listed in AS/NZS 3000) for protection against the this effect
- ☐ basic principles by which electric current can result in the production of heat; the production of magnetic fields; a chemical reaction
- ☐ typical uses of the effects of current
- ☐ mechanisms by which metals corrode
- ☐ fundamental principles (listed in AS/NZS3000) for protection against the damaging effects of current

T6 EMF sources energy sources and conversion electrical energy encompassing:

- ☐ basic principles of producing a emf from the interaction of a moving conductor in a magnetic field.
- ☐ basic principles of producing an emf from the heating of one junction of a thermocouple.
- ☐ basic principles of producing a emf by the application of sun light falling on the surface of photovoltaic cells
- ☐ basic principles of generating a emf when a mechanical force is applied to a crystal (piezo electric effect)
- ☐ principles of producing a electrical current from primary, secondary and fuel cells

- input, output, efficiency or losses of electrical systems and machines
- effect of losses in electrical wiring and machines
- principle of conservation of energy

T7 Resistors encompassing:

- features of fixed and variable resistor types and typical applications
- identification of fixed and variable resistors
- various types of fixed resistors used in the Electro technology Industry. e.g. wire-wound, carbon film, tapped resistors.
- various types of variable resistors used in the Electro technology Industry e.g. adjustable resistors: potentiometer and rheostat; light dependent resistor (LDR); voltage dependent resistor (VDR) and temperature dependent resistor (NTC, PTC).
- characteristics of temperature, voltage and light dependent resistors and typical applications of each power ratings of a resistor.
- power loss (heat) occurring in a conductor.
- resistance of a colour coded resistor from colour code tables and confirm the value by measurement.
- measurement of resistance of a range of variable' resistors under varying conditions of light, voltage, temperature conditions.
- specifying a resistor for a particular application.

T8 Series circuits encompassing:

- circuit diagram of a single-source d.c. 'series' circuit.
- Identification of the major components of a 'series' circuit: power supply; loads; connecting leads and switch
- applications where 'series' circuits are used in the Electro technology industry.
- characteristics of a 'series' circuit - connection of loads, current path, voltage drops, power dissipation and affects of an open circuit in a 'series' circuit.
- the voltage, current, resistances or power dissipated from measured or given values of any two of these quantities
- relationship between voltage drops and resistance in a simple voltage divider network.
- setting up and connecting a single-source series dc circuit
- measurement of resistance, voltage and current values in a single source series circuit
- effect of an open-circuit on a series connected circuit

T9 Parallel circuits encompassing:

- schematic diagram of a single-source d.c. 'parallel' circuit.
- major components of a 'parallel' circuit (power supply, loads, connecting leads and applications where 'parallel' circuits are used in the Electrotechnology industry.
- characteristics of a 'parallel' circuit. (load connection, current paths, voltage drops, power dissipation, affects of an open circuit in a 'parallel' circuit).
- relationship between currents entering a junction and currents leaving a junction
- relationship between branch currents and resistances in a two branch current divider network.
- calculation of the total resistance of a 'parallel' circuit.
- calculation of the total current of a 'parallel' circuit.
- Calculation of the total voltage and the individual voltage drops of a 'parallel' circuit.
- setting up and connecting a single-source d.c. parallel circuit
- resistance, voltage and current measurements in a single-source parallel circuit
- voltage, current, resistance or power dissipated from measured values of any of these quantities
- output current and voltage levels of connecting cells in parallel.

T10 Series/parallel circuits encompassing:

- schematic diagram of a single-source d.c. 'series/parallel' circuit.
- major components of a 'series/parallel' circuit (power supply, loads, connecting leads and

switch)

- applications where 'series/parallel' circuits are used in the Electrotechnology industry.
- characteristics of a 'series/parallel' circuit. (load connection, current paths, voltage drops, power dissipation, affects of an open circuit in a 'series/parallel' circuit).
- relationship between voltages, currents and resistances in a bridge network.
- calculation of the total resistance of a 'series/parallel' circuit.
- calculation of the total current of a 'series/parallel' circuit.
- calculation of the total voltage and the individual voltage drops of a 'series/parallel' circuit.
- setting up and connecting a single-source d.c. series/ parallel circuit
- resistance, voltage and current measurements in a single-source d.c. series / parallel circuit
- the voltage, current, resistances or power dissipated from measured values of any two of these quantities

T11 Factors affecting resistance encompassing:

- four factors that affect the resistance of a conductor (type of material, length, cross-sectional area and temperature)
- affect the change in the type of material (resistivity) has on the resistance of a conductor.
- affect the change in 'length' has on the resistance of a conductor.
- affect the change in 'cross-sectional area' has on the resistance of a conductor.

[illegible]

- effects of resistance on the current-carrying capacity and voltage drop in cables.
- calculation of the resistance of a conductor from factors such as conductor length, cross-sectional area, resistivity and changes in temperature
- using digital and analogue ohmmeter to measure the change in resistance of different types of conductive materials (copper, aluminium, nichrome, tungsten) when those materials undergo a change in type of material length, cross-sectional area and temperature.

T12 Effects of meters in a circuit encompassing:

- selecting an appropriate meter in terms of units to be measured, range, loading effect and accuracy for a given application.
- measuring resistance using direct, volt-ammeter and bridge methods.
- instruments used in the field to measure voltage, current, resistance and insulation resistance and the typical circumstances in which they are used.
- hazards involved in using electrical instruments and the safety control measures that should be taken.
- operating characteristics of analogue and digital meters.
- correct techniques to read the scale of an analogue meters and how to reduce the 'parallax' error.
- types of voltmeters used in the Electrotechnology industry - bench type, clamp meter, Multimeter, etc.
- purpose and characteristics (internal resistance, range, loading effect and accuracy) of a voltmeter.
- types of voltage indicator testers. e.g. LED, neon, solenoid, volt-stick, series tester, etc. and explain the purpose of each voltage indicator tester.
- operation of various voltage indicator testers.
- advantages and disadvantages of each voltage indicator tester.
- various types of ammeters used in the Electrotechnology industry - bench, clamp meter, multimeter, etc.
- purpose of an ammeter and the correct connection (series) of an ammeter into a circuit.
- reasons why the internal resistance of an ammeter must be extremely low and the dangers and consequences of connecting an ammeter in parallel and/or wrong polarity.
- selecting an appropriate meter in terms of units to be measured, range, loading effect

and accuracy for a given application

- connecting an analogue/digital voltmeter into a circuit ensuring the polarities are correct and take various voltage readings.
- loading effect of various voltmeters when measuring voltage across various loads.
- using voltage indicator testers to detect the presence of various voltage levels.
- connecting analogue/digital ammeter into a circuit ensuring the polarities are correct and take various current readings.

T13 Resistance measurement encompassing:

- Identification of instruments used in the field to measure resistance (including insulation resistance) and the typical circumstances in which they are used.
- the purpose of an Insulation Resistance (IR) Tester.
- the parts and functions of various analogue and digital IR Tester (selector range switch, zero ohms adjustment, battery check function, scale and connecting leads).
- reasons why the supply must be isolated prior to using the IR tester.
- where and why the continuity test would be used in an electrical installation.
- where and why the insulation resistance test would be used in an electrical installation.
- the voltage ranges of an IR tester and where each range may be used. e.g. 250 V d.c, 500 V d.c and 1000 V d.c
- AS/NZS3000 Wiring Rules requirements – continuity test and insulation resistance (IR) test.
- purpose of regular IR tester calibration.
- the correct methods of storing the IR tester after use
- carry out a calibration check on a IR Tester
- measurement of low values of resistance using an IR tester continuity functions.
- measurement of high values of resistance using an IR tester insulation resistance function.
- volt-ammeter (short shunt and long shunt) methods of measuring resistance.
- calculation of resistance values using voltmeter and ammeter reading (long and short shunt connections)
- measurement of resistance using volt-ammeter methods

T14 Capacitors and Capacitance encompassing:

- basic construction of standard capacitor, highlighting the: plates, dielectric and connecting leads
- different types of dielectric material and each dielectric's relative permittivity.
- identification of various types of capacitors commonly used in the Electrotechnology industry (fixed value capacitors -stacked plate, rolled, electrolytic, ceramic, mica and Variable value capacitors – tuning and trimmer)
- circuit symbol of various types of capacitors: standard; variable, trimmer and polarised
- terms: Capacitance (C), Electric charge (Q) and Energy (W)
- unit of: Capacitance (Farad), Electric charge (Coulomb) and Energy (Joule)
- factors affecting capacitance (the effective area of the plates, the distance between the plates and the type of dielectric) and explain how these factors are present in all circuits to some extent.
- how a capacitor is charged in a d.c. circuit.
- behaviour of a series d.c. circuit containing resistance and capacitance components. - charge and discharge curves

the term 'Time Constant' and its relationship to the charging and discharging of a capacitor.

- calculation of quantities from given information: Capacitance ($Q = VC$); Energy ($W = \frac{1}{2}CV^2$); Voltage ($V = Q/C$)
- calculation one time constant as well as the time taken to fully charge and discharge a given capacitor. ($\tau = RC$)
- connection of a series d.c. circuit containing capacitance and resistor to determine the time constant of the circuit

T15 Capacitors in Series and Parallel encompassing:

- hazards involved in working with capacitance effects and the safety control measures that should be taken.
- safe handling and the correct methods of discharging various size capacitors
- dangers of a charged capacitor and the consequences of discharging a capacitor through a person
- factors which determine the capacitance of a capacitor and explain how these factors are present in all circuits to some extent.
- effects of capacitors connected in parallel by calculating their equivalent capacitance.

This unit covers the law of physics and how they apply to solving electrotechnology related problems. It encompasses working safely, knowledge of measurements of physical phenomena, linear and angular motion, harmonic motion, wave theory, optics, acoustics and heat capacity and transfer, use of measurement techniques, solving physics related problems and documenting justification for such solutions.

ME 103	Engineering Mechanics (EE204)
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KS01-EE082A Electrotechnology engineering physics

Evidence shall show an understanding of electro engineering physics to an extent indicated by the following aspects:

T1 Measurement encompassing

- SI units in measurement of physical phenomena
- Uncertainty and tolerance

T2 Linear motion

T3 Angular motion

T4 Simple harmonic motion and vibration

T5 Wave theory

- Interference

- Diffraction

T6 Electromagnetic waves and propagation

T7 Optics

- Mirrors and lenses

- Optical fibre

T8 Acoustics and ultrasonics

T9 Heat capacity and heat transfer

- Fluid power

EE 617 Building Electrical and Mechanical System Part 1 (EE309)

This unit covers evaluating energy used in buildings and developing and documenting strategies/methods to effectively reduce energy use without compromising occupancy standards. It encompasses working safely, setting up and conducting evaluation measurements and evaluating energy use from measured parameters.

T1 Climate and thermal comfort encompassing:

- characteristics of the different Australian climatic types.
- use of climatic data in published and electronic forms to extract the quantities relevant to energy efficient design.
- relationship between climate and comfort using bioclimatic or psychrometric charts.
- calculation of heating or cooling degree days or degree hours for various locations.
- calculation of thermal neutrality for a given location.

T2 Solar geometry and radiation encompassing:

- definition of the terms: declination, hour angle, zenith angle, azimuth and altitude angles, the equation of time.
- conversion of solar time to local time and vice versa.
- position of the sun and the length of shadows with the aid of algorithms, tables, sun charts or computer software.
- daily irradiation incident on a wall, window or roof of a given tilt and orientation.
- relative summer and winter irradiation of windows facing the cardinal orientations.

T3 Heat transfer encompassing:

- thermal processes of conduction, convection and radiation apply to the transfer of heat in buildings.
- calculation of the summer and winter U-values of building elements using tables and software.
- calculation of the infiltration heat transfer in a building.

T4 Glazing Systems encompassing:

- different types of glazing systems and their characteristics.
- different types of shading devices and the window orientations for which they are most appropriate.
- solar heat gain for different glazing types and angles of incidence
- calculation of the average daily irradiation of a window partly shaded by eaves, using computer software.
- calculation of the average daily heat gain through a window partly shaded by eaves.

T5 Insulation encompassing:

- different types of insulation and where they are used.
- how different types of insulation are installed in roofs, walls and floors

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□ determination of the minimum R-values of roof insulation for different locations using Australian Standard AS2627 or similar standards.

T6 Thermal mass encompassing:

□ advantages and disadvantages of using substantial thermal mass in different climate types and for different heating and cooling regimes.

□ where thermal mass can be located in a building.

□ explain what is meant by the following terms: time lag, decrement factor, admittance, response factor.

T7 Comfort control strategies encompassing:

□ interpretation of the usefulness of a design strategy with the aid of a psychrometric chart showing control potential zones for a particular location.

□ selection of the most useful comfort control strategies for Australian climatic regions.

T8 Energy efficiency in buildings encompassing:

□ determination of the direction of the following: both true and magnetic, north winter and summer sunrise, winter and summer sunset.

□ solar access in summer and winter to various possible house locations on a site and room locations within the house.

□ how vegetation can be used to both funnel and deflect wind.

□ using cross ventilation as a cooling strategy.

T9 Thermal performance of a building encompassing:

□ heating requirements of a building using the heating degree day or hour method.

□ dynamic performance predicted by a computer simulation program such as NatHERS or BERS.

T10 Integration of active solar systems encompassing:

- active solar system types available which can provide hot water, space heating and cooling.
- the best location on the roof, and the optimum tilt and orientation of the collector panels.
- function of the main components of an air or water-based solar space heating system.
- schematic of the fluid circuit of an air or water-based space heating system.
- main solar cooling system types.

T11 Energy rating schemes encompassing:

- differences in approach used by house energy rating schemes in Australia.
- energy performance of a number of houses using a computer simulation program such as NatHERS or BERS.
- other methods to reduce energy consumption within and outside a building including appliance efficiency, human behaviour changes, building management strategies and transportation minimisation.
- additional cost of energy efficiency measures and cost savings using life cycle cost or simple pay back methods according to Aust. Standard AS3595 and AS4536.

T12 Sustainable and safe building materials encompassing:

This unit covers building materials and mounting techniques as apply in the various embodied energy content. It encompasses the safe use of hand and portable power tools, safe mounting techniques, safe use of ladders and elevated platforms and the selection and safe application of fixing devices and supporting accessories/equipment.

- problems associated with the use or disposal of building materials.

ME 105	Electrical Principle (EE102)
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KS01-EE105A Fixing and support devices/techniques

Evidence shall show an understanding of accessories and support and fixing device and methods and their use to an extent indicated by the following aspects:

T1. Device for securing and mounting electrical/electronic/instrumentation/refrigeration/ air-conditioning/telecommunications accessories for supporting, fixing and protecting wiring/cabling/piping and functional accessories to hollow walls encompassing:

- types and safe application of devices for hollow wall fixing and support
- methods/techniques used to fix/support to wood, hollow wall, masonry blocks, plasterboard, panelling
- types and safe application of fixing devices used in the electrotechnology industry for wood and hollow wall structures (wood screws, coach bolts, self-tappers, self drilling, metal thread, hollow wall anchors, behind plaster brackets, stud brackets, plasterboard devices, toggle devices)
- types of tools used for hollow wall fixing and supporting.

□ using various fixing methods to fix/support to hollow walls.

T2. Device for securing and mounting electrical/electronic/instrumentation/refrigeration/ air-conditioning/telecommunications accessories for supporting, fixing and protecting wiring/cabling/piping and functional accessories to solid walls encompassing:

- types and safe application of devices used for solid wall fixing and support
- methods/techniques used in to fix to masonry and concrete structures
- fixing devices used in the electrotechnology industry for solid wall structures (wall-plugs, expanding concrete fixing devices, gas powered fixing tools, powder actuated fixing tools, loxins, dynabolts, chemical devices)
- regulatory requirements for use of powder fixing tools.
- hand and power tools used in fixing and supporting accessories
- using various fixing methods to fix/support to solid walls

T3. Device for securing and mounting electrical/electronic/instrumentation/refrigeration/ air-conditioning/telecommunications accessories for supporting, fixing and protecting wiring/cabling/piping and functional accessories to metal fixing encompassing:

- accessories that may be fixed to metal (saddle clips, conduits, brackets, switches)
- techniques for fixing to metal
- fixing devices: coach bolts, self-tappers, metal thread bolts, hollow wall anchors, rivets
- fixing tools - spanners, screwdrivers, power screw drivers, pop riveters, files, reamers
- OH&S issues related to drilling, cutting, eye protection, metal filings, swarf, noise
- Using power drills, drill bits, change drill speeds.
- Install a fixing device and accessory capable of supporting up to 20 kg on the metal plate.

T4. Securing and mounting electrical/electronic/instrumentation/refrigeration/ air-conditioning/telecommunications accessories for supporting, fixing and protecting wiring/cabling/piping and functional accessories using fixing adhesives and tapes encompassing:

- types and safe application of using adhesives and tapes as fixing devices (load limits of different commercial products)
- accessories that may be fixed using adhesives and tapes
- techniques for the application of adhesives and tapes
- tools used to apply and cut adhesives and tapes
- hazards and safety measures when working with adhesives and chemical fixing devices (fumes, cutting, eye protection, physical contact, hand protection, ingestion)

This unit covers the application of advanced computational processes to solve energy sector engineering problems. It encompasses working safely, applying problem solving techniques, using a range of advanced mathematical processes, providing solutions to electrical/electronics engineering problems and justifying such solutions.

Note. Typical engineering problems are those encountered in meeting requirements in a design brief, meeting performance requirements and compliance standards, revising systems operating parameters and dealing with system malfunctions

Maths 403 Engineering-Mathematics (EE302)

Maths 302 Elementary-Linear-Algebra (EE302)

Maths 501 Linear Algebra-c-1 (EE302)

KS01-EE127A Advanced Engineering Maths

Evidence shall show an understanding of advanced engineering maths to an extent indicated by the following aspects:

T1 Differential Calculus encompassing:

- basic concepts of differential calculus, limited to definition of the derivative of a function as the slope of a tangent line (the gradient of a curve); limits; basic examples from 1st principles; Notation and Results of derivative of $k.f(ax + b)$ where $f(x)=x$ to the power of n , $\sin x$, $\cos x$, $\tan x$, e to the power of x , $\ln x$.
- rules - derivative of sum and difference; product rule; quotient rule; chain rule (function of a function), limited to two rules for any given function, the 2nd derivative.
- applications - equations of tangents and normals; stationary points; turning points; and curve sketching; rates of change; rectilinear motion
- verbally formulated problems involving related rates and maxima: minima

T2 Integral Calculus encompassing:

- integration as the inverse operation to differentiation - results of the integral of $k.f(ax + b)$ where $f(x) = x$ to the power of n , $\sin x$, $\cos x$, $\sec^2 x$, e to the power of x , method of substitution, the definite integral.
- applications - areas between curves; rectilinear motion including displacement from acceleration and distance travelled; voltage and current relationship in capacitors and inductors and the like.

T3 Linear Algebra encompassing:

- matrices and inverse matrices;
- linear mapping,
- determinants,
- solution of linear equations.

T4 Vectors encompassing:

- geometrical representation,
- addition and scalar multiplication,
- dot and cross products,
- equations of lines and planes.

T5 Variables encompassing:

- graphs, level curves and surfaces
- partial derivatives; chain rule; directional derivative;
- maxima and minima.

T6 Sequences and Series encompassing:

- algebraic and Fourier series, convergence; Taylor's Theorem
- power series manipulation.

T7 Differential Equations encompassing:

- first order and separable linear equations
- second order linear equations.
- partial differential equations.
- numerical Techniques.

T8 Number encompassing:

- integer, irrational and complex numbers.
- number systems.
- arithmetic operations.
- accuracy and stability.

T9 Statistics encompassing:

- assembly, representation and analysis of data.
- fitting distributions to data.
- non-parametric statistics.
- tests of significance for means, variances and extreme values.

□ correlation

Maths 301 Introductory Finite Difference Methods-for-pdes

The residue Theorem

Fourier Transform

Integral theorem of complex analysis with applications to the evaluation of real integral

Integral theorems – The green Theorem

Cauchy's integral theorem

Cauchy's residue theorem

EE624	Process Control System (EE116)
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This unit covers solving problems in industrial control systems. The unit encompasses safe working practices, interpreting process and circuit diagrams, applying knowledge of industry controls to problem solving techniques, safety and functional testing and completing the necessary documentation.

Note.

Typical basic industrial control system problems are those encountered in meeting performance requirements and compliance standards, revising control operating parameters and dealing with control malfunctions.

KS01-EI120A

I n d u s t r i a l control systems

Evidence shall show an understanding of industrial control systems to an extent indicated by the following aspects:

Control amplifiers encompassing:

- Introduction
- Amplifier Operation
- Operational Amplifiers
- Operational Amplifier Configurations

Industrial transducers encompassing:

- Introduction
- SI Units
- Forms of Energy
- Transducer Terminology
- Temperature Measurement
- Force Measurement
- Speed Measurement

SKILLS AND KNOWLEDGE

- Positional Measurement

Industrial final control elements encompassing:

- Introduction
- Electromagnetic Devices
- Valves
- Solid State Switching Devices

Industrial control systems encompassing:

- ☐ Automatic Control
- ☐ Open Loop Control
- ☐ Closed Loop Control
- ☐ Control System Terminology
- ☐ Control System Evaluation
- ☐ Two Position Control
- ☐ Proportional Control (P)
- ☐ Proportional + Integral Control (P+I)
- ☐ Proportional + Derivative Control (P+D)
- ☐ Proportional + Integral + Derivative Control (P+I+D)

Industrial control loops and control signals encompassing:

- ☐ Introduction
- ☐ Control Loops
- ☐ Converters (D to A and A to D)
- ☐ Multiplexing

Mgt 501+ Mgt 503	Basic Management+ (EE309) Production & Operation Management
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Part 1 Project Management

This unit covers the management of large mechanical projects involving design, modifications, installation, and/or maintenance of systems and equipment. The unit encompasses management of safety, budget variation, personnel, resources, critical path timelines and completion documentation.

KS01-EG169A Project management

Evidence shall show an understanding of managing mechanical projects to an extent indicated by the following aspects:

T1 Defining project parameters encompassing:

- ☐ Project scope
- ☐ Project stakeholders and clients
- ☐ Project phases and the relationship between phases

T2 Time management concepts and standard practices

T3 Financial management encompassing:

- ☐ Financial management concepts
- ☐ Standard practices for managing project finances
- ☐ Project budgets
- ☐ Costs
- ☐ variations and estimations
- ☐ Invoicing against project phases/deliverables
- ☐ Acquittals and the like

T4 Quality management concepts and practices

T5 Human Resource management concepts and practices within a project

T6 Communication management concepts and practices within a project

T7 Risk management and contingencies encompassing:

- ☐ Risk management concepts
- ☐ Internal risks
- ☐ External risks
- ☐ Contingencies
- ☐ Standard practices for managing risk within a project

- ☐ Risk minimisation
- ☐ Risk removal; and the like

T8 Procurement management concepts and practices

T9 Physical Resource management concepts and practices relating to equipment, technology, information and facilities

T10 Contracts encompassing:

- ☐ Contract format
- ☐ Contract content
- ☐ Interpreting contract clauses
- ☐ Legal obligations of contract parties
- ☐ Working to contract specifications
- ☐ Documentation accompanying contracts such as schedules and the like

T11 Performance assessment and continuous improvement

T12 Engineering ethics principles

T13 Customer/Client relations encompassing:

Interpersonal skills that enhance customer/client

- ☐ Dispute resolution
- ☐ Customer/client relations strategies

T14 Mechanical industry sector customs and practice encompassing:

- ☐ Equipment procurement, cost/benefit analysis and performance testing
- ☐ Typical approaches to planning and management
- ☐ Successful planning techniques
- ☐ Best practice management methods and styles

Part 2 Project Planning

This unit covers development and documentation of large electrical project proposals, milestones and completions. The unit encompasses, establishing budgets, critical path analysis, development of workflow strategies, documenting, presenting and negotiating budgets and timelines.

KS01-EG170A Project planning

Evidence shall show an understanding of planning projects and analyzing progress to an extent indicated by the following aspects:

T1 Project planning encompassing:

T2 Purpose of project planning Evidence shall show an understanding of managing electrical projects to an extent indicated by the following aspects:

T3 Defining project parameters encompassing:

- ☐ Project scope
- ☐ Project stakeholders and clients
- ☐ Project phases and the relationship between phases
- ☐ Time requirements and limitations
- ☐ Resource requirements and limitations
- ☐ Quality requirements and limitations

T4 Time management concepts and standard practices

T5 Financial management encompassing:

- ☐ Invoicing against project phases/deliverables
- ☐ Acquittals and the like

T6 Quality management concepts and practices

T7 Human Resource management concepts and practices within a project

T8 Communication management concepts and practices within a project

T9 Risk management and contingencies encompassing:

- ☐ Risk management concepts
- ☐ Internal risks
- ☐ External risks
- ☐ Contingencies
- ☐ Standard practices for managing risk within a project
- ☐ Risk minimisation
- ☐ Risk removal; and the like

T10 Procurement management concepts and practices

T11 Physical Resource management concepts and practices relating to equipment, technology, information and facilities

T12 Contracts encompassing:

- ☐ Contract format
- ☐ Contract content
- ☐ Interpreting contract clauses
- ☐ Legal obligations of contract parties
- ☐ Working to contract specifications
- ☐ Documentation accompanying contracts such as schedules and the like

T13 Performance assessment and continuous improvement

T14 Engineering ethics principles

T15 Customer/Client relations encompassing:

- ☐ Importance of customer/client relations
- ☐ Interpersonal skills that enhance customer/client
- ☐ Dispute resolution
- ☐ Customer/client relations strategies

T16 Mechanical industry sector customs and practice encompassing:

- ☐ Equipment procurement, cost/benefit analysis and performance testing

REQUIRED SKILLS AND KNOWLEDGE

- ☐ Typical approaches to planning and management
- ☐ Successful planning techniques
- ☐ Best practice management methods and styles
- ☐ Documents needed to plan a project
- ☐ Factors influencing sequence and restraints of project activities
- ☐ Critical path analysis covering graphical representation methods and methods of representing time/rates

T17 Critical path and project analysis encompassing:

- ☐ Purpose of critical path analysis
- ☐ Essential data
- ☐ Relational sequence of work activities
- ☐ Graphical representation methods
- ☐ Methods of representing time/rates
- ☐ Monitoring methods

T18 Mechanical industry sector customs and practice encompassing:

- Equipment procurement, cost/benefit analysis and performance testing
- Typical approaches to planning and management
- Successful planning techniques
- Best practice management methods and styles

Mgt 505 Quality Management and Manufacturing Engineering

What Is Quality? Customer's Perspective, Dimensions of Quality: Manufactured Products, Dimensions of Quality:

Services, What Is Quality: Producer's Perspective, Meaning of Quality, Deming Wheel: PDCA Cycle, Quality

Tools, Flow Chart, Cause-and-Effect Diagram, Cause-and-Effect Matrix, Check Sheets and Histograms, Pareto

Analysis, TQM and QMS, Focus of Quality Management— Customers, Quality Management in the Supply Chain, Measuring Customer Satisfaction, Role of Employees in Quality Improvement, Quality Circles, Process (Quality)

Improvement Teams, Quality in Services, Quality Attributes in Services, Breakthrough Strategy: DMAIC,

Profitability, Cost of Quality, Prevention Costs, Appraisal Costs, Internal Failure Costs, External Failure Costs, Measuring and Reporting Quality Costs, Cost of Quality, Quality-Cost Relationship, Effect of Quality Management on

Productivity, Measuring Product Yield and Productivity, Computing Product Cost per Unit, Computing Product Yield

for Multistage Processes, Initial Batch Size For 100 Motors, Quality Productivity Ratio, ISO 9000, ISO 9000 Certification, Implications, and Registrars

ME 101 Applied Mathematics

-Constant acceleration, laws of motion, motion with constant acceleration, velocity-time graph, two dimensional motion, newton laws of motion, equilibrium, components of force, lever, fractional force,

-Centre of gravity, conservation of momentum, energy power, circular motion, motion in vertical circle.

ME 102 Engineering Thermodynamics

-Thermodynamic system, thermodynamic properties, quality of the working substances, thermodynamic processes, ideal gas, gas equation during a change of state, thermodynamic process for gas, vanderwaal gas equation, entropy, properties of steam, thermodynamic of working fluids

-Gas problems, method of expansion/compression, first law of thermodynamics, throttling valve, second law of thermodynamics, third law of thermodynamics

ME 104 Machine Principle

Driving machine, transmission machine, driven machines, rotating machines, machine mountings, principle of balancing, static balancing, dynamic balancing, selection of lubricants, methods of application of lubricants, properties of lubricants, bearings, copper lead alloy, rolling element bearing, linear bearing, fretting, V-belt drives, belt tension adjustment, chain drives, gear drives, shaft coupling types, clutches, method of alignment, O-rings, machine condition monitoring methods, safety gears.

ME 107 Heat Transfer

Principle of internal combustion engine, heat transfer in engine, cylinder heat flux and temperature, heat transfer equation in engine, boiling of coolant, exhaust valve, engine stroke, fuel combustion, products of combustion, ignition circuit, fuel supply lines in engine, fuel pumps, fuel injectors, fuel injection pump, fuel injection timing, fuel governor, governor control system.

ME 201 Introduction to fluid mechanics

- Nature of fluids, fluid as continuum, properties of fluids, viscosity, surface tension, compressibility, fluid statistics, pressure, pressure variation in static fluid, pressure & heat, moment of pressure.
- U tube manometer, buoyancy, basics of fluid flow, velocity field, types of flows, steady flow, unsteady flow, laminar flow, Bernoulli equation, application of Bernoulli equation.
- Discharge coefficients of nozzle, venturimeter, orifice meter, flow nozzle, pitot tube, flow control throttling, varying pump speeds.

ME 202 Introduction to Aerodynamics

- Definition and approaches of aerodynamics, centre of pressure and aerodynamic centre of air foil, airflow circulation, velocity potential, vortex flow, wind tunnel, finite wing theory, airfoil nomenclature
- Resultant force and moment acting on air foil, fundamental of inviscid compressible flow, one dimensional flow equation, quasi one dimensional flow, nozzle and diffuser flow,.
- Fundamental of viscous flow, wind tunnel, a few basic experiments.

ME 203 Control Engineering

ME 304 Non Linearity in Control System

- Feedback control structure, Laplace transform and transfer functions, state-space representation, interconnecting models in MATLAB, single pole transfer functions.
- Step response, two complex poles, effect of a zero, 3 pole transfer function, frequency response and their plotting, Bode diagram.
- Basic concept of feedback control, the closed loops, stability, steady state error, step response, stability.

ME 204 Engineering Fluid Mechanics

ME 301 Fluid Dynamics

Fluid particles, Body forces, compressible flow, incompressible flow, turbulent flow, inviscid flow, boundary layer approximation.

ME 205 Manufacturing Processes and Materials

- Non conventional machining processes, tool wear, tool characteristics, methods of monitoring tool wear, pneumatic method, acceptance sampling.
- Cutting test, electro-discharge machining, hard and soft automation, surface properties and applications, bored holes, integrated manufacturing systems, manufacturing machinery configuration.

ME 206 Introduction to turbo-machinery

- Simple turbine, meridional view, one dimension motion, velocity triangles in turbo machinery, simple analysis of wind turbines.
- Force on wind turbine blades, aerofoil operation & testing, wind turbine design, turbine power control, axial flow machines, radial and centrifugal flow machines, hydraulic turbines.
- Common design choices, turbo machine & system efficiency & reaction, dimensionless parameters for turbo

machinery, coefficients for hydraulic turbines, specific speed for turbines, hydraulic turbines, pelton wheel, analysis approach.

ME 207 Chemical Thermodynamics

Free energy diagram, variation of motor gibbs, liquid-liquid equilibrium, phase behaviour, condition for equilibrium, mole fraction of ethanol, temperature vs solid water + solid ethanol properties, liquid phases.

ME 208 Hydro Carbons

- Viscosity , Benzenes as a model compound, organic compounds, acoustic impedance, organic liquid , electrical properties of organic liquids, optical properties of organic liquids, physical properties of crude oil, densities & viscosities of crudes, viscosities of blended crude oils, coefficient of thermal expansion of crude oils.
- Acoustic impedance of crude oil, densities and viscosities, vehicle fuel pump, refinements of RVP. Thermal conductivity, physical properties of kerosenes, viscosity of kerosenes, kerosene as diluent for lubricating oil, diesel fuels, electrical conductivity of diesel fuel, heavy fuel oils, alcohol containing fuels, methanol, methanol-gasoline blends, ethanol-gasoline blends, bio-diesel fuels.

ME 209 Introduction to polymer science/ technology

Materials and process resources, manufacturing, heat shrinkable tubes, compounding mixing, polymer processing tube extrusion, crosslink , electron accelerator, tube expansion , polymers, elastomers, properties of polymers, composition of synthetic polymers, categories of polymers, basic molecule, synthetic polymers, properties of synthetic polymers, amorphous & semi crystalline, phase transition, polymer properties, crosslinking and elastic memory, fillers, additives for polymers, elastomers, overall product performance, test methods & specification, energy materials, anti tracking materials, material test method, tracking & erosion resistance test, mechanism of iron oxide, base polymer tracking resistance, track prone polymer, stress control, electrical switching behaviour.

ME 234 Wind Turbines

- Sitting of wind turbines, planning constraints, theory of wind energy ,conservation of momentum, wind turbine theory.
- Wind energy , environment, conversation energy, rated and actual power output, wind turbine types, components, anemometer.
- Speed measurement, energy & power in wind, software package

ME 305 Corrosion Prevention

Chemical effect on material, examples of corrosion, galvanic corrosion, intrinsic chemistry, coating, corrosion protection methods, polymer tracking resistance, corrosion in passivation materials, types of corrosion, stress corrosion cracking, carbon steels, concentration cell corrosion.

ME 302 Automation Robotics

- Optimization of production line, organization diagram, description of assembly and characteristics features, mechanisation, involvement of conveyor
- Assembly process, basic assembly scheme, proposal for automation, feeding storage parts, feeder design operation, method of re-filling.
- Operation assembly cell design, flexible mechanised assembly cell, , assembly line operation, investment calculation example.

ME 303 Computer Aided Design & Manufacturing

CAD/CAM System, comparison between different CAD systems, internet based computer design system, complement of data, milling of cylindrical hole, pro-engineered manufactured parts, machine tool co-ordinate system, operation set up, machining sequence program, drilling hole program, simulation program, program to calculate total machining time, reverse engineering, rapid prototyping, basic process, accurate processing, diagram for rapid prototyping techniques, other kinds of reverse engineering, kinds of materials for rapid prototyping.

ME 306 Theory of waves in materials

Equilibrium process, Claudius inequality, basic wave phenomena, wave equation, characteristics of waves, elastic volume and shear waves, vector field of displacement, approximation, convection of a disturbance in a pipe , diffusion of a wave in a pipe.

ME 334 Air-conditioning & Refrigeration

- Refrigerant piping, evaporator, compressor, condenser, compressor-condenser circuit, tools
- Air-conditioning equipment, tubing, joining refrigeration piping
- Nitrogen circuit, system charging, electrical test instruments, control equipments, thermostat, compressor

- Control circuit equipment assembly, dual fuel furnace, humidification, comfort, ventilation duct, plenum system.
- Ventilation installation, ventilation fixtures, evaporator outlet temperature, assembly of units, capillary tube, installation of indoor / outdoor units.

EE308	Sustainability
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This unit covers developing strategies to address environmental and sustainability issues in the energy sector. It encompasses working safely, apply extensive knowledge of sustainable energy systems and components and their operating parameters, gathering and analysing data, applying problem solving techniques, developing and documenting alternatives solutions

KS01-EK132A

Environmental and Sustainability strategies

Evidence shall show an understanding of greenhouse reduction strategies to an extent indicated by the following aspects:

T1 Principles of sustainability encompassing:

- ☐ ways in which ecosystems moderate climate. ways in which ecosystems purify and store water.
- ☐ ways in which ecosystems recycle waste.

T2 Problems in a sustainable world encompassing:

- ☐ changes to Australian forest cover since white settlement, and the resulting loss of ecosystem and human benefits.
- ☐ changes to Australia's soils since white settlement, and the resulting loss of ecosystem and human benefits.
- ☐ changes to Australia's waterways since white settlement, and the resulting loss of ecosystem and human benefits.
- ☐ place of environmental accounting in quantifying Australia's environmental losses.
- ☐ limits to Australia's population carrying capacity.

T3 Sustainability principles encompassing:

- ☐ principles within sustainability including: environmental accounting and economics; full cost pricing; triple bottom line ethic; ecologically sustainable development; greenhouse gas abatement; energy efficiency; resource and water use efficiency; life cycle costing; renewable energy substitution, cleaner production; waste minimisation, reuse and recycling; ecological footprint.

T4 Addressing the problem of global warming encompassing:

- ☐ greenhouse gases and their sources and quantities that contribute to global warming.
- ☐ global warming impacts for Australia for 2030 and 2070 predicted by CSIRO modelling.
- ☐ requirements to achieve stable atmospheric concentrations of greenhouse gases.
- ☐ ecologically and economically sustainable methods for achieving these stable concentrations.

T5 Greenhouse gas emissions profile encompassing:

- ☐ goals and principles of the National Greenhouse Strategy
- ☐ what a greenhouse gas inventory is, why it is required, and the sectors to which it applies
- ☐ uses to which the National Greenhouse Gas Inventory can be applied.

T6 Understanding and communicating climate change and its impacts encompassing:

- ☐ the possible impact of climate change in Australia.
- ☐ techniques for improving the understanding of climate change
- ☐ techniques for communicating to and educating the general

public on greenhouse gas induced climate change.

T7 Partnerships for greenhouse action encompassing:

- ☐ actions achievable by each level of government to implement the NGS.
- ☐ methods by which the community activity can be engaged in the reduction of greenhouse gas emissions.
- ☐ initiatives that can be undertaken by the private sector to reduce greenhouse gas emissions.
- ☐ advantages of international partnerships.
- ☐ emissions trading system.

T8 Efficient and sustainable energy use and supply encompassing:

- ☐ techniques for reducing the greenhouse intensity of energy supply.
- ☐ types of renewable energy sources suitable for use in Australia.
- ☐ methods and technique for improving end-use efficiency.

T9 Efficient transport and sustainable urban planning encompassing:

- ☐ how integrating land use and transport planning can assist the greenhouse problem.
- ☐ how each of the following can be used to mitigate greenhouse gas; travel demand and traffic management strategies; encouraging greater use of public transport, walking and cycling; freight and logistics systems; improving vehicle fuel efficiency and fuel technologies;

T10 Greenhouse sinks and sustainable land management encompassing:

- ☐ how enhancing greenhouse sinks and encouraging sustainable forestry and vegetation management can complement the AGS.
- ☐ how greenhouse gas emissions are obtained from agricultural production and describe techniques to mitigate the emissions.

T11 Models of greenhouse best practice in industrial processes and waste management encompassing:

- ☐ types and methods of reducing greenhouse gas emissions from industry.
- ☐ methods of reducing methane emissions from waste treatment and disposal.

T12 Adaptation to climate change encompassing:

- ☐ salient points in each of the key sectors that require analysis and the strategies required in the need for adaptation to climate change

ME 434 Mechatronics- Robotics

- Performance characteristics, industrial robot tests, position accuracy test, positioning & fixing robot, straight line measurement, transmission of energy, manipulator, interfacing link, end effector interfacing transmitter circuit, signal output condition, input signal circuitry.
- Remote operator station, input/ output signal parallelizing, application , dual gripper, safety joint, mechanical gripper, vacuum gripper, dual magnetic gripper, contact sensor, proximity sensor, non contact sensor, limit switch , program flow chart, thermocouple sensor.
- Robotic part transfer, robot palletizing, connection of network electronic circuit, list of components, robotic programs, velocity control code.

ME 534 Numerical Control

- Components of numerical control, flow diagram, assembly diagram, closed loop, numerical controlled lathe, types of numerical control systems, co-ordinate systems, two axis control, , Z axis control
- Incremental system, absolute system, zero shift system, BCD, ACSII code, Binary coded decimal system, sequence number, leading & trailing zero, suppression
- Feed rate, spindle speed, programming example
- Linear interpolation, circular interpolation, programmable Z depth, tool length compensation
- CNC machines, feed rate, spindle speed, circular interpolation, threading
- Threading numerical program, system subroutines
- CNC program example.

ME 634 Pneumatics

- Principle of pneumatics, force, pressure, flow & pressure drop, compressed air, vacuum pressure, atmospheric pressure, gas laws, Boyle's law, Charles's law, Concept of power transmission, Basic concept of Pneumatic system, Directional control valve.
- Pneumatic valve, valve mechanism , normally open/ close valve, spool/ poppet valve, valve conversion.
- Actuator control, time delay valve, cam roller, power valve, air motors, rotary actuator
- Pneumatic sensor, proximity sensor, control problem analysis, Pneumatic air vane governors

Mgt 503 Production & Operation Management

Analyze business operations using appropriate performance measures, such as flow time, throughput rate and capacity.

2. Propose business solutions in written and verbal forms for operations improvement and process design projects.
3. Identify inefficiency and ineffectiveness in business operations and propose adequate minor changes or major redesigns to improve the process.
4. Understand the theory and implementations of quality control activities for different industries.
5. Use computing software to determine optimal capacity under various situations in a process.
6. Practice team skills to organize a functioning team to analyze and improve business process.

Mgt 105 Quality Management and Manufacturing Engineering

Meaning of Quality?

Quality: Customer's Perspective?

Dimensions of Quality: Manufactured Products

Dimensions of Quality: Services

Quality: Producer's Perspective

Outline Deming's 14 Points.

Deming Wheel: PDCA Cycle.

Cause-and-Effect Diagram

Pareto Analysis.

Control Chart.

Quality Management in the Supply Chain.

Quality Circles.

Quality Attributes in Services

Design for Six Sigma (DFSS).

Prevention Cost

External Failure Costs

Quality costs measure and report?

Measuring Product Yield and Productivity.

Quality-Productivity Ratio.

ISO 9000 certification?

ME 105 Electrical Principle

EE114	Electrical Power Principle
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KS01-EG006A Single and three-phase transformers

Evidence shall show an understanding of single and three phase transformers to an extent indicated by the following aspects:

T1 Transformer construction encompassing:

- ☐ types of lamination style and core construction used in single-phase, three phase, double wound, auto transformers and instrument transformers.
- ☐ identification of different winding styles/types used in transformers.
- ☐ methods used to insulate low and high voltage transformers.
- ☐ construction of transformer tanks for distribution transformers.
- ☐ transformer auxiliary equipment. (Bushings, surge-diverters, tap-changers, hot oil & winding indicators, breather, Buchholz relay and

conservator).

- ☐ function of transformer auxiliary equipment.
- ☐ types of information stated on transformer nameplates.
- ☐ application of transformers.
- ☐ performing basic insulation resistance, continuity and winding identification tests.

T2 Transformer operation encompassing:

- ☐ principles of mutual induction of a transformer.
- ☐ factors that determine the induced voltage in a transformer winding.
- ☐ determining the value of a transformers secondary voltage and current given one winding's electrical details and turns ratio.
- ☐ identification of voltage and current components of a phasor diagram for a transformer on no-load.
- ☐ principles of power transferred from the primary to secondary when a load is connected using a phasor diagram neglecting impedance drops.
- ☐ selecting transformers for specific application/s.
- ☐ safety features specified in AS/NZS3000 with respect to transformers and isolating transformers.

T3 Transformer losses, efficiency and cooling encompassing:

- ☐ power losses which occur in a transformer.
- ☐ tests which allow the power losses of a transformer to be determine.
- ☐ determination of transformer losses and efficiency using test results.

relationship between transformer cooling and rating.

- ☐ methods used for natural and forced cooling of transformers.
- ☐ properties of transformer oil.
- ☐ tests conducted on transformer oil.

T4 Transformer voltage regulation and percent impedance encompassing:

- ☐ voltage regulation as applicable to a transformer.
- ☐ reasons for voltage variation in the output of a transformer.
- ☐ determine the voltage regulation of a transformer from voltage and percentage impedance values.
- ☐ percentage impedance as applied to transformers.
- ☐ determine the percent impedance by using test results.
- ☐ determine percent impedance of a transformer by calculation.

T5 Parallel operation of transformers and transformer auxiliary equipment encompassing:

- ☐ determine polarity markings for an unidentified single phase double wound transformer.
- ☐ need for parallel operation of transformers.
- ☐ conditions/restrictions required before two transformers can be connected in parallel.
- ☐ connecting transformers in parallel to supply a single load (loading on transformers operating in parallel).
- ☐ the consequences/effect of an incorrect connection.

T6 Auto-transformers and instrument transformers encompassing:

- ☐ identification of auto-transformers, voltage transformers and current transformers from their winding diagrams.
- ☐ determining voltage and current in the windings of an auto-transformer by calculation.
- ☐ advantages and disadvantages of an auto-transformer.
- ☐ AS/NZS3000 requirements with respect to transformers.
- ☐ construction of voltage transformers.
- ☐ ratings of voltage transformers.
- ☐ construction of current transformers.
- ☐ ratings of current transformers.
- ☐ precautionary measures taken to connect and disconnect instrument transformers.
- ☐ connection diagrams for instrument transformers.
- ☐ applications for auto-transformers and instrument transformers.

ME 106 Electrical Circuits

EE101	DC Circuit Problems
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This unit covers determining correct operation of single source d.c. series, parallel and series-parallel circuits and providing solutions as they apply to various electrotechnology work functions. It encompasses working safely, problem solving procedures, including the use of voltage, current and resistance measuring devices, providing solutions derived from measurements and calculations to predictable problems in single and multiple path circuits.

Evidence shall show an understanding of electrical fundamentals and direct current multiple path circuits to an extent indicated by the following aspects:

T1 Basic electrical concepts encompassing:

- ☐ electrotechnology industry
- ☐ static and current electricity
- ☐ production of electricity by renewable and non renewable energy sources
- ☐ transportation of electricity from the source to the load via the transmission and distribution systems
- ☐ utilisation of electricity by the various loads
- ☐ basic calculations involving quantity of electricity, velocity and speed with relationship to the generation and transportation of electricity.

T2 Basic electrical circuit encompassing:

- ☐ symbols used to represent an electrical energy source, a load, a switch and a circuit protection device in a circuit diagram
- ☐ purpose of each component in the circuit
- ☐ effects of an open-circuit, a closed-circuit and a short-circuit
- ☐ multiple and sub-multiple units

T3 Ohm's Law encompassing:

- ☐ basic d.c. single path circuit.
- ☐ voltage and currents levels in a basic d.c. single path circuit.
- ☐ effects of an open-circuit, a closed-circuit and a short-circuit on a basic d.c. single path relationship between voltage and current from measured values in a simple circuit
- ☐ determining voltage, current and resistance in a circuit given any two of these quantities
- ☐ graphical relationships of voltage, current and resistance
- ☐ relationship between voltage, current and resistance

T4 Electrical power encompassing:

- ☐ relationship between force, power, work and energy
- ☐ power dissipated in circuit from voltage, current and resistance values
- ☐ power ratings of devices
- ☐ measurement electrical power in a d.c. circuit
- ☐ effects of power rating of various resistors

T5 Effects of electrical current encompassing:

- ☐ physiological effects of current and the fundamental principles (listed in AS/NZS 3000) for protection against the this effect
- ☐ basic principles by which electric current can result in the production of heat; the production of magnetic fields; a chemical reaction
- ☐ typical uses of the effects of current
- ☐ mechanisms by which metals corrode
- ☐ fundamental principles (listed in AS/NZS3000) for protection against the damaging effects of current

T6 EMF sources energy sources and conversion electrical energy encompassing:

- ☐ basic principles of producing a emf from the interaction of a moving conductor in a magnetic field.
- ☐ basic principles of producing an emf from the heating of one junction of a thermocouple.
- ☐ basic principles of producing a emf by the application of sun light falling on the surface of photovoltaic cells
- ☐ basic principles of generating a emf when a mechanical force is applied to a crystal

(piezo electric effect)

- ☐ principles of producing a electrical current from primary, secondary and fuel cells
- ☐ input, output, efficiency or losses of electrical systems and machines
- ☐ effect of losses in electrical wiring and machines
- ☐ principle of conservation of energy

T7 Resistors encompassing:

- ☐ features of fixed and variable resistor types and typical applications
- ☐ identification of fixed and variable resistors
- ☐ various types of fixed resistors used in the Electro technology Industry. e.g. wire-wound, carbon film, tapped resistors.
- ☐ various types of variable resistors used in the Electro technology Industry e.g. adjustable resistors: potentiometer and rheostat; light dependent resistor (LDR); voltage dependent resistor (VDR) and temperature dependent resistor (NTC, PTC).
- ☐ characteristics of temperature, voltage and light dependent resistors and typical applications of each
- ☐ power ratings of a resistor.
- ☐ power loss (heat) occurring in a conductor.
- ☐ resistance of a colour coded resistor from colour code tables and confirm the value by measurement.
- ☐ measurement of resistance of a range of variable' resistors under varying conditions of light, voltage, temperature conditions.
- ☐ specifying a resistor for a particular application.

T8 Series circuits encompassing:

- ☐ circuit diagram of a single-source d.c. 'series' circuit.
- ☐ Identification of the major components of a 'series' circuit: power supply; loads; connecting leads and switch
- ☐ applications where 'series' circuits are used in the Electro technology industry.
- ☐ characteristics of a 'series' circuit - connection of loads, current path, voltage drops, power dissipation and affects of an open circuit in a 'series' circuit.
- ☐ the voltage, current, resistances or power dissipated from measured or given values of any two of these quantities
- ☐ relationship between voltage drops and resistance in a simple voltage divider network.
- ☐ setting up and connecting a single-source series dc circuit
- ☐ measurement of resistance, voltage and current values in a single source series circuit
- ☐ effect of an open-circuit on a series connected circuit

T9 Parallel circuits encompassing:

- ☐ schematic diagram of a single-source d.c. 'parallel' circuit.
- ☐ major components of a 'parallel' circuit (power supply, loads, connecting leads and

· applications where 'parallel' circuits are used in the Electrotechnology industry.

- ☐ characteristics of a 'parallel' circuit. (load connection, current paths, voltage drops, power dissipation, affects of an open circuit in a 'parallel' circuit).
- ☐ relationship between currents entering a junction and currents leaving a junction
- ☐ relationship between branch currents and resistances in a two branch current divider network.
- ☐ calculation of the total resistance of a 'parallel' circuit.
- ☐ calculation of the total current of a 'parallel' circuit.
- ☐ Calculation of the total voltage and the individual voltage drops of a 'parallel' circuit.
- ☐ setting up and connecting a single-source d.c. parallel circuit
- ☐ resistance, voltage and current measurements in a single-source parallel circuit
- ☐ voltage, current, resistance or power dissipated from measured values of any of these quantities

- output current and voltage levels of connecting cells in parallel.

T10 Series/parallel circuits encompassing:

- schematic diagram of a single-source d.c. 'series/parallel' circuit.
- major components of a 'series/parallel' circuit (power supply, loads, connecting leads and switch)
- applications where 'series/parallel' circuits are used in the Electrotechnology industry.
- characteristics of a 'series/parallel' circuit. (load connection, current paths, voltage drops, power dissipation, affects of an open circuit in a 'series/parallel' circuit).
- relationship between voltages, currents and resistances in a bridge network.
- calculation of the total resistance of a 'series/parallel' circuit.
- calculation of the total current of a 'series/parallel' circuit.
- calculation of the total voltage and the individual voltage drops of a 'series/parallel' circuit.
- setting up and connecting a single-source d.c. series/ parallel circuit
- resistance, voltage and current measurements in a single-source d.c. series / parallel circuit
- the voltage, current, resistances or power dissipated from measured values of any two of these quantities

T11 Factors affecting resistance encompassing:

- four factors that affect the resistance of a conductor (type of material, length, cross-sectional area and temperature)
- affect the change in the type of material (resistivity) has on the resistance of a conductor.
- affect the change in 'length' has on the resistance of a conductor.
- affect the change in 'cross-sectional area' has on the resistance of a conductor.

effects of temperature change on the resistance of various conducting materials

- effects of resistance on the current-carrying capacity and voltage drop in cables.
- calculation of the resistance of a conductor from factors such as conductor length, cross-sectional area, resistivity and changes in temperature
- using digital and analogue ohmmeter to measure the change in resistance of different types of conductive materials (copper, aluminium, nichrome, tungsten) when those materials undergo a change in type of material length, cross-sectional area and temperature.

T12 Effects of meters in a circuit encompassing:

- selecting an appropriate meter in terms of units to be measured, range, loading effect and accuracy for a given application.
- measuring resistance using direct, volt-ammeter and bridge methods.
- instruments used in the field to measure voltage, current, resistance and insulation resistance and the typical circumstances in which they are used.
- hazards involved in using electrical instruments and the safety control measures that should be taken.
- operating characteristics of analogue and digital meters.
- correct techniques to read the scale of an analogue meters and how to reduce the 'parallax' error.
- types of voltmeters used in the Electrotechnology industry – bench type, clamp meter, Multimeter, etc.
- purpose and characteristics (internal resistance, range, loading effect and accuracy) of a voltmeter.
- types of voltage indicator testers. e.g. LED, neon, solenoid, volt-stick, series tester, etc. and explain the purpose of each voltage indicator tester.
- operation of various voltage indicator testers.
- advantages and disadvantages of each voltage indicator tester.
- various types of ammeters used in the Electrotechnology industry – bench, clamp meter, multimeter, etc.
- purpose of an ammeter and the correct connection (series) of an ammeter into a circuit.
- reasons why the internal resistance of an ammeter must be extremely low and the dangers and consequences of connecting an ammeter in parallel and/or wrong polarity.
- selecting an appropriate meter in terms of units to be measured, range, loading effect and accuracy for a given application
- connecting an analogue/digital voltmeter into a circuit ensuring the polarities are correct and take various voltage readings.
- loading effect of various voltmeters when measuring voltage across various loads.
- using voltage indicator testers to detect the presence of various voltage levels.
- connecting analogue/digital ammeter into a circuit ensuring the polarities are correct and take various current readings.

T13 Resistance measurement encompassing:

- Identification of instruments used in the field to measure resistance (including insulation resistance) and the typical circumstances in which they are used.
- the purpose of an Insulation Resistance (IR) Tester.
- the parts and functions of various analogue and digital IR Tester (selector range switch, zero ohms adjustment, battery check function, scale and connecting leads).
- reasons why the supply must be isolated prior to using the IR tester.
- where and why the continuity test would be used in an electrical installation.
- where and why the insulation resistance test would be used in an electrical installation.
- the voltage ranges of an IR tester and where each range may be used. e.g. 250 V d.c, 500 V d.c and 1000 V d.c
- AS/NZS3000 Wiring Rules requirements – continuity test and insulation resistance (IR) test.
- purpose of regular IR tester calibration.
- the correct methods of storing the IR tester after use
- carry out a calibration check on a IR Tester
- measurement of low values of resistance using an IR tester continuity functions.
- measurement of high values of resistance using an IR tester insulation resistance function.
- volt-ammeter (short shunt and long shunt) methods of measuring resistance.
- calculation of resistance values using voltmeter and ammeter reading (long and short shunt connections)
- measurement of resistance using volt-ammeter methods

T14 Capacitors and Capacitance encompassing:

- basic construction of standard capacitor, highlighting the: plates, dielectric and connecting leads
- different types of dielectric material and each dielectric's relative permittivity.
- identification of various types of capacitors commonly used in the Electrotechnology industry (fixed value capacitors -stacked plate, rolled, electrolytic, ceramic, mica and Variable value capacitors – tuning and trimmer)
- circuit symbol of various types of capacitors: standard; variable, trimmer and polarised
- terms: Capacitance (C), Electric charge (Q) and Energy (W)

- unit of: Capacitance (Farad), Electric charge (Coulomb) and Energy (Joule)
- factors affecting capacitance (the effective area of the plates, the distance between the plates and the type of dielectric) and explain how these factors are present in all circuits to some extent.
- how a capacitor is charged in a d.c. circuit.
- behaviour of a series d.c. circuit containing resistance and capacitance components. - charge and discharge curves

the term 'Time Constant' and its relationship to the charging and discharging of a capacitor.

- calculation of quantities from given information: Capacitance ($Q = VC$); Energy ($W = \frac{1}{2}CV^2$); Voltage ($V = Q/C$)
- calculation one time constant as well as the time taken to fully charge and discharge a given capacitor. ($\tau = RC$)
- connection of a series d.c. circuit containing capacitance and resistor to determine the time constant of the circuit

T15 Capacitors in Series and Parallel encompassing:

- hazards involved in working with capacitance effects and the safety control measures that should be taken.
- safe handling and the correct methods of discharging various size capacitors
- dangers of a charged capacitor and the consequences of discharging a capacitor through a person
- factors which determine the capacitance of a capacitor and explain how these factors are present in all circuits to some extent.
- effects of capacitors connected in parallel by calculating their equivalent capacitance.
- effects on the total capacitance of capacitors connected in series by calculating their equivalent capacitance.
- Connecting capacitors in series and/or parallel configurations to achieve various capacitance values.
- common faults in capacitors.
- testing of capacitors to determine serviceability.
- application of capacitors in the Electrotechnology industry.

ME 108 Principle of Engine

Principle of internal combustion engine, heat transfer in engine, cylinder heat flux & temperature, heat transfer equation in engine, boiling of coolant, exhaust valves, engine strokes, fuel combustion, product of combustion, ignition circuit, fuel supply lines in engine, fuel pump, fuel injectors, fuel injector, fuel injection pump, fuel injection timing, fuel governor, governor control system.

Diploma in Information Technology (Course Outline)

		St Clements+ Highlight Course	Pt				Australian IT Diploma Course
	THEORETICAL TRAINING						
	ICT 101	Information Technology Fundamentals	3		GC	ICAICT501A	Research and review hardware technology opti
	ICT 102	Computer Applications and Operations	2		GC GC	ICASAS509A ICASAS503A	Provide client IT support services Perform systems tests
	ICT 103	Applied Programming	5	BAE601	GB	ICAPRG523A	Apply advanced programming skills in another
	ICT 104	Program Project	5	BAE601	GB	ICAPRG502A	Manage a project using software management
					GC	ICAICT510A	Determine appropriate IT strategies and soluti
					GD	ICAWEB507A	Customise a complex IT content management :
					GG	CAPMG501A	Manage IT projects
	ICT 105	Systems Analysis and Programs	5	BAE603	Core GC	ICAICT509A ICAICT502A	Gather data to identify business requirements Develop detailed component specifications fro
					Core	ICAICT511A	Match IT needs with the strategic direction of t
	ICT 106	Software Engineering	5	BAE603	GB GB GB	ICAPRG502A ICAPRG510A ICAPRG512A	Manage a project using software management Maintain custom software Prepare for the build phase of an IT system
	ICT 107	Business Information Systems	5		GA	ICANWK501A	Plan, implement and test enterprise communic
	30						
	WORK PERFORMANCE						
	Task 1	Provide the OHS Procedure in workplace			Core	BSBOHS509A	Ensure a safe workplace
	Task 2	Provide the procedure to maintain the IT equipments in workplace			Core	BSBSUS501A	Develop workplace policy and procedures for s
	Task 3	Take the record of sound & picture from an event			GE	ICAGAM504A	Manage interactive media production
	Task 4	Take the digital video by using digital camera & edit/ convert to other formats by provided software			GF	CADMT501A	Incorporate and edit digital video

Advanced Diploma in Information Technology (Course Outline)

		St Clements+ Highlight Course	Pt				Australian IT Diploma Course
		THEORETICAL TRAINING					
	ICT 201	Organisational Behaviour	5			BSBWOR502B BSBMGT516A BSBSUS501A	Ensure team effectiveness Facilitate continuous improvement Develop workplace policy and procedures for s
	ICT 202	Information Systems Principles and Networking	5	BAE602		ICANWK516A ICANWK532A ICANWK614A	Determine best-fit topology for a local network Identify and resolve network problems Manage IT security
	ICT 203	Information Systems, Analysis and Design	5	BAE602	2	ICAPRG602A ICAICT509A ICAICT603A ICAICT608A ICAPMG606A ICAICT713A	Manage the development of technical solutions specifications Gather data to identify business requirements Manage the use of appropriate development m Interact with clients on a business level Manage IT project quality Manage IT services
	ICT 204	Advanced Programming	5	BAE601		ICAPRG527A ICAPRG501A ICAPRG505A	Apply intermediate object-oriented language sl Apply advanced object-oriented language skills Build advanced user interface
	ICT 205 ICT 206	Project Work WORK PERFORMANCE ASSESSMENT	5	BAE602	Core Core Core Core Core	ICAPRG506A ICAPMG601A ICAPMG602A ICAPMG603A ICAPMG604A ICAPMG605A	Manage copyright, ethics and privacy in an IT e Establish IT project governance *Manage IT project initiation *Manage IT project planning *Manage IT project delivery *Manage IT project closure
		Total	30				

	ICT 101	Information Technology Fundamentals
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Structure of computer

IntroductionToComputerHardware

Advanced Hardware

Architecture
Connect Internal Hardware
Requirement for a good computer
Hard Drive Controller
Mother
System Bus
CPU
Power Supply & Surge Protector
Computer Repair
Computer Network

	ICT 102	Computer Applications and Operations
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Word

Creating_Web_Pages_in_Word_
Customize_the_Word_Environment
Editing_a_Document_in_Word
Formatting_Paragraphs_in_Word
Formatting_Text_in_
Graphics in Word
Lists in Word
Macros in Word
Page Formatting in Word
Proof Reading Document in Word
Reference Citation Word

Table Contents Word
Track Change Word
Word Style
Excel

Class Notes-Basic Excel
Advanced Excel
Class Notes-Basic Access
Advanced Access

Power Point

AutoCAD

AutoCAD Class Notes-HTML File
Advanced AutoCAD

BAE 601 Computer Programming (3 pt)

Part (1) Overview Knowledge of the subject

Select any of the following textbooks

- C Programming
- C++ Programming
- C# Programming
- Object Oriented Programming
- C Programming in Linux

IT 401 Object Oriented Programming (1 pt)

IT 402 Structured Programming (1 pt)

IT 403 Visual Basic Programming (1 pt)

For [ICT 204 Advanced Programming](#) & [ICT 104 Program Projects](#)

More detailed aspects of programs are to be written

BAE 602 Computer Network (1 pt)

Computer Network

Peer to peer networking

Client server networking

Network hardware

Network cable

Hub

Wired network

Wireless network card

Firewall

Wiring the network

Wiring the network

Running the network program

Viewing network connection

Network set up on additional computers

Viewing network connection

Introduction

Network model

Data and signals

Data and signals

Data rate limit

Performance

Digital transmission

Digital transmission

Analog transmission

Analog transmission

Bandwidth utilization/ Multiplexing/

Spreading

Bandwidth utilization/ Multiplexing/

Spreading

Transmission media

Error detection & correction

Error detection and correction

Defining needs

Area covered

Organization information requirement

System VS Procedure

Types of systems

What are the systems?

Infrastructure

Support system

Data mart

Organizational structure

Planning for system development

System design

Security of information system

Risk management

For [ICT 203 Information System Analysis & Design](#)

practical aspect of design the network system for given

information system is to be performed

BAE 603 Software Engineering (2 pt)

Introduction

Software process

Feasibility study

Project management

Documentation, Requirement analysis

Requirement specification

Business/ Legal aspect

Source code management
 Formal specification
 Object oriented design 1
 Object oriented design 2
 Object oriented design 3
 System Architecture 1
 System Architecture 2
 System Architecture 3
 Design for utility
 Performance of computer system
 Coding standard/ Tools for designing 1
 Dependable system 1 Reliability
 Dependable system 2 Validation
 Law aspect
 Risks in software engineering
 Software engineering as engineering
 Nano Technology
 What is Nano technology?
 Motivation for Nano technology
 Scaling laws
 Nano technology

For	ICT 105	Systems Analysis and Programs
Analysing the system used & preparing the software & hardware required to perform the analysed system are to be executed.		

	ICT 107	Business Information Systems
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- What is Organization?
- Need for Organization
- Data vs. Information
- Information Quality Checklist
- Organization & Information Requirements
- Nature of Business & Information Requirements
- Systems vs. Procedures
- Computer based Information System (CBIS)
- Cross-Functional Coordination
- Transaction Processing System
- Data Processing Tasks
- Management Information System
- Data Warehouse
- Data Mart
- Online Analytical Processing (OLAP)
- Data Mining
- Knowledge / Intelligent Systems
- Components of an Expert System
- Key CRM Tasks
- Organizational Structure
- Planning Productions/Operations
- Accounting & Financial Information Systems
- Decision-making process
- Business planning

	ICT 201	Organisational Behaviour
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- Explain work organizations, their basic characteristics and their connections to the wider social context.
- Define the term organizational behaviour and describe the contribution to the field of organizational behaviour of three disciplines; psychology, sociology and anthropology.
- Describe the evolution of organizational behaviour as a field of research and learning.
- Explain an integrated framework for conceptualizing organizational behaviour.
- Describe the challenges of conducting research on organizational behaviour.
- **What is OB?**
- **Why study OB (I)?**
- Work organization
 - The behaviour of individuals and groups
 - Organizational design and technology in which human behaviour takes place
- Control processes over resources, people and work activities
- Management processes, for example, the recruitment, training & rewards to workers
- Interaction between the organizational, the external and evaluative context
- Relationship between organizational agency and societal stability or instability at large
- the environmental forces as external context inputs;
- the processes for converting the inputs into outputs within an individual, group managerial milieu as the organizational context
- the evaluation or organizational process as evaluation outputs
- a feedback loop which links the organizational processes and external environmental forces, with the feedback flowing into the organization and from the organization into the environmental external context
- The multidisciplinary nature of organizational behaviour

- Diversity
- Ways of approaching OB
- Ways of approaching research
- Ways of researching OB

YEAR (1)

Diploma of Management

[Mgt 101 Management](#)
[Mgt 102 Performance Management](#)
[Mgt 103 Operation Management](#)
[Mgt 105 Quality Management](#)
[Mgt 108 Computer Application in
Management](#)

[Mgt 107 Industrial Risk & Safety
Assessment](#)
[Mgt 104 Project Management](#)

YEAR (2)

Advanced Diploma of Information Technology Management

Study the following units

[ICT 103 Applied Programming](#)

[ICT 105 Systems Analysis and Programs](#)

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[ICT 106 Software Engineering](#)

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[ICT 202 Information Systems Principles and Networking](#)

[ICT 203 Information Systems, Analysis and Design](#)

[ICT 204 Advanced Programming](#)

[ICT 104 Program Projects](#)

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[Mgt 501 Communication Skills & Management Leadership](#)

Study BAE 508 Industrial Engineering & Industrial Management . You need to read the books in English.

(Focus on Mgt 501 Communication Skills & Mgt 501 Basic Management)

& do the exercises assigned by teacher.

Advanced Diploma of Management

(30 points)

Master of Management (Qualified 1) Course for Business/ Accounting Degree Holders

This course trains the students to work as middle class managers. It consists of customers service, change management, leadership, safety management, risk management, professional development, conflict management, work-based training, office management, and office management.

Study the following units

Compulsory Units (Each 3 Points)

[Mgt 201 Customer Service Management](#)

[Mgt 202 Change Management](#)

[Mgt 203 Inventory & Budget Management](#)

[Mgt 204 Continuous Improvement Management](#)

[Mgt 208 Safety Management](#)

[Mgt 209 Risk Management](#)

[Mgt 210 Professional Development Management](#)

[Mgt 211 Leadership](#)

Optional Units (Do any 2 units) (Each 3 Points)

[Mgt 207 Business Letter Writing](#)

[Mgt 205 Office Management](#)

[Mgt 212 Preparing Portfolios](#)

[Mgt 213 Conflict Management](#)

[Mgt 206 Work-based Training Management](#)

Mgt 101 Management

- What is Organization?
 - Need for Organization
 - Data vs. Information
 - Information Quality Checklist
 - Organization & Information Requirements
 - Nature of Business & Information Requirements
 - Systems vs. Procedures
 - Computer based Information System (CBIS)
 - Cross-Functional Coordination
 - Transaction Processing System
 - Data Processing Tasks
 - Management Information System
 - Data Warehouse
 - Data Mart
 - Online Analytical Processing (OLAP)
 - Data Mining
 - Knowledge / Intelligent Systems
 - Components of an Expert System
 - Key CRM Tasks
 - Organizational Structure
 - Planning Productions/Operations
 - Accounting & Financial Information Systems
 - Decision-making process
 - Business planning
-
- Explain work organizations, their basic characteristics and their connections to the wider social context.
 - Define the term organizational behaviour and describe the contribution to the field of organizational behaviour of three disciplines; psychology, sociology and anthropology.
 - Describe the evolution of organizational behaviour as a field of research and learning.
 - Explain an integrated framework for conceptualizing organizational behaviour.
 - Describe the challenges of conducting research on organizational behaviour.
 - **What is OB?**
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 - Work organization
 - The behaviour of individuals and groups
 - Organizational design and technology in which human behaviour takes place
 - Control processes over resources, people and work activities
 - Management processes, for example, the recruitment, training & rewards to workers

- Interaction between the organizational, the external and evaluative context
- Relationship between organizational agency and societal stability or instability at large
- the environmental forces as external context inputs;
- the processes for converting the inputs into outputs within an individual, group managerial milieu as the organizational context
- the evaluation or organizational process as evaluation outputs
- a feedback loop which links the organizational processes and external environmental forces, with the feedback flowing into the organization and from the organization into the environmental external context
- The multidisciplinary nature of organizational behaviour
- Diversity
- Ways of approaching OB
- Ways of approaching research
- Ways of researching OB

Mgt 104 Project Management

Part 1 Project Management

This unit covers the management of large electrical projects involving design, modifications, installation, and/or maintenance of systems and equipment. The unit encompasses management of safety, budget variation, personnel, resources, critical path timelines and completion documentation.

KS01-EG169A Business project management

Evidence shall show an understanding of managing electrical projects to an extent indicated by the following aspects:

T1 Defining project parameters encompassing:

- Project scope
- Project stakeholders and clients
- Project phases and the relationship between phases

T2 Time management concepts and standard practices

T3 Financial management encompassing:

- Financial management concepts
- Standard practices for managing project finances
- Project budgets
- Costs
- variations and estimations
- Invoicing against project phases/deliverables
- Acquittals and the like

T4 Quality management concepts and practices

T5 Human Resource management concepts and practices within a project

T6 Communication management concepts and practices within a project

T7 Risk management and contingencies encompassing:

- Risk management concepts
- Internal risks
- External risks
- Contingencies
- Standard practices for managing risk within a project
- Risk minimisation
- Risk removal; and the like

T8 Procurement management concepts and practices

T9 Physical Resource management concepts and practices relating to equipment, technology, information and facilities

T10 Contracts encompassing:

- Contract format

- Contract content
- Interpreting contract clauses
- Legal obligations of contract parties
- Working to contract specifications
- Documentation accompanying contracts such as schedules and the like

T11 Performance assessment and continuous improvement

T12 Engineering ethics principles

T13 Customer/Client relations encompassing:

- Interpersonal skills that enhance customer/client
- Dispute resolution
- Customer/client relations strategies

T14 **Business** sector customs and practice encompassing:

- Equipment procurement, cost/benefit analysis and performance testing
- Typical approaches to planning and management
- Successful planning techniques
- Best practice management methods and styles

Part 2 Project Planning

This unit covers development and documentation of large electrical project proposals, milestones and completions. The unit encompasses, establishing budgets, critical path analysis, development of workflow strategies, documenting, presenting and negotiating budgets and timelines.

KS01-EG170A Business project planning

Evidence shall show an understanding of planning projects and analyzing progress to an extent indicated by the following aspects:

T1 Project planning encompassing:

T2 Purpose of project planning Evidence shall show an understanding of managing electrical projects to an extent indicated by the following aspects:

T3 Defining project parameters encompassing:

- Project scope
- Project stakeholders and clients
- Project phases and the relationship between phases
- Time requirements and limitations
- Resource requirements and limitations
- Quality requirements and limitations

T4 Time management concepts and standard practices

T5 Financial management encompassing:

- Invoicing against project phases/deliverables
- Acquittals and the like

T6 Quality management concepts and practices

T7 Human Resource management concepts and practices within a project

T8 Communication management concepts and practices within a project

T9 Risk management and contingencies encompassing:

- Risk management concepts
- Internal risks
- External risks
- Contingencies
- Standard practices for managing risk within a project
- Risk minimisation
- Risk removal; and the like

T10 Procurement management concepts and practices

T11 Physical Resource management concepts and practices relating to equipment, technology, information and facilities

T12 Contracts encompassing:

- Contract format
- Contract content
- Interpreting contract clauses
- Legal obligations of contract parties

- Working to contract specifications
- Documentation accompanying contracts such as schedules and the like

T13 Performance assessment and continuous improvement

T14 **Business** ethics principles

T15 Customer/Client relations encompassing:

- Importance of customer/client relations
- Interpersonal skills that enhance customer/client
- Dispute resolution
- Customer/client relations strategies

T16 **Business** sector customs and practice encompassing:

- Equipment procurement, cost/benefit analysis and performance testing

REQUIRED SKILLS AND KNOWLEDGE
<ul style="list-style-type: none"> · Typical approaches to planning and management · Successful planning techniques · Best practice management methods and styles · Documents needed to plan a project · Factors influencing sequence and restraints of project activities · Critical path analysis covering graphical representation methods and methods of representing time/rates <p>T17 Critical path and project analysis encompassing:</p> <ul style="list-style-type: none"> · Purpose of critical path analysis · Essential data · Relational sequence of work activities · Graphical representation methods · Methods of representing time/rates · Monitoring methods <p>T18 Business sector customs and practice encompassing:</p> <ul style="list-style-type: none"> · Equipment procurement, cost/benefit analysis and performance testing · Typical approaches to planning and management · Successful planning techniques · Best practice management methods and styles

Mgt 108 Computer Application in
Management

Structure of computer

[IntroductionToComputerHardware](#)

Advanced Hardware

Architecture

Connect Internal Hardware

Requirement for a good computer

Hard Drive Controller

Mother

System Bus

CPU

Power Supply & Surge Protector

Computer Repair

Computer Network

Word

Creating_Web_Pages_in_Word_

Customize_the_Word__Environment

Editing_a_Document_in_Word

Formatting_Paragraphs_in_Word

Formatting_Text_in_

Graphics in Word

Lists in Word

Macros in Word

Page Formatting in Word

Proof Reading Document in Word

Reference Citation Word

Table Contents Word

Track Change Word

Word Style

Excel

Class Notes-Basic Excel

Advanced Excel

Class Notes-Basic Access

Advanced Access

Power Point

AutoCAD

AutoCAD Class Notes-HTML File

Advanced AutoCAD

Mgt 103 Operation Management

Mgt 503 Production & Operation Management

Analyze business operations using appropriate performance measures, such as flow time, throughput rate and capacity.

2. Propose business solutions in written and verbal forms for operations improvement and process design projects.

3. Identify inefficiency and ineffectiveness in business operations and propose adequate minor changes or major redesigns to improve the process.

4. Understand the theory and implementations of quality control activities for different industries.

5. Use computing software to determine optimal capacity under various situations in a process.

Mgt 105 Quality Management and Manufacturing Engineering

Meaning of Quality?

Quality: Customer's Perspective?

Dimensions of Quality:Manufactured Products

Dimensions of Quality: Services

Quality:Producer's Perspective

Outline Deming's 14 Points.

Deming Wheel: PDCA Cycle.

Cause-and-Effect Diagram

Pareto Analysis.

Control Chart.

Quality Management in the Supply Chain.

Quality Circles.

Quality Attributes in Services

Design for Six Sigma (DFSS).

Prevention Cost

External Failure Costs

Quality costs measure and report?

Measuring Product Yield and Productivity.

Quality–Productivity Ratio.

ISO 9000 certification?

Mgt 107 Industrial Risk & Safety Assessment

This unit covers the mandatory requirements of persons in a supervisory role to implement and monitor an organisation's occupational health and safety policies, procedures and programs. It encompasses understanding an organisation's OHS obligations, providing safety information to staff, implementing and monitoring participative arrangements, safety procedures and training and maintaining safety records.

Occupational Health and Safety, supervisory responsibilities

Evidence shall show an understanding of OHS enterprise responsibilities to an extent indicated by the following aspects:

T1 Provisions of relevant occupational health and safety legislation

T2 Principles and practice of effective occupational health and safety management

T3 Workplace hazards, range and selection of control measures

T4 Organisational health and safety management systems and policies and procedures needed for legislative compliance

T5 Impact of characteristics and composition of the workforce on occupational health and safety management

T6 Relevance of occupational health and safety management to other organisational management policies, procedures and systems.

T7 Analysis of entire work environment and judge occupational health and safety interventions

T8 Analysis of relevant workplace data

T9 Ability to assess resources needed for risk control

BAE 601 Computer Programming (3 pt)

Part (1) Overview Knowledge of the subject

Select any of the following textbooks

- C Programming
- C++ Programming
- C# Programming
- Object Oriented Programming
- C Programming in Linux

IT 401 Object Oriented Programming (1 pt)

IT 402 Structured Programming (1 pt)

IT 403 Visual Basic Programming (1 pt)

For [ICT 204 Advanced Programming](#) & [ICT 104 Program Projects](#)

More detailed aspects of programs are to be written

BAE 603 Software Engineering (2 pt)

Introduction

Software process

Feasibility study

Project management
Documentation, Requirement analysis
Requirement specification
Business/ Legal aspect
Source code management
Formal specification
Object oriented design 1
Object oriented design 2
Object oriented design 3
System Architecture 1
System Architecture 2
System Architecture 3
Design for utility
Performance of computer system
Coding standard/ Tools for designing 1
Dependable system 1 Reliability
Dependable system 2 Validation
Law aspect
Risks in software engineering
Software engineering as engineering

Nano Technology

What is Nano technology?
Motivation for Nano technology
Scaling laws
Nano technology

BAE 602 Computer Network (1 pt)

Computer Network
Peer to peer networking
Client server networking
Network hardware
Network cable
Hub
Wired network
Wireless network card
Firewall
Wiring the network
Wiring the network
Running the network program
Viewing network connection
Network set up on additional computers

Viewing network connection

Introduction

Network model

Data and signals

Data and signals

Data rate limit

Performance

Digital transmission

Digital transmission

Analog transmission

Analog transmission

Bandwidth utilization/ Multiplexing/
Spreading

Bandwidth utilization/ Multiplexing/
Spreading

Transmission media

Error detection & correction

Error detection and correction

Defining needs

Area covered

Organization information requirement

System VS Procedure

Types of systems

What are the systems?

Infrastructure

Support system

Data mart

Organizational structure

Planning for system development

System design

Security of information system

Risk management

Mgt 501 Communication Skills & Management Leadership

- Effective communication skills
- Perspective of communication skill
- Elements of communication
- Communication styles
- Basic listening skills
- Effective written communication
- Management briefs

- Perspective on organization
- Leadership
- Understanding individuals
- Group work
- Motivation
- Goal setting
- Communication in leadership & group

Mgt 102 Performance Management

- Introductions and Learning Objectives
- Performance Management Defined (Elements of a Performance Mgmt System, Benefits of an Annual Performance Development Plan, The Performance Mgmt Timeline)
- Setting “SMART” Annual Objectives
- Roles of Manager and Direct Report in the Performance Development Plan
- Coaching Direct Reports During the
- Performance Management Cycle
- Effective Listening Skills
- Monitoring Performance and Conducting Interim Meetings
- Preparation for and Conducting the
- Annual Review Meeting
- Handling Challenging Situations
- Action Plan, Summary and Evaluation

<ul style="list-style-type: none"> · Mgt 501+ · Mgt 503 	Basic Management+ (EE309) Production & Operation Management
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Part 1 Project Management

This unit covers the management of large mechanical projects involving design, modifications, installation, and/or maintenance of systems and equipment. The unit encompasses management of safety, budget variation, personnel, resources, critical path timelines and completion documentation.

KS01-EG169A Project management

Evidence shall show an understanding of managing mechanical projects to an extent indicated by the following aspects:

T1 Defining project parameters encompassing:

- Project scope
- Project stakeholders and clients
- Project phases and the relationship between phases

T2 Time management concepts and standard practices

T3 Financial management encompassing:

- Financial management concepts
- Standard practices for managing project finances
- Project budgets
- Costs
- variations and estimations
- Invoicing against project phases/deliverables
- Acquittals and the like

T4 Quality management concepts and practices

T5 Human Resource management concepts and practices within a project

T6 Communication management concepts and practices within a project

T7 Risk management and contingencies encompassing:

- Risk management concepts
- Internal risks
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- Contingencies
- Standard practices for managing risk within a project
- Risk minimisation
- Risk removal; and the like

T8 Procurement management concepts and practices

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- Legal obligations of contract parties
- Working to contract specifications
- Documentation accompanying contracts such as schedules and the like

T11 Performance assessment and continuous improvement

T12 Engineering ethics principles

T13 Customer/Client relations encompassing:

Interpersonal skills that enhance customer/client

- Dispute resolution
- Customer/client relations strategies

T14 Mechanical industry sector customs and practice encompassing:

- Equipment procurement, cost/benefit analysis and performance testing
- Typical approaches to planning and management
- Successful planning techniques
- Best practice management methods and styles

Part 2 Project Planning

This unit covers development and documentation of large electrical project proposals, milestones and completions. The unit encompasses, establishing budgets, critical path analysis, development of workflow strategies, documenting, presenting and negotiating budgets and timelines.

KS01-EG170A Project planning

Evidence shall show an understanding of planning projects and analyzing progress to an extent indicated by the following aspects:

T1 Project planning encompassing:

T2 Purpose of project planning Evidence shall show an understanding of managing electrical projects to an extent indicated by the following aspects:

T3 Defining project parameters encompassing:

- Project scope
- Project stakeholders and clients
- Project phases and the relationship between phases
- Time requirements and limitations
- Resource requirements and limitations
- Quality requirements and limitations

T4 Time management concepts and standard practices

T5 Financial management encompassing:

- Invoicing against project phases/deliverables
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- Equipment procurement, cost/benefit analysis and performance testing

REQUIRED SKILLS AND KNOWLEDGE

- Typical approaches to planning and management
- Successful planning techniques
- Best practice management methods and styles
- Documents needed to plan a project
- Factors influencing sequence and restraints of project activities
- Critical path analysis covering graphical representation methods and methods of representing time/rates

T17 Critical path and project analysis encompassing:

- Purpose of critical path analysis
- Essential data
- Relational sequence of work activities
- Graphical representation methods
- Methods of representing time/rates
- Monitoring methods

T18 Mechanical industry sector customs and practice encompassing:

- Equipment procurement, cost/benefit analysis and performance testing
- Typical approaches to planning and management
- Successful planning techniques
- Best practice management methods and styles

Contents

Mgt 201 Customer Service Management

- Internal & external customers,
- customer focused organization
- Customer-Centric Organization
- Customer Service Environment.
- Delivery Systems,
- Good Customer Service,
- Effective Communication Skills,
- Telephone Skills & Written Communication,
- Dealing with Difficult Behaviour

Mgt 202 Change Management

- Change management approach,
- Managing Change,
- Drivers of Change Model,
- Business Imperative,
- Organizational Imperatives,
- Cultural Imperatives ,
- Employee Behaviour related .

Mgt 203 Inventory & Budget Management

- Budget ,
- Budgeting,
- Budgeting Process.,
- Budget Management. & Budget activities.,
- importance , requirement & purpose of budgeting.,
- Forecast of Income and Expenditure & Tool for decision making.,

- Business Plan.
- cash flow forecasting.,
- organization budget.

Mgt 204 Continuous Improvement Management

- Successful organisations of the future,
- methodology for continuous improvement of project team ,
- consulting and training contexts,
- completeness of approach,
- Quality Management Systems.,
- Strategy for the organization.
- Process of continuous improvement for organization.,
- Structure for the project team,
- the roles of facilitator,
- elements for continuous improvement.

Mgt 205 Office Management

- Role of an office,
- important functions of an office,
- requirements of an ideal office,
- various functions of an office,
- various types of offices,
- scope of Office Management.
- Organising an Office.,
- office accommodation,
- office location,
- layout of an office, filing system,
- indexing,
- Mechanisation,
- Desktop Publishing

Mgt 206 Work-based Training Management

- Role of workplace facilitator.,
- workplace learning activities,
- assessing learner at workplace,
- support required for workplace learner,
- work-based learning,
- mentoring.,
- work-based learning

Mgt 207 Business Letter Writing

- Grammar,
- business letter format,
- writing practice,
- business communication.

Mgt 208 Safety Management

- Benefits of OHS, Operational Responsibilities,
- Workplace Health Issues,
- workplace hazards
- Substance Abuse,
- Job-related Stress,
- Workplace Health Programs,

- Drug Testing Programs.
- Workplace Safety Issues,
- General Duty Standard of employee,
- Personal Protective Equipment ,
- OHS auditing,
- OHS Risk Management.

Mgt 209 Risk Management

- Aspects of Risk Management,
- Predictions for risk,
- Types of Risk,
- risk impact on decision making.
- Risk Source Classification Approach,
- Natural System, Human risks ,
- Political risks and Cultural risks,
- Primary Reasons of Failure,
- Resistance to Manage Risk,
- Methods for Treating Risk,
- important in risk management,
- Derivatives and hedging, risk reduction.

Mgt 210 Professional Development Management

- Work Priorities ,
- SWOT Analysis,
- Professional Development,
- Multisource (360-degree) Feedback,
- Executive Coaching,
- professional development plan.
- Work performance.

Mgt 211 Leadership

- Types of leadership ,
- New Model of Leadership,
- manager and leader,
- competencies of a leader.

Mgt 212 Preparing Portfolios

- Portfolio preparation techniques,
- portfolio contents,
- types of portfolios,
- portfolio quality,
- contents of job search portfolio.

Mgt 213 Conflict Management

- Meaning of . Conflict
- dispute
- Emotions in Conflict Management
- Positive affect in Negotiation
- Negative affect in Negotiation.
- Forms of resolving conflict (Alternative Dispute Resolution)
- Kinds of Adjudication.
- Components of Mastery of Environment?

- conflict blue print.
- Conflict Diagnosis
- Steps in Conflict Diagnosis.

IQY Technical College's Professional Diploma in Engineering Curriculum

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COURSE STRUCTURE

Year	Course	Total Credit Point
	Entry –Year 10	
	Year 11—Bridging Program	
	Year 12-- Certificate in Pre-vocational Studies	
1	Diploma in Engineering (Electrical/Civil/Mechanical)	30
	Award- Diploma in Engineering	30
2	Advanced Diploma in Engineering (Electrical/Civil/Mechanical)	30
	Award- Advanced Diploma in Engineering	60
3+4	Professional Diploma in Engineering (Electrical/Civil/Mechanical/Mechatronics/Building Services) (Electrical/Civil/Mechanical with Renewable Energy)	60
	Award-Professional Diploma in Engineering	120
	Total years spent after Year 10	6 Years

- The entry qualification for IQY Technical College's courses is Year 12 (International) Standard.
- The students who have completed Year 10 Examination require the Year 11+12 Level bridging study before commencing the major programs.
- Year 11+12 is standardized with Australian NSW Year 12 curriculum.

Please refer [_http://www.highlightcomputer.com/y712lessons.htm](http://www.highlightcomputer.com/y712lessons.htm) for details

IQY Technical College's Professional Diploma in Engineering Curriculum

Professional Diploma in Engineering Programs of IQY Technical College are designed at the same standard of relevant Bachelor of Engineering degrees.. Although the word "Bachelor of Engineering" is utilized, the award of IQY Technical College is Professional Diploma in Engineering.

Bachelor of Engineering (Electrical)

Bachelor of Engineering (Civil)

Bachelor of Engineering (Mechanical)

Bachelor of Engineering (Civil-Building Services)

Bachelor of Engineering (Mechanical-Mechatronics)

Bachelor of Applied Science (Information Technology)

Bachelor of Business

Professional Diploma/ Bachelor of Engineering (Electrical)

YEAR 3 +4

BACHELOR OF APPLIED ENGINEERING (ELECTRICAL)

Subjects	Points	Competency Units
BAE 401 Advanced Engineering Mathematics	9	Maths 301 Introduction to Complex Variables (1 pt) Maths 302 Elementary Linear Algebra (1 pt) Maths 401 Continuous Distributions (1 pt) Maths 402 Discrete Distributions (1 pt) Maths 403 Engineering Mathematics (1 pt) Maths 501 Introduction to Probability(1 pt) Maths 501 Linear Algebra & Matrices (1 pt) Maths 502 Finite Difference Methods for Partial Differential Equations & Mathematical Modelling (1 pt) Maths 601 Random Variables (1 pt)

BAE 402 Calculus	3	<p>Maths 304 Integration and Differential Equations. (1 pt)</p> <p>Maths 403 Second Order Ordinary Differential Equations (1 pt)</p> <p>Maths 303 Engineering Mathematics (1 pt)</p>
BAE 403 Engineering Mechanics	1	ME 301 Applied Mathematics (1 pt)
BAE 404 Engineering Materials & Thermodynamics	3	<p>ME 334 Engineering Thermodynamics (1 pt)</p> <p>ME 434 Wind Turbines (1 pt)</p> <p>ME 634 Pneumatics (1 pt)</p>
BAE 405 Advanced Circuit Analysis	3	<p>EE 301 Electrical Circuits (1 pt)</p> <p>EE 303 Engineering Circuit Analysis (1 pt)</p> <p>EE 404 Electrical Measurement (1 pt)</p>
BAE 406 Electro-mechanics	2	<p>EE 502 Electrical Machines (1 pt)</p> <p>ME 301 Machine Principle (1 pt)</p>
BAE 407 Advanced Electro-magnetics Field & Materials	1	EE 407 Electromagnetism (1 pt)
BAE 408 Analogue & Digital Electronics	5	<p>EE 403 Introduction to Electronic Engineering (1 pt)</p> <p>EE 524 Power Electronics & Applied Electronics (1 pt)</p> <p>EE 405 Digital System (1 pt)</p> <p>EE 526 Digital Signal Processing (1 pt)</p> <p>EE 527 Digital Image Processing 1/ 2 (1 pt)</p>
BAE 501 Advanced Power Systems & Power Transmission Networks	3	<p>EE 512 Power System (1 pt)</p> <p>EE 302 Power System Technology (Optional)</p> <p>EE 402 Electrical Power (1 pt)</p> <p>EE 513 Power Transmission and Distribution Lines (1 pt)</p>
BAE 502 Linear System	1	EE 304 Computer Mathematics (1 pt)
BAE 503 Control System	4	EE 601 Non Linear Control Applications (1 pt)

		EE 601 Control Engineering , Feedback and Control System , P ID_Control (1 pt) EE 624 Process Control (1 pt) ME 534 Numerical Control Part 1 / 2 (1 pt)
BAE 504 Power System Analysis	1	EE 614 Power System Analysis
BAE 505 Power System Optimization	1	EE 613 Power System Optimization
BAE 506 Power System Stability & Protection	2	EE 615 Power System Stability & Power Quality (1 pt) EE 616 Power System Protection (1 pt)
BAE 507 Electro-mechanical Energy Conversion	2	EE 602 Motor Control Electronics (1 pt) ME 434 Mechtronics & Robotics (1 pt)
BAE 508 Industrial Engineering & Industrial Management	1	Mgt 501 Basic Management & Communication Skills (1 pt)
BAE 601 Computer Programming	3	IT 401 Object Oriented Programming (1 pt) IT 402 Structured Programming (1 pt) IT 403 Visual Basic Programming (1 pt)
BAE 602 Computer Network	1	ICT 202 Information Systems Principles and Networking (1 pt)
BAE 603 Software Engineering	3	ICT 106 Software Engineering (1 pt) ICT 203 Information Systems, Analysis and Design (1 pt) EE 626 Nano Technology (1 pt)
BAE 604 Telecommunication Engineering	2	EE 525 Data Communication (1 pt) EE 603 Electronics Telecommunication (1 pt)
BAE 605 Engineering Management	5	Mgt 502 Operation Management (1 pt) Mgt 503 Production & Operation Management (1 pt) Mgt 504 Project Management (1 pt)

		Mgt 505 Quality Management and Manufacturing Engineering (1 pt) Mgt 506 Strategic Financial Management (1 pt)
BAE 606 Building Service Electrical & Mechanical Engineering	2	EE 617 Building Electrical and Mechanical System (1 pt) ME 334 Airconditioning and Refrigeration (1 pt) CE 301 Building Construction (Optional) CE 301 Conceise Hydroulics (Optional)
BAE 607 Radio Wave Propagation & Microwave Techniques	2	EE 625 Radio Wave Propagation (1 Pt) EE 626 Microwave Technique (1pt)
Total Credit points	60	
Credit Points given for Advanced Diploma in Electrical Engineering (Year 1+2)	60	
Total credit points	120	

The renewable energy subjects can be substituted for some subjects

Renewable Energy Subjects

View <http://www.highlightcomputer.com/BEElectricalNew.pdf> for the Professional Diploma in Engineering Combined with Renewable Energy Subjects

View <http://www.highlightcomputer.com/re.pdf> for detailed contents

Professional Diploma in Electrical Engineering with Renewable Energy

Common Year 3

1. BAE 401 Advanced Engineering Mathematics (9 pt)
2. BAE 402 Calculus (3 pt)
3. BAE 403 Engineering Mechanics (1 pt)

4. BAE 404 Engineering Materials & Thermodynamics (3 pt)
5. RE001- Foundation Studies in Renewable Energy and Sustainability (2 pt)
6. .RE003- Solar and Thermal Energy Systems (2 pt)
7. RE004- Energy Storage Systems (2 pt)
8. RE005- Renewable Energy Resource Analysis (2 pt)
9. RE006- Wind Energy Conversion Systems (2 pt)
10. RE010-Engineering Materials (2 pt)
11. RE012a-Electrical Engineering Part 1 (2pt)
12. RE016-Design& Management (BAE508) (2 pt)

B Applied Engg (Electrical)

YEAR 4 (Specialized)

1. BAE 601 Computer Programming
2. BAE 602 Computer Network
3. BAE 603 Software Engineering
4. RE012b-Electrical Engineering Part 2
5. RE002- Grid Connected Photovoltaic Power Systems
6. RE013-Electrical Machines
7. RE014-Electronics Control
8. RE015-Electrical Project/ Practice
9. BAE 501 Advanced Power Systems & Power Transmission Networks
10. BAE 506 Power System Stability & Protection
11. BAE 604 Telecommunication Engineering
12. RE007- Energy System Efficiency

Professional Diploma/ Bachelor of Engineering (Civil)

Year (3) Part 1 ADVANCED GENERAL CIVIL ENGINEERING DEGREE LEVEL (17 pt)

Subjects
BAE 401 Advanced Engineering Mathematics (9 pt)
BAE 402 Calculus (3 pt)
BAE 403 Engineering Mechanics (1 pt)
BAE 404 Engineering Materials & Thermodynamics (3 pt)
BAE 508 Industrial Engineering & Industrial Management (1 pt)
The renewable energy subjects can be substituted for some subjects
<u>Renewable Energy Subjects</u>
View http://www.highlightcomputer.com/BEElectricalNew.pdf for the Professional Diploma in Engineering Combined with Renewable Energy Subjects
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Year (3) Part 2 ADVANCED GENERAL CIVIL ENGINEERING DEGREE LEVEL (18 Pt)

BAE421 Building Construction Engineering (4 pt)

BAE422 Estimating (2 pt)

BAE423 Fluid Mechanics (2 pt)

BAE424 Reinforced Concrete (2 pt)

BAE425 Timber Engineering (2 pt)

BAE521 Road & Bridge (2 pt)

BAE522 Rock Mechanics (2 pt)

BAE523 Soil Mechanics (2 pt)

BAE 523A Environmental Engineering (2 pt)

Year (4) Part 1 (17 pt)

BAE 601 Computer Programming (3 pt)
BAE 605 Engineering Management (5 pt)
BAE 606 Building Service Electrical & Mechanical Engineering (2 pt)
BAE 609 Design Project (3 pt)
Total Credit points in this group

Year (4) Part 2

(12 Pt)

BAE621 Structural Engineering (3 pt)

BAE623 Surveying& Traffic Engineering (2 pt)

BAE624 Water Supply , Sanitation & Finishing (2 pt)

BAE 608 Engineering Competency Demonstration Report Writing (2pt)

SELF STUDY

BAE622 Architecture (3 pt)

Total points for Year 3+4= 60 pt

Advanced Diploma in Civil Engineering= 60 pt

Total= 120 pt

Professional Diploma in Civil Engineering with Renewable Energy

Common Year 3

1. BAE 401 Advanced Engineering Mathematics (9 pt)
2. BAE 402 Calculus (3 pt)
3. BAE 403 Engineering Mechanics (1 pt)
4. BAE 404 Engineering Materials & Thermodynamics (3 pt)

5. RE001- Foundation Studies in Renewable Energy and Sustainability (2 pt)

6. RE003- Solar and Thermal Energy Systems (2 pt)

7. RE004- Energy Storage Systems (2 pt)

8. RE005- Renewable Energy Resource Analysis (2 pt)

9. RE006- Wind Energy Conversion Systems (2 pt)

10. RE010-Engineering Materials (2 pt)

11. RE012a-Electrical Engineering Part 1 (2pt)

12. RE016-Design& Management (BAE508) (2 pt)

Total points for Year 3-(32 Pt)

B Applied Engg (Civil)

YEAR 4 (Specialized)

Total points for Year 4-(24 Pt)

1 RE011a-Civil& Mechanical Engineering Part 1 (2 pt)

(Assessment- Study Report)

2 RE011b-Civil& Mechanical Engineering Part 2a (2 pt)

(Assessment- Study Report)

3 BAE 606 Building Service Electrical & Mechanical Engineering (2 pt)

4BAE421 Building Construction Engineering (2 pt)

5 BAE422 Estimating (2 pt)

6 BAE423 Fluid Mechanics (2 pt)

7 BAE424 Reinforced Concrete (2 pt)

8 BAE522 Rock Mechanics (2 pt)

9 BAE 523A Environmental Engineering (2 pt)

10BAE621 Structural Engineering (2 pt)

11BAE623 Surveying & Traffic Engineering (2 pt)

12BAE624 Water Supply , Sanitation & Finishing (2 pt)

Common Graduating Units (Year 5)

13 BAE 605 Engineering Management (4 pt)

14 BAE 608 Engineering Competency Demonstration Report

Total points for Year 3+4+ Final graduating subjects = $32+28+4= 60$ pt

Professional Diploma/ Bachelor of Engineering (Mechanical)

Year (3)

GENERAL APPLIED ENGINEERING (MECHANICAL) DEGREE (29pt)

Subjects
BAE 401 Advanced Engineering Mathematics (9 pt)
BAE 402 Calculus (3 pt)
BAE 403 Engineering Mechanics (1 pt)
BAE 404 Engineering Materials & Thermodynamics (3 pt)
BAE 507 Electro-mechanical Energy Conversion (2 pt)
BAE 508 Industrial Engineering & Industrial Management (1 pt)
BAE511 Air-conditioning & Refrigeration Part 1 (2 pt)
BAE613 Mechanical Instrumentation Process (2 pt)
BAE614 Machine Design (2 pt)
BAE512 Building Service Water Supply System (2 pt)
BAE511 Air-conditioning & Refrigeration Part 2 (2 pt)
<u>Renewable Energy Subjects</u>
View http://www.highlightcomputer.com/BEElectricalNew.pdf for the Professional Diploma in Engineering Combined with Renewable Energy Subjects
View http://www.highlightcomputer.com/re.pdf for detailed contents

Year (4) Part 1 BE (Mechanical + General Related Subjects) (15pt)

BAE 601 Computer Programming(3 pt)
BAE 602 Computer Network (1 pt)
BAE 603 Software Engineering (3 pt)
BAE 605 Engineering Management 5 pt
BAE 606 Building Service Electrical & Mechanical Engineering (3 pt)

Year (4) Part 2

Bachelor of Engineering (Mechanical) Specialization (13 pt)

BAE311 Plant Engineering (2 pt)

BAE312 Design Engineering (2 pt)

BAE313 Environmental Control (2 pt)

BAE314 Mechanical Power Generation (2 pt)

BAE315 Materials Engineering (2 pt) Part 1 Part 2

BAE 608 Engineering Competency Demonstration Report Writing (3 pt)

Elective (3pt)

Subjects
BAE513 Production Technology
BAE611 Maintenance Engineering
BAE612 Engineering Metallurgy

Total point for Year 3+Year 4 Part ½+Elective = 60 pt

Advanced Diploma in Mechanical Engineering= 60 pt

Total credit points= 120 pt

The renewable energy subjects can be substituted for some subjects

Renewable Energy Subjects

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View <http://www.highlightcomputer.com/re.pdf> for detailed contents

Professional Diploma in Mechanical Engineering with Renewable Energy

Common Year 3

1. BAE 401 Advanced Engineering Mathematics (9 pt)
2. BAE 402 Calculus (3 pt)
3. BAE 403 Engineering Mechanics (1 pt)
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5. RE001- Foundation Studies in Renewable Energy and Sustainability (2 pt)
6. RE003- Solar and Thermal Energy Systems (2 pt)
7. RE004- Energy Storage Systems (2 pt)
8. RE005- Renewable Energy Resource Analysis (2 pt)
9. RE006- Wind Energy Conversion Systems (2 pt)
10. RE010-Engineering Materials (2 pt)
11. RE012a-Electrical Engineering Part 1 (2pt)
12. RE016-Design& Management (BAE508) (2 pt)

Total points for Year 3-(32 Pt)

YEAR 4 (Specialized)

1. RE011a-Civil & Mechanical Engineering Part 1 (2 pt)
(Assessment- Study Report)
2. RE011b-Civil & Mechanical Engineering Part 2a (2 pt)
(Assessment- Study Report)
3. BAE 606 Building Service Electrical & Mechanical Engineering (2 pt)
4. BAE311 Plant Engineering (2 pt)
5. BAE314 Mechanical Power Generation (2 pt)

6. BAE315 Materials Engineering (2 pt) Part 1 Part 2 (2 pt)
7. BAE511 Air-conditioning & Refrigeration Part 1 (2 pt)
8. BAE512 Building Service Water Supply System (2 pt)
9. BAE613 Mechanical Instrumentation Process(2 pt)
10. BAE614 Machine Design (2 pt)
11. RE007- Energy System Efficiency(2 pt)
12. BAE 601 Computer Programming(2 pt)

Total points for Year 4-(24 Pt)

Common Graduating Units (Year 5)

- 13 BAE 605 Engineering Management (4 pt)
- 14 BAE 608 Engineering Competency Demonstration Report

Total points for Year 3+4+ Final graduating subjects = 32+28+4= 60 pt

Professional Diploma/ Bachelor of Engineering (Civil-Building Services)

STAGE (3) BASIC ELECTRICAL & ELECTRONICS ENGINEERING (18 Pt)

REFER DIPLOMA/ADVANCED DIPLOMA IN ELECTRICAL ENGINEERING DETAILED CONTENTS

EE101 DC Circuit Problems

EE102 Basic Electrical Fitting& Wiring

EE103 Basic Electrical Drafting

EE104 Electrical Equipments Safety Protection

EE105 Electrical Installation Design

EE107 Electrical Equipments

EE106 Advanced Electrical Wiring

EE108 Electrical Fault Finding

EE109 Electrical Control Circuits

EE111 Electromagnetism & Basic Electrical Machines

EE112 Alternating Current Principle

EE113 Electrical Fundamental

EE115 Basic Analogue & Digital Electronics

EE116 Process Control System

EE117 Solar Electrical System

EE119 Electrical Risk Assessment

EE120 Electrical Contracting& Specifications

EE308 Sustainability

STAGE (4 A) ADVANCED MECHANICAL ENGINEERING STUDY (6Pt)

REFER DIPLOMA/ADVANCED DIPLOMA IN MECHANICAL ENGINEERING DETAILED CONTENTS

ME 102 Engineering Thermodynamics
 ME 109 Engineering Drawing
 ME 107 Heat Transfer
 ME 201 Introduction to Fluid Mechanics
 ME 204 Engineering Fluid Mechanics
 ME 301 Fluid Dynamics

STAGE (4B)ADVANCED ELECTRICAL & ELECTRONICS ENGINEERING STUDY

(ADVANCED DIPLOMA) (4 pt)

REFER DIPLOMA/ADVANCED DIPLOMA IN ELECTRICAL ENGINEERING DETAILED CONTENTS

EE201 Engineering Mathematics
 EE204 Engineering Physics
 EE302 Advanced Engineering Mathematics
 EE307 Energy Efficient Building Design

STAGE (5)BACHELOR OF APPLIED ENGINEERING (BUILDING SERVICE) DEGREE (32 pt)

Subjects
BAE 401 Advanced Engineering Mathematics
BAE 402 Calculus
BAE 403 Engineering Mechanics
BAE 404 Engineering Materials & Thermodynamics
BAE 508 Industrial Engineering & Industrial Management

BAE 601 Computer Programming
BAE 605 Engineering Management
BAE 606 Building Service Electrical & Mechanical Engineering
BAE 609 Design Project

Professional Diploma/ Bachelor of Engineering (Mechanical-Mechatronics)

Advanced Diploma of Mechanical Engineering)

REFER DIPLOMA/ADVANCED DIPLOMA IN ELECTRICAL ENGINEERING DETAILED CONTENTS

REFER DIPLOMA/ADVANCED DIPLOMA IN MECHANICAL ENGINEERING DETAILED CONTENTS

(1) **ME104** Principle of Machine

(2)EE624 Process Control

EE115 Basic Analogue& Digital Electronics

EE116 Process Control System

(3)ME 334 Airconditioning and Refrigeration

(4) ME202 Aerodynamics

(5) ME 302 Automation-and-Robotics

(6) ME 303 Computer Aided Design and Manufacturing

(7) ME 234 Wind Turbines

(8) ME 201 Introduction to Fluid Mechanics

(9) ME 204 Engineering Fluid Mechanics +

ME 301 Fluid Dynamics

(10) ME 206 Introduction to Turbo Machinery

(11)ME 205 Manufacturing Processes & Materials

(12) ME 207 Chemical Thermodynamics

(13)ME 208 Hydrocarbons

(14) ME 634 Pneumatics

(15) ME 203 Control

(16) ME 534 Numerical Control

(17) ME 434 Mechtronics-Robotics

(18)EE 617 Building Electrical and Mechanical System

(19)EE105 Electrical Installation Design

EE107 Electrical Equipments

EE105 Electrical Installation Design

EE107 Electrical Equipments

(20)EE106 Advanced Electrical Wiring

(21) EE116 Process Control

(22) EE117 Solar Electrical System

(23) EE119 Electrical Risk Assessment

EE120 Electrical Contracting

(24) ME 109 Engineering Drawing

EE301 Advanced Electrical Drafting

(25) EE121 Electronics Power Control Devices

(26) EE206 AC

(27) EE207 DC

(28)EE202 Electrical Circuits

(29)EE203 Three Phase Power Circuits

(30) ME 305 Corrosion Prevention

(31) ME 306 Theory-of-waves-in- materials

Degree Level

Subjects
BAE 401 Advanced Engineering Mathematics

BAE 402 Calculus
BAE 403 Engineering Mechanics
BAE 404 Engineering Materials & Thermodynamics
BAE 405 Advanced Circuit Analysis
BAE 406 Electro-mechanics
BAE 408 Analogue & Digital Electronics
BAE 502 Linear System
BAE 503 Control System
BAE 507 Electro-mechanical Energy Conversion
BAE 508 Industrial Engineering & Industrial Management
BAE 601 Computer Programming
BAE 602 Computer Network
BAE 603 Software Engineering
BAE 604 Telecommunication Engineering
BAE 605 Engineering Management
BAE 606 Building Service Electrical & Mechanical Engineering

Professional Diploma/Bachelor of Engineering (Electrical)

BAE 401 Advanced Engineering Mathematics (9 pt)

Subject Objective	This subject provides knowledge of mathematical methods needed for engineering problem solving
Learning outcome	The students develop both their thinking and problem solving skills. Topics covered are: vector, functions of a complex variable; algebra, differential equations, mathematical distribution, and applications of mathematics in engineering calculations.
Credit Point	9
Hours	216 Hrs
Assessment	Assignment/ Final Examination/Online MCQ Test

Contents

An Introduction to theory of complex variables

Complex numbers

Functions

Differentiability

Integration in the complex plane

Integral theorems

Power series

Introduction of rational functions of trigonometric functions.

Continuous distribution

Exponential distribution

Normal distribution

Gamma distribution

Convergence in distribution

F distribution

Discrete distribution

Binomial distribution

Poisson distribution

Elementary linear algebra

Algebra in F^n Example problems

Geometric meaning of vectors

Geometric meaning of vector addition
 Distance between points in \mathbb{R}^n Length of vector
 Geometric meaning of scalar multiplication
 Dot product
 Cross product
 System of equation geometry
 System of equation – Algebraic operation
 Matrice arithmetic
 Determinants –Basic technique & properties

Integration and differential equations

List of integrals
 Introduction to background
 Theorem of integration
 Improper integrals
 Improper integral problems
 Integration of rational functions
 Differential equations
 First order ordinary differential equations
 Homogenous equations
 The general linear equations

Random variables

Simple introduction examples
 Problems
 Frequency and distribution functions in 1 dimension

Mathematical modelling preliminary

Introduction
 Discrete time model

Maths 301 Introduction to Complex Variables

The residue Theorem
 Fourier Transform
 Integral theorem of complex analysis with applications
 to the evaluation of real integral
 Introduction
 Integral theorems – The green Theorem
 Cauchy's integral theorem
 Cauchy's residue theorem

Maths 302 Elementary Linear Algebra

A formula for the inverse
 Cramer's rule
 Example 6.2.3 , 6.2.4 , 6.2.6, 6.2.7
 Rank of a matrix

Example 8.2.9 , 8.2.10, 8.3.3 , 8.3.5, 8.3.6, 8.3.7, 8.3.8

Linear independence and bases

Linear transformation

Constructing the matrix of a linear transformation

Linear programming

Maths 401 Continuous Distribution

χ^2 Distribution

F Distribution

F Distribution & “t” Distribution

Estimation of parameters

Maths 402 Discrete Distribution

Geometric distribution

Pascal distribution

Negative binomial distribution

Hyper geometric distribution

Maths 303 Essential Engineering Mathematics

Vectors and matrices

Functions and limits , Example problems

Calculation of one variable (Part 1) Differentiation,

Calculation of one variable (Part 1) Integration,

Calculus of many variables,

Ordinary differential equations,

Complex function theory

Maths 501 Introduction to probability

Theoretical background

Playing card

Binomial distribution

Lotto Example

Conditional probabilities –Baye’s formula

Maths 501 Linear algebra and matrices

Linear transformation matrices

Definition 2.1.1 to 2.1.3

i, j Entry of product Definition 2.1.8

Rank of matrices

Row operations

Maths 502 Introductory Finite Difference Method for PDE

Partial differential equations. Example problems

Taylor theorem
Iterative solution methods
Jacobi Iteration
Gauss Seidel Iteration
Successive Relaxation method

Maths 601 Random Variables

Theoretical results
Frequencies and distribution (1 dimension)
Function of random variables

BAE 402 Calculus (3 pt)

Subject Objective	This subject provides knowledge of calculus methods needed for engineering applications.
Learning outcome	The students develop both their thinking and problem solving skills. Topics covered are: vector calculus; functions of a complex variable; partial differential equations and boundary value problems; the concepts of quantum mechanics and Schrödinger's equation; and applications of mathematics in engineering calculations.
Credit Point	3
Hours	72
Assessment	Assignment/ Test/ Online MCQ Test

Contents

Calculus 1 a .pdf

Differentiation, Example problems

Integration, Example problems

Simple differential equations, Example problems

Calculus 2 a .pdf

Integration of trigonometric polynomials

Complex decomposition of a fraction between two polynomials

Chain rule

Calculation of the directional derivatives

An overview of integration in the plane and in the space

Line integrals

Surface integral

Green's theorem in the plane

Calculus 2b 1.pdf

The range of functions in several variables

Line integral

Space integral

Line integral

Calculus 3b. pdf

Power series method in solution of problems, Example problems

Calculus 3C 1. pdf

Sequence in general

Calculus 4C 1. pdf

Sum function of Fourier series

Maths 303 Engineering Mathematics

Introduction and background

Integration of rational functions

Integration of trigonometric functions

Differential equations

Maths 403 Second Order Differential Equations

Power series solutions

Bessel equations and Bessel functions

Legendre polynomials

Differential equations

BAE 403 Engineering Mechanics (1 pt)

Subject Objective	This subject builds on and brings together the concepts introduced in the Mathematical and Physical Modelling subjects and in Introduction to Mechanical and Mechatronics Engineering.
Learning outcome	It is intended to provide students with a comprehensive overview of elementary mechanics, and lay the basis for further work in this area in later subjects. In particular, material discussed in this subject is taken further in Machine Dynamics and Mechanics of Solids subjects in subsequent stages.
Credit Point	1
Hours	24 Hr of Lecture+ 48 Hr of Tutorials
Assessment	Assignment/ Test/ Online MCQ Test

Contents

Stress Example
 Stress lectures
 Strain All examples
 Strain lessons
 Mechanical properties of materials
 Mechanical properties of materials
 Axial members
 Axial members
 Torsion of shaft
 Torsion of shaft
 Symmetric bending of beams
 Symmetric bending of beams
 Deflection of symmetric beams
 Deflection of symmetric beams
 Stress transformation
 Stress transformation
 Strain transformation
 Strain transformation
 Design and failure
 Design and failure
 Stability of columns
 Stability of columns
 Newton motion

 One dimensional motion

Simple harmonic motion

Damped oscillation

$$X(t) = A e^{-\gamma t/l} \cos(\omega t - \delta_r)$$

Rotating reference frame equations

Modern Mechanics Part 1

Modern Mechanics Part 2

Modern Mechanics Part 3

Modern Mechanics Part 4

Modern Mechanics Part A

Modern Mechanics Part B

Modern Mechanics Part C

ME 301 Applied Mathematics

Kinematics

Projectiles

Forces

Resistance forces

Resolving forces

Rigid bodies

Centre of gravity

Momentum

Energy

Circular motion

Gravitation and planetary motion

The language of vectors

BAE 404 Engineering Materials & Thermodynamics (3 pt)

Subject Objective	<p><u>Thermodynamics</u></p> <p>The objectives of this subject are to develop a fundamental understanding of applied thermodynamics in an engineering perspective, Strength of materials</p> <p><u>Strength of materials</u></p> <p>This subject draws on, and brings together, the knowledge and skills developed in earlier subjects such as Fundamentals of Mechanical Engineering, Chemistry and Materials Science, and Mechanics of Solids.</p>
Learning outcome	<p><u>Thermodynamics</u></p> <p>Use thermodynamics effectively in the practice of engineering, lay the groundwork for subsequent studies in the fields related to energy systems and increase an awareness and emphasis on energy resources and environmental issues.</p> <p><u>Strength of Materials</u></p> <p>It also prepares students for the more dedicated design subjects to come and exposes them to practical aspects of mechanical engineering design. The objectives are that students should be able to: understand, describe and use the methodology of modelling material properties and behaviour; understand and describe the fundamental differences in the behaviour of different types of materials; understand and describe how and why things fail; realise the importance of material selection in engineering design; predict, or design to avoid, failure given the material, environment and loading conditions; and use analytical skills in stress analysis and knowledge of material properties in mechanical design..</p>
Credit Point	3
Hours	72 Hrs
Assessment	Assignment/ Test/ Online MCQ Test

Contents

Heat Transfer. pdf

- (1) Heat transfer mode Example problems
- (2) Conduction Example problems
- (3) Convection Example problems
- (4) Radiation Example problems
- (5) Heat Exchanger Example problems

Theory of waves in materials.pdf

Materials-Preliminary
 Materials- Basic mechanical properties
 Basic wave phenomena
 Harmonic waves
 Elastic volume and shear waves
 Rayleigh Elastic waves

Engineering Thermodynamics

General definition
 Thermodynamics-Working fluids
 Laws of Thermodynamics
 Worked Example 3.1 to 3.25

ME434 Wind Turbines

Wind Energy

Theory of wind energy

Wind turbine types and components

Wind energy measurement, Wheel encoder Worked

ME634 Pneumatics

Principle of pneumatics
 Linear actuators
 Flow control
 Pneumatics sensors
 Pneumatics symbols

BAE 405 Advanced Circuit Analysis (3 pt)

Subject Objective	In this subject students are assumed to have knowledge of basic devices such as ideal and real voltage and current sources and loads; resistors; capacitors, inductors and coupled coils; diodes and operational amplifiers.
Learning outcome	To have basic circuit analysis skills such as Kirchhoff's current and voltage laws, Thevenin's and Norton's theorems, mesh and nodal analysis, symmetry, circuit transformation and superposition. Using this understanding as a starting point, the subject introduces the basic theoretical models that underpin signals and system analysis
Credit Point	3
Hours	72
Assessment	Assignment/ Test/ Online MCQ Test/ Online Simulated Practical

Contents

DC Circuit Analysis

Circuit Theory

Modulators

Analog, digital signals , electric current, power summary

Circuit analysis, electric potential, electric power, sign convection, electric source, Kirchoffs' law

Circuit elements, characteristics KCL, KVL

Resistor (Series, parallel, wheatstone bridge, Nodal analysis

Nodal analysis, mesh analysis

Superposition theorem, Thevenin's theorem, Norton theorem, Maximum power transfer theorem,

Operational amplifier

Inverting amplifier circuit, Summing amplifier, Differential amplifier

Capacitor, Op-amp integrator, stored energy

Mutual inductance, time constant, transient

Transient response of 1 st order circuit, RL transient analysis, sequential switching

RC/RL Circuit , Propagation, Delay, DRAM

Semi conductor

PN Junction diode

Light emitting diode

MOSFET

Digital signal

CMOS Digital circuit

Combinational logic circuits

Flip flops

Propagation delay in timing diagram

Integrated circuit fabrication

Device isolation methods

Interconnected resistance and capacitance

Transistor scaling
 Integrated circuit design for application in communications
 Small signal amplifiers
 Network noise intermodulation distortion
 CAD for noise analysis
 Snsors & Detectors
 Low noise design methodology
 Oscillators
 Modulators and demodulators
Concepts in Electrical Circuit
 Circuit theorem
 Sinusoids & phasors
 Frequency response

EE303 Engineering Circuit Analysis

Basic circuits

Basic Nodal and Mesh analysis

Linear and Superposition/ Source Transformation

RL/ RC Circuits

RLC Circuits

Sinusoidal steady state analysis

AC Power Circuit Analysis

Polyphase Circuits

Magnetically coupled circuits

Complex Frequency / Laplace Transform

Laplace Transform

Circuit analysis in “ S “ domain

Pole/ Zero constellation

Frequency Response

Two ports network

Fourier Circuit Analysis

Use of symmetry theory

EE404 Electrical Measurement (1 pt)

Measurement of inductance and capacitance

Measurement of resistance

Magnetic measurement

High voltage measurement and testing

Location of cable fault

Measurement of power

Measurement of energy

BAE 406 Electro-mechanics (2 pt)

Subject Objective	The objectives of this subject are to consolidate fundamental knowledge of electric and magnetic fields; electric and magnetic circuits; how electric, magnetic and electromagnetic energy are interchanged;
Learning outcome	To model an electromechanical automation system using DC and AC motors and simulate its performance in open-loop and closed-loop control. Students also acquire skills in working with machines and equipment at normal mains supply voltage, in power instrumentation and control, PLCs and in experimental design and recording. Technical and theoretical content is expected to be acquired by students to the levels of 'know' (essential), 'familiar' (can solve problems if required) and 'aware' (have read/seen). Laboratory skills, ranging from electrical safety, measurements, design validation and experimental verification are an important focus of this subject.
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test/ Online simulated Practical

Contents

Electro-mechanic -1.0.1 Scope of application

1.1 Electro-magnetic theory

1.1.1a Magnetic field system, Table 1.1

1.1.1.b Electric field system Table 1.2

Lumped electro-mechanical elements

Lumped parameter-electro-mechanic

Rotating machines

Lumped parameter-electro mechanical dynamics

EE 502 Electrical Machines

DC Generator, Example problems

DC Motors, Example problems

Efficiency & heating of electrical machines, Example problems

Three phase transformer, Example problems

Three phase induction motors, Example problems

Synchronous generators, Example problems

Synchronous motors, Example problems

Basic of industrial motor control, Example problems

ME 301 Machine Principle

Rotating machines
Machinery mounting
Balancing
Bearing
Power transmission

BAE 407 Advanced Electro-magnetics Field & Materials (1 pt)

Subject Objective	The objectives of this subject are to consolidate fundamental knowledge of electric and magnetic fields; electric and magnetic materials
Learning outcome	To understand how electric, magnetic and electromagnetic energy are interchanged.
Credit Point	1
Hours	24 + Tutorial 2 hr/ week
Assessment	Assignment/ Test/ Online MCQ Test

Contents

Electric field
 Electrostatic potential
 Dipole and quadrature pole movements
 Batteries, resistors, ohm laws
 Capacitors
 Magnetic effect of an electric current
 Force on current in a magnetic field
 Electro-dynamics of moving bodies
 Magnetic potential
 Electro-magnetic Induction
 Dimensions
 Properties of magnetic materials
 Alternating current
 Laplace transform
 Maxwell Equation
 CGS Electricity & Magnetism
 Magnetic dipole movement
 Outlines
 Electric field
 Electrostatic Energy
 Laplace's equation (1)
 Laplace's equation (2)
 Remarks on units
 Green's functions
 Multipole expansion
 Electro-static in matter
 Boundary condition
 Magneto statics (1)
 Magneto statics (2)
 Macroscopic magneto statics
 Maxwell's equation
 DISC movement
 Electro-magnetic plane waves
 Reflection & refraction

Casual relation between D & E
 Wave guides and load cavities
 Electromagnetic radiation and scattering (1)
 Electromagnetic radiation and scattering (2)
 Scattering by small di-electric sphere
 Electro-magnetism
 Electro magnetic fields and moving charges
 Multipole expansion
 Magnetic constants and materials
 Ampere law
 Brief history of electro magnetism
 Gauss's law
 Numerical solutions to Laplace's equation
 Small current loop
 Curvilinear co-ordinate system
 Problems
 Dielectric tensors and constants
 Analytic solution to Laplace equation
 Magnetostatic boundary condition
 Electrostatic boundary condition
 Electromagnetic field
 The gradient vector
 Maxwell's equation

 Electro-magnetic wave propagation
BAE 407 Advanced Electro-magnetic Field & Materials
Electro dynamics
 Introduction to electro statics
 Boundary value problems in electro statics (1)
 Boundary value problems in electro statics (2)
 Multi-poles Macroscopic media –Dielectrics
 Static and stationary magnetic fields
 Maxwell's equations
 Plane wave and wave propogation
 Wave guides and cavities
 Radiation
 The special theory of relativity
 Particles and field dynamics
 Charged particle collisions-Energy loss, Scattering
 Radiation by moving charges

BAE 407 Advanced Electro-magnetic Field& Materials

 EMFT book.pdf
 Summary of electro statics
 Potential
 Electro-magnetics waves
 Classical optics
 Conservation Law

Conservation Law
Conservation Law
Generic wave
Electromagnetic waves in vacuum
Electromagnetic waves in matter
Electromagnetic waves in conductor
Electromagnetic waves propagation
Electromagnetic waves field
Wave guides
Electromagnetic waves radiation
Electro-dynamics
Frequency

EE407 Electro-magnetism

Di-electric materials and capacitance
Transmission Lines
Maxwell's equations and electro-magnetic waves

Electrostatics

Di-electric

Transmission Line

Maxwell Equation

BAE 408 Analogue & Digital Electronics (5 pt)

Subject Objective	<p><u>Analogue</u></p> <p>The main objective of this subject is to familiarise students with basic electronic circuits, mainly with op-amps as active elements, and their applications.</p> <p><u>Digital</u></p> <p>The objectives of this subject are to enable students to master the fundamentals of digital and programmable electronic circuits and their engineering applications; master the hardware architecture of a typical small computer system; and understand the principles of low-level programming and gain an ability to write simple assembly code.</p>
Learning outcome	<p><u>Analogue</u></p> <p>By the end of the subject, students should have acquired reasonable proficiency in the analysis of basic electronic circuits and be able to build and test circuits in the laboratory. Particular emphasis is placed on the practical, hands-on aspect of electronics to provide a solid foundation of working knowledge for basic analog electronic circuits using op-amps. Laboratory work is a significant proportion of in-class delivery so as to make students proficient in circuit construction, testing, troubleshooting and to give them a sound knowledge of the use of test instruments. Another objective is to show that practical electronic applications are relevant to other engineering and technical disciplines and may often be placed within a wider social or commercial context.</p> <p><u>Digital</u></p> <p>Students are introduced to the basics of concurrent and real-time application programming. Topics include digital sequential circuits; state diagram and its application in the design of digital circuits; basic hardware architectures of the digital computer in terms of its building blocks; how hardware integrates with software at the machine level; low-level language programming; internal architecture and design of a typical register-based central processing unit and a main memory subsystem, and their interdependence; concepts of computer system buses, as well as different types of input and output devices; interrupts; input and output; micro-controller theory; and hardware interfacing design techniques.</p>
Credit Point	5
Hours	120
Assessment	Assignment/ Test/ Online MCQ Test/ Online Simulated Practicals

Contents

Semi conductor devices

Digital circuits

Power Electronics Converters

Introduction to Electronic Engineering

Power Electronics & Applied Electronics

Digital System

Digital Signal Processing

Digital Image Processing

Electronics Circuits

Power Electronics Control

Digital System

Number system basics
Introduction to logic gates
Combinational logic
Karnaugh map
Arithmetic circuit
Coders/ Multiplexers
Counters

Digital Signal Processing

Signal system representation
Fourier/ Z Transform
Discrete Fourier Transform
Principle of filter design
FIR filter design

Digital Image Processing

Introduction
Intensity transformation & spatial filtering
Filtering in frequency domain
Discrete Fourier Transform
Butterworth Low Pass Filter
Butterworth High Pass Filter
Image restoration / Noise analysis

Digital Image Processing

Introduction
Intensity transformation & spatial filtering
Filtering in frequency domain
Discrete Fourier Transform
Butterworth Low Pass Filter
Butterworth High Pass Filter
Image restoration / Noise analysis

BAE 501 Advanced Power Systems & Power Transmission Networks (3pt)

Subject Objective	The subject introduces the basic methods used in the analysis and design of electric power networks.
Learning outcome	Its purpose is to give students a working knowledge of modern power system theory and practice. Techniques introduced in earlier circuit analysis subjects are further developed and applied to power system problems.
Credit Point	3
Hours	72
Assessment	Assignment/ Test/ Online MCQ Test/Online simulated practicals

Contents

Principle of Power System

Source of energy
 Steam power station
 Hydro power station
 Diesel power station
 Nuclear power station
 Gas turbine power station
 Variable load on power station
 Interconnected grid system
 Economic of power generation
 Importance of high load factor
 Tariffs
 PF improvement
 Supply system
 Mechanical design of OH line
 Corona
 Sag
 Electrical design of OH line
 Performance of transmission line
 Line generalised constants
 UG cable
 Capacitance in 3 core cable
 Distribution system
 DC Distribution
 DC System
 AC Distribution
 Voltage control
 Introduction to switch gear
 Circuit breaker
 Fuse
 Relays

Protection transformers
Substation

Advanced Power System –Power Transmission Network

Consequence of power quality
Power quality & applications
Power quality analysis
Power quality monitoring
Management, control and automation of power quality
improvement

Electrical generation and distribution system and power quality disturbances

Integration of hybrid distribution units in power grid
Optimal location and control of multi hybrid model based wind shunt facts to enhance
power quality
Power quality and voltage sags indices in electrical power systems.

Power Transmission Line

AASR Conductors
ARC Fault
Circuit breaker rating
Current transformer
Electrical bushing
Electrical fuse
Induction motor model
IP rating
Load factor
Load redundancy
Over current protection
Partial discharge
Per unit system
Phase conversion
Resonance
RL Switching
Sequence network
Short circuit calculation
Symmetrical component
Transformer impedance

Power Transmission Line 2

AC Power Transmission
Insulation Resistance test
Dry type transformer
Electrical software

Insulation resistance test

Electrical Power Generation System

Designing for high temperature and pressure

Turbine components

Burning of fuel

Facts about fuel

Burning gas and oil

Selecting fuel

Water treatment

Heat exchanger

Computer control

System economics

Power System

Transmission & distribution system

Control of power and frequency

Control of voltage and reactive power

Load flow

Faults

System stability

Over voltage and insulation requirement

Substations and protection

Electrical Power

Power line

Neutral earthing

Switch gear

Instrument

Protection

Power system

Generator response to system faults

Calculation of fault current

Symmetrical components

Commissioning electrical plant

Power System Technology

Power system fundamental

Modern power system

Power control devices

Operational control system

Power conversion

Specialised testing & measurement devices

Generation , Transmission and Distribution of Electric Power

Voltage transient and line surge
Transmission of electrical energy
Corona
UG Cable
Voltage drop in distribution
Regulation
Line and machine chart
Voltage regulation stability
Fault calculation in line

Electrical Power Distribution in Industry & Transmission (Electrical Distribution Engineering)

Planning & design
Electrical design
Mechanical design (Over head)
Mechanical design (Under ground)
Metering
Conductor inductance & capacitance

Power Transmission and Practical Power Distribution

Electric power system
Percentage and per unit quantities
Circuit constants
Assemblies of power system components
Power circuit stability

BAE 502 Linear System (1 pt)

Subject Objective	This subject presents the theoretical basis for system analysis and gives students skills in using the techniques to design components of linear control systems..
Learning outcome	<p>To do the design and implementation of part of a control/communication system</p> <p>To apply their knowledge to a real-life problem. Topics include signal types and their representation in the time and frequency domains; modelling systems with differential or difference equations and transforms of the equations; signal operations and processing; the relationship between discrete and continuous quantities and the mathematical techniques applicable to each; the effects of feedback; time and frequency domain performance of systems; system stability; and control design techniques and simple communication systems. Through learning activities students also gain study skills, including academic literacy skills, and an appreciation of the different fields of practice of engineering and the interdisciplinary nature of engineering.</p>
Credit Point	1
Hours	24
Assessment	Assignment/ Test/ Online MCQ Test

Contents

Controllability of linear control system
 Finite dimensional linear control system
 Linear partial differential equations
 Introduction to intelligent control system with high degrees of autonomy
 Overview of field

Control system

System identification
 Digital and analog
 System metrics
 System modelling
 Classical control
 Transform
 Transfer functions
 Sampled data system
 System delays
 Poles and zeros
 Modern control
 State space equation
 Linear system solution

BAE 503 Control System (4 pt)

Subject Objective	The objective of this subject is to enable students to model with validation control systems and to analyse, design and implement both analog and digital controllers so that the controlled systems conform with given specifications
Learning outcome	<p>Emphasis is placed on laboratory work, the theoretical content of the subject being only that required to produce successful designs.</p> <p>To work on reduced scale models of actual industrial processes. The equipment is based upon experience gained with authentic control applications and is suitably modified for student use.</p> <p>To follow the usual sequence adopted in industry, i start with the calibration of transducers and actuators leading on to dynamic response testing, physical modelling, model verification and finally to controller design, implementation and testing.</p>
Credit Point	4
Hours	96
Assessment	Assignment/ Test/ Online MCQ Test/ Programmable Control Program software applications
	<p>Topics include linear and nonlinear modelling of control systems using Newton's rules, analogous networks or Lagrangian techniques; linearisation and development of linear, time-invariant transfer functions; development of lead-lag compensators or PID controllers using classical control design techniques such as root locus, Bode gain and phase diagrams, Nyquist plots and Nichols chart; development of state-variable equations from differential equations; development of state-variable feedback controllers and state observers; open-loop pulse transfer functions and discrete-time state models; discretisation using backward difference, bilinear, step-invariance or pole-zero mapping; development of digital PID controllers, deadbeat controllers and discrete-time state-variable feedback controllers; describing functions and limit cycles for nonlinear control systems; and the development of linear controllers for nonlinear systems using describing function techniques.</p>

Contents

Gain
 Block diagram
 Feedback control loop
 Bode plot
 Nichol chart
Stability
 Stability
 Routh Hurwitz Criterion, Root Locus

Nyquist Criterion
 State Space Stability
Controllers & Compensators
 Controllability & Observability
 System Specifications
 Controllers, Compensators
 Z - Transform

Non Linear Control Applications

Application of input/ output linearization
 Non linear control for 2 stages PF correction converter
 Non linear observer based control allocation

Control Engineering MATLAB

Transfer functions and their responses
 Frequency response/ Plotting
 Closed loop control
 Controller design

Feedback and Control System

Introduction to linearized dynamic model
 Transfer function model of physical systems
 Transient performance / S- Plane
 Feedback system modelling / Performance
 Dynamic compensation of feedback system

PID Control

Application of PID controllers in motor drive system

Applications of Non Linear Control

Introduction
 Phase plane method

Process Control

Analog Signal Conditioning
 Digital Signal Conditioning
 Final Control
 Discrete State Control
 Controller Principle

Analog Controller
Digital Controller
Control Loop Characteristics

Numerical Control

Introduction to numerical control machinery
Numerical control system
Programming co-ordinates
Two axis programming
Three axis programming
Maths for numerical control programming

BAE 504 Power System Analysis (1 pt)

Subject Objective	The primary objective of this subject is the development of a working knowledge of power systems analysis and design.
Learning outcome	Emphasis is placed on the derivation of equivalent circuits, mathematical models of devices and the system, and on methods of analysis and measurement. Material covered includes electricity supply chain building blocks, system analysis, real/reactive power and load flow analysis, dynamic and transient stability.
Credit Point	1
Hours	24
Assessment	Assignment/ Test/ Online MCQ Test

Contents

Overview
 Real & Reactive power injected bus
 Classification of buses
 Classification of buses
 Preparation of data for load flow
 Load flow by Gauss Seidel method
 Updating load bus voltage
 Updating PV bus voltage
 Convergence of the algorithm
 Solution of a set of non linear equation by Newton Raphson method
 Load flow by Newton Raphson method
 Load flow algorithm
 Formation of Jacobian matrix
 Formation of Jacobian matrix
 Solution of Newton Raphson load flow
 Load flow results
 Load flow results
 Load flow programs in MATHLAB
 Forming Y bus matrix
 Gauss Seidel Load Flow
 Solving non linear equation using Newton Raphson method
 Newton Raphson load flow

Power System Analysis

Transformer
 Transmission line model
 Gauss Seidel Algorithm
 Newton Raphson Iteration
 DC Power Flow Algorithm
 Modelling
 Transient Stability

Power System Analysis

Power Apps Transient Stability validation document for single pole open/ close simulation (Power flow analysis + FAULT ANALYSIS + Power system dynamics and Stability)

Static Analysis
Introduction
Network model
Active & reactive power flow
Nodal formation of power flow problem
Basic power flow problem
Solution of power flow problems
Fault analysis
Power system dynamics and stability
Synchronous machine model
The swing equation
Power swing in simple system
Oscillation in multi machine system
Voltage stability
Control of reactive power voltage

BAE 505 Power System Optimization (1 pt)

Subject Objective	The primary objective of this subject is the development of a working knowledge of optimal power systems operation.
Learning outcome	The subject aims to provide students with a knowledge and understanding of elements of the supply chain and how they function in the National Electricity Market; demand-side management options including smart meters; load forecasting and optimal load scheduling for secure energy supply and use; protection schemes for transmission and distribution networks; communications in power systems, including communication media, architectures, automation, standards, protocols and security; and basic design, connection and standards of current and voltage instrument transformers for protection and metering applications.
Credit Point	1
Hours	24
Assessment	Assignment/ Test/ Online MCQ Test

Contents

Introduction
 Power Flow Analysis
 Classic Economic Dispatch
 Linear programming method
 Mathematical model of economic dispatch
 Linear programming model
 Optimization of power system performance using facts devices
 Optimization of dynamical system

Matrix Eigen Value Method

BAE 506 Power System Stability & Protection (2 pt)

Subject Objective	The primary objective of this subject is the development of a working knowledge of power systems operation and protection. The subject aims to provide students with a knowledge and
Learning outcome	To provide the understanding of elements of the supply chain and how they function in transmission and distribution networks; communications in power systems, basic design, connection and standards of current and voltage instrument transformers for protection and metering applications.
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test/ Simulated Online Practical

Contents

Transient in RL circuit
 Symmetrical fault
 Transient in RL circuit
 DC Source
 AC Source
 Faults in AC Circuit
 Short circuit in unloaded synchronous generator
 Symmetrical faults in power system
 Calculation of fault current using Z bus matrix
 Circuit breaker selection
 Symmetrical components & representation of faulted network
 Overview
 Overview
 Real & reactive power
 Real & reactive power
 Orthogonal Transformation
 Sequence circuit for star load
 Sequence circuit for delta load
 Sequence circuit for synchronous generator
 Sequence circuit for symmetrical transmission line
 Sequence circuit for transformer
 Star/ Star Connected Transformer
 Delta/Delta Connected Transformer
 Star/ Delta Connected Transformer
 Sequence Network
 Un- symmetrical Faults
 Introduction
 Single line to ground fault
 Line to line fault
 Two lines to ground fault
 Fault current computation using sequence network

Transient Stability

Introduction

Power angle relationship

Swing equation

Equal area criterion

Equal area criterion

Multi machine stability

Oscillation in “ S “ Two areas System

Compensation of power transmission

Introduction

Ideal shunt compensator

Improving voltage profile

Improving power angle characteristics

Improving stability margin

Improving damping power oscillations

Ideal series compensator

Impact of series compensator for voltage profile

Improving power angle characteristics

Improving power angle characteristics

Alternate mode to voltage injection

Alternate mode to voltage injection

Comparison of two modes of operation

Power flow control and power swing damping

Power System Protection

Different types of relays and settings

- Technical feasibility of various options
- Cost of options
- Type of transmission AC/DC
- Number of circuits
- Conductor type
- Transmission loss
- Reactive power support requirements
- Reliability
- Quality of power supply
- Stability aspects of the interconnected system
- Operational planning
- Short circuit levels and breaker requirements
- over voltages and control
- Insulation coordination at substations
- Substation arrangements at the end of line, including switching arrangements.

- Insulation requirements.
- Protection, monitoring, control and automation requirements
- Study of harmonics where needed [as in case of HVDC or when a terminating station is close to sources of harmonics]
- Basic and Detailed engineering related to transmission towers, routes, substations

Philosophy of protective relaying

Fundamental of relaying

Current/ voltage/directional/ differential relay

Distance relaying

Pilot wire relay

Carrier current relay

Voltage transformer

Relay response

Generator protection

Transformer protection

Busbar protection

Line protection

Line protection with distance relay

Line protection with pilot relay

Power system stability

Power system stability Guidelines

Power system stability guidelines for determination and report

Direct stability analysis of electric power system using energy functions

Power system stability –New opportunity for control

Typical power quality and harmonic measurement plots

Robust power system stabilizer design using particle swarm optimisation techniques

Harmonic analysis

Power Quality

Power quality

Electrical protection for power system

Substation automation

Introduction to power quality

Harmonic model of transformer

Substation automation

Modelling analysis of synchronous machines

Life time reduction

Power system modelling under non sinusoidal condition

Impact of power quality on reliability

Role of filters in power system

BAE 507 Electro-mechanical Energy Conversion (2 pt)

Subject Objective	The objectives of this subject are to enable students to: acquire an understanding of the nature of power semiconductor devices and their control and use in switch-mode;
Learning outcome	To understand the arrangement and topology of the circuits in which switch-mode devices are used; appreciate the use of power electronic circuits in high-power applications such as motor drives; be aware of the electromagnetic interference problems associated with power electronic systems; use commercial software for the rigorous circuit analysis of real power electronic systems; analysis and design circuits to meet specific specifications; and fabricate basic power electronic circuits such as a chopper.
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test/ Simulated online practical

Contents

Basic semiconductor physics
 PN Junction semiconductor
 Power switching devices
 Electrical rating of switching devices
 Cooling
 Load/ switch communication
 Driving semiconductor & thyristor
 Protecting diode / Thyristor/ Transistors
 Switching circuit energy recovery
 Series , parallel devices operation protection
 Naturally commutating converter
 AC Voltage Regulator
 DC choppers
 Power inverters
 Switched mode & resonant DC-DC power supplies
 Capacitors
 Soft magnetic materials
 Resistors

Motor Control Electronics

AC Induction motor control
 Motor control MCU
 Networking for motor control system
 DC motor control design
 Motor control electronic devices
 Power semi conductors

Mechatronics/ Robotics

Robotics Application
Robotic Gears
Interfacing
Robotic Sensors
Communication

BAE 508 Industrial Engineering & Industrial Management (1 pt)

Subject Objective	To work effectively in industry as middle level managers
Learning outcome	To acquire the introductory skills in business information system, engineering management, supervision, quality control, manufacturing management , human resources management, budgeting, operation and managerial decision making.
Credit Point	1
Hours	24
Assessment	Assignment/ Test/ Online MCQ Test

Contents

Effective management decision making

Introduction

Business Information System

Defining Information System

Acquiring Information System

Developing Information System

Managing Human Resources in 21 Century

Human resources Management

Management Basics

The Manager's Job

Planning in Organization

Operation Management

Operation Strategy

Work System Design

Project Management

Inventory Management

Quality Management

Leadership in Quality Management

Strategic Quality Management

Implementing Quality Management

Strategic Financial Management

Finance An Overview

Capital Budgeting

Equity Valuation & Cost of Capital

Strategic Management

The Basic of Strategy

The Levels of formulation of strategy

External analysis

Internal analysis

Strategy implementation

Understanding organization part 1

Organization structure

Organization culture

Managing behaviour

Effective leadership

Part (2) Competency Units

Mgt 501 Basic Management & Communication Skills (1 pt)

Textbook – Mgt 501 Management Basics

Chapter (1) Management basics

Chapter (3) Planning

Chapter (5) Organizing

Chapter (6) Organizing the organization

Chapter (7) Leading

Textbook—Mgt501 Management Briefs

Chapter (2) Leadership

Chapter (5) Motivation

BAE 601 Computer Programming (3 pt)

Subject Objective	This subject provides basic skills in Java/ C/C++/C# programming and software design,
Learning outcome	<p>To acquire the skill practice in object-oriented (OO) programming concepts, data flow, control flow, arrays, and the basics of sorting and searching algorithms.</p> <p>To illustrate a design process using a set of design notations and design rules, and shows how to develop a correct, readable and reusable solution from a problem specification.</p>
Credit Point	3
Hours	72
Assessment	Assignment/ Test/ Online MCQ Test/ Programming software application

Contents

Part (1) Overview Knowledge of the subject

Select any of the following textbooks

- C Programming
- C++ Programming
- C# Programming
- Object Oriented Programming
- C Programming in Linux

IT 401 Object Oriented Programming (1 pt)

IT 402 Structured Programming (1 pt)

IT 403 Visual Basic Programming (1 pt)

BAE 602 Computer Network (1 pt)

Subject Objective	The objectives of this subject are to introduce students to the basic concepts and terminology used in telecommunication networks and a system-level view of network operation.
Learning outcome	To understand the evolution of telecommunication networks; services and applications (voice, video, data, location-based services, multimedia, gaming, etc.); network protocols (TCP/IP, OSI); transmission and switching basics; transmission media; access networks; PSTN; internet (dial up, broadband, ISP); network security; mobile networks (2G, 2.5G, 3G, 4G); data networks (LANs, wireless LANs, WANs, SANs, PANs, enterprise networks); VoIP networks; and convergence in telecommunication networks, next generation networks (NGN) and digital identity in networks.
Credit Point	1
Hours	24
Assessment	Assignment/ Test/ Online MCQ Test

Contents

Computer Network
 Peer to peer networking
 Client server networking
 Network hardware
 Network cable
 Hub
 Wired network
 Wireless network card
 Firewall
 Wiring the network
 Wiring the network
 Running the network program
 Viewing network connection
 Network set up on additional computers
 Viewing network connection

Introduction
 Network model
 Data and signals
 Data and signals
 Data rate limit
 Performance
 Digital transmission
 Digital transmission
 Analog transmission
 Analog transmission

Bandwidth utilization/ Multiplexing/
Spreading
Bandwidth utilization/ Multiplexing/
Spreading
Transmission media
Error detection & correction
Error detection and correction
Defining needs
Area covered
Organization information requirement
System VS Procedure
Types of systems
What are the systems?
Infrastructure
Support system
Data mart
Organizational structure
Planning for system development
System design
Security of information system
Risk management

BAE 603 Software Engineering (2 pt)

Subject Objective	This subject introduces students to the fundamentals of contemporary software engineering.
Learning outcome	<p>To overview of the agile and non-agile software engineering principles, methods, tools and techniques is presented. Current trends and challenges in the practice of software engineering are explored.</p> <p>To apply contemporary agile requirements analysis, planning, architecture, design, implementation and testing practices to software engineering project work in small teams.</p>
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test/ Software Design Practice

Contents

Introduction
 Software process
 Feasibility study
 Project management
 Documentation, Requirement analysis
 Requirement specification
 Business/ Legal aspect
 Source code management
 Formal specification
 Object oriented design 1
 Object oriented design 2
 Object oriented design 3
 System Architecture 1
 System Architecture 2
 System Architecture 3
 Design for utility
 Performance of computer system
 Coding standard/ Tools for designing 1
 Dependable system 1 Reliability
 Dependable system 2 Validation
 Law aspect
 Risks in software engineering
 Software engineering as engineering

Nano Technology

What is Nano technology?
 Motivation for Nano technology
 Scaling laws
 Nano technology

BAE 604 Telecommunication Engineering (2 pt)

Subject Objective	On completion of this subject, students have learned the skills to systematically analyse network operations and performance, and also have the ability to appreciate approaches in designing communication and computer networks.
Learning outcome	To understand the communication architecture. To provide the necessary background in understanding operations of TCP/IP, the mostly widely implemented protocol stack in computer networks, on a layer-by-layer basis.
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents

Communication fundamental
 Information & bandwidth
 Amplitude modulation transmission
 Amplitude modulation reception
 Single side banded communication
 Frequency modulation –Transmission
 Frequency modulation –Reception
 Communication Techniques
 Communication Receivers
 Pulse Modulation
 Code transmission
 ISDN
 Transmission lines
 Wave propagation
 Antenna
 Fibre optics

Data Communication

Overview of data communication
 Data terminals
 Message and transmission channels
 Asynchronous modems and interfaces
 Synchronous modem and digital transmission
 Protocol and error control

Electronics Telecommunication

RF Transmission
 Transmission Lines & Antennas, Video signals

BAE 605 Engineering Management (5 pt)

Subject Objective	To work effectively in industry as middle level managers
Learning outcome	To acquire the advanced skills in business information system, engineering management, supervision, quality control, manufacturing management , human resources management, budgeting, operation and managerial decision making.
Credit Point	5
Hours	120
Assessment	Assignment/ Test/ Online MCQ Test+ Submission of engineering design project (Minor thesis)

Part (1) Overview Knowledge of the subject

Completion of BAE 508 Overview also completes BAE 605 Overview

Part (2) Competency Units

Mgt 502 Operation Management (1 pt)

Mgt 503 Production & Operation Management (1 pt)

Mgt 504 Project Management (1 pt)

Mgt 505 Quality Management and Manufacturing Engineering (1 pt)

Mgt 506 Strategic Financial Management (1 pt)

Mgt 502 Operation Management (1 pt)

Product design and process selection

Total quality management

JIT & Lean System

Capacity planning

Mgt 503 Production & Operation Management (1 pt)

Planning production

Managing inventories-Material requirement planning

Manufacturing

Dealing with technology and design

Operation strategy

Mgt 504 Project Management (1 pt)

Project management

Project organization

Project plan

Progress& performance measurement

Risk management

Documentation/ Audit/ Closure

Mgt 505 Quality Management and Manufacturing Engineering (1 pt)

Background

Why quality management

Standards and models

Progress& performance measurement

Strategic quality management

Documentation/ Audit/ Closure

Mgt 506 Strategic Financial Management (1 pt)

Capital budgeting

Treatment of uncertainty

Debt valuation and cost of capital

Capital gathering & cost of capital

BAE 606 Building Service Electrical & Mechanical Engineering

(2 pt)

Subject Objective	To work effectively in M & E Engineer in building construction & building service industry
Learning outcome	To understand the methods of building construction To understand aircondition & refrigeration systems. To design the water supply system for building To design fire protection, building automation systems
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test/ Building service design project.

Contents

Building Construction 1

Making building
 Foundations
 Wood
 Interior finish for wood light frame construction
 Wall types
 Concrete construction

Air-conditioning & Refrigeration

Controlling the temperature of mass
 Electric heat
 Humidification
 Air-conditioning –Cooling / Comfort
 Air-distribution & Balance
 Reference Tables

Sanitation & Water Supply

Design of onsite sanitation system
 Hydraulic design of sewers

Building Electrical & Mechanical System Part 1

Climate comfort and design strategies
 Thermal control

Designing for heating cooling
Large building HVAC system
Water and basic design
Water supply
Water and waste
Fire protection
Fire protection
Illumination
Lighting design
Signal system

Airconditioning and Refrigeration

Theory of heat
Solar heat
Humidification
Air-conditioning-Cooling
Air-distribution & Balance
Air-conditioning Calculation worksheets

BAE 607 Radio Wave Propagation & Microwave Techniques (2 pt)

Subject Objective	This subject presents the theoretical basis for system analysis and gives students skills in using the techniques to design components of communication systems.
Learning outcome	io understand radio & microwave signal types and their representation in the time and frequency domains; modelling systems with differential or difference equations and transforms of the equations; design of antenna, propagation principle
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents

Radio Wave Propagation

Introduction to radio wave propagation
 Propagation features/ Overviews
 Electromagnetic waves, Prpagation through atmosphere
 Antenna
 Radio wave propagation fundamentals
 Antennas and propagation
 Mobile radio propagation
 Propagation
 Wave propagation
 Radio navigation
 Wireless communication

Microwave Technique

Microwave antenna and radio wave propagation
 Distributed element circuit analysis techniques
 Matching networks
 Couplers, combiners, dividers
 Mixers
 Gain and stability
 Noise
 Electromagnetism and RF Propagation
 Antenna Fundamental
 Communication system
 RF Safety

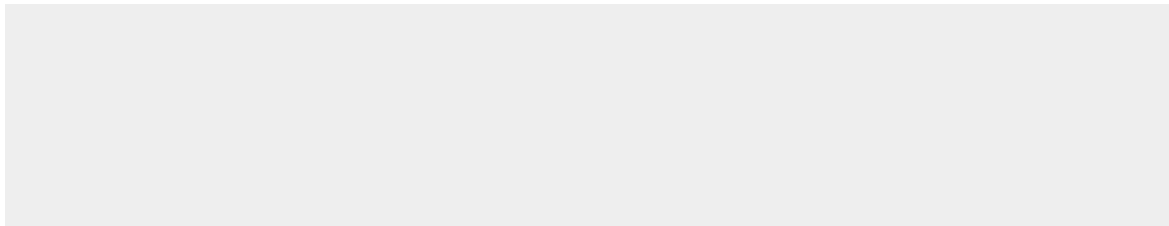
 Rain attenuation of microwave and milli-meter wave signals

 Design of microwave filters (Vol 1)

Mechanically & magnetically tunable microwave filters
Design of microwave filters (Vol 1)
General applications of filter structure in microwave engineering
Properties of some common microwave filter elements

BAE 608 Professional Engineer Competency Demonstration Report

- The students will have to write Engineering Competency Demonstration Report based on their academic study and work experiences gained after completion of academic study.
- Competency Demonstration Report is voluntarily to be submitted. It prepares the students to have the necessary skills to gain the membership of Engineers Australia later.
- The outlines of Competency Demonstration Report will be provided to the students after completion of the last course work subject.



Bachelor of Engineering (Civil)

Year (3) Part 1 ADVANCED GENERAL CIVIL ENGINEERING DEGREE LEVEL

Subjects
<u>BAE 401 Advanced Engineering Mathematics</u>
<u>BAE 402 Calculus</u>
<u>BAE 403 Engineering Mechanics</u>
<u>BAE 404 Engineering Materials & Thermodynamics</u>
<u>BAE 508 Industrial Engineering & Industrial Management</u>
<u>Renewable Energy Subjects</u> View http://www.highlightcomputer.com/BEElectricalNew.pdf for the Professional Diploma in Engineering Combined with Renewable Energy Subjects View http://www.highlightcomputer.com/re.pdf for detailed contents
<u>BAE 401 Advanced Engineering Mathematics---</u> Please see under Bachelor of Engineering (Electrical) Program
<u>BAE 402 Calculus</u> Please see under Bachelor of Engineering (Electrical) Program
<u>BAE 403 Engineering Mechanics</u> Please see under Bachelor of Engineering (Electrical) Program
<u>BAE 404 Engineering Materials & Thermodynamics</u> Please see under Bachelor of Engineering (Electrical) Program
<u>BAE 508 Industrial Engineering & Industrial Management</u> Please see under Bachelor of Engineering (Electrical) Program

BAE421 Building Construction Engineering

Subject Objective	<p>To understand the methods of design, construct, maintain, inspect and manage private and public work projects</p> <p>To understand the effects of environments on the properties and performance of construction materials</p>
Learning outcome	<p>To have a basic understanding of construction materials, in relation to their production, properties, testing and application. The main objectives of this subject are to help students acquire fundamental knowledge of the production, physical and engineering properties of construction materials;</p> <p>To understand the construction techniques, methods, schedules & application of construction materials in building construction.</p> <p>To be familiarize with rules, regulations and industrial standards related to building construction.</p>
Credit Point	4
Hours	96
Assessment	Assignment/ Test/ Online MCQ Test/ Building Design Practice Online simulation

Contents

- Basic skills
- Isometric drawing
- Retaining walls & Post footings
- Stair
- Doors & Windows
- Trusses
- Buildings
- Collar truss
- Howe truss

- Timber
- Steel
- Brick masonry
- Timber
- Brick-nogging
- Steel
- Reinforced concrete
- Floor plans
- Foundation plan
- Cross section
- Front elevation
- Back elevation
- Left side elevation
- Right elevation
- Culverts
- Bridges
- Buildings
- Pipe culvert
- Box culvert
- Slab culvert
- Deck and girder bridge
- Half top plan of culvert
- Half bottom plan of culvert
- Cross section of culvert
- Longitudinal section of culvert

- Elevation of culvert
- Mix Design
- Permissible water cement ratio

BAE422 Estimating (2 pt)

Subject Objective	To understand the methods of costing, material requirement planning in building construction
Learning outcome	To perform the costing, estimating, rate analysis, to interpret the construction drawings & determine the bills and quantities of construction materials.
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents

- Preliminary estimates
- Detailed estimating
 - Culverts
 - Bridges
 - Buildings
 - Roads
- Analysis of rates
- Detailed Estimating
- Buildings
- Up to plinth level
- Above plinth level
- Culverts
- Bridges
- Roads
- Earthworks

- Analysis of Rates
- Total workdone
- Material and labour requirements
- Estimated cost
- Actual PAE or CCE or RFT
- Complete items
- Quantity
- Measurements
- Content calculation
- Rates
- Buildings
- Above plinth level
- Culverts
- Analysis of rates

BAE423 Fluid Mechanics (2 pt)

Subject Objective	This subject aims to enable students to: understand key concepts and fundamental principles, together with the assumptions made in their development, pertaining to fluid behaviour, both in static and flowing conditions; deal effectively with practical engineering situations, including the analysis and design of engineering systems and devices involving fluids and flow; appreciate possible applications and links to other disciplines; and engage in further specialised study or research..
Learning outcome	The subject also aims to enhance interests in fluid phenomena and applications. Topics include: fluid properties and statics; conservation laws of mass, momentum and energy; flow in pipes; external flow (lift and drag); boundary layers; flow measurements; and environmental fluid mechanics
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents

- *Methods of Application of water*
- *Water Logging, Drainage, land reclamation and irrigation management*
- *Theoretical Concepts of Boundary Layer, Surface Roughness, Velocity Distribution*
- *Gradually varied flow*
- **Scale Model in Hydraulic Engineering**
- Surface irrigation methods
- Subsurface irrigation methods
- Sprinkler irrigation
- Drip or trickle irrigation
- Flooding Methods
- *Wild or uncontrolled Flooding*
- *Controlled Flooding*
- *Flooding from field channels*
- *Border strip methods*

- *Check method*
- *Basin method*
- *Zig-zag method*
- Furrow Method
- Contour Farming

BAE424 Reinforced Concrete (2 pt)

Subject Objective	To have knowledge of structural design, including the behaviour and design of reinforced concrete (RC) and, to a lesser extent, of prestressed concrete (PSC) elements as parts of overall structures.
Learning outcome	This subject builds on the knowledge of statics, solid mechanics and structural analysis of indeterminate structures that the students have learnt in the previous structural strand subjects. Students learn about the behaviour and design of RC beams, slabs and columns and PSC beams, for both serviceability and strength. Initially, the students are introduced to the Limit State Design philosophy of Australian Standards for structural design and to the material properties of concrete, reinforcement and prestressing steel used for design. RC topics include uncracked section analysis of beams, cracked section analysis of beams (linear-elastic, Desayi-Krishnan, ultimate) for strength and design for strength to AS3600, serviceability design of beams, ductility of singly and doubly reinforced sections, design for shear, T-beams, approximate analysis and design of one-way, two-way slabs and flat slabs/plates, columns (interaction diagrams and slenderness effects), pad footings, cantilever retaining walls and reinforcement detailing. PSC beam topics include history, uncracked section analysis, equivalent loads, load-balancing, cracked section analysis (linear-elastic and ultimate), design for bending, shear, transfer, anchorage.
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents

- Design of Concrete Structures
- FUNDAMENTALS OF FLEXURAL BOND
- Source of bond strength
- Bond Stress Based on Simple Cracked Section Analysis
- Actual Distribution of Flexural Bond Stress
- Development Length
- Factors influencing Development Length
- ACI CODE PROVISION FOR DEVELOPMENT OF TENSION REINFORCEMENT
- ANCHORAGE OF TENSION BARS BY HOOKS
- Development Length and Modification Factors for Hooked Bars

- ANCHORAGE REQUIREMENTS FOR WEB REINFORCEMENT
- Special Requirements near the Point of Zero Moment
- Structural Integrity Provisions

BAE425+525 Timber Engineering (2 pt)

Subject Objective	To have knowledge of structural design, including the behaviour and design of timber structures in construction engineering.
Learning outcome	This subject builds on the knowledge of statics, solid mechanics and structural analysis of indeterminate structures that the students have learnt in the previous structural strand subjects. Students learn about the behaviour and design of timber beams, slabs and columns for both serviceability and strength. Initially, the students are introduced to the Limit State Design philosophy of Australian Standards for structural design and to the material properties of timber and seasoning the timbers used for design.
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents

- Bending Stress and Deflection of Wood Joists
- Shearing Stress Caused by Stationary Concentrated Load
- Shearing Stress Caused by Moving Concentrated Load
- Strength of Deep Wooden Beams
- Design of a Wood-Plywood Beam
- Determining the Capacity of a Solid Column
- Design of a Solid Wooden Column
- Investigation of a Spaced Column
- Compression on an Oblique Plane
- Design of a Notched Joint
- Allowable Lateral Load on Nails
- Capacity of Lag Screws

- Design of a Bolted splice
- Investigation of a Timber-Connector Joint

BAE521 Road & Bridge (2 pt)

Subject Objective	To have knowledge of structural design, including the behaviour and design of road & bridge structures in construction engineering.
Learning outcome	<p>This subject builds on the knowledge of statics, solid mechanics and structural analysis of indeterminate structures that the students have learnt in the previous structural strand subjects.</p> <p>Students learn about the behaviour and design of road, bridge, slabs and columns in bridge for both serviceability and strength. Initially, the students are introduced to the Limit State Design philosophy of Australian Standards for structural design and to the material properties of road & bridge construction</p>
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents

- Hydraulic Design of Bridge
- The establishment of afflux levels
- Back water levels
- Long Contraction
- Yarnell's empirical equation
- The limiting values of σ
- Skewed bridges
- Discharge computation
- Scour depth under the bridge
- Scour around bridge piers
- Scour protection works around bridge piers
- Road bridge

BAE522 Rock Mechanics (2 pt)

+

BAE523 Soil Mechanics (2 pt)

Subject Objective	The aim of this subject is to develop students' technical competence in the analysis of soil masses and of structures associated with the soil. The analysis of footings, retaining walls and soil slopes are examples.
Learning outcome	By completing this subject, students should be able to understand the concept of failure in soil and apply it to the analysis of soil masses; critically appraise a problem in order to decide which particular analysis should be used; identify the limitations of their analyses and carry out appropriate solution validation; be responsible for the analysis component of a design team; study the relevant literature and learn to apply new or more complex methods of analysis; and carry out fieldwork in association with subsurface investigations. Topics include introduction to geotechnical design – criteria, codes, engineering judgment; site investigation – planning, fieldwork, techniques; shallow foundations – types, bearing capacity theories, retaining structures; earth pressure theories – Rankine and Coulomb, analysis of gravity walls, cantilever walls, braced excavations; deep foundations – types, load-carrying capacity, settlement, group behaviour, lateral loading; slope stability – failure mechanisms, infinite slopes, rotational failure, remedial measures; and soil improvement – compaction, soil stabilisation, dewatering, preloading.
Credit Point	4
Hours	96
Assessment	Assignment/ Test/ Online MCQ Test/ Design Project

Contents

- Soil
- Soil Mechanics
- Geotechnical Engineering

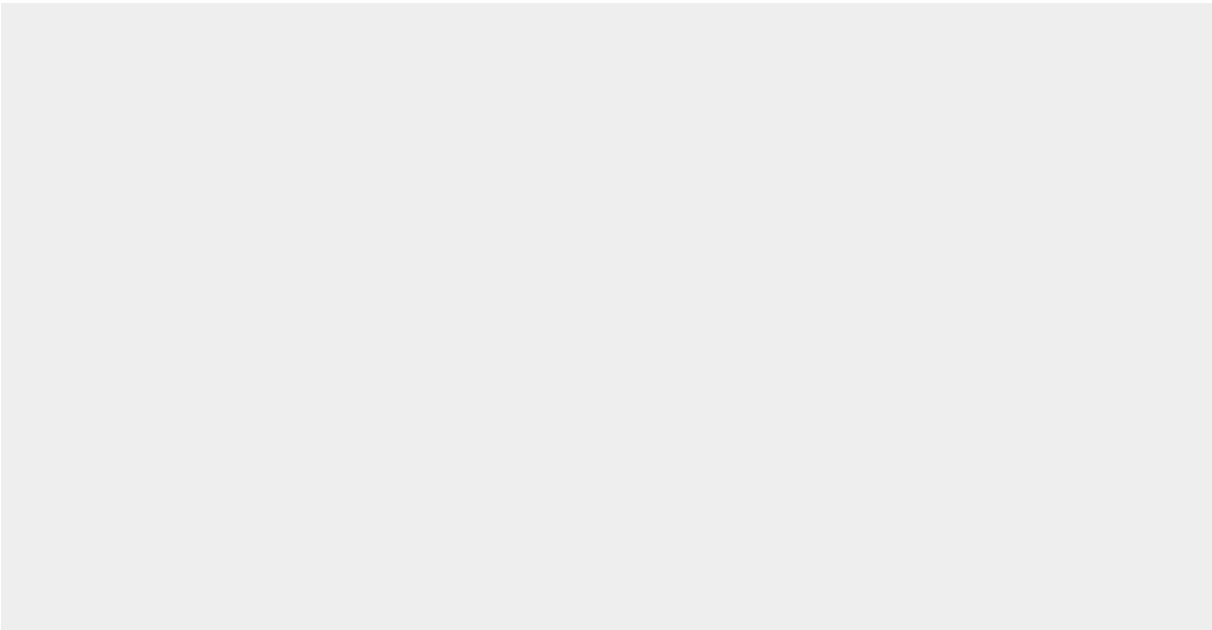
- Subsoil Exploration
- Testing (In-situ Tests & Laboratory Tests)
- SPT, CPT, Vane Shear Test
- Moisture content
- Index Properties Tests (LL, PL, SL)
- Grain Size Distribution Test (Sieve Analysis& Hydrometer)
- Specific Gravity
- Shear Strength Tests (Tri-axial Compression:, Direct Shear, Unconfined Compression:)
- Compaction test, CBR Test
- Consolidation Test, Permeability Test

BAE 523A Environmental Engineering

Subject Objective	Increasingly biological principles are being integrated as part of engineered systems to create innovative and effective design solutions. This subject teaches fundamental chemical, physical and biological principles which can be used to analyse data and formulate design solutions to environmental problems particularly related to water quality.
Learning outcome	To understand hydrology, soils, ecosystems, material balances, nutrient cycles, risk and water quality engineering. The way this knowledge is utilised by engineers for ecosystem restoration and engineered treatment systems is examined.
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents

- Distribution of water
- Requirement for good distribution system
- METHOD OF DISTRIBUTION
- Gravity System
- Combined gravity and pumping system
- Pumping system
- PRESSURE IN DISTRIBUTION MAINS
- SYSTEM OF WATER SUPPLY
- CONTINUOUS SYSTEM
- INTERMITTENT SYSTEM
- DRAWBACKS OF INTERMITTENT SYSTEM
- DISTRIBUTION RESERVOIR
- CAPACITY OF DISTRIBUTION RESERVOIR
- **Mac Donald's equation**
- DETERMINATION OF STORAGE CAPACITY

- Hydrograph method
 - Mass curve method
 - HEAD LOSS DUE TO FRICTION
 - Darcy Weisbach formula
 - Hazen William formula
 - Manning's formula
 - Combined Darcy Weisbach and Colebrook White formula
 - LAYOUT OF DISTRIBUTION SYSTEM
 - Dead end system or Tree system
 - Grid iron system or Reticular system
 - Circular system or ring system
 - Radial system
 - ANALYSIS OF PRESSURE IN DISTRIBUTION SYSTEM
 - Equivalent pipe method
 - Hardy cross method
- 

BAE621 Structural Engineering (3 pt)

Subject Objective	This subject covers methods and concepts which are fundamental to the analysis of linear elastic structural frameworks.
Learning outcome	Students learn how load bearing structures respond to the actions of directly applied loads as well as environmental effects such as temperature and foundation settlements. Topics covered include: computing deformations in plane frames using the principle of virtual work; the analysis of statically indeterminate structures using both, the force method as well as the method of moment distribution; and how to establish influence lines and how to use them in finding maximum load effects. A brief introduction to non-linear analysis of structures is also given.
Credit Point	3
Hours	72 hr
Assessment	Assignment/ Test/ Online MCQ Test/ Structural Design

Contents

- DESIGN OF A SLAB BRIDGE
- FOUNDATION SETTLEMENTS
- Major problems with soil settlement analysis
- Settlement classification
- Immediate settlement& consolidation settlement
- Stresses in soil mass
- Approximate method (2:1 slope)
- Boussinesq's method
- Westergaard's method

BAE623 Surveying & Traffic Engineering (2 pt)

Subject Objective	<p>Surveying</p> <p>The objectives of this subject are to enable students to: become competent in the theory and practice of basic surveying skills.</p> <p>Traffic Engineering</p> <p>To understand the transportation planning principles & methods</p>
Learning outcome	<p>Surveying</p> <p>To be able to use basic surveying equipment such as levels and theodolites and perform the calculations and reductions of observations associated with such equipment; be aware of the likely errors that may occur during observations and of methods to eliminate or minimise such errors; be competent in making distance measurements accurately over short distances using tapes and wires and be aware of the advantages of modern developments in this field such as Electronic Distance-measuring Equipment; be able to perform a simple traverse and associated calculations to find the misclose and proportional accuracy, and the bearing and distance of one missing line; understand and be able to perform relevant calculations for the engineering applications of surveying (horizontal curves, vertical curves, and areas and volumes); and be aware of field techniques used to enable preparation of a detail and contour plan. The stadia method is discussed in class and is used as a data-gathering tool in a practical exercise. The applications of modern computer programs to reduce data for and the plotting of detail and contour plans are introduced. Services of professional surveyors are explained, as are engineering situations where surveyors must be engaged.</p> <p>Traffic Engineering</p> <p>To applt the transportation planning principles & methods in land transport & airport runway designs.</p>
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents

Surveying

Topics include: use of equipment such as levels, theodolites and tapes and wires; calculations related to this equipment, as well as traversing, horizontal curve setting out,

design of vertical curves, areas and volumes and stadia and contouring; modern developments in surveying; and the role of the professional surveyor.

Traffic Engineering

- Airport Runway Orientation
- Wind Rose Diagram
- Highway Pavement Performance
- Traffic
- Roadbed Soils (Sub grade Material)
- Materials of Construction
- Environment
- Drainage
- Reliability
- Transportation Engineering
- Transportation Planning
- Urban Transportation Planning
- Urban Transportation Planning Process
- Coding and Zoning
- Inventory Studies
- Travel Studies
- Forecasts for the Horizontal Year
- Trip General Analysis
- Trip Distribution Analysis
- Modal Split Analysis
- Network Assignment Analysis
- Evaluation

BAE624 Water Supply , Sanitation & Finishing (2 pt)

Subject Objective	This subject provides civil and environmental engineering students with a detailed knowledge of: (i) water pollution control objectives, (ii) the design of potable water and sewage treatment processes, (iii) sewerage and water reticulation systems, (iv) total water cycle management, and (v) the advanced technologies used in the upgrading of water and wastewater treatment plants, desalination and water and biosolids re-use.
Learning outcome	At the completion of this subject, students understand: public health and environmental objectives in water supply and wastewater disposal; the design concepts for drinking water and sewage treatment plants; sewerage systems and water reticulation systems; and new technologies developed to meet the new water quality and water re-use objectives.
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents

- Water Quality
- Dissolved Oxygen
- BOD (Biochemical Oxygen Demand)
- COD (Chemical Oxygen Demand)
- Water Sampling
- Requirements for good Sampling Procedure

BAE622 Architecture (3 pt)

Refer any architecture text book , study & prepare the report on practical application problem given by the tutor.

Professional Diploma/ Bachelor of Engineering (Mechanical)

Year (3)

GENERAL APPLIED ENGINEERING (MECHANICAL) DEGREE

Subjects
<u>BAE 401 Advanced Engineering Mathematics</u>
<u>BAE 402 Calculus</u>
<u>BAE 403 Engineering Mechanics</u>
<u>BAE 404 Engineering Materials & Thermodynamics</u>
<u>BAE 507 Electro-mechanical Energy Conversion</u>
<u>BAE 508 Industrial Engineering & Industrial Management</u>

The detailed contents of the above subjects can be found under Professional Diploma/ Bachelor of Engineering (Electrical)

BAE511 Air-conditioning & Refrigeration

Subject Objective	The Heating, Ventilation, Air Condition and Refrigeration Technology or HVAC/R Program is designed to provide hands-on training on the same equipment used by business and industry. In addition, this program is designed to provide the students with the necessary skills required to become a state licensed independent business owner/contractor or for employment in the industry as a technician in residential, commercial, and/or industrial air conditioning, refrigeration and heating.
Learning outcome	Students will have an opportunity to learn various HVAC/R processes that will provide the basic preparation for entry-level jobs in the field of air conditioning, refrigeration, and heating with the initial focus placed on troubleshooting and service. In addition, they will learn the fundamentals of HVAC/R through hands-on training in (1) Theory of temperature control, (2) Electronics, (3) Design and construction of HVAC equipment, (4) Installation, (5) Maintenance, and (6) Repair. As students advance through the program, related topics of indoor air quality, load calculation, system design, and industry code standards will also be covered.
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test/ Design Project

Contents

- Heat transfer by Conduction
- Convection
- Radition
- Thermal Conductivity, k
- Boundary and Initial Conditions
- Properties and state
- The System
- Internal energy (U)
- Enthalpy (H)
- Work (W)
- Heat (Q)
- Specific Heat Capacity (c)

- Heat Engine
- The characteristic equation of a perfect gas
- Expansion processes
- Adiabatic process
- Isothermal Process

BAE613 Mechanical Instrumentation Process

Subject Objective	This subject aims to extend students' competence in the design of engineered systems and components, as well as familiarising them with modern design approach methodologies.
Learning outcome	While the emphasis is on realistic engineering-team/client/boss interactions, need exploration, project development and delivery, this subject draws heavily on the expertise the students have developed up until this stage of the course. Furthermore, the subject aims to enhance and polish students' capabilities in dealing with human-centric aspects of the design process.
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test/ PLC Program Project

Contents

- Problem-solving Methodology
- Matlab Environment
- Initializing Variables
- Data Format
- Printing Matrices
- Useful Commands and Functions
- Fundamental Engineering Computations
- Two-Dimensional Arrays and Matrices
- Variational Method
- Collational Method
- Subdomain Method
- Galerkin's Method
- Least Square Method

BAE614 Machine Design

Subject Objective	The objectives of this subject are to give students an understanding of the kinematics and dynamics of rigid bodies in general planar motion, which is typically encountered in design and analysis of mechanical systems, and an elementary understanding of the vibration of mechanical systems, in particular the dynamic behaviour of single-degree-of-freedom mechanical systems with various damping and applied forces.
Learning outcome	Students should be able to: model problems in rigid body planar and spatial kinematics and rigid body planar dynamics; understand energy methods in contrast to direct applications of Newton's second law of motion for setting up a model; understand the physics of a problem formulated from a real mechanical system; appreciate the role of vibration in machines and structures in the engineering world; understand the procedures required to evaluate a vibration problem; and analyse the dynamic response of single-degree-of-freedom mechanical systems. The subject also covers the concept of a rigid body, full nomenclature used in kinematics, two-body velocity equations and velocity diagrams of planar motion; two-body acceleration equations and acceleration diagram; three-body velocity equations and acceleration equations including Coriolis acceleration term; angular velocity acceleration equations including three-dimensional problems; $F=ma$ applied to a rigid-body-dynamics, significance of 'centre of mass', the 'moment' relationship ($M=Ia$, etc.); angular momentum, conservation of angular momentum (general case, centre of mass moving, no 'fixed' point); linear and angular impulse problems; energy methods for general planar motion; elementary principles of vibration theory, free vibration of undamped single-degree-of-freedom system; free decay vibration of damped single-degree-of-freedom system; and the forced vibration of single-degree-of-freedom system.
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test
TOPICS	Topics covered include the mechanical design process, graphical presentation of engineering ideas and components, computer-aided design, engineering materials and processes and aspects of engineering knowledge. A prototype design-and-build project is a major component of this subject
<u>Specific Contents</u>	<ul style="list-style-type: none"> • Balancing , Forces, Cam Profile • Resultant Effects of Engine, V-Engine Mechanism • Arrangement to balance the primary moment (C.W) • FORCES IN ENGINE, Inertia Forces and D'Alembert's Principle

BAE512 Building Service Water Supply System

Subject Objective	This subject provides mechanical engineering students with a detailed knowledge of: (i) building water supply control objectives, (ii) the design of potable water supply processes & piping system mechanical design.
Learning outcome	At the completion of this subject, students understand: public health and environmental objectives in water the design concepts for water supply piping design
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents

- Pressure loss in pipe
- Pressure loss in pipet by loss coefficient method
- Pressure loss in pipe by Equivalent Length Method
- To find the duct pipe by Equal Friction Method
- To find the duct pipe by Balance Capacity Method
- Design the piping system

BAE311 Plant Engineering (2 pt)

Subject Objective	The objectives of this subject are to: have an understanding of the behaviour of linear (or approximately linear) dynamic systems that are typically encountered in the practice of mechanical engineering; and gain an understanding of how such systems can be controlled, or have their dynamics altered, so as to achieve desired outcomes.
Learning outcome	<p>Topics covered include:</p> <ul style="list-style-type: none"> dynamic models: component block diagram, laplace transform, undamped free and forced vibration of SDOF systems, damped free and forced vibration of SDOF systems, resonance and beats, logarithmic decrement, response under the harmonic motion of the base, coupled-tank systems, vibration of 2DOF systems, vibration isolation, vibration absorbers Matlab and Simulink dynamic response: system modelling diagrams, poles and zeros, effect of pole locations, first order systems, second order systems, effects of zeros and additional poles, stability basic properties of feedback: the basic equations of control, control of steady-state error, PID control, pole placement method the root-locus design method: root-locus of a basic feedback systems, dynamic compensation, examples control system implementation and introduction to advanced control systems.
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents

- *Three Degree of freedom*
 - (a) **Newton's method**
 - (b) **Mechanical Impedance method**
 - (c) **Influence coefficients**
 - (d) **Matrix method**

- (e) **Holzer method**
- (f) **Matrix Iteration method**

- **INTRODUCTION TO CONTROL SYSTEM**
- **DIFFERENTIAL EQUATIONS**
- **LINEARIZATION OF A NON-LINEAR FUNCTION**
- **MODELLING OF CONTROL SYSTEMS**
- **FREQUENCY RESPONSE METHODS**
- **Stability**

BAE312 Design Engineering (Manufacturing) (2 pt)

This unit is the same as

BAE621 Structural Engineering (3 pt)

The following contents can be added for manufacturing process

Subject Objective	The objectives of this subject are to: explain and provide examples of manufacturing processes involved in casting, forming machining and joining of materials; identify and describe the manufacturing process by which products are made of different materials: metals, polymers, ceramics and composites; demonstrate improved technical written and graphical communication skills by completion of specified laboratory reports and site visit reports; and demonstrate basic problem-solving skills relating to manufacturing and production.
Learning outcome	Students learn the processes and materials available, as well as a competent and practical approach to evaluating, selecting and recognising the connections between the materials/processes and engineering design
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents

All contents in structural engineering

PLUS

- The design and manufacturing processing of products in various environments ranging from low volume to high volume and with various levels of capital investment in the manufacturing system.
- The modern concepts of quality management, including Taguchi methods, after looking at process quality control and its origins.
- Modern metrology equipment and methods are treated in a similar manner: modern equipment and methods and their origins.
- The computer systems on manufacturing. Firstly, students gain some experience with manufacturing in a CAD/CAM environment.
- Industrial robots in environments such as fabrication, welding and assembly. Topics such as: CIM, CAPP, JIT, GT, FMS, MRP, Toyota and Kanban are introduced in a project environment

BAE313 Environmental Control (2 pt)

This unit is the same as

[BAE 523A Environmental Engineering](#)

BAE314 Mechanical Power Generation (2 pt)

Subject Objective	This subject aims to develop students' fundamental knowledge and understanding of the dynamics of various mechanical power generation systems;
Learning outcome	To provide students with knowledge and skills in vibration testing and data acquisition; facilitate students' in-depth learning of the theory and methods, including modelling, modal analysis, system identification and numerical approaches; familiarise students with techniques and data acquisition system used in vibration testing, measurement, signal processing for determining the dynamic characteristics of a physical system; and enable students to apply the learnt methods to real world applications which include vehicle suspension design, vibration analysis and condition monitoring of rotating machines & application of PLC control system
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents**Mechanical**

Basic vibration theory for the analysis of two or more degrees of freedom multi-body mechanical systems, basic topics on widely-used engineering measurements, data acquisitions, spectrum analysis, signal processing and their applications in vibration control and machine condition monitoring.

PLC

- **PLC Basics**
- **PLC Structure**
- **PLC in Comparison with Other Control Systems**
- **PLC's CPU**
- **PLC's Memory**
- **PLC in Comparison with Other Control Systems**
- **PLC's CPU**
- **PLC's Memory**
- **Programming Devices**
- **Programming Languages**

- **Instruction Set**
 - **Typical Combinations of Languages**
 - **Basic Symbols**
 - **Elementary Logic Circuit**
 - **PLC's Functions**
 - **Industrial Programming**
 - **PLC PRACTICE**
 - **Selection of PLC**
 - **Types of I/O & Capacity Needed**
-
- **Control System Basic**
 - **Sequence Control**
 - **Automatic Control**
 - **Terms of Sequence Control**
 - **Basic Knowledge on Contacts**
-
- **INDUSTRIAL MACHINE CONTROLS**

BAE315 Materials Engineering (2 pt)

Subject Objective	Mechanical engineers design, construct, maintain, inspect and manage private and public work projects. The common materials used in construction engineering applications and construction are concrete, steel, timber and masonry. It is essential for mechanical engineers to have a basic understanding of these construction materials, in relation to their production, properties, testing and application.
Learning outcome	To help students acquire fundamental knowledge of the production, physical and engineering properties of construction materials; understand the effects of environments on the properties and performance of these materials; familiarise themselves with the relevant engineering standards and other specifications and standards, in relation to the requirements and testing methods and interpretation of test results; improve analytical and communication skills by presenting test reports; select material in relation to specified requirements; and develop an awareness of the use of waste materials in construction.
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents

- Load, Stress and Strain, Hook's law ,
- Principal of Superposition
- Tensile Test , Factor of Safety
- Strain Energy, Resilience
- Impact Loads
- Varying Cross-section and Loads
- Strain Energy , Resilience
- Compound Bars
- Temperature Stresses

1. Requirements, variability, selection and standards relating to use of construction materials
2. Steels: production, types, usage, mechanical properties and testing and failure modes

Elective (2 pt)

Subjects
BAE513 Production Technology
BAE611 Maintenance Engineering
BAE612 Engineering Metallurgy

Refer any text book , study & prepare the report on practical application problem given by the tutor.

Professional Diploma/ Bachelor of Engineering (Civil-Building Services)

By mixing the degree level Electrical/ Mechanical & Civil Engineering subjects with Advanced Diploma level Electrical/ Mechanical & Civil subjects relevant to Civil-Building services, the individualized study plan for this professional diploma can be arranged.

Professional Diploma/ Bachelor of Engineering (Mechanical-Mechtronics)

By mixing the degree level Electrical/ Mechanical & Civil Engineering subjects with Advanced Diploma level Electrical/ Mechanical & Civil subjects relevant to Mechanical-Mechatronics, the individualized study plan for this professional diploma can be arranged.

The supporting curriculums from Information Technology & Business Management.

Engineering curriculums are supported by Information Technology & Business Management.

The details of the supporting curriculums are also presented.

Diploma/ Advanced Diploma of Engineering

At the following link, those programs can be viewed

<http://www.highlightcomputer.com/detailedcontent.htm>

Bachelor of Applied Science (Information Technology)

Year 1+2 Refer Diploma & Advanced Diploma in Information Technology Detailed Contents

Bachelor of Applied Science (Computer Science & Computer Technology)

Year (3)

Unit	Topics	Reference	Points
ICT 301	General Electrical Knowledge	EE101	3
ICT 302	Digital Electronics	EE209/H012	3
ICT 303	Amplifier	EE208/H013	3
ICT 304	Material Science	E081	3
EE204	Physics	E046	3
EE201	Mathematics 1	E050	3
EE202	Mathematics 2	E026	3
EE306	Basic Control	I008	3
BAE605	Management		3
BAE408	Analog & Digital Electronics		3
		TOTAL	30

Year (4)

Unit	Topics	Reference	Points
ICT 401	Advanced Mathematics 1	BAE401	3
ICT 402	Advanced Mathematics 2	BAE402	3
BAE604	Telecommunication System		3
BAE508	Project Management		3
ICT 305	Professional Programming (1) C++		3
ICT 403	Professional Programming (2) Object Oriented		3
ICT 404	Professional Programming (3) Java		3
ICT 405	Professional Practice (1) Network		3
ICT 406	Professional Practice (2) Website		3
ICT 407	Artificial Intelligence		3
		TOTAL	30

Refer Diploma & Advanced Diploma in Electrical Engineering Detailed Contents

ICT 305 Professional Programming (1) C++

- Introduction
- Basic program architecture
- Variables
- Console programs
- Program control
- String
- Arrays
- Object oriented programming
- Classes
- Design of classes
- Methods
- Inheritance
- The class object
- Abstract classes
- Interfaces
- Static members
- More about arrays
- Types
- Enum
- Struct
- Generic types
- Exception handling
- Comments
- Extension methods
- Collection classes
- List Stack
- Linked list
- Dictionary
- Text file
- Binary files
- Object serialization
- Lottery
- Expression

ICT 403 Professional Programming (2) Object Oriented

object-oriented-programming-using-c-sharp

- Introduction to object oriented programming
- Unified Modelling Language (UML)
- Inheritance & Method Overriding

- Object rules & the importance of polymorphism
- Overloading
- Object oriented software analysis and design
- Generic collection & how to serialize them
- C# development tools
- Creating & using exceptions
- Agile programming
- Case studies

ICT 404 Professional Programming (3) Java

object-oriented-programming-using-java

- Introduction to object oriented programming
- Unified Modelling Language (UML)
- Inheritance & Method Overriding
- Object rules & the importance of polymorphism
- Overloading
- Object oriented software analysis and design
- Collection framework
- Java development tools
- Creating & using exception
- Agile programming
- Case study

ICT 405 Professional Practice (1) Network

This competency standard unit covers develop services for network clients for emails, internet access, shared resources and the like. It encompasses safe working practices, installing and configuring Domain Name Server (DNS), email servers, Dynamic Host Configuration Protocol (DHCP), remote access servers, Network Address Translation (NAT), directory services, Authentication Servers and documenting development activities.

Essential knowledge and associated skills

This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices and developing network services.

The extent of the essential knowledge and skills required is given Volume 2 Part 2, Clauses

- **Network infrastructure**

Evidence shall show an understanding of network infrastructure to an extent indicated by the following aspects:

- a. Domain Name Service (DNS) encompassing
 - DNS Server Service
 - Root name server
 - Configuring zones
 - a. *Note:* Examples include configuring for dynamic updates and delegating zone for DNS
 - Caching – only server
 - DNS client
 - Testing DNS Server service
 - Manually creating DNS source
 - Managing and monitoring DNS
- b. Dynamic Host Configuration Protocol (DHCP)
 - Installation of DHCP Server Service
 - DHCP scopes, superscopes and multicast scopes
 - DHCP – DNS integration
 - Active Directory™
 - Managing and monitoring DHCP
- c. Network Infrastructure encompassing
 - Configuring and troubleshooting remote access
 - a. *Note:* Examples include remote access policy, configuration of remote access profile, Virtual Private Network (VPN), multi link connection, routing and remote access for DHCP
 - Managing and monitoring remote access
 - Remote access security
 - *Note.* Examples include authentication protocols, encryption protocols and access policy
- d. Network Protocols encompassing
 - Installation, configuration and troubleshooting of network protocols
 - a. *Note:* Examples include Transmission Control Protocol / Internet Protocol (TCP/IP), NWLink and network bindings
 - Configure TCP/IP packets
 - Configuring and troubleshooting network protocol security and IP Security (IPSec)
 - Managing and monitoring network traffic
- e. Internet Naming Services in a network encompassing
 - Installation, configuring and troubleshooting
 - Configuring Internet Naming Services replication
 - Configuring an application networking interface
 - Managing and monitoring Internet Naming Services
- f. IP Routing encompassing
 - Installation, configuring and troubleshooting of IP routing protocols
 - a. *Note:* This includes updating routing tables, and implementing demand-dial routing
 - Managing and monitoring IP routing
 - a. *Note:* This includes border routing, internal routing and IP routing protocols
- g. Network Address Translation (NAT) encompassing
 - Installing Internet connection sharing

- Installing NAT
- Configure NAT properties and interfaces
- h. Certificate Services encompassing
 - Installing and configuring Certificate Authority
 - Issuing and revoking certificates
 - Removing the Encrypted File System recovery keys

- **Directory services**

Evidence shall show an understanding of directory services to an extent indicated by the following aspects:

- a. Installing and configuring directory services encompassing
 - Installing forests, trees and domains including automatic domain controller
 - Creating sites, subnets, site links and connection objects
 - Configuring server objects including site membership and global catalogue designation
 - Transferring of operations master roles
 - Verification and troubleshooting of directory services installation
 - Implementation of and organisational unit structure
- b. Domain Name Service (DNS) for directory services encompassing
 - Installation and configuration of DNS for directory services
 - a. *Note:* Examples are integration with existing DNS infrastructure, configuration of zones for dynamic and secure dynamic updates and creation and configuration of DNS records
 - Management, monitoring and troubleshooting of DNS
- c. Change and Configuration Management encompassing
 - Implementing and troubleshooting Group Policy
 - a. *Note:* Examples are Group Policy Object (GPO), linking to an existing GPO, delegation of administrative control of Group Policy, filtering of Group Policy settings by using security groups and modification of Group Policy prioritisation
 - Managing and troubleshooting user environments using Group Policy
 - Configuring directory services to support Remote Installation Services (RIS) including configuration of RIS options and security.
- d. Components of a directory service infrastructure encompassing
 - Management of directory objects
 - a. *Note:* Examples are moving objects, publishing resources in the directory service infrastructure, location of objects in the directory service infrastructure, creation and management of objects manually and by scripting, access control of objects and delegation of administrative control
 - Monitoring, optimisation and troubleshooting of the directory services infrastructure performance and replication
 - Backup and restoring directory services infrastructure
 - a. *Note:* Examples are authoritative and non authoritative restoration of directory services, restoration from systems failure and the seizing of operations master roles

- e. Security encompassing
 - Applying security policies using Group Policy
 - Creating, analysing and security modification by using Security Configuration and Analysis snap-in and the Security Templates snap-in
 - Implementation of an audit policy
- f. Monitoring and analysing security events

Multi-layer switched networks

Evidence shall show an understanding of multi-layer switched networks to an extent indicated by the following aspects:

a) Campus network design encompassing:

- o core layer
- o distribution layer
- o access layer
- o selection of appropriate devices
- o defining workgroups

b) Managing Redundant Links encompassing:

- o Spanning Tree Protocol (STP)
- o Controlling STP in redundant environments
- o STP in Virtual Local Area Network (VLAN) environments
- o Configuring redundant routing protocols for a fault-tolerant routing

Note. An example is Hot Standby routing protocol (HSRP)

c) Fast layer 2 services encompassing:

- o Fast Ethernet
- o Trunking
- o Fast Ether channels

- o Gigabit services

- d) Inter VLAN Routing encompassing:
 - o Hardware vs. Software switching
 - o Overview of fast switching technologies
 - o Elements of a multi-layer switch
 - o Configuring multi-layer switches

- e) Multicast encompassing:
 - o Multi-cast group management
 - o Configuring multi-cast control at layer 2
 - o Configuring multi-cast control at layer 3

- f) Controlling Access to the Campus Network

- g) Managing Network Traffic

ICT 406 Professional Practice (2) Website

This unit covers installation, set up, implementation and provision of on-going support of web services. It encompasses working safely, installing and administering server software and databases, server side scripting, configuring access and security and documenting work activities.

Development, implementation and testing HTML pages with at least four of the following features:

Relative and absolute links, images and table formatting

Cascaded styles sheets

Forms	
New browser windows	
Validation of form data	
<u>Development, implementation and testing of server scripting for database access with at least four of the following features:</u>	
Form data input response	
Form data processing	
Database access	
Output of database table contents	
Insertion of table data to database	
Installation and administration of key features of Web and Web application servers	
	Programming elements
Evidence shall show an understanding of the programming elements to an extent indicated by the following aspects:	
a) Algorithm Design encompassing:	
o Problem Definition	
o Steps in Problem-Solving	
o Modular Design	
o Top-Down Design	
o Flow-Charts and Structured Programming	
o Pseudo-Code	
o Filtering allowable Data Input	

- o Using standard Input & Output methods
- o Object-Oriented Design (brief intro.)
- o Documentation Rationale
- o Acceptable Documentation Method

- b) Machine-Code, Assemblers and Compilers
- c) Brief History of Languages & Limitations
- d) Parameters of different programming languages encompassing:
 - o Constants and variables
 - o Data types and declarations
 - o Logical flow control
 - o Detecting breaches of structure
 - o Documentation instruction examples
 - o Procedures and function calls
 - o Parameter-passing
 - o Local and global variables
 - o Object-oriented methods
 - o Classes and objects,
 - o encapsulation and inheritance.
 - o Visual programming methods
 - o General-purpose program libraries

e) Data structures encompassing:

- o Records
- o Arrays
- o File Input/output

f) Testing and validation encompassing:

- o Sequencing the process
- o Inconsistencies detection

Note, An examples is comparing code to documentation, commonly called —Desk-Checking'.

- o Test data selection
- o Modular testing & debug
- o Problems with using

Client side programming

Evidence shall show an understanding of client side programming them to an extent indicated by the following aspects:

a) Client server architecture

b) Hyper Text Markup Language (HTML) encompassing:

- o Forms
- o Table
- o Cascading style sheets

c) Hyper Text Markup Language (HTML) scripting encompassing:

- o Exposed object model

- o Events and event handling
- o Objects methods, properties, events
- o Window, document, form, and form elements
- o String object, methods, properties
- o Form field validation

Note: Examples of scripting language are JavaScript and Visual Basic (VB) Script

d) Extendable Markup Language (XML) encompassing:

- o Syntax
- o Structure (well formed XML)
- o Schemas
- o Transformations
- o Parsing Document Object Model (DOM) and Simple API (SAX)
- o Scripting to Document Object Model (DOM)

e) Extendible Stylesheet Language (XSL) generating HTML from XML

f) Wireless thin client programming

Note. Examples include Java2 Micro Edition (JEME), Mobile Information Device Profile (MIDP), Windows CE and Palm OS

- g) Consideration for system architecture
- h) Configurations and profile overview

	Server scripting
Evidence shall show an understanding of server scripting the to an extent indicated by the following aspects:	

- a) Client server architecture
- b) Web and Application Servers
- c) Server scripting languages e.g. JSP, ASP, PHP, Perl
- d) Server script Tags
- e) Integrating script with HTML
- f) Server script object model
- g) Request, Response, Session, Application
- h) Using server objects
- i) Server components
- j) Using components in server scripts
- k) Scope of server components e.g. session, page, application
- l) Component get / set methods
- m) Deploying server components
- n) Advanced server scripting concepts

Database access

Evidence shall show an understanding of database access to an extent indicated by the following aspects:

a) Relational Databases encompassing:

- o Tables, keys, design rules and normalisation
- o Database management utilities

Note. Example include MSSQL, MYSQL and Access

b) Structural query language (SQL) queries encompassing:

- o Select, insert, update and delete processes
- o Application of conditionals `__where`, `__distinct` and `__like`
- o Create and dropping tables

c) Data Base connectivity components encompassing:

- o Drivers, data sources
- o Database connectivity component loading
- o Query connection and execution
- o ResultSets / RecordSets
- o Rows, columns, cursors, concurrency, pooling
- o Iterating through ResultSets / RecordSets

Note. Example include ODBC, JDBC, ADO

	Web applications and services
Evidence shall show an understanding of web servers to an extent indicated by the following aspects:	
a) Comparison of HTTP servers and platforms	

Note. Examples include IIS and Apache

b) Comparison of Application servers and platforms

Note. Examples include J2EE / tomcat, .NET

c) HTTP Servers encompassing:

- o Installation requirements and methods
- o Security configuration
- o Content publishing and security

d) WEB application technologies encompassing:

- o Server installation and deployment
- o Security

e) Server scripting technologies encompassing:

- o WEB application installation and deployment
- o Application server administration

f) Web services overview encompassing:

- o WEB services XML, API, RPC
- o XML API processing
- o XML DOM
- o SOAP (simple object access protocol)
- o WEB Services Security

ICT 407 Artificial Intelligence

- Paths to artificial intelligent
- Agents and environment
- Framework for agents environment
- Agent oriented programming languages
- Net logo development
- Movement, Behaviour & Decision making
- Terms of movement
- Animated mapping simulation Embodiment
- Reactive versus cognitive agents
- Emergence, Self organization
- Adaptibility evolution
- Communication
- Search behaviour
- Reasoning rules and logic
- Knowledge & reasoning using decision trees
- Intelligence
- Design objectives for artificial intelligence
- Computer problem solving ability

Bachelor of Business

Year 1 Refer Diploma in Management Detailed Contents

Year 2 Refer Diploma & Advanced Diploma in Information Technology Detailed Contents

YEAR (3)

Bachelor of Business (E-Business & Management)

The learning system will be based on self study. Read the given references study materials and prepare the project work. You need to read the books in English.

The following units common to MBA course are to be studied.

[Mgt 301 Electronics Business](#)

[Mgt 302 Information Security](#)

[Mgt 303 Management Information System](#)

[Mgt 304 Electronics Commerce](#)

[Mgt 305 Quantitative Methods for Management](#)

[Mgt 306 Human Resources Management](#)

[Mgt 307 Marketing Management](#)

[Mgt 308 Artificial Intelligence](#)

To assess Level 3, you need to write the report of 10 pages each on what you have learnt in the unit.

YEAR (4)

Mgt 401 Management Project

Mgt 402 Electronics Business Project

Mgt 301 Electronics Business

- Project Objective
- Business Capabilities
- Benefits
- Deliverables & Dependencies
- Costs
- Financial Appraisal
- Timescales & Milestones
- Success Criteria
- Risks
- the impacts of electronic commerce
- drivers and inhibitors of electronic commerce from the perspective of the CEOs
- the impacts of Electronic Commerce on the Industry Supply Chain
- Electronic Commerce Maturity Model

Mgt 302 Information Security

	Fundamentals of network security
Evidence shall show an understanding of fundamentals of network security to an extent indicated by the following aspects:	
a) Network Security fundamentals	
b) Securing Perimeter Routers	
c) Access Control Lists (ACLs)	
d) Router Authentication, Authorisation and Accounting (AAA) Security	

- e) Intrusion Detection
- f) Internet Protocol (IP) Security
- g) Virtual Private Network (VPN)
- h) Firewalls
- i) Translations and Connections
- j) Access Control Lists for Firewalls
- k) AAA and Firewalls
- l) Intrusion
- m) Intrusion Detection Systems (IDS)
- n) Firewall Failover and System Maintenance
- o) Firewall VPN's
- p) Firewall Device Management

- ❑ Introduction of Computer Networks and Internet :
 - ❖ Overview of the Internet, client/server program, circuit switching, packet switching, physical media, queuing delay and packet loss, TCP/IP Service models, Internet Protocol Stack (Layers)
- ❑ Application Layer :
 - ❖ Service requirements, WWW, HTTP, FTP, Electronic Mail, Domain Name System, Socket programming
- ❑ Transport Layer
 - ❖ Service models, Multiplexing/Demultiplexing, Connection-less transport (UDP), Principles of reliable data transfer, Connection-oriented transport (TCP), TCP congestion control
- ❑ Network Layer :
 - ❖ Routing and forwarding, IP(The Internet Protocol) IPv4, IPv6 ,Routing algorithms, Routing in the Internet, Multicast
- ❑ Link Layer and Local Area Networks :
 - ❖ Link layer services, Error detection and correction, Multiple Access Protocols, Link layer addressing, Ethernet, Hubs and switches, Point-to-Point Protocol
- ❑ understand principles of network security:
 - ❖ cryptography and its *many* uses beyond “confidentiality”
 - ❖ authentication
 - ❖ message integrity
 - ❖ key distribution

- ❖ security in practice:
- ❖ firewalls
- ❖ security in application, transport, network, link layers
- ❖ key distribution
- ❖ security in practice:
- ❖ firewalls
- ❖ security in application, transport, network, link layers

Mgt 303 Management Information System (MIS)

- The role of information system
- Hardware & software in enterprise
- Database management system
- Business Telecommunication system
- Communication network
- Network application
- Contemporary mobile service
- Examples of information systems
- Management of MIS
- Managing the Digital Firm
- Emergence of the Digital Firm
- The business information value chain
- A Business Perspective on Information Systems
- Variation in returns on information technology investment
- Sociotechnical Systems
- New Options for Organizational Design:
- The Digital Firm and the Collaborative Enterprise
- Redesigned workflow for insurance underwriting
- The Challenges of Information Systems: Key Management issues

Mgt 304 Electronics Commerce

- **Types of E-commerce**
- **Understanding E-commerce: Organizing Themes**
- **E-commerce Business Models and Concepts**
- **The Internet and World Wide Web: E-commerce Infrastructure**
- **Building an E-commerce Web Site**

- **Online Security and Payment Systems**
- **Marketing Communications**
- **E-commerce Marketing Concepts**
- **Ethical, Social, and Political Issues in E-commerce**
- **Online Retail and Services**
- **E-commerce Business Models and Concepts**
- **The Internet and World Wide Web: E-commerce Infrastructure**
- **Security and Encryption**
- **E-commerce Payment Systems**
- **E-commerce Marketing Communications**
- **Ethical, Social, and Political Issues in E-commerce**
- **Online Service Industries**
- **Supply Chain Management and Collaborative Commerce**
- **Auctions, Portals, and Communities**
- **Online Content and Media**
- **Social Networks, Auctions, and Portals**
- **Online Content Providers: Digital Media**
-

Mgt 305 Quantitative Methods for Management

- Research approach
- Data source
- Qualitative method
- Quantitative Methods
- Experiment research & observation
- Questionnaires survey
- Sampling
- Survey analysis
- Statistical analysis
- Writing research report

- Prescriptive Process Models
- Agile Development

Mgt 306 Human Resources Management

- Meeting Present and Emerging Strategic Human Resource Challenges
- **Managing Work Flow and Conducting Job Analysis**
- Understanding Equal Opportunity and the Legal Environment
- Managing Diversity
- Recruiting and Selecting Employees
- Appraising and Managing Performance
- Rewarding Performance
- Managing Compensation

Mgt 307 Marketing Management

- Company (Distributor) background (e.g. brief history, nature of business, etc.)
- Marketing objective(s) on the Chosen product/service
- S.W.O.T Analysis
- Target customers
- Product Positioning in the market
- Describe the current marketing mix:
 - Product
 - Pricing
 - Distribution
 - Marketing Communications (Promotion)
- overall competitive strategy
- planning the details of the marketing mix.
- sales& marketing materials
- understanding of company's competitors
- Marketing Recommendations for improvement
- marketing strategies

Mgt 308 Artificial Intelligence

This is the same as

ICT 407	Artificial Intelligence
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Mgt 401 Management Project

Mgt 402 Electronics Business Project

Two reports one for Management for (Mgt 303+Mgt 305+Mgt 306) & another for Electronics Business + Marketing (Mgt 301+Mgt 302+Mgt 304+Mgt 307+Mgt 308) subjects are required to be presented.

Each should contain 4000 to 6000 words of how you pursue the study in Management,, Marketing, Electronics Business subjects should be described.

The project should contain management plans, business plan & performance, task, job procedures IT integration etc of the topics of your choices.

<http://www.filefactory.com/file/3dcrz90tirvh/Dip%2BAdv%20Dip%2BB%20Bus%20S%20Course%20Outline.doc>

IQY Technical College ၏ Engineering Work Studies သင်တန်းများ

(သင်တန်းကြေး--ကျပ်၅သောင်းOnline)

Dip EI (Diploma in Electrical Installations)--- (Course Number 106689EI)

EEM201+EEM202+EEM203+EEM206+EEM208

- EEM201-Principle of Electricity
- EEM202-Electrical Knowledge
- EEM203-Electrical safety
- EEM206-Electrical Wiring
- EEM208-Electrical Installation Design

Dip M& E (Diploma in Mechanical and Electrical Services)--- (Course Number 106689ME)

- MEM204-.Airconditioning
- MEM205-Ventilation
- MEM207/EEM201-Principle of Electricity
- MEM208/EEM203-Electrical safety
- MEM209 Automation and Control
- CEM201-Sanitation

Professional Certificate in Hotel Construction (Course Number 206689HC)

- Hotel Restaurants and Bar
- Restaurant Design Principles.
- Building Control
- Building Technology Electrical Mechanical System
- Fire Safety Engineering
- Materials for Civil & Construction Engineers
- Building Construction
- Building Services
- Estimating
- Electrical Wiring Commercial
- Detailing
- Air Distribution in Buildings
- Building Systems For Interior Designers

IQY Technical College Unit/ Subject Coding

IQY QF Level	Year	Course	Coding
1	1	Certificate/Diploma	1xxxx
			2xxxx
2	2	Advanced Diploma	3xxxx
3	3+4	Bachelors degree	4xxxx
			5xxxx
			6xxxx
4	5+6	Bachelors (Hons)	6xxxx
		Graduate Diploma/Masters	7xxxx
5	7+8+9	Doctorate	6XXXX
			7xxxx
			8xxxx

Advanced Diploma in Engineering Practice (Myanmar Language) (27764)

Pre-requisite

Completion of Diploma in General Engineering OR Experience OR Completion of Certificate Level courses

Credit

Total 60 credits Each 5 Credits

Civil Engineering

CEM202-Estimating

CEM203-Drawing

CEM204-.Construction

CEM205-.Iron work

CEM206-Welding

CEM207/ EEM201-Principle of Electricity

CEM208/EEM202-Electrical Knowledge

CEM209/EEM203-Electrical safety

CEM210/MEM204-.Airconditioning

CEM211/MEM205-Ventilation

CEM21- Brick Laying Practice

[Learning Record to submit for credit for each unit](#)

Mechanical Engineering

MEM201-Principle of Engine

MEM202-.Auto Electronics

MEM203-.Auto Electricity

MEM204-.Airconditioning

MEM205-Ventilation

MEM206-Welding

MEM207/EEM201-Principle of Electricity

MEM208/EEM203-Electrical safety

MEM209-Automation and Control

MEM210-Mechatronics

MEM211/ CEM205-.Iron work

MEM212/ CEM203-Drawing

[Learning Record to submit for credit for each unit](#)

Electrical Engineering

EEM201-Principle of Electricity

EEM202-Electrical Knowledge

EEM203-Electrical safety

EEM204-Electrical Works

EEM205-AC and DC Electricity and Electronics

EEM206-Electrical Wiring

EEM207-Fault Finding

EEM208-Electrical Installation Design

EEM210- Advanced Electrical Power Principle

EEM211-Power Transmission and Distribution

Elective

EEM212 / MEM203-.Auto Electricity
OR

EEM213/ MEM204-.Airconditioning

[Learning Record to submit for credit for each unit](#)

Please note that the students who complete the entire course in Myanmar Language must attend 1 year bridging program in English to continue the degree program.

Diploma/ Advanced Diploma in Air-conditioning and Refrigeration Engineering

www.iqytechnicalcollege.com/advdipare.htm

Diploma in Air-conditioning and Refrigeration Engineering

30 credits- Each -6 credits x 5 units

MEM204-.Airconditioning

MEM205-Ventilation

MEM207/EEM201-Principle of Electricity

MEM208/EEM203-Electrical safety

MEM209 Automation and Control

Advanced Diploma in Air-conditioning and Refrigeration Engineering

Each 3 units x 10= 30 credits+ Two Practical Units

EE201 Engineering Mathematics

EE204 Engineering Physics

EE111 Electro-magnetism and Basic Electrical Machines

ME106 Electrical Circuits

ME334 Air-conditioning & Refrigeration

ME102 Engineering Thermodynamics

ME107 Heat Transfer

RE003 Solar and Thermal Energy System

BAE511 Air-conditioning and Refrigeration (Advanced)

BAE606 Building Service Electrical and Mechanical Engineering

PC8 Air-conditioning and Refrigeration Basic Servicing

PC10 Electrical Machine Winding

Advanced Diploma in Electro-Mechanical and Construction Engineering

Pre-requisite

- THS –Diploma in General Engineering & Drafting OR ITC/THS- 5 Years experience
- Non year 10 passed matured workers
-

Delivery and Assessment

- Online Live Lessons+ Assignment
- Pay the fees and submit the assignment to receive transcripts
- On completion of all, the award will be issued.

Core Units (6 Credits points per unit x 10 = 60 Credits)

- ADEMC201-Sustainability and Electrical Practice
- ADEMC202-Engineering Practice
- ADEMC203-Design and Technology
- ADEMC204-General Electrical Engineering
- ADEMC205-General Civil Engineering and Construction
- ADEMC206-General Mechanical Engineering
- ADEMC207-Mathematics,Physics and Chemistry
- ADEMC208-Engineering Materials
- ADEMC209-Engineering Management
- ADMEC210-Workshop Practice and Safety

Advanced Diploma of Rural Development Engineering

www.highlightcomputer.com/adrde.htm

www.highlightcomputer.com/adrde.pdf

Objective of the course

This course aims to provide the necessary skills required for people in rural areas to perform the followings

- Agricultural Foods Production and Animal Handling
- Building Construction, Drawing, Water Supply, Road and Bridge Construction, Irrigation
- Electrical Supply & Solar Electrical Supply System
- Hydraulics
- Machine Repair, Welding and Machining
- Water Chemical Treatment
- Transportation & Logistics

Course Structure

The course consists of Civil, Electrical and Mechanical Engineering principle together with Transportation, Logistics and Agricultural Foods Production.

Outcome of the course

After having completed this course, the attenders can perform rural developmental engineering basic works in their regions.

Detailed Structure of the course

Credit Points- 60 points to complete Advanced Diploma of Rural Development. Diploma and Certificate in Rural Development can be awarded upon completion of the specific units.

List of Subjects

Advanced Certificate in Rural Development Engineering (16 Credits)

(MVTC Level (3) (Course Number MVTC301)

CE106 Brick Laying, Sprouting and Gutter Construction (4 Points)

CE104 Construction Drawing (4 Points)

CE110 Building Construction (4 Points)

CE107 Water Supply (4 Points)

Diploma in Rural Development (32 Credits)

(MVTC Level (4) (Course Number MVTC401)

All units in Certificate in Rural Development (16 Credits)

CE111 Road Bridge and Irrigation System Construction (4 Points)

MVTC13PC9 Electrical Wiring (4 Points)

MVTC201Agriculture+MVTC202Animal Handling(4 Points)

MVTC204 Water Chemical Treatment (4 Points)

Advanced Diploma in Rural Development (60Credits)

(MVTC Level (5) (Course Number MVTC501)

All units in Diploma in Rural Development

RE002 Grid Connected Power System (4 Points) together with EE101 DC Circuits+EE112 AC Circuits

EE118 Electrical Supply System (4 Points)

ME108 Principle of Engine+MVTC13PC7 Engine Repairs (4 Points)

ME201 Hydraulics (4 Points)

MVTC13PC6 Welding+MVTC13PC5FittingMachining (4 Points)

MVTC209 Transport Logistics (4 Points)

Mgt101 Management Studies (4 Points)

ADVANCED STUDY

The candidates who have successfully completed Advanced Diploma of Rural Development Engineering can continue the study in Professional Diploma/ Bachelor of Applied Engineering/ Bachelor of Engineering Technology in Electrical Engineering or Civil Engineering or Mechanical Engineering or Mechatronics Engineering or Renewable Energy Engineering and Bachelor of Management Programs at St Clements University or STC Technological University.

LESSONS

MVTC301-Advanced Certificate in Rural Development (16 Credits)

CE104 Construction Drawing (4 Points)

www.iqytechnicalcollege.com/CECertDip.zip

VIDEO

Lesson 1

<https://youtu.be/PLu5G9xNMtE>

Lesson 2

<https://youtu.be/g9tCFIR9HzE>

Lesson 3

<https://youtu.be/YhgQEaUbaxQ>

Lesson 4

<https://youtu.be/PK4g9r8sNhw>

www.iqytechnicalcollege.com/CECertDip.zip

Study CE104A

Exercises Download Link

www.highlightcomputer.com/DipCivilEnggAssignments.pdf

Page 4 to 7

CE110 Building Construction (4 Points)

www.iqytechnicalcollege.com/CECertDip.zip

VIDEOS



Lesson 1

<https://youtu.be/luvLYjbuGWQ>

Lesson 2

https://youtu.be/YFKdn_EJyX8

Lesson 3

<https://youtu.be/HdpiNwnuos4>

Lesson 4

<https://youtu.be/uyg6AQc5WtE>

Lesson 5

<https://youtu.be/V7C5r7lQGdE>

Lesson 6

<https://youtu.be/TZCwHVCsj0g>

Lesson 7

<https://youtu.be/-984GNIF1b0>

Lesson 8

<https://youtu.be/yzm8vB6mXBk>

Lesson 9

https://youtu.be/UTsxZ72d_c0

Lesson 10

<https://youtu.be/o6nuV8oRYkg>

Lesson 11

<https://youtu.be/iV1dms6MYrQ>

Lesson 12

https://youtu.be/Upl4_WzeDAE

Lesson 13

<https://youtu.be/Eu2svu0k3kE>

Lesson 14

<https://youtu.be/nQW5bDDsS74>

Lesson 15

https://youtu.be/kAqyl_hTyLg

Lesson 16

https://youtu.be/u7oWgrM3_3Y

Lesson 17

https://youtu.be/Hq4imm_U0W4

Lesson 18

<https://youtu.be/rNMOTo5sZV4>

Lesson 19

<https://youtu.be/EUQzvKhYEhc>

Lesson 20

<https://youtu.be/LZINc2CNDfE>

Lesson 21

<https://youtu.be/tHwd9iVcZUQ>

Lesson 22

https://youtu.be/az4_K8TpPE0

Lesson 23

<https://youtu.be/lKzhftFn4PI>

Lesson 24

<https://youtu.be/A0x24Ue9YIE>

EXERCISE ASSIGNMENTS

<http://highlightcomputergroup4.zoomshare.com/files/pc3assignment.pdf>

Certificate+Diploma Engineering (Civil)

To download, do not click the link, copy the link into address bar of the new browser page and then press “Enter”

www.iqytechnicalcollege.com/CECertDip.zip Study CE110

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Exercises Download Link

www.highlightcomputer.com/DipCivilEnggAssignments.pdf

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Practical

PC 3-Certificate in Building Construction

<http://www.highlightcomputer.com/PracticalCourses.htm#d>

- **Practical Demonstration Videos(Youtube)**

Construction

<http://youtu.be/oR3Z8ZKesJ0>

<http://youtu.be/a7UYxAY1BbA>

http://youtu.be/_47yGGCJ4xk

Roofing

<http://youtu.be/bTOhIWp2A3Y>

<http://youtu.be/myuUPoIHn9U>

Scaffolding

<http://youtu.be/xwvuwVdVkFbg>

Stair Construction

<http://youtu.be/JB1i8NO2rcA>

Stone Veneer Building

<http://youtu.be/MmnbA8CrzS0>

- **Written Lesson Notes in Myanmar+ English**

www.iqytechnicalcollege.com/CECertDip.zip

- [Engineering Drawing—See CE104](#)
- [Building Construction--See CE106](#)

PC3BuildingConstruction1.pdf (98.84MB)

<http://www.filefactory.com/file/7hk1m392wbx9/n/PC3BuildingConstruction1.pdf>

PC3BuildingConstruction2.pdf (94.66MB)

<http://www.filefactory.com/file/tsalkeel0ib/n/PC3BuildingConstruction2.pdf>

PC3BuildingConstruction3.pdf (91.29MB)

<http://www.filefactory.com/file/1ml8ethr4s2x/n/PC3BuildingConstruction3.pdf>

PC2PlumbingCourse4.pdf (105.12MB)

<http://www.filefactory.com/file/497ogpe2zrqh/n/PC2PlumbingCourse4.pdf>

PC3BuildingConstruction6.pdf (112.85MB)

<http://www.filefactory.com/file/4n08wgevlb2j/n/PC3BuildingConstruction6.pdf>

PC3BuildingConstruction7.pdf (59.92MB)

<http://www.filefactory.com/file/33hfeo9xxtqz/n/PC3BuildingConstruction7.pdf>

Textbooks in Myanmar Language

LMA)Building Estimating.pdf (25.51MB)

[http://www.filefactory.com/file/9d7mwa6d18f/n/LMA\)Building_Estimating.pdf](http://www.filefactory.com/file/9d7mwa6d18f/n/LMA)Building_Estimating.pdf)

LMA)1-Drawing .pdf (33.6MB)

[http://www.filefactory.com/file/4pnlm938i5pn/n/LMA\)1-Drawing_.pdf](http://www.filefactory.com/file/4pnlm938i5pn/n/LMA)1-Drawing_.pdf)

LMA)Building Engineering Handbook.pdf (9.41MB)

[http://www.filefactory.com/file/5cuh5xbhs3q9/n/LMA\)Building_Engineering_Handbook.pdf](http://www.filefactory.com/file/5cuh5xbhs3q9/n/LMA)Building_Engineering_Handbook.pdf)

EXERCISE ASSIGNMENTS

<http://highlightcomputergroup4.zoomshare.com/files/pc3assignment.pdf>

CE107 Water Supply (4 Points)

www.iqytechnicalcollege.com/CECertDip.zip

VIDEOS

Lesson 1

<https://youtu.be/uet7br9U7vo>

Lesson 2

<https://youtu.be/EZOnxtgpW-g>

Lesson 3

<https://youtu.be/WZ3CPCnuSWY>

Lesson 4

<https://youtu.be/z9g9HwDpjyU>

Lesson 5

<https://youtu.be/sZziW7Jcx3c>

Lesson 6

<https://youtu.be/C1VjCawfeoY>

Lesson 7

https://youtu.be/0ct_ZF52e1U

Lesson 8

https://youtu.be/JYc_cQQLE64

Lesson 9

https://youtu.be/ehZoz58Fq_8

Lesson 10

<https://youtu.be/8UcHyDiYWP8>

Lesson 11

<https://youtu.be/Pw3BBwQw7hI>

Lesson 12

<https://youtu.be/mhoV6eeP9NM>

Lesson 13

<https://youtu.be/eJW-XMexfBk>

Lesson 14

<https://youtu.be/IF3E0PdWMYs>

Lesson 15

https://youtu.be/g_d6CoaZ_TE

Lesson 16

<https://youtu.be/fPMRvSVGXs0>

Lesson 17

<https://youtu.be/ttnzRICRQ9I>

Lesson 18

<https://youtu.be/2cgvnOfAMXY>

Lesson 19

<https://youtu.be/nrTWrs7euN0>

Lesson 20

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Notes

Certificate+Diploma Engineering (Civil)

To download, do not click the link, copy the link into address bar of the new browser page and then press "Enter"

www.iqytechnicalcollege.com/CECertDip.zip Study CE107

Exercises Download Link

www.highlightcomputer.com/DipCivilEnggAssignments.pdf

Page 14 to 15

Practical

PC 2-Certificate in Plumbing

<http://www.highlightcomputer.com/PracticalCourses.htm#b>

Pipe Fitting

<http://youtu.be/oVo3lpKYdgU>

<http://youtu.be/BrMDSHEeL6k>

<http://youtu.be/uUxnWvaNTs0>

Plumbing

<http://youtu.be/gypTjOYnFw8>

http://youtu.be/P1Qb_3kvsGM

<http://youtu.be/MfjQfwzQ6mo>

- **Written Lesson Notes in Myanmar+ English**

www.iqytechnicalcollege.com/CECertDip.zip

Plumbing-See CE107

PC2PlumbingCourse1.pdf (118.52MB)

<http://www.filefactory.com/file/6rc20540jn0n/n/PC2PlumbingCourse1.pdf>

PC2PlumbingCourse2.pdf (115.91MB)

<http://www.filefactory.com/file/4vmhhj48bd9v/n/PC2PlumbingCourse2.pdf>

PC2PlumbingCourse3.pdf (119.86MB)

<http://www.filefactory.com/file/1ue18eu0xi93/n/PC2PlumbingCourse3.pdf>

Textbooks in Myanmar Language

Cop_SEWERAGE_AND_SANITARY_WORKS_PART-3.pdf (5.14MB)

[http://www.filefactory.com/file/40u4kzo5lipz/n/Cop_SEWERAGE_AND_SANITARY_WORKS_PA
RT-3.pdf](http://www.filefactory.com/file/40u4kzo5lipz/n/Cop_SEWERAGE_AND_SANITARY_WORKS_PART-3.pdf)

Class Lesson +Audio

www.highlightcomputer.com/mvtpcpracticalcourses.htm

See PC2

EXERCISE ASSIGNMENTS

<http://highlightcomputergroup4.zoomshare.com/files/pc2assignment.pdf>

CE106 Brick Laying, Sprouting and Gutter Construction (4 Points)

www.iqytechnicalcollege.com/CECertDip.zip

CE 106 Brick Laying

VIDEO

<https://youtu.be/sKOTNcQXpRM>

Notes

Certificate+Diploma Engineering (Civil)

To download, do not click the link, copy the link into address bar of the new browser page and then press "Enter"

www.iqytechnicalcollege.com/CECertDip.zip

Study CE106

[Exercises Download Link](#)

Practicals

PC 1-Certificate in Bricklaying & Masonry

- **Practical Demonstration Videos (Youtube)**

- Brick Laying
 - <http://youtu.be/HB9nAUQ402s>
 - <http://youtu.be/UDrd2B7qRZQ>
 - http://youtu.be/fXiO50LKS_g
 -
- Concrete Stair Building
 - http://youtu.be/d_28wf-r_QM
 - <http://youtu.be/3Y9-C6392II>
 - <http://youtu.be/z72SeHNEN-8>

- **Written Lesson Notes in Myanmar+ English**

www.igytechnicalcollege.com/CECertDip.zip

- Bricklaying-See CE106 Part ½

PC1BrickLayingCourse1.pdf (64.44MB)

<http://www.filefactory.com/file/6ygg0q0eho3p/n/PC1BrickLayingCourse1.pdf>

PC1BrickLayingCourse2.pdf (68.98MB)

<http://www.filefactory.com/file/52n0xu67t8g7/n/PC1BrickLayingCourse2.pdf>

PC1BrickLayingCourse3.pdf (55.84MB)

<http://www.filefactory.com/file/4l9sj7lXu3bz/n/PC1BrickLayingCourse3.pdf>

VIDEO

<https://youtu.be/sKOTNcQXpRM>

CE106 MVTC13PC 1-Certificate in Bricklaying & Masonry

www.igytechnicalcollege.com/CECertDip.zip

Exercises Download Link

www.highlightcomputer.com/DipCivilEnggAssignments.pdf

- **Practical Demonstration Videos (Youtube)**

- Brick Laying
 - <http://youtu.be/HB9nAUQ402s>
 - <http://youtu.be/UDrd2B7qRZQ>
 - http://youtu.be/fXiO50LKS_g

-

- Concrete Stair Building
 - http://youtu.be/d_28wf-r_QM
 - <http://youtu.be/3Y9-C6392II>
 - <http://youtu.be/z72SeHNEN-8>

- **Written Lesson Notes in Myanmar+ English**

www.igytechnicalcollege.com/CECertDip.zip

- Bricklaying-See CE106 Part ½

PC1BrickLayingCourse1.pdf (64.44MB)

<http://www.filefactory.com/file/6ygg0q0eho3p/n/PC1BrickLayingCourse1.pdf>

PC1BrickLayingCourse2.pdf (68.98MB)

<http://www.filefactory.com/file/52n0xu67t8g7/n/PC1BrickLayingCourse2.pdf>

PC1BrickLayingCourse3.pdf (55.84MB)

<http://www.filefactory.com/file/4l9sj7lXu3bz/n/PC1BrickLayingCourse3.pdf>

Class Lesson +Audio

www.highlightcomputer.com/mvtcpracticalcourses.htm

See PC1

EXERCISE ASSIGNMENTS

<http://highlightcomputergroup4.zoomshare.com/files/pc1assignment.pdf>

PC 4-Certificate in Gutter Construction

- Practical Demonstration Videos (Youtube)

Wall Guttering

<http://youtu.be/b-Cdlrcjfis>

- Written Lesson Notes in Myanmar+ English

www.iqytechnicalcollege.com/CECertDip.zip

Building Construction (Gutter Construction)--See CE106

PC4GutterConstruction1.pdf (47.37MB)

<http://www.filefactory.com/file/4ahvhx48od87/n/PC4GutterConstruction1.pdf>

PC4GutterConstruction2.pdf (42.73MB)

<http://www.filefactory.com/file/5716wpqkv5hb/n/PC4GutterConstruction2.pdf>

PC4GutterConstruction3.pdf (40.51MB)

<http://www.filefactory.com/file/4o9r0l99tuib/n/PC4GutterConstruction3.pdf>

PC4GutterConstruction4.pdf (56.02MB)

<http://www.filefactory.com/file/1851ziplmuwd/n/PC4GutterConstruction4.pdf>

Contents	Unit Code
Spouting/ Guttering	Building Construction

-

Contents	Unit Code
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Drainage pipe, Ventilation

Building services

EXERCISE ASSIGNMENTS

<http://highlightcomputergroup4.zoomshare.com/files/pc4assignment.pdf>

Class Lesson +Audio

www.highlightcomputer.com/mvtpcpracticalcourses.htm

See PC4

MVTC401-Diploma in Rural Development (32 Credits)

CE111 Road Bridge and Irrigation System Construction (4 Points)

<http://www.mongroupsdney1.com/AdvDipCivilEnggCE111114115.zip>

VIDEOS

Civil Video1

Civil Video2

Civil Video3

VIDEO

Lesson 1 Stress and strain

<http://youtu.be/u1LyOKSxOfQ>

Lesson 2 Centre of mass

<http://youtu.be/EY8rM9MSE1k>

Lesson 3 Equilibrium

<http://youtu.be/YtJmMWJIZqI>

Lesson 4 Thermal expansion

<http://youtu.be/EM0DmVWSv8k>

Lesson 5 Strength of materials 1

<http://youtu.be/j1Cx4gVGSk>

Lesson 6 Structure

BAE621B1

<http://youtu.be/TNM7KtiWtr0>

Notes

www.highlightcomputer.com/CE114.pdf

www.highlightcomputer.com/CE115.pdf

www.highlightcomputer.com/CE115Part2.pdf

www.highlightcomputer.com/CE114StructurePart2Instruction.zip

Exercises Download Link

www.highlightcomputer.com/DipCivilEnggAssignments.pdf

Page 29 to 31

MVTC13PC9 Electrical Wiring (4 Points)

Electrical workshop

EE102

Basic Electrical Fitting & Wiring

LESSON VIDEO-MYANMAR+ENGLISH

Lesson 1

<https://youtu.be/zSsvWcnfL8k>

Lesson 2

<https://youtu.be/qzymoBHwc8c>

Lesson 3

<https://youtu.be/iJ7l9WnyRc8>

Lesson 4

<https://youtu.be/DzlyM4QoG7w>

Lesson 5

<https://youtu.be/HVbn9ULdtf8>

Lesson 6

<https://youtu.be/5W-tozOR3r0>

Lesson 7

<https://youtu.be/b13dBzLfYCo>

Lesson 8

<https://youtu.be/ElnP0HKifa4>

Lesson 9

<https://youtu.be/2R7-LA9V0nY>

LESSON VIDEO- ENGLISH

E001+002+005+008+033/ E101+102+105+108+137+G106

Page 128 to 136 of [http://www.filefactory.com/file/cf9bf8f/n/Video Lessons.pdf](http://www.filefactory.com/file/cf9bf8f/n/Video_Lessons.pdf)

[www.highlightcomputer.com/Video Lessons.pdf](http://www.highlightcomputer.com/Video_Lessons.pdf)

Electrical workshop

[Electrical workshop Lesson 1 OHS.zip](#)

(E101)

<https://youtu.be/5A9bw-oxqfI>

[Electrical workshop Lesson 2 Workplace hazard+Fix & secure equipment.zip](#)

(E102)

<http://youtu.be/aVKhYs9ga7Y>

[Electrical workshop Lesson 3 Mechanical fixing.zip](#)

(E105)

http://youtu.be/s0SUSmL_e4E

[Electrical workshop Lesson 4 Basic electrical wiring.zip](#)

(E108)

<http://youtu.be/gTjcE8ssull>

[Electrical workshop Lesson 5 Wiring circuits.zip](#)

(E107)

SUNP0007

<http://youtu.be/m0dN0Wp6LCI>

[Electrical workshop Lesson 6 Electrical safety testing.zip](#)

(E137)

<http://youtu.be/LqRybJxm0tE>

[Electrical workshop Lesson 7 Testing insulation and polarity.zip](#)

(E137)

<http://youtu.be/9j63r3Wz6y8>

<http://youtu.be/e5MjQdEua-U>

[Electrical workshop Lesson 8 Testing lighting polarity.zip](#)

LESSON

www.iqytechnicalcollege.com/EECertDipPart1a.zip

Do EE102

[Exercises Download Link](#)

www.highlightcomputer.com/DipElectEnggAssignments.pdf

EE107

Electrical Equipments/ MVTC 213-PC9Certificate in Electrical Wiring

LESSON VIDEO-MYANMAR+ENGLISH

Lesson 1

<https://youtu.be/NmC1hRklQBo>

Lesson 2

https://youtu.be/n6ru_boMLZ0

Lesson 3

<https://youtu.be/iXld3EiVmCM>

Lesson 4

<https://youtu.be/LhKv6EuEjs4>

Lesson 5

<https://youtu.be/mMe9S6d8d3w>

Lesson 6

<https://youtu.be/m9jOXnOfY6c>

Lesson 7

<https://youtu.be/HL6vf9G9mFY>

Lesson 8

<https://youtu.be/IGOeWPQ-B0M>

Lesson 9

<https://youtu.be/Qgnz3mFUFB0>

LESSON VIDEO- ENGLISH

www.igytechnicalcollege.com/EECertDipPart1a.zip

Do EE107

[Exercises Download Link](#)

www.highlightcomputer.com/DipElectEnggAssignments.pdf

ENGLISH LESSONS

<http://www.mongroupsdney1.com/youtubevideos.htm#a>

See EE107

Maximum Demand Calculation & Cable Selection—Thanlyin TU- 5 Jan 2016 Lecture

www.mongroupsdney1.com/CableselectionPPT.pdf

[AS3000](#)

[AS3008](#)

Advanced Electrical Wiring

EE106	Advanced Electrical Wiring

LESSON VIDEO-MYANMAR+ENGLISH

Lesson 1

<https://youtu.be/E5e-Uy6MHEM>

Lesson 2

<https://youtu.be/6LnOUyBWRTs>

Lesson 3

https://youtu.be/jSVZlejrF_w

Lesson 4

<https://youtu.be/SPGR6DnDt-M>

Lesson 5

<https://youtu.be/nT31m6zPcWg>

Lesson 6

<https://youtu.be/FFIXQ1rb4zA>

https://youtu.be/H0BWho_JfLI

Lesson 7

<https://youtu.be/qGbSbHZ21Yc>

https://youtu.be/P2-k_NLqliU

Lesson 8

https://youtu.be/ZPI3-H_MUwA

<https://youtu.be/UrJ9BRTYfoY>

Lesson 9

Lesson

www.iqytechnicalcollege.com/EECertDipPart1a.zip

Do EE105+106

[Exercises Download Link](#)

www.highlightcomputer.com/DipElectEnggAssignments.pdf

- **Written Lesson Notes in Myanmar+ English**

PC9Wiring1.pdf (59.02MB)

<http://www.filefactory.com/file/500298aqb20x/n/PC9Wiring1.pdf>

PC9Wiring2.pdf (60.58MB)

<http://www.filefactory.com/file/622ofias9rmn/n/PC9Wiring2.pdf>

Textbooks in Myanmar Language

LMA)Fault Finding.pdf (34.92MB)

[http://www.filefactory.com/file/2f6n1nnfkt2r/n/LMA\)Fault_Finding.pdf](http://www.filefactory.com/file/2f6n1nnfkt2r/n/LMA)Fault_Finding.pdf)

Product_Safety_by_AyeThwin.pdf (2.71MB)

http://www.filefactory.com/file/5hxjwqdke3k9/n/Product_Safety_by_AyeThwin.pdf

LMA)Home Wiring.pdf (9.37MB)

[http://www.filefactory.com/file/2zd41tgh8943/n/LMA\)Home_Wiring.pdf](http://www.filefactory.com/file/2zd41tgh8943/n/LMA)Home_Wiring.pdf)

LMA)Electrician Training.pdf (16.06MB)

[http://www.filefactory.com/file/4dy3wuq3eqid/n/LMA\)Electrician_Training.pdf](http://www.filefactory.com/file/4dy3wuq3eqid/n/LMA)Electrician_Training.pdf)

LMA)Electricity.pdf (2.69MB)

[http://www.filefactory.com/file/5nvlyaglfauz/n/LMA\)Electricity.pdf](http://www.filefactory.com/file/5nvlyaglfauz/n/LMA)Electricity.pdf)

LMA)AC to DC.pdf (13.13MB)

[http://www.filefactory.com/file/28ruflw4tfnf/n/LMA\)AC_to_DC.pdf](http://www.filefactory.com/file/28ruflw4tfnf/n/LMA)AC_to_DC.pdf)

LMA)Electrical Knowledge).pdf (0.21MB)

[http://www.filefactory.com/file/wx7xy00mrjt/n/LMA\)Electrical_Knowledge_\).pdf](http://www.filefactory.com/file/wx7xy00mrjt/n/LMA)Electrical_Knowledge_).pdf)

Design_Electrical_Installation_Systems_by_YanKyawMoe.pdf (8.35MB)

http://www.filefactory.com/file/5gqiq9laiaah/n/Design_Electrical_Installation_Systems_by_YanKyawMoe.pdf

Electrical_Safety_Basic_by_YanKyawMoe.pdf (1.35MB)

http://www.filefactory.com/file/6dtu2kn0gloh/n/Electrical_Safety_Basic_by_YanKyawMoe.pdf

EXERCISE ASSIGNMENTS



<http://highlightcomputergroup4.zoomshare.com/files/pc9assignment.pdf>

Class Lesson +Audio

www.highlightcomputer.com/mvtpcpracticalcourses.htm

See PC9

MVTC201Agriculture+MVTC202Animal Handling(4 Points)

CERTIFICATE IN AGRICULTURE FOOD PRODUCTION (MVTC201)

www.highlightcomputer.com/AgricultureLesson.pdf

CERTIFICATE IN ANIMALS HANDLING (MVTC202)

www.highlightcomputer.com/Animal1.pdf

MVTC2-4 Water Chemical Treatment (4 Points)

CERTIFICATE IN LABORATORY WATER OPERATIONS (MVTC204)

www.highlightcomputer.com/WaterChemicalNotes.pdf

MVTC501 Advanced Diploma in Rural Development (60Credits)

RE002 Grid Connected Power System (4 Points) together with EE101 DC Circuits+EE112 AC Circuits

RE002- Grid Connected Photovoltaic Power Systems

www.iqytechnicalcollege.com/RE002.zip

EE101 Dc Circuits+EE112 AC Circuits

www.iqytechnicalcollege.com/EECertDipPart1a.zip

[Exercises Download Link](#)

www.highlightcomputer.com/DipElectEnggAssignments.pdf

VIDEOS

RE002- Grid Connected Photovoltaic Power Systems-Electrical

Day 14Part 1

[Grid Connected Photovoltaic Power Systems 1\(Myanmar+English\)](#)

Topics-Sun Geometry, Solar Cell Connection

[Grid Connected Photovoltaic Power Systems 2\(Myanmar+English\)](#)

Topics-Solar Electrical System Installation

[Grid Connected Photovoltaic Power Systems 3\(Myanmar+English\)](#)

Topics-Power Output from solar cell, Grid Connection

[Grid Connected Photovoltaic Power Systems 4\(Myanmar+English\)](#)

Topics-Solar Installation Inspection

[Grid Connected Photovoltaic Power Systems 5\(Myanmar+English\)](#)

Topics-Lightning & Surge Protection, Metering

RE002- Grid Connected Photovoltaic Power Systems-Electrical

www.highlightcomputer.com/Day 14-Part 1-RE002- Grid Connected Photovoltaic Power Systems-Electrical.zip

RE002 Grid Connected PV system

RE 002 Part 1

Sun geometry 1

Daily irradiance 2, 9

Power output calculation 29, 31, 36

Pen circuit voltage 37,40,41,42,44

Inverter diagram 45,46,48,52,53

Grid protection 55, 56, 57, 58, 59

Lightening surge protection 62, 63

Net metering 64, 67, 68, Inspection& testing

73 PV array location 81, 82, 89, 90

PV power system 92,93,

Typical arrays 97,98,100,102,105,

Grid connected inverter 134,135,136,137,139,146

RE002 Part 2

Economy 16,20,23

Mgt101 Management Studies (4 Points)

www.highlightcomputer.com/Mgt101.zip

MVTC13PC6 Welding+MVTC13PC5FittingMachining (4 Points)

PC 7-Certificate in Engine Operation& Basic Servicing

ME 108

Principle of Engines

LESSON

<https://youtu.be/Hz4l27zBg9o>

Notes

<http://www.igytechnicalcollege.com/MECertDipPart3.zip> Study ME108

[Exercises Download Link](#)

www.highlightcomputer.com/DipMechEnggAssignments.pdf

Page 36 to 38

- **Practical Demonstration Videos (Youtube)**

Engine

Engine Operation

http://youtu.be/D2oRi_Ah3Qw

<http://youtu.be/134v3KwjfOo>

<http://youtu.be/hX5JsvqQdYY>

Engine Assembly

<http://youtu.be/kSo7QLPWous>

http://youtu.be/873FS9_69XQ

<http://youtu.be/6Fe1XoZ2EsM>

<http://youtu.be/t4YVfT0zgjc>

Engine Operation+ Maintenance+ Servicing

<http://youtu.be/NdT6sC8vZoA>

<http://youtu.be/Y64KllvgFp0>

<http://youtu.be/UP1hjxiTRqc>

Gear Box

<http://youtu.be/aEpt5k9StnA>

<http://youtu.be/9cEqWWSFM6w>

Hydraulic pump

<http://youtu.be/0lUGOJovRr0>

Ignition

<http://youtu.be/fD3CeDKnDXQ>

Power Steering

<http://youtu.be/aLIDMkLhtgQ>

<http://youtu.be/3xFRPInWxks>

<http://youtu.be/E3JNnE14kOQ>

<http://youtu.be/ljk7dFtc6iw>

Steering

http://youtu.be/e_fUAoA8_Nk

<http://youtu.be/8wwue7d8LsM>

<http://youtu.be/FUr6Jlca0jM>

<http://youtu.be/AQupRDqe1hU>

Oil Pump

<http://youtu.be/yQFeOQPPtSI>

<http://youtu.be/F1LTndD89Eo>

Pump assembly

http://youtu.be/9G0Qjf_aPp4

<http://youtu.be/4318Rkolnwg>

Compressor

<http://youtu.be/gnHHTX2ybg0>

http://youtu.be/t8s_LodB3t8

- **Written Lesson Notes in Myanmar+ English**

PC7Engine1.pdf (79.88MB)

<http://www.filefactory.com/file/5t146pcis1jn/n/PC7Engine1.pdf>

PC7Engine2.pdf (91.37MB)

<http://www.filefactory.com/file/45wtllk5o39/n/PC7Engine2.pdf>

PC7Engine3.pdf (96.42MB)

<http://www.filefactory.com/file/5up6yb6vpwid/n/PC7Engine3.pdf>

PC7Engine4.pdf (125.64MB)

<http://www.filefactory.com/file/3rk3d5lczh87/n/PC7Engine4.pdf>

PC7Engine5.pdf (85.97MB)

<http://www.filefactory.com/file/5girb9s0zkk/n/PC7Engine5.pdf>

PC7Engine6.pdf (54.66MB)

<http://www.filefactory.com/file/4hm9hi7tn2px/n/PC7Engine6.pdf>

Textbooks in Myanmar Language

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[http://www.filefactory.com/file/4qi580wuyimb/n/LMA\)Automotive_1.pdf](http://www.filefactory.com/file/4qi580wuyimb/n/LMA)Automotive_1.pdf)

LMAAuto EFI .pdf (42.17MB)

http://www.filefactory.com/file/16c4rsn1p95/n/LMAAuto_EFI_.pdf

LMA)AutoElectricity.pdf (80.31MB)

[http://www.filefactory.com/file/6dq2ozaud8bd/n/LMA\)AutoElectricity.pdf](http://www.filefactory.com/file/6dq2ozaud8bd/n/LMA)AutoElectricity.pdf)

Class Lesson +Audio

www.highlightcomputer.com/mvtpcpracticalcourses.htm

See PC7

EXERCISE ASSIGNMENTS

<http://highlightcomputergroup4.zoomshare.com/files/pc7assignment.pdf>

MVTC13PC6 Welding+MVTC13PC5FittingMachining (4 Points)

MTC13 PC 6-Certificate in Welding

- **Practical Demonstration Videos (Youtube)**

Welding

<http://youtu.be/JQDXMNokDfk>

<http://youtu.be/Br1wBGZpqcc>

- **Written Lesson Notes in Myanmar+ English**

PC6Welding1.pdf (102.44MB)

<http://www.filefactory.com/file/3sxvo5m6rvid/n/PC6Welding1.pdf>

PC6Welding2.pdf (104.91MB)

<http://www.filefactory.com/file/5b4csdxdv7qn/n/PC6Welding2.pdf>

PC6Welding3.pdf (110.26MB)

<http://www.filefactory.com/file/20112foljyb1/n/PC6Welding3.pdf>

PC6Welding4.pdf (103.43MB)

<http://www.filefactory.com/file/281u6fo318ml/n/PC6Welding4.pdf>

PC6Welding5.pdf (101.34MB)

<http://www.filefactory.com/file/30v2cgi6qnz9/n/PC6Welding5.pdf>

EXERCISE ASSIGNMENTS

<http://highlightcomputergroup4.zoomshare.com/files/pc6assignment.pdf>

MTC13 PC 5-Certificate in Fitting & Machining

- **Practical Demonstration Videos (Youtube)**

Workshop

Drilling

<http://youtu.be/7XHyRDCcPO0>

<http://youtu.be/xQgHiPkWUT4>

Lathe

<http://youtu.be/9ONbdNyK7Rk>

Milling

http://youtu.be/T3yxKBJ_YQg

Shaping

<http://youtu.be/aVvEmbzKpyY>

<http://youtu.be/SKG0SD05Jic>

Written Lesson Notes in Myanmar+ English

PC5FittingMachining1.pdf (115.17MB)

<http://www.filefactory.com/file/1rwkh7dormg5/n/PC5FittingMachining1.pdf>

PC5FittingMachining2.pdf (111.92MB)

<http://www.filefactory.com/file/781te7eb8jfd/n/PC5FittingMachining2.pdf>

PC5FittingMachining3.pdf (120.08MB)

<http://www.filefactory.com/file/otj4ail7lqh/n/PC5FittingMachining3.pdf>

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PC5FittingMachining5.pdf (125.88MB)

<http://www.filefactory.com/file/7jqo3irrld3d/n/PC5FittingMachining5.pdf>

PC5FittingMachining6.pdf (108.76MB)

<http://www.filefactory.com/file/47xxwuitf2rl/n/PC5FittingMachining6.pdf>

PC5FittingMachining7.pdf (51MB)

<http://www.filefactory.com/file/vyx9cp95uzn/n/PC5FittingMachining7.pdf>

Class Lesson +Audio

www.highlightcomputer.com/mvtpcpracticalcourses.htm

See PC6

EXERCISE ASSIGNMENTS

<http://highlightcomputergroup4.zoomshare.com/files/pc5assignment.pdf>

MVTC209 Transport Logistics (4 Points)

www.highlightcomputer.com/LogisticNotes.pdf

ME201 Hydraulics (4 Points)

ME201 Fluid Mechanics

VIDEO

Lesson 1

<https://youtu.be/EDL0FEp7tS0>

Lesson 2

<https://youtu.be/TfggYG-cSqc>

Lesson 3

<https://youtu.be/F8HYmLYHSQM>



Notes

To download, do not click the link, copy the link into address bar of the new browser page and then press “Enter”

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ME201 Fluid Mechanics

www.iqytechnicalcollege.com/MECertDip.zip

Study ME201

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www.iqytechnicalcollege.com/MECertDip.zip

[Exercises Download Link](#)

www.highlightcomputer.com/DipMechEnggAssignments.pdf

[Mechanical Video](#)

EE118 Electrical Supply System (4 Points)

EE118	Electrical Energy Supply System
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Lesson 1

<https://youtu.be/fsVjRrMj3fw>

Lesson 2

https://youtu.be/og-n_8RzqQE

Lesson 3

<https://youtu.be/wjAtPNwGKOQ>

Lesson 4

<https://youtu.be/wjAtPNwGKOQ>

Lesson 5

https://youtu.be/-FNsW_NYtp8

Lesson 6

<https://youtu.be/OHFFNtw9X8s>

LESSON

www.iqytechnicalcollege.com/EECertDipPart1b.zip

Do EE118

[Exercises Download Link](#)

www.highlightcomputer.com/DipElectEnggAssignments.pdf

ENGLISH LESSONS

<http://www.mongroupsydney1.com/youtubevideos.htm#a>

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www.iqytechnicalcollege.com/EECertDipPart1b.zip

[Exercises Download Link](#)

www.highlightcomputer.com/DipElectEnggAssignments.pdf

ELECTRICAL VIDEOS

[Electrical Video1](#)

[Electrical Video2](#)

[Electrical Video3](#)

[Electrical Video4](#)

[Electrical Video5](#)

[Electrical Video6](#)

[Electrical Video7](#)

MVTC601-Professional Diploma of Rural Development Engineering

(Bachelor of Applied Engineering-Rural Development)

(St Clements University/ STC Technological University)

TOTAL 24 Units at 60 Credit points

BE General Discipline (Total 12 units)

(Each 2 Credit points)

YEAR 2+3

Professional Diploma in Engineering (Year 3)

www.iqytechnicalcollege.com/profdipengg.htm

1 BAE 401 Advanced Engineering Mathematics (2 pt)

2 BAE 402 Calculus (2 pt)

3 BAE 403 Engineering Mechanics (2 pt)

4 BAE 404 Engineering Materials & Thermodynamics (2 pt)

5 RE001- Foundation Studies in Renewable Energy and Sustainability (2 pt)

6.RE003- Solar and Thermal Energy Systems (2 pt)

7.RE004- Energy Storage Systems(2 pt)

10 RE010-Engineering Materials(2 pt)

11 RE012a-Electrical Engineering Part 1(2 pt)

12RE016-Design& Management (2 pt)

Professional Diploma/BE (Rural Development)

(Total 12 units) (Each 2 Credit points)

YEAR 4+5

13.RE013-Electrical Machines (2 pt)

<http://www.iqytechnicalcollege.com/profdipelectengg.htm#z6>

14.BAE 501 Advanced Power Systems & Power Transmission Networks

<http://www.iqytechnicalcollege.com/profdipelectengg.htm#z9>

Rural Electrical Power Supply System

<http://www.iqytechnicalcollege.com/BRDE-BAE501R Rural Power Supply.pdf>

16.BAE 604 Telecommunication Engineering

<http://www.iqytechnicalcollege.com/profdipelectengg.htm#z11>

Rural Telecommunication System

<http://www.iqytechnicalcollege.com/BRDE-BAE604R Rural Telecommunication.pdf>

<http://www.iqytechnicalcollege.com/BRDE-BAE 604 Part 2.pdf>

17.BAE421 Building Construction Engineering (2 pt)

<http://www.iqytechnicalcollege.com/profdipcivilengg.htm#z3>

18. BAE422 Estimating (2 pt)

<http://www.iqytechnicalcollege.com/profdipcivilengg.htm#z7>

19. BAE423 Fluid Mechanics (2 pt)

<http://www.iqytechnicalcollege.com/profdipcivilengg.htm#z6>

20. BAE424 Reinforced Concrete (2 pt)

<http://www.iqytechnicalcollege.com/profdipcivilengg.htm#z8>

22. BAE 523A Environmental Engineering (2 pt)

<http://www.iqytechnicalcollege.com/profdipcivilengg.htm#z10>

23.BAE621 Structural Engineering (2 pt)

<http://www.iqytechnicalcollege.com/profdipcivilengg.htm#z11>

24.BAE511 Air-conditioning & Refrigeration (2 pt)

<http://www.iqytechnicalcollege.com/profdipmechengg.htm#z8>

Solar Powered Refrigeration for Rural Area

<http://www.iqytechnicalcollege.com/BAE511R Solar Refrigeration.pdf>

<http://www.iqytechnicalcollege.com/BAE511RPart 2.pdf>

Engineering Competency Demonstration Report

25.BAE608 Engineering Competency Demonstration Report (2 credit points)

Engineering Handbook Applications

www.iqytechnicalcollege.com/Form185engghandbookapplication.htm

Advanced Diploma in Information Technology (Course Outline)

	St Clements+ Highlight Course	Pt				Australian IT Diploma Course
THEORETICAL TRAINING						
ICT 201	Organisational Behaviour	5			BSBWOR502B BSBMGT516A BSBSUS501A	Ensure team effectiveness Facilitate continuous improvement Develop workplace policy and procedures for sustainability
ICT 202	Information Systems Principles and Networking	5	BAE602		ICANWK516A ICANWK532A ICANWK614A	Determine best-fit topology for a local network Identify and resolve network problems Manage IT security
ICT 203	Information Systems, Analysis and Design	5	BAE602	2	ICAPRG602A ICAICT509A ICAICT603A ICAICT608A ICAPMG606A ICAICT713A	Manage the development of technical solutions from business specifications Gather data to identify business requirements Manage the use of appropriate development methodologies Interact with clients on a business level Manage IT project quality Manage IT services
ICT 204	Advanced Programming	5	BAE601		ICAPRG527A ICAPRG501A ICAPRG505A	Apply intermediate object-oriented language skills Apply advanced object-oriented language skills Build advanced user interface
ICT 205	Project Work	5	BAE602	Core	ICAPRG506A	Manage copyright, ethics and privacy in an IT environment
ICT 206	WORK PERFORMANCE ASSESSMENT			Core	ICAPMG601A	Establish IT project governance
				Core	ICAPMG602A	*Manage IT project initiation
				Core	ICAPMG603A	*Manage IT project planning
				Core	ICAPMG604A	*Manage IT project delivery
	Total	30		Core	ICAPMG605A	*Manage IT project closure

32115 Advanced Diploma in General Engineering and Drafting (with Basic Business and IT)

For the students who have not passed Year 10/ University Entrance Examination.

Tutoring for the university entrance examination level subjects are concurrently provided

Unit number & Points	Unit name	Credit Points
EE201G	Mathematics	3 Pt
EE204G	Physics	3 Pt
ME 207G	Chemistry	3 Pt
EE101	DC Circuit Problems	3 Pt
EE102	Basic Electrical Fitting & Wiring /MVTC 213-PC9 Certificate in Electrical Wiring	3 Pt
EE103	Basic Electrical Drafting / MVTC 213-PC9Certificate in Electrical Wiring	3 Pt
EE105	Electrical Installation Design / MVTC 213-PC9Certificate in Electrical Wiring	3 Pt
EE110	Computer Applications	3 Pt
CE 106A	Detailed Construction & Building Construction Materials/MVTC213 PC1 Certificate in Brick Laying and Masonry	3 Pt
CE 104 A	Building Drawing/ MVTC213 PC1 Certificate in Brick Laying and Masonry	3 Pt

CE 110	Building Construction/MVTC213 PC3 Certificate in Building Construction	3 Pt
CE 107	Sanitation-and-Water-supply/MVTC213 PC2 Certificate in Plumbing	3 Pt
EE107	Electrical Equipment / MVTC 213-PC9Certificate in Electrical Wiring	3 Pt
ME103	Engineering Mechanics	3 Pt
ME 108	Principles of Engines/ PC 7-Certificate in Engine Operation & Basic Servicing	3 Pt
MVTC213 PC5	Certificate in Fitting and Machining	3 Pt
Mgt101G	Business and Management Principle	3 Pt
EE104	Electrical Equipment Safety Protection	3 Pt
Mgt207G	Business Letter Writing/ Business English	3 Pt
EE109	Electrical Control Circuits /MVTC213 PC15 Certificate in Basic Electronics	3 Pt
	Total	60 Pt

The students who complete this course can continue to the study in Advanced Diploma in Electrical/ Civil/ Mechanical Engineering Courses.

The students who do not want to do engineering can do only Mgt101G, Mgt207G and EE110 and then attend Advanced Diploma in Management (OR) Advanced Diploma in Information Technology.

Agricultural Engineering (67443321)

Professional Diploma in Agricultural Engineering Bachelor of Agricultural Engineering

Preliminary Course

Diploma in General Engineering

(First 6 months)(Foundation Year)

FE101 Engineering Mathematics (for Mathematics 1)

FE102 Engineering Physics (For Physics 1)

FE103 Engineering Workshop

FE104 Engineering Drawing (For Technical Drawing)

FE105 Sustainability

Diploma in Agricultural Engineering

YEAR 1

6 credits/ unit x 5=30 Credits

AGRE101 Chemistry (For General Chemistry) (6 Credit)

To complete Chemistry

AGRE 102 Statistics (For Basic Statics) (6 Credit)

AGRE 103 Botany (For Botany) (6 Credit)

(To complete Science)

AGRE 104 Computer (For Computer) (6 Credit)

(To complete Software Design)

AGRE105 Culture Plants (for Morphology of Culture Plants 1+2) (6 Credit)

This subject consists of the following units taken from Australian Agricultural Training Package

AHCNSY306 Implement a propagation plan

AHCNSY306 မျိုးပွား ဖြန့်ဖြူးရေးအစီအစဉ်ကိုအကောင်အထည်ဖော်ပါ

V55

AHCORG403 Manage organic soil improvement

AHCORG403 အော်ဂဲနစ်မြေဆီလွှာတိုးတက်မှုကိုစီမံပါ

V56

AHCPCM301 Implement a plant nutrition program

AHCPCM301 အပင်အာဟာရအစီအစဉ်ကိုအကောင်အထည်ဖော်ပါ

V57

AHCPCM302 Provide information on plants and their culture

AHCPCM302 အပင်များနှင့်၎င်းတို့၏သဘာဝအကြောင်းသတင်းအချက်အလက်ပေးပါ

V58

AHCPCM304 Report on health and condition of trees

AHCPCM304 သစ်ပင်၏ကျန်းမာရေးနှင့်အခြေအနေ

V59

The students will need to do internet research for the activities given by teachers

Reference Textbook

The students will need to submit 20 pages study report by reading the reference book.

Advanced Diploma in Agricultural Engineering

YEAR 2

6 credits/ unit x 5=30 Credits

AGRE201 Analytical Chemistry (for Analytical Chemistry)(6 credits)

ECh11011	Engineering Chemistry I

The students will need to submit 20 pages study report by reading the reference book.

AGRE202 Organic Chemistry (for Organic Chemistry) (6 credits)

ChE 11001	Organic Chemistry
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The students will need to submit 20 pages study report by reading the reference book.

AGRE203/CE115 Estimating (Civil Engineering) (6 credits)

BAE 644-Estimating

BAE 690-Mechanical Estimating

AGRE204 Meterology (6 credits)

Textbook

The students will need to submit 20 pages study report by reading the reference book.

AGRE205 General Civil Engineering for Agriculture (6 credits)

As part of Agricultural Engineering, the students are required to complete some units
Diploma in Civil Engineering at Year 2

CE105 Hydraulics

CE-106 Brick Laying

CE107 Sanitation Water Supply

Professional Diploma in Agricultural Engineering Technology
Bachelor of Technology (Agricultural Engineering)

YEAR 3

6 credits/ unit x 5=30 Credits

AGRE301 Agriculture of Garden Plants (for Agriculture of Garden Plants) (6 credits)

This subject consists of the following units taken from Australian Agricultural Training Package

AHCPHT306 ဟင်းသီးဟင်းရွက်သီးနှံများစိုက်ပျိုးပါ

V63

AHCPHT307 - Prepare raw materials and compost feedstock

AHCPHT307 - ကုန်ကြမ်းများနှင့်မွေးမြူရေးပစ္စည်းများပြင်ဆင်ပါ

V64

AHCPHT310 Coordinate horticultural crop harvesting

AHCPHT310 ဟင်းသီးဟင်းရွက်သီးနှံရိတ်သိမ်းမှုညှိနှိုင်းဆောင်ရွက်သည်

V65

The students will need to do internet research for the activities given by teachers

Reference Textbook

- horti2008

from the following link

The students will need to submit 20 pages study report by reading the reference book.

AGRE302 Agriculture of Plantation Plants, Plant Feeding & Plant Protection for (Agriculture of Plantation Plants, Plant Feeding & Plant Protection) (6 credits)

This subject consists of the following units taken from Australian Agricultural Training Package

AHCPGD301 Implement a plant establishment program

AHCPGD301 စက်ရုံတည်ထောင်ခြင်းအစီအစဉ်ကိုအကောင်အထည်ဖော်ပါ

V60

AHCPHT303 Implement a post-harvest program

AHCPHT303 ရိတ်သိမ်းချိန်လွန်အစီအစဉ်ကိုအကောင်အထည်ဖော်ပါ

V61

AHCPHT305 Regulate crops

AHCPHT305 ကောက်ပဲသီးနှံများကိုထိန်းညှိပါ

V62

AHCPHT306 Establish horticultural crops

AHCPMG301 Control weeds

AHCPMG301 ထိန်းချုပ်မှုပေါင်းပင်

V66

AHCPMG302 Control plant pests, diseases and disorders

AHCPMG302 စက်ရုံပိုးမွှားများ၊ ရောဂါများနှင့်ရောဂါများကိုထိန်းချုပ်သည်

V67

AHCPMG305 Survey pests

AHCPMG305 ပိုးမွှားစစ်တမ်း

V68

AHCSS00027 Agricultural Chemical Skill Set.

AHCSS00027 စိုက်ပျိုးရေးဓာတုကျွမ်းကျင်မှုသတ်မှတ်။

V70

AHCSS00074 Agricultural Chemical Skill Set.

AHCSS00074 စိုက်ပျိုးရေးဓာတုကျွမ်းကျင်မှုအစုံ။

V71

AHCWHS301 Contribute to work health and safety processes

AHCWHS401 Maintain work health and safety processes.

AHCWHS401 အလုပ်ကျွန်းမာရေးနှင့်ဘေးကင်းရေးလုပ်ငန်းစဉ်များကိုထိန်းသိမ်းပါ။

V72

The students will need to do internet research for the activities given by teachers

Reference Textbook

- AgriculturalProducts&YouPPT
- Gardening_pleasures

from the following link

The students will need to submit 20 pages study report by reading the reference book.

AGRE303 Agricultural Economy (for Agricultural Economy)

Read

- GlobalTrendsInAgriculture
- HumanNeeds&FoodProducts
- Conservation_on_private_land

from the following link

The students will need to submit 20 pages study report by reading the reference book.

AGRE303 Food Science and Technology (6 credits)

Read

- CareersinFoodSciencePPT
- HumanNeeds&FoodProducts
- Sustainable Agriculture

from the following link

Video

Read any two textbooks
from the following link

The students will need to submit 20 pages study report by reading the reference book.

AGRE304 Agricultural Ecology (6 credits)

Read

- Agriculture_and_Ecosystems-Lesson

from the following link

The students will need to submit 20 pages study report by reading the reference book.

AGRE305 Plant Physiology (6 credits)

Read

The students will need to submit 20 pages study report by reading the reference book.

Professional Diploma in Agricultural Engineering

Bachelor of Engineering (Agricultural Engineering)

YEAR 4

6 credits/ unit x 5=30 Credits

AGRE401 Agricultural Water and Drainage (6 Credits)

CPCPCM3022A Weld polyethylene and polypropylene pipes using fusion method

CPCPCM3023A Fabricate and install non-ferrous pressure piping

CPCPCM4012A Estimate and cost work

CPCPDR2021A Locate and clear blockages.

CPCPDR2022A - Install domestic treatment plants

CPCPDR2023A Maintain effluent disinfection systems

CPCPDR2024A Install stormwater and sub-soil drainage systems

CPCPDR2025A Drain work site

CPCPDR2026A Install prefabricated inspection openings and enclosures

CPCPDR3021A Plan layout of a residential sanitary drainage system

CPCPDR3022A - Install below ground sanitary drainage systems.

CPCPDR3023A - Install on-site disposal systems

CPCPFS3031A - Fabricate and install fire hydrant and hose reel systems

CPCPSN3025A Install pre-treatment facilities.

CPCPWT3020A - Connect and install storage tanks to a domestic water supply

CPCPWT3021A Set out and install water services.

CPCPWT3022A - Install and adjust water service controls and devices.

CPCPWT3023A - Install and commission water heating systems

CPCPWT3025A Install water pumpset

CPCPWT3027A Connect irrigation systems from drinking water supply

CPCPWT4011B Design and size heated and cold water services and systems.

RIICBS208D Conduct road maintenance operations

RIICBS303D - Conduct materials transfer vehicle operations

RIICCM201D - Carry out measurements and calculations

RIICCM202D – Identify, locate and protect underground services

RIICCM203D - Read and interpret plans and job specifications

RIICCM205D Carry out manual excavation

RIICCM206D - Support plant operations

RIICCM207D - Spread and compact materials manually

RIICCM208D Carry out basic levelling.

RIICCM209D Carry out concrete work.

RIICCM210D - Install trench support

RIICCM211D - Erect and dismantle temporary fencing and gates

RIICCM301D Construct and dismantle fences and gates

RIICPL301D Install water mains pipelines

RIICPL302D Install stormwater systems

RIICPL303D Install sewer pipelines

RIICRC203D Install sub-soil drainage.

RIICRC204D Install and maintain roadside fixtures.

RIICRC208D - Lay pipes

RIICRC301D Maintain drainage system

RIICRC304D Maintain sealed road

The students will need to submit 20 pages study report by viewing the reference videos

Read

- water_sampling
- Water sampling and analysis
- Surface water sampling methods and analysis

from the following link

(Note when you Unzip, some files need to be skipped)

The students will need to submit 20 pages study report by reading the reference book

AGRE402 General Zootechnics (6 Credits)

This subject consists of the following units taken from Australian Agricultural Training Package

Video

Read

- Animal Handling and Transport

from the following link

The students will need to submit 20 pages study report by reading the reference book

AGRE403 Agricultural Mechanisation

As part of this subject, the students will need to do some Mechanical Units

ME101 Applied Mechanics

ME108 Principle of Engine

ME103 Engineering Mechanics

ME104 Machine Principle

ME106 Electrical Principle

ME102+107 Engineering Thermodynamics

ME334 Airconditioning and Refrigeration

ME234 Wind Energy Conversion System

Read

- Agricultural_Process_Engineering

from the following link

The students will need to submit 20 pages study report by reading the reference book

AGRE403 Soil Knowledge (6 Credits)

AHCSOL401 Sample soils and interpret results

AHCSOL401 မြေဆီလွှာကိုနမူနာယူပြီးရလဒ်များကိုဘာသာပြန်ပါ

V69

Read

- Conservation_on_private_land

from the following link

The students will need to submit 20 pages study report by reading the reference book

AGRE404 Brand Management (6 Credits)

As part of this subject, the students will need to study some units from Diploma in Management Program

Study

- Mgt101 Management ,
- Mgr105 Quality Management

BAE608 Engineering Competency Demonstration Report (6 Credits)

The Institution of Professional Engineers Myanmar

AGTI to BE Conversion Program

AGTI

3 Years Attendance	2 Years Attendance
<p><u>ENG601- Engineering Studies</u> AGTI Certificate (60 Credits)</p> <p><u>ENG602-Engineering Applications</u> Work Experience Curriculum Vitae (10 Credits)</p> <p><u>ENG603-Engineering Practicals</u> Engineering Practice Report or Experience Portfolio (10 Credits)</p> <p><u>BAE705 Engineering Competency Development</u> Other degree OR Appropriate Self Study Record Continuing Professional Development (10 Credits)</p> <p>Degree Level Study -Engineering Mathematics+Materials+Mechanic Seminars (4 days) BAE401 Engineering Mathematics BAE402 Calculus RE010 Engineering Materials BAE403 Engineering Mechanics (10 Credits)</p> <p>Degree Level Study -Engineering Management Seminars (2 days) BAE508 Management BAE605 Engineering Management (10 Credits)</p> <p>Degree Level Study -Engineering Subjects Seminars (4 days) 3 or 4 subjects at BE Final Level (10 Credits)</p>	<p>Enrol IQY Professional Diploma in Engineering Final Stage</p> <p>http://www.iqytechnicalcollege.com/enrolment.htm</p> <p>THS/GTI-Equivalent /BE Bridging Program Enrolment</p>
Total 120 Credits	

Degree Level Study -Engineering Subjects Seminars (4 days)

Electrical Power

BAE 501 Advanced Power Systems & Power Transmission Networks

BAE 506 Power System Stability & Protection

RE013-Electrical Machines

Electronics

RE014-Electronics Control

BAE 604 Telecommunication Engineering

BAE 601 Computer Programming

Or other subjects by discussing with trainer

Civil

BAE621 Structural Engineering

BAE421 Building Construction Engineering

BAE623 Surveying & Traffic Engineering

Or other subjects by discussing with trainer

Mechanical

BAE613 Mechanical Instrumentation Process

BAE311 Plant Engineering

BAE614 Machine Design

Or other subjects by discussing with trainer

ICT

ICT 403 Professional Programming

ICT 405 Professional Practice (1) Network

BAE408 Analog & Digital Electronics

Or other subjects by discussing with trainer

Contact

Secretary -U Ye Htet Naing Phone- 09 43064330

Training Officer (Academic)-Dr Thwin Thu Lynn (IQY)- Ph-09785048872

PART (1) AUSTRALIAN ELECTRICIAN TESTING SYSTEM

[Electrician Capstone unit.pdf](#)

http://www.filefactory.com/file/c392ae1/n/Electrician_Capstone_unit.pdf

Electrician Capstone Test Old Questions

[Electrician Capstone Unit Study Guide.zip](#)

http://www.filefactory.com/file/c4bbf1b/n/Electrician_Capstone_Unit_Study_Guide.zip

[Electrician Licensing Requirements.zip](#)

[SubstationEntry.zip](#)

[Construction ElectricalSafety.zip](#)

[InserviceTesting.zip](#)

[Stage 1 Part 1.zip](#)

http://www.filefactory.com/file/c0cb8ab/n/Stage_1_Part_1.zip

PART (2) AUSTRALIAN ELECTRICAL INSTALLATION STANDARDS & RULES

[Wiring Rule AS3000](#)

[Wiring Rule AS3008](#)

[Wiring Rule AS3012](#)

[Wiring Rule AS3017](#)

[Wiring Rule AS3760](#)

[Wiring Rule AS3019](#)

[Electrical Practice for Construction Work](#)

[Competent person testing & tagging](#)

PART (3) ELECTRICAL TRADE LESSONS

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
UEENEEE001B Apply OHS practices in the workplace	UEENEEE101A Apply Occupational Health and Safety regulations, codes and practices in the workplace	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1	EE011 = EE07 + Additional					
See 1 below	See 3 below						
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
2	
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
4	
5	<p>Video-- Electrical workshop Lesson 1 OHS.zip</p> <p>http://www.filefactory.com/file/c0adbfa/n/Electrical_workshop_Lesson_1_OHS.zipElectrical workshop Lesson 2 Workplace hazard+Fix & secure equipment.zip</p> <p>http://www.filefactory.com/file/c0adca2/n/Electrical_workshop_Lesson_2_Workplace_hazard_Fix_secure_equipment.zip</p> <p>Electrical workshop Lesson 3 Mechanical fixing.zip</p>

	http://www.filefactory.com/file/c0adc1d/n/Electrical_workshop_Lesson_3_Mechanical_fixing.zip Electrical workshop Lesson 4 Basic electrical wiring.zip http://www.filefactory.com/file/c0add65/n/Electrical_workshop_Lesson_4_Basic_electrical_wiring.zip Electrical workshop Lesson 5 Wiring circuits.zip http://www.filefactory.com/file/c0ade9b/n/Electrical_workshop_Lesson_5_Wiring_circuits.zip Electrical workshop Lesson 6 Electrical safety testing.zip http://www.filefactory.com/file/c0adf90/n/Electrical_workshop_Lesson_6_Electrical_safety_testing.zip Electrical workshop Lesson 7 Testing insulation and polarity.zip http://www.filefactory.com/file/c0ad031/n/Electrical_workshop_Lesson_7_Testing_insulation_and_polarity.zip Electrical workshop Lesson 8 Testing lighting polarity.zip http://www.filefactory.com/file/c0ad1d8/n/Electrical_workshop_Lesson_8_Testing_lighting_polarity.zip
6	(2) Click HERE to download other Exercises
7	EE07 & EE011 units mapping for Theory study & Exercises
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf
9	EE07 & EE011 units mapping for Theory study & Exercises Attend the face to face session Stage 1 Electrical workshop practicals.pdf Wiring Equipments to purchase
10	<u>UEENEEE001</u> OHSWorkbook.zip

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
UEENEEE002B Dismantle, assemble and fabricate electrotechnology components	UEENEEE102A Fabricate, assemble and dismantle utilities industry components	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1	EE011 = EE07 + Additional					
See 1 below	See 3 below						
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
2	
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
4	
5	<p>Video-- Electrical workshop Lesson 1 OHS.zip</p> <p>http://www.filefactory.com/file/c0adbfa/n/Electrical_workshop_Lesson_1_OHS.zip</p> <p>http://www.filefactory.com/file/c0adca2/n/Electrical_workshop_Lesson_2_Workplace_hazard_Fix_secure_equipment.zip</p> <p>Electrical workshop Lesson 3 Mechanical fixing.zip</p> <p>http://www.filefactory.com/file/c0adc1d/n/Electrical_workshop_Lesson_3_Mechanical_fixing.zip</p> <p>Electrical workshop Lesson 4 Basic electrical wiring.zip</p>

	http://www.filefactory.com/file/c0add65/n/Electrical_workshop_Lesson_4_Basic_electrical_wiring.zip Electrical workshop Lesson 5 Wiring circuits.zip http://www.filefactory.com/file/c0ade9b/n/Electrical_workshop_Lesson_5_Wiring_circuits.zip Electrical workshop Lesson 6 Electrical safety testing.zip http://www.filefactory.com/file/c0adf90/n/Electrical_workshop_Lesson_6_Electrical_safety_testing.zip Electrical workshop Lesson 7 Testing insulation and polarity.zip http://www.filefactory.com/file/c0ad031/n/Electrical_workshop_Lesson_7_Testing_insulation_and_polarity.zip Electrical workshop Lesson 8 Testing lighting polarity.zip http://www.filefactory.com/file/c0ad1d8/n/Electrical_workshop_Lesson_8_Testing_lighting_polarity.zip
6	(2) Click HERE to download other Exercises
7	EE07 & EE011 units mapping for Theory study & Exercises
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf
9	EE07 & EE011 units mapping for Theory study & Exercises Attend the face to face session Stage 1 Electrical workshop practicals.pdf Wiring Equipments to purchase
10	Fixing Equipments E002_E005.zip

Study Guide EE07 & EE011

What to study		Which exercises to do				What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
UEENEEE004B Solve problems in multiple path d.c. circuits	UEENEEE104A Solve problems in d.c. circuits	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1	EE011 = EE07 + Additional					
See 1 below	See 3 below						
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
2	
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
4	
5	Video- http://www.filefactory.com/file/cf8739b/n/E003+E004.zip
6	(2) Click HERE to download other Exercises
7	EE07 & EE011 units mapping for Theory study & Exercises
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011.pdf
9	EE07 & EE011 units mapping for Theory study & Exercises Stage 1 Electrical workshop practicals.pdf Wiring Equipments to purchase
10	DC Circuit E003 E004.zip

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
UEENEEE005B Fix and secure equipment	UEENEEE105A Fix and secure electrotechnology equipment	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1	EE011 = EE07 + Additional					
See 1 below	See 3 below						
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	http://www.filefactory.com/file/c0b67b7/n/Electrical Workshop Wiring E001 2 3 4 5 7 8 33 G003 4 7.zip
2	
3	http://www.filefactory.com/file/c0b67b7/n/Electrical Workshop Wiring E001 2 3 4 5 7 8 33 G003 4 7.zip
4	
5	Video-- Electrical workshop Lesson 1 OHS.zip http://www.filefactory.com/file/c0adbfa/n/Electrical workshop Lesson 1 OHS.zip Electrical workshop Lesson 2 Workplace hazard+Fix & secure equipment.zip

	http://www.filefactory.com/file/c0adca2/n/Electrical_workshop_Lesson_2_Workplace_hazard_Fix_secure_equipment.zip Electrical workshop Lesson 3 Mechanical fixing.zip http://www.filefactory.com/file/c0adc1d/n/Electrical_workshop_Lesson_3_Mechanical_fixing.zip Electrical workshop Lesson 4 Basic electrical wiring.zip http://www.filefactory.com/file/c0add65/n/Electrical_workshop_Lesson_4_Basic_electrical_wiring.zip Electrical workshop Lesson 5 Wiring circuits.zip http://www.filefactory.com/file/c0ade9b/n/Electrical_workshop_Lesson_5_Wiring_circuits.zip Electrical workshop Lesson 6 Electrical safety testing.zip http://www.filefactory.com/file/c0adf90/n/Electrical_workshop_Lesson_6_Electrical_safety_testing.zip Electrical workshop Lesson 7 Testing insulation and polarity.zip http://www.filefactory.com/file/c0ad031/n/Electrical_workshop_Lesson_7_Testing_insulation_and_polarity.zip Electrical workshop Lesson 8 Testing lighting polarity.zip http://www.filefactory.com/file/c0ad1d8/n/Electrical_workshop_Lesson_8_Testing_lighting_polarity.zip http://uploading.com/files/f213323b/Electrical%2Bworkshop.zip/
6	(2) Click HERE to download other Exercises
7	EE07 & EE011 units mapping for Theory study & Exercises
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011.pdf
9	Stage 1 Electrical workshop practicals.pdf Wiring Equipments to purchase
10	Fixing Equipments E002 E005.zip

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
UEENEEE007B Use drawings, diagrams, schedules and manuals	UEENEEE107A Use drawings, diagrams, schedules, standards, codes and specifications	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1	EE011 = EE07 + Additional					
See 1 below	See 3 below						
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
2	ElectricalDrawing1.zip , ElectricalDrawing2.zip , ElectricalDrawing3.pdf , GeneralDrawing1.zip , GeneralDrawing2.zip
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
4	ElectricalDrawing1.zip , ElectricalDrawing2.zip , ElectricalDrawing3.pdf , GeneralDrawing1.zip , GeneralDrawing2.zip
5	Video-- Electrical workshop Lesson 1 OHS.zip http://www.filefactory.com/file/c0adbfa/n/Electrical_workshop_Lesson_1_OHS.zip Electrical workshop Lesson

	<p>2 Workplace hazard+Fix & secure equipment.zip</p> <p>http://www.filefactory.com/file/c0adca2/n/Electrical_workshop_Lesson_2_Workplace_hazard_Fix_secure_equipment.zip</p> <p>Electrical workshop Lesson 3 Mechanical fixing.zip</p> <p>http://www.filefactory.com/file/c0adc1d/n/Electrical_workshop_Lesson_3_Mechanical_fixing.zip</p> <p>Electrical workshop Lesson 4 Basic electrical wiring.zip</p> <p>http://www.filefactory.com/file/c0add65/n/Electrical_workshop_Lesson_4_Basic_electrical_wiring.zip</p> <p>Electrical workshop Lesson 5 Wiring circuits.zip</p> <p>http://www.filefactory.com/file/c0ade9b/n/Electrical_workshop_Lesson_5_Wiring_circuits.zip</p> <p>Electrical workshop Lesson 6 Electrical safety testing.zip</p> <p>http://www.filefactory.com/file/c0adf90/n/Electrical_workshop_Lesson_6_Electrical_safety_testing.zip</p> <p>Electrical workshop Lesson 7 Testing insulation and polarity.zip</p> <p>http://www.filefactory.com/file/c0ad031/n/Electrical_workshop_Lesson_7_Testing_insulation_and_polarity.zip</p> <p>Electrical workshop Lesson 8 Testing lighting polarity.zip</p> <p>http://www.filefactory.com/file/c0ad1d8/n/Electrical_workshop_Lesson_8_Testing_lighting_polarity.zip</p>
6	(2) Click HERE to download other Exercises
7	Stage 1 Electrical workshop practicals.pdf
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf
9	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p>Attend the face to face session</p>

	Stage 1 Electrical workshop practicals.pdf Wiring Equipments to purchase
10	ElectricalDrawing1.zip , ElectricalDrawing2.zip , ElectricalDrawing3.pdf , GeneralDrawing1.zip , GeneralDrawing2.zip

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
UEENEEE008B Lay wiring/cabling and terminate accessories for extra-low voltage circuits	UEENEEE108A Lay wiring/cabling and terminate accessories for extra-low voltage (ELV) circuits	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1	EE011 = EE07 + Additional					
See 1 below	See 3 below						
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
2	
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
4	
5	<p>Video-- Electrical workshop Lesson 1 OHS.zip http://www.filefactory.com/file/c0adbfa/n/Electrical_workshop_Lesson_1_OHS.zip Electrical workshop Lesson 2 Workplace hazard+Fix & secure equipment.zip</p> <p>http://www.filefactory.com/file/c0adca2/n/Electrical_workshop_Lesson_2_Workplace_hazard_Fix_secure_equipment.zip</p> <p>Electrical workshop Lesson 3 Mechanical fixing.zip</p> <p>http://www.filefactory.com/file/c0adc1d/n/Electrical_workshop_Lesson_3_Mechanical_fixing.zip</p> <p>Electrical workshop Lesson 4 Basic electrical wiring.zip</p> <p>http://www.filefactory.com/file/c0add65/n/Electrical_workshop_Lesson_4_Basic_electrical_wiring.zip</p> <p>Electrical workshop Lesson 5 Wiring circuits.zip</p>

	<p>http://www.filefactory.com/file/c0ade9b/n/Electrical_workshop_Lesson_5_Wiring_circuits.zip</p> <p>Electrical workshop Lesson 6 Electrical safety testing.zip</p> <p>http://www.filefactory.com/file/c0adf90/n/Electrical_workshop_Lesson_6_Electrical_safety_testing.zip</p> <p>Electrical workshop Lesson 7 Testing insulation and polarity.zip</p> <p>http://www.filefactory.com/file/c0ad031/n/Electrical_workshop_Lesson_7_Testing_insulation_and_polarity.zip</p> <p>Electrical workshop Lesson 8 Testing lighting polarity.zip</p> <p>http://www.filefactory.com/file/c0ad1d8/n/Electrical_workshop_Lesson_8_Testing_lighting_polarity.zip</p> <p>http://uploading.com/files/f213323b/Electrical%2Bworkshop.zip/</p>
6	2) Click HERE to download other Exercises
7	EE07 & EE011 units mapping for Theory study & Exercises
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf
9	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p>Attend the face to face session</p> <p>Stage 1 Electrical workshop practicals.pdf</p> <p>Wiring Equipments to purchase</p>
10	Wiring Notes 1. Wiring Notes 2 Switchboard Wiring 1Wiring E033 E008 2Wiring E033 E008

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
UEENEEE033B Document occupational hazards and risks in electrical work	UEENEEE137A Document and apply measures to control OHS risks associated with electrotechnology work	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1	EE011 = EE07 + Additional					
See 1 below	See 3 below						
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
2	
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
4	
5	<p>Video-- Electrical workshop Lesson 1 OHS.zip</p> <p>http://www.filefactory.com/file/c0adbfa/n/Electrical_workshop_Lesson_1_OHS.zip</p> <p>http://www.filefactory.com/file/c0adca2/n/Electrical_workshop_Lesson_2_Workplace_hazard_Fix_secure_equipment.zip</p> <p>Electrical workshop Lesson 3 Mechanical fixing.zip</p> <p>http://www.filefactory.com/file/c0adc1d/n/Electrical_workshop_Lesson_3_Mechanical_fixing.zip</p> <p>Electrical workshop Lesson 4 Basic electrical wiring.zip</p>

	http://www.filefactory.com/file/c0add65/n/Electrical_workshop_Lesson_4_Basic_electrical_wiring.zip Electrical workshop Lesson 5 Wiring circuits.zip http://www.filefactory.com/file/c0ade9b/n/Electrical_workshop_Lesson_5_Wiring_circuits.zip Electrical workshop Lesson 6 Electrical safety testing.zip http://www.filefactory.com/file/c0adf90/n/Electrical_workshop_Lesson_6_Electrical_safety_testing.zip Electrical workshop Lesson 7 Testing insulation and polarity.zip http://www.filefactory.com/file/c0ad031/n/Electrical_workshop_Lesson_7_Testing_insulation_and_polarity.zip Electrical workshop Lesson 8 Testing lighting polarity.zip http://www.filefactory.com/file/c0ad1d8/n/Electrical_workshop_Lesson_8_Testing_lighting_polarity.zip http://uploading.com/files/f213323b/Electrical%2Bworkshop.zip/
6	2) Click HERE to download other Exercises
7	EE07 & EE011 units mapping for Theory study & Exercises
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011.pdf
9	EE07 & EE011 units mapping for Theory study & Exercises Attend the face to face session Stage 1 Electrical workshop practicals.pdf Wiring Equipments to purchase
10	Electrical safe working.zip NREL Disconnect Reconnect.zip

Study Guide EE07 & EE011

What to study				Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011			
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07				
	UEENEEG106A Terminate cables, cords and accessories for low voltage circuits	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below	
Study Option 1	Study Option 1	EE011 = EE07 + Additional						
See 1 below	See 3 below							
Study Option 2	Study Option 2							
See 2 below	See 4 below							

1	
2	
3	
4	ELV Cable termination
5	<p>Video-- Electrical workshop Lesson 1 OHS.zip</p> <p>http://www.filefactory.com/file/c0adbfa/n/Electrical_workshop_Lesson_1_OHS.zipElectrical workshop Lesson 2 Workplace hazard+Fix & secure equipment.zip</p> <p>http://www.filefactory.com/file/c0adca2/n/Electrical_workshop_Lesson_2_Workplace_hazard_Fix_secure_equipment.zip</p> <p>Electrical workshop Lesson 3 Mechanical fixing.zip</p> <p>http://www.filefactory.com/file/c0adc1d/n/Electrical_workshop_Lesson_3_Mechanical_fixing.zip</p> <p>Electrical workshop Lesson 4 Basic electrical wiring.zip</p>

	http://www.filefactory.com/file/c0add65/n/Electrical_workshop_Lesson_4_Basic_electrical_wiring.zip Electrical workshop Lesson 5 Wiring circuits.zip http://www.filefactory.com/file/c0ade9b/n/Electrical_workshop_Lesson_5_Wiring_circuits.zip Electrical workshop Lesson 6 Electrical safety testing.zip http://www.filefactory.com/file/c0adf90/n/Electrical_workshop_Lesson_6_Electrical_safety_testing.zip Electrical workshop Lesson 7 Testing insulation and polarity.zip http://www.filefactory.com/file/c0ad031/n/Electrical_workshop_Lesson_7_Testing_insulation_and_polarity.zip Electrical workshop Lesson 8 Testing lighting polarity.zip http://www.filefactory.com/file/c0ad1d8/n/Electrical_workshop_Lesson_8_Testing_lighting_polarity.zip http://uploading.com/files/f213323b/Electrical%2Bworkshop.zip/
6	
7	Only practical assessment in class
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011.pdf
9	Attend face to face class http://www.filefactory.com/file/2f8e3fph9trr/n/G106_G033_Practical.zip
10	ELV Cable termination Wiring Notes 1. Wiring Notes 2 Switchboard Wiring 1Wiring_E033_E008 2Wiring_E033_E008 ElectricalDrawing1.zip ElectricalDrawing2.zip ElectricalDrawing3.pdf

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
	UEENEEG063A Arrange circuits, control and protection for general electrical installations	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1	EE011 = EE07 + Additional					
See 1 below	See 3 below						
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	
2	
3	
4	
5	<p><u>Electrical wiring + Electrical Installation requirement</u></p> <p><u>G003+G004+G007 Lesson 1 Electrical installation protection.zip</u></p> <p><u>http://www.filefactory.com/file/c35d2f2/n/G003_G004_G007_Lesson_1_Electrical_installation_protection.zip</u></p> <p><u>G003+G004+G007 Lesson 2 Electrical system safety.zip</u></p>

http://www.filefactory.com/file/cf937ac/n/G003_G004_G007_Lesson_2_Electrical_system_safety.zip

[G003+G004+G007 Lesson 3 Heating+Cable ckt protection exercise.zip](#)

http://www.filefactory.com/file/c0abfe8/n/G003_G004_G007_Lesson_3_Heating_Cable_ckt_protection_exercise.zip

[G003+G004+G007 Lesson 4 Wiring system.zip](#)

http://www.filefactory.com/file/cf939f0/n/G003_G004_G007_Lesson_4_Wiring_system.zip

[G003+G004+G007 Lesson 5 Hazardous area electrical system.zip](#)

http://www.filefactory.com/file/cf94af8/n/G003_G004_G007_Lesson_5_Hazardous_area_electrical_system.zip

[G003+G004+G007 Lesson 6 Overload protection RCD.zip](#)

http://www.filefactory.com/file/cf94bcf/n/G003_G004_G007_Lesson_6_Overload_protection_RCD.zip

	G003+G004+G007 Lesson 7 RCD + Metering.zip http://www.filefactory.com/file/cf94cae/n/G003_G004_G007_Lesson_7_RCD_Metering.zip G003+G004+G007 Lesson 8 Switch board installation.zip http://www.filefactory.com/file/cf94c40/n/G003_G004_G007_Lesson_8_Switch_board_installation.zip G003+G004+G007 Lesson 9 Cable selection+Maximum demand.zip http://www.filefactory.com/file/cf94dbb/n/G003_G004_G007_Lesson_9_Cable_selection_Maximum_demand.zip G003+G004+G007 Lesson 10 Electrical installation safety testing.zip http://www.filefactory.com/file/cf94123/n/G003_G004_G007_Lesson_10_Electrical_installation_safety_testing.zip
6	
7	EE07 & EE011 units mapping for Theory study & Exercises Only face to face class assessment
8	Only face to face class assessment
9	EE07 & EE011 units mapping for Theory study & Exercises Attend face to face class PRACTICAL

	<p><u>Workshop 2+3</u></p> <p><u>WorkShop Part 2 Practical 1 to 6 .zip</u></p> <p><u>WorkShop Part 2 Practical 7 to 12 .zip</u></p> <p><u>WorkShop Part 2 Practical 13 to 17 .zip</u></p> <p><u>WorkShop Part 2 Practical 18 to 21 .zip</u></p> <p><u>ElectricalWorkshopPart3 G008 Group1Machine .zip</u></p> <p><u>ElectricalWorkshopPart3 G008 Group2LineProtection .zip</u></p> <p><u>ElectricalWorkshopPart3 G008 Group3InstrumentsDevices .zip</u></p> <p><u>OTHER PRACTICALS</u></p> <p><u>ELECTRICAL WORKSHOP PART 2 G003 G004 G009 .zip</u></p> <p><u>Electrical Workshop Part 2 Practical 1 to 18.zip</u></p> <p><u>Electrical Workshop Part 2 Practical 19 to 21.zip</u></p> <p><u>G003 G004 G009Practicals.pdf</u></p>
10	<p><u>Construction ElectricalSafety.zip</u></p> <p><u>InserviceTesting.zip</u></p> <p><u>Wiring Notes 1.</u> <u>Wiring Notes 2</u> <u>Switchboard Wiring</u> <u>1Wiring E033 E008</u> <u>2Wiring E033 E008</u></p>

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
UEENEEG007A Select wiring systems and cables for low voltage general electrical installations	UEENEEG107A Select wiring systems and cables for low voltage general electrical installations	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1	EE011 = EE07 + Additional					
See 1 below	See 3 below						
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
2	AS3000-2007Overview.zip AS3000 AS3008TablesExtract.zip WiringRules.zip <u>Part (1) Study the following notes</u> Installation Requirement 1-A.zip Installation Requirement 1-B.zip

	Installation_Requirement_2-A.zip Installation_Requirement_2-B.zip Stage_2_Wiring.zip
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
4	AS3000-2007Overview.zip AS3000_AS3008TablesExtract.zip WiringRules.zip <u>Part (1) Study the following notes</u> Installation_Requirement_1-A.zip Installation_Requirement_1-B.zip Installation_Requirement_2-A.zip Installation_Requirement_2-B.zip Stage_2_Wiring.zip
5	<u>G007</u> G007 Lesson 1 AS3000 Wiring rule overview.zip http://www.filefactory.com/file/cf94220/n/G007_Lesson_1_AS3000_Wiring_rule_overview.zip G007 Lesson 2 Maximum Demand calculation.zip

	<p>http://www.filefactory.com/file/cf9456f/n/G007_Lesson_2_Maximum_Demand_calculation.zip</p> <p>G007 Lesson 3 Cable selection.zip</p> <p>http://www.filefactory.com/file/cf9465c/n/G007_Lesson_3_Cable_selection.zip</p> <p>G007 Lesson 4 Cable voltage drop calculation.zip</p> <p>http://www.filefactory.com/file/cf9479e/n/G007_Lesson_4_Cable_voltage_drop_calculation.zip</p> <p>G007 Lesson 5 Derating of cable part 1.zip</p> <p>http://www.filefactory.com/file/cf95acb/n/G007_Lesson_5_Derating_of_cable_part_1.zip</p> <p>G007 Lesson 6 Derating of cable part 2.zip</p> <p>http://www.filefactory.com/file/cf95a6b/n/G007_Lesson_6_Derating_of_cable_part_2.zip</p> <p>G007 Lesson 7 Derating of cable for HRC fuse protection.zip</p> <p>http://www.filefactory.com/file/cf95cd7/n/G007_Lesson_7_Derating_of_cable_for_HRC_fuse_protection.zip</p> <p>G007 Lesson 8 Final subcircuit fault loop impedance.zip</p> <p>http://www.filefactory.com/file/cf95dd1/n/G007_Lesson_8_Final_subcircuit_fault_loop_impedance.zip</p> <p><u>Electrical Installation requirement</u></p>
6	Click HERE to download the other exercises
7	EE07 & EE011 units mapping for Theory study & Exercises

	Do the assignments from the following book & submit the assignment (1) Cable Installation.zip
	Do the assignments from the following book & submit the assignment (2) Regulatory Requirement.zip
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011.pdf
9	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p>PRACTICAL</p> <p><u>Workshop 2+3</u></p> <p>WorkShop Part 2 Practical 1 to 6 .zip</p> <p>WorkShop Part 2 Practical 7 to 12 .zip</p> <p>WorkShop Part 2 Practical 13 to 17 .zip</p> <p>WorkShop Part 2 Practical 18 to 21 .zip</p> <p>ElectricalWorkshopPart3 G008 Group1Machine .zip</p> <p>ElectricalWorkshopPart3 G008 Group2LineProtection .zip</p> <p>ElectricalWorkshopPart3 G008 Group3InstrumentsDevices .zip</p> <p><u>OTHER PRACTICALS</u></p> <p>ELECTRICAL WORKSHOP PART 2 G003 G004 G009 .zip</p> <p>Electrical Workshop Part 2 Practical 1 to 18.zip</p> <p>Electrical Workshop Part 2 Practical 19 to 21.zip</p> <p>G003 G004 G009Practicals.pdf</p>
10	

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
UEENEEG003A Install low voltage wiring and accessories	UEENEEG103A Install low voltage wiring and accessories	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1	EE011 = EE07 + Additional					
See 1 below	See 3 below						
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
2	
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip <u>G103+104 Notes+Lessons</u> http://www.filefactory.com/file/2bg8qift6nzh/n/G103_G104_zip
4	<u>Wiring Notes 1.</u> <u>Wiring Notes 2</u> <u>Switchboard Wiring</u> <u>1Wiring_E033_E008</u>

2Wiring_E033_E008

Fixing Equipments

E002_E005.zip_Lighting.zip

E_trade_1.zip

E_trade_2.zip

E_trade_3.zip

E_trade_4.zip

G008_General_Notes_1.zip

G008_General_Notes_2.zip

Hazard_Identification.zip

G003_G004_Wiring_2_Part_1.zip

G003_G004_Wiring_2_Part_2.zip

Cable_CktProt_E_Accessories.zip

Cable_Conduit_E_Accessories.zip

Elect_Installation_Protection_Method_Devices.zip

Elect_Installation_Requirement_1.zip

	<u>Elect_Installation_Requirement_1.zip</u> <u>Elect_Installation_Requirement_2.zip</u> <u>ElectricInstallationDesign.zip</u> <u>ElectSystSafety1.zip</u> <u>ElectSystSafety2.zip</u> <u>FireProtHeatingTestingEarthing.zip</u> <u>GeneralWiring.zip</u> <u>HazardLightingPanel.zip</u> <u>PanelRCDWireSpecial_Installation.zip</u> <u>ProtectionMethods.zip</u>
5	<u>Electrical wiring + Electrical Installation requirement</u> <u>G003+G004+G007 Lesson 1 Electrical installation protection.zip</u> <u>http://www.filefactory.com/file/c35d2f2/n/G003_G004_G007_Lesson_1_Electrical_installation_protection.zip</u> <u>G003+G004+G007 Lesson 2 Electrical system safety.zip</u>

http://www.filefactory.com/file/cf937ac/n/G003_G004_G007_Lesson_2_Electrical_system_safety.zip

[G003+G004+G007 Lesson 3 Heating+Cable ckt protection exercise.zip](#)

http://www.filefactory.com/file/c0abfe8/n/G003_G004_G007_Lesson_3_Heating_Cable_ckt_protection_exercise.zip

[G003+G004+G007 Lesson 4 Wiring system.zip](#)

http://www.filefactory.com/file/cf939f0/n/G003_G004_G007_Lesson_4_Wiring_system.zip

[G003+G004+G007 Lesson 5 Hazardous area electrical system.zip](#)

http://www.filefactory.com/file/cf94af8/n/G003_G004_G007_Lesson_5_Hazardous_area_electrical_system.zip

[G003+G004+G007 Lesson 6 Overload protection RCD.zip](#)

http://www.filefactory.com/file/cf94bcf/n/G003_G004_G007_Lesson_6_Overload_protection_RCD.zip

	<p>G003+G004+G007 Lesson 7 RCD + Metering.zip</p> <p>http://www.filefactory.com/file/cf94cae/n/G003_G004_G007_Lesson_7_RCD_Metering.zip</p> <p>G003+G004+G007 Lesson 8 Switch board installation.zip</p> <p>http://www.filefactory.com/file/cf94c40/n/G003_G004_G007_Lesson_8_Switch_board_installation.zip</p> <p>G003+G004+G007 Lesson 9 Cable selection+Maximum demand.zip</p> <p>http://www.filefactory.com/file/cf94dbb/n/G003_G004_G007_Lesson_9_Cable_selection_Maximum_demand.zip</p> <p>G003+G004+G007 Lesson 10 Electrical installation safety testing.zip</p> <p>http://www.filefactory.com/file/cf94123/n/G003_G004_G007_Lesson_10_Electrical_installation_safety_testing.zip</p>
6	Click HERE to download the other exercises
7	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p><u>Assessment</u> Read the above notes files and do the assignments for the following tutorial file.</p> <p>WiringPracticals.zip</p> <p>G003G004Tutorial.zip</p>
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf
9	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p>Attend the face to face class</p> <p>PRACTICAL</p> <p>http://www.filefactory.com/file/54l4d5rif1z3/n/Advanced_Wiring_Part_1_zip</p>

Advanced Wiring Part 1+2—G103

[http://www.filefactory.com/file/1xb18xg1gaz1/n/Advanced Wiring Part 1 and 2 .zip](http://www.filefactory.com/file/1xb18xg1gaz1/n/Advanced+Wiring+Part+1+and+2.zip)

Electrical Installation Safety Testing

[http://www.filefactory.com/file/5mv9s6dx174h/n/Electrical Installation Safety Testing .zip](http://www.filefactory.com/file/5mv9s6dx174h/n/Electrical+Installation+Safety+Testing.zip)

Workshop 2+3

[WorkShop Part 2 Practical 1 to 6 .zip](#)

[WorkShop Part 2 Practical 7 to 12 .zip](#)

[WorkShop Part 2 Practical 13 to 17 .zip](#)

[WorkShop Part 2 Practical 18 to 21 .zip](#)

[ElectricalWorkshopPart3 G008 Group1Machine .zip](#)

[ElectricalWorkshopPart3 G008 Group2LineProtection .zip](#)

[ElectricalWorkshopPart3 G008 Group3InstrumentsDevices .zip](#)

OTHER PRACTICALS

[ELECTRICAL WORKSHOP PART 2 G003 G004 G009 .zip](#)

[Electrical Workshop Part 2 Practical 1 to 18.zip](#)

[Electrical Workshop Part 2 Practical 19 to 21.zip](#)

[G003 G004 G009Practicals.pdf](#)

10

Power Distribution Trade [Power Distribution Trade.zip](#)

Metering [Metering.zip](#)

Study Guide EE07 & EE011

What to study		Which exercises to do				What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
	UEENEEG033A Solve problems in single and three phase low voltage electrical apparatus and circuits	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1	EE011 = EE07 + Additional					
See 1 below	See 3 below						
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1		
2		
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip <u>G033</u> http://www.filefactory.com/file/1b2utxydvcx7/n/G033.zip	
4	<u>Wiring Notes 1.</u> <u>Wiring Notes 2 Switchboard Wiring</u> <u>1Wiring_E033_E008 2Wiring_E033_E008</u>	

Fixing Equipments

[E002_E005.zip Lighting.zip](#)

[E_trade_1.zip](#)

[E_trade_2.zip](#)

[E_trade_3.zip](#)

[E_trade_4.zip](#)

[G008_General_Notes_1.zip](#)

[G008_General_Notes_2.zip](#)

[Hazard_Identification.zip](#)

[G003_G004_Wiring_2_Part_1.zip](#)

[G003_G004_Wiring_2_Part_2.zip](#)

[Cable_CktProt_E_Accessories.zip](#)

[Cable_Conduit_E_Accessories.zip](#)

[Elect_Installation_Protection_Method_Devices.zip](#)

[Elect_Installation_Requirement_1.zip](#)

[Elect_Installation_Requirement_1.zip](#)

	<u>Elect_Installation_Requirement_2.zip</u> <u>ElectricInstallationDesign.zip</u> <u>ElectSystSafety1.zip</u> <u>ElectSystSafety2.zip</u> <u>FireProtHeatingTestingEarthing.zip</u> <u>GeneralWiring.zip</u> <u>HazardLightingPanel.zip</u> <u>PanelRCDWireSpecial_Installation.zip</u> <u>ProtectionMethods.zip</u>	
5	<u>Electrical wiring + Electrical Installation requirement</u> <u>G003+G004+G007 Lesson 1 Electrical installation protection.zip</u> <u>http://www.filefactory.com/file/c35d2f2/n/G003_G004_G007_Lesson_1_Electrical_installation_protection.zip</u> <u>G003+G004+G007 Lesson 2 Electrical system safety.zip</u>	

http://www.filefactory.com/file/cf937ac/n/G003_G004_G007_Lesson_2_Electrical_system_safety.zip

G003+G004+G007 Lesson 3 Heating+Cable ckt protection exercise.zip

http://www.filefactory.com/file/c0abfe8/n/G003_G004_G007_Lesson_3_Heating_Cable_ckt_protection_exercise.zip

[G003+G004+G007 Lesson 4 Wiring system.zip](#)

http://www.filefactory.com/file/cf939f0/n/G003_G004_G007_Lesson_4_Wiring_system.zip

[G003+G004+G007 Lesson 5 Hazardous area electrical system.zip](#)

http://www.filefactory.com/file/cf94af8/n/G003_G004_G007_Lesson_5_Hazardous_area_electrical_system.zip

[G003+G004+G007 Lesson 6 Overload protection RCD.zip](#)

http://www.filefactory.com/file/cf94bcf/n/G003_G004_G007_Lesson_6_Overload_protection_RCD.zip

[G003+G004+G007 Lesson 7 RCD + Metering.zip](#)

	<p>http://www.filefactory.com/file/cf94cae/n/G003_G004_G007_Lesson_7_RCD_Metering.zip</p> <p>G003+G004+G007 Lesson 8 Switch board installation.zip</p> <p>http://www.filefactory.com/file/cf94c40/n/G003_G004_G007_Lesson_8_Switch_board_installation.zip</p> <p>G003+G004+G007 Lesson 9 Cable selection+Maximum demand.zip</p> <p>http://www.filefactory.com/file/cf94dbb/n/G003_G004_G007_Lesson_9_Cable_selection_Maximum_demand.zip</p> <p>G003+G004+G007 Lesson 10 Electrical installation safety testing.zip</p> <p>http://www.filefactory.com/file/cf94123/n/G003_G004_G007_Lesson_10_Electrical_installation_safety_testing.zip</p> <p><u>Electrical wiring + Electrical Installation requirement</u></p>	
6	Click HERE to download the other exercises	
7	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p><u>Assessment</u></p> <p>Read the above notes files and do the assignments for the following tutorial file.</p> <p>WiringPracticals.zip</p> <p>G003G004Tutorial.zip</p>	
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011.pdf	

9	<p>Attend the face to face class</p> <p>http://www.filefactory.com/file/2f8e3fph9trr/n/G106_G033_Practical_zip</p>	
10	<p>Power Distribution Trade Power_Distribution_Trade.zip</p> <p>Metering Metering.zip</p> <p>PRACTICAL</p> <p><u>Workshop 2+3</u></p> <p>WorkShop Part 2 Practical 1 to 6 .zip</p> <p>WorkShop Part 2 Practical 7 to 12 .zip</p> <p>WorkShop Part 2 Practical 13 to 17 .zip</p> <p>WorkShop Part 2 Practical 18 to 21 .zip</p> <p>ElectricalWorkshopPart3_G008_Group1Machine .zip</p> <p>ElectricalWorkshopPart3_G008_Group2LineProtection .zip</p> <p>ElectricalWorkshopPart3_G008_Group3InstrumentsDevices .zip</p> <p><u>OTHER PRACTICALS</u></p> <p>ELECTRICAL WORKSHOP PART 2 G003 G004 G009 .zip</p> <p>Electrical Workshop Part 2 Practical 1 to 18.zip</p> <p>Electrical Workshop Part 2 Practical 19 to 21.zip</p> <p>G003_G004_G009Practicals.pdf</p>	

Study Guide EE07 & EE011

What to study				Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011			
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07				
	UEENEEG108A Trouble-shoot and repair faults in low voltage electrical apparatus and circuits	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below	
Study Option 1	Study Option 1	EE011 = EE07 + Additional						
See 1 below	See 3 below							
Study Option 2	Study Option 2							
See 2 below	See 4 below							

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4	G008_General_Notes_1.zip G008_General_Notes_2.zip MachineControlCkt1.zip MachineControlCkt2.zip MachineControlCkt3.zip

[MachineRepair1.zip](#)

[MachineRepair2.zip](#)

[MachineRepair3.zip](#)

[ProcessControlCkt1.zip](#)

[ProcessControlCkt2.zip](#)

[ProcessControlCkt3.zip](#)

[ESI 8 Insulation 1](#)

[ESI 8 Insulation 2](#)

[ESI 9.1 Protection Relay Construction](#)

[ESI 9.2 Test Equipment](#)

[ESI 33.1 Power Quality Concept](#)

[ESI 33.2 Harmonic in capacitor](#)

[ESI 33.3 Harmonic effect on machines](#)

[ESI 3.1 HV Measurement Cable Test.zip](#)

[ESI 3.2 Magnetic measurement.zip](#)

[ESI 3.3 Power measurement.zip](#)

	<u>ESI 3.4 RLC measurement 1.zip</u> <u>ESI 3.4 RLC measurement 2.zip</u> <u>ESI 3.4 RLC measurement 3.zip</u> <u>ESI 3.5 Digital equipments.zip</u> <u>ESI 3.6 V.A.W meter.zip</u> <u>ESI 3.7T and M.zip</u> <u>ESI 3.8 Thermography.zip</u> <u>ESI 4 11 Power Transformer.zip</u> <u>ESI 5 Machinery Installation.zip</u> <u>ESI 7 Drawing Switching Diagram.zip</u> <u>ESI 7 Electrical Installation Design.zip</u> <u>ESI10.1 HV equipments.zip</u> <u>ESI10.2 Substation equipments.zip</u> <u>ESI12 14 Harmonic.zip</u> <u>ESI12 14 Reactor.zip</u> <u>ESI12 14 Syn Motor Generator.zip</u> <u>ESI 13 Voltage regulation devices.zip</u>
5	<u>Fault finding + Electrical control equipments</u> G008+G009

	G008+G009 Lesson 1 AC Machine+AC motor control.zip http://www.filefactory.com/file/c0a683c/n/G008_G009_Lesson_1_AC_Machine_AC_motor_control.zip G008+G009 Lesson 2 Synchronous machine+DC machine+Transformer.zip http://www.filefactory.com/file/c0a7ad3/n/G008+G009_Lesson_2_Synchronous_machine+DC_machine+Transformer.zip
6	
7	EE07 & EE011 units mapping for Theory study & Exercises Class test
8	PRACTICAL <u>Workshop 2+3</u> WorkShop Part 2 Practical 1 to 6 .zip WorkShop Part 2 Practical 7 to 12 .zip WorkShop Part 2 Practical 13 to 17 .zip WorkShop Part 2 Practical 18 to 21 .zip ElectricalWorkshopPart3_G008_Group1Machine .zip ElectricalWorkshopPart3_G008_Group2LineProtection .zip ElectricalWorkshopPart3_G008_Group3InstrumentsDevices .zip <u>OTHER PRACTICALS</u> ELECTRICAL WORKSHOP PART 2_G003_G004_G009 .zip Electrical Workshop Part 2 Practical 1 to 18.zip Electrical Workshop Part 2 Practical 19 to 21.zip G003_G004_G009Practicals.pdf
9	EE07 & EE011 units mapping for Theory study & Exercises Attend the face to face class
10	

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
	UEENEEG109A Develop and connect electrical control circuits	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1	EE011 = EE07 + Additional					
See 1 below	See 3 below						
Study Option 2	Study Option 2						
See 2 below	See 4 below						

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4	G009.zip G043 G045 7762AF Notes G043 G045 Part 1 7762AF Notes H085 66 I006 Note 1 Sensors 1 H085 66 I006 Note 2 Sensors 2 H085 66 I006 Note 3 Sensors 3 H085 66 I006 Note 4 Control Concept1

[H085 66 I006 Note 5 Control Concept2](#)

[H085 66 I006 Note 6 Electronics Signal](#)

[H085 66 I006 Note 8 Process Control 1](#)

[H085 66 I006 Note 9 Process Control 2](#)

[ProcessControlCkt1.zip](#)

[ProcessControlCkt2.zip](#)

[ProcessControlCkt3.zip](#)

[H026 3 Ph Power Control Electronics 1](#)

[H026 3 Ph Power Control Electronics 2](#)

[H026 3 Ph Power Control Electronics 3](#)

[H026 3 Ph Power Control Electronics 4](#)

[ESI 27 1 Relay Principle 1.zip](#)

[ESI 27 1 Relay Principle 2.zip](#)

[ESI 27 1 Relay Principle 3.zip](#)

[ESI 27.2 Element of Relay Protection.zip](#)

[ESI12 14 Syn Motor Generator.zip](#)

[ESI 19.1 Computer Control.zip](#)

	ESI 19.4 Turbine Control.zip ESI 22.2 Voltage surge control.zip
5	Fault finding + Electrical control equipments G008+G009 G008+G009 Lesson 1 AC Machine+AC motor control.zip http://www.filefactory.com/file/c0a683c/n/G008_G009_Lesson_1_AC_Machine_AC_motor_control.zip G008+G009 Lesson 2 Synchronous machine+DC machine+Transformer.zip http://www.filefactory.com/file/c0a7ad3/n/G008+G009_Lesson_2_Synchronous_machine+DC_machine+Transformer.zip
6	
7	EE07 & EE011 units mapping for Theory study & Exercises Concurrently assessed with G043+G045+I006 & relevant EE011 units
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf
9	EE07 & EE011 units mapping for Theory study & Exercises Attend face to face session PRACTICAL <u>Workshop 2+3</u> WorkShop Part 2 Practical 1 to 6 .zip WorkShop Part 2 Practical 7 to 12 .zip

	WorkShop Part 2 Practical 13 to 17 .zip WorkShop Part 2 Practical 18 to 21 .zip ElectricalWorkshopPart3 G008 Group1Machine .zip ElectricalWorkshopPart3 G008 Group2LineProtection .zip ElectricalWorkshopPart3 G008 Group3InstrumentsDevices .zip <u>OTHER PRACTICALS</u> ELECTRICAL WORKSHOP PART 2 G003 G004 G009 .zip Electrical Workshop Part 2 Practical 1 to 18.zip Electrical Workshop Part 2 Practical 19 to 21.zip G003 G004 G009Practicals.pdf
10	

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
UEENEEG001B Solve problems in electromagnetic circuits	UEENEEG101A Solve problems in electromagnetic devices and related circuits	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below

Study Option 1	Study Option 1	EE011 = EE07 + Additional
See 1 below	See 3 below	
Study Option 2	Study Option 2	
See 2 below	See 4 below	

1	http://www.filefactory.com/file/c0b6601/n/Elect_Fundamental_E029_G012_G001_G002_G060.zip
2	G001 Part 1 G001 Part 2
3	http://www.filefactory.com/file/c0b6601/n/Elect_Fundamental_E029_G012_G001_G002_G060.zip
4	G001 Part 1 G001 Part 2
5	Electro-magnetism http://www.filefactory.com/file/cf9b277/n/G001.zip
6	Click HERE to download the other exercises
7	EE07 & EE011 units mapping for Theory study & Exercises
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011.pdf
9	EE07 & EE011 units mapping for Theory study & Exercises Practicals Work performance and practical instruction Work performance + Practical Instruction Back up Click HERE to download practicals
10	

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
UEENEEG002B Solve problems in low voltage a.c. circuits	UEENEEG102A Solve problems in low voltage a.c. circuits	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below

Study Option 1	Study Option 1	EE011 = EE07 + Additional
See 1 below	See 3 below	
Study Option 2	Study Option 2	
See 2 below	See 4 below	

1	http://www.filefactory.com/file/c0b6601/n/Elect_Fundamental_E029_G012_G001_G002_G060.zip
2	G002
3	http://www.filefactory.com/file/c0b6601/n/Elect_Fundamental_E029_G012_G001_G002_G060.zip
4	G002
5	<p>G002 Lesson 1 Sine wave and it's values.zip</p> <p>http://www.filefactory.com/file/c0ad22c/n/G002_Lesson_1_Sine_wave_and_it_s_values.zip</p> <p>G002_Lesson_2_AC_RL+RC_Series_circuits.zip</p> <p>http://www.filefactory.com/file/c0ad67c/n/G002_Lesson_2_AC_RL+RC_Series_circuits.zip</p> <p>G002 Lesson 3 AC Series RLC circuits.zip</p> <p>http://www.filefactory.com/file/c0ad35d/n/G002_Lesson_3_AC_Series_RLC_circuits.zip</p> <p>G002 Lesson 4 AC Parallel circuits.zip</p> <p>http://www.filefactory.com/file/c0ad4f3/n/G002_Lesson_4_AC_Parallel_circuits.zip</p> <p>G002 Lesson 5 Three phase circuit basics.zip</p> <p>http://www.filefactory.com/file/c0ad468/n/G002_Lesson_5_Three_phase_circuit_basics.zip</p> <p>G002 Lesson 6 Balanced three phase circuit.zip</p> <p>http://www.filefactory.com/file/c0ad5d9/n/G002_Lesson_6_Balanced_three_phase_circuit.zip</p>
6	Click HERE to download the other exercises

7	EE07 & EE011 units mapping for Theory study & Exercises
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf
9	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p><u>Practicals</u> <u>Work performance and practical instruction</u> <u>Work performance + Practical Instruction Back up</u></p> <p>Click <u>HERE</u> to download practicals</p>
10	

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
UEENEEE011C Manage risk in electrotechnology activities	UEENEEE011C Manage risk in electrotechnology activities	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1	EE011 = EE07 + Additional					
See 1 below	See 3 below						
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	http://www.filefactory.com/file/c0b7b84/n/Project_specification_planning_management_Risk_OHS.G069_G070_E071_E011_E017.zip
2	RiskManagement.pdf E011E017note1 E011E017note2 E011_E017Notes3.zip
3	http://www.filefactory.com/file/c0b7b84/n/Project_specification_planning_management_Risk_OHS.G069_G070_E071_E011_E017.zip
4	RiskManagement.pdf

	E011E017note1 E011E017note2 E011_E017Notes3.zip
5	Video- http://www.filefactory.com/file/cf8750b/n/E011+E017.zip
6	Click HERE to download the other exercises
7	EE07 & EE011 units mapping for Theory study & Exercises E011_E017_Assignment
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011.pdf
9	E07 & EE011 units mapping for Theory study & Exercises
10	

Study Guide EE07 & EE011

What to study				Which exercises to do			What practical to do	Resources	
Main study			Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011			
EE07 Unit		EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07				
UEENEEE071B Write specifications for electrical engineering projects		UEENEEE071B Write specifications for electrical engineering projects		See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1		Study Option 1		EE011 = EE07 + Additional					
See 1 below		See 3 below							
Study Option 2		Study Option 2							
See 2 below		See 4 below							

1	http://www.filefactory.com/file/c0b7b84/n/Project_specification_planning_management_Risk_OHS.G069_G070_E071_E011_E017.zip
2	Class Teaching Notes +Flexible study Notes References for Electrical Contracting & Estimating Est Estimating1 Estimating2 Estimating3 Week 1-Overview of NSW Electrical Service Rules E071DesiE071HVOverheadConductors_Wk2-3 .zip

	E071LVOverheadConductor_Wk4-5 .zip E071Hazard Identification Wk6 .zip E071General Wiring Wk7-8 .zip E071UGCableSpecification Wk9-10-11 .zip E071TelecomDatacom Wk12 .zip E071Switching Wk13 .zip E071DesignStdOHDevelopment Wk14-16 .zip (2B) Flexible study Notes References for Specifications Service Rule 1 Service Rule 2 Service Rule 3 6-ElectricalDrawing 12-Specifications 13-BSpecifications 14-Specifications
3	http://www.filefactory.com/file/c0b7b84/n/Project_specification_planning_management_Risk_OHS.G069_G070_E071_E011_E017.zip
4	As in 2

5	<p><u>Project Specifications+ Project Planning +Project Management (1)</u></p> <p>E071+G069+G070Part1.zip</p> <p>http://www.filefactory.com/file/cf91ac4/n/E071_G069_G070Part1.zip</p> <p><u>Project Specifications+ Project Planning +Project Management (2)</u></p> <p>E071+G069+G070Part2.zip</p> <p>http://www.filefactory.com/file/cf91da1/n/E071+G069+G070Part2.zip</p> <hr/> <p><u>Project Specifications+ Project Planning +Project Management (1)</u></p> <p><u>http://uploading.com/files/6d26b85c/E071%252BG069%252BG070Part%2B1.zip/</u></p> <p><u>Project Specifications+ Project Planning +Project Management (2)</u></p> <p><u>http://uploading.com/files/bmf8bf9f/E071%252BG069%252BG070Part%2B2.zip/</u></p>
6	Click <u>HERE</u> to download the other exercises
7	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p><u>E071 MEM09004 Tutorial</u> <u>E071 MEM09004 Tutorial Mod.zip</u></p> <p><u>Propose strategies to identify client needs 1.pdf</u></p>
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf
9	EE07 & EE011 units mapping for Theory study & Exercises
10	<u>Costing Quotation.zip</u>

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
MEM09004B Perform electrical/electronic detail drafting	UEENEEG179A Develop detailed electrical drawings	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1	EE011 = EE07 + Additional					
See 1 below	See 3 below						
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	
2	ElectricalDrawing1.zip ElectricalDrawing2.zip ElectricalDrawing3.pdf GeneralDrawing1.zip GeneralDrawing2.zip ElectricInstallationDesign.zip ElectSystSafety1.zip ElectSystSafety2.zip

[FireProtHeatingTestingEarthing.zip](#)

[GeneralWiring.zip](#)

[HazardLightingPanel.zip](#)

[PanelRCDWireSpecial_Installation.zip](#)

[6-ElectricalDrawing](#)

[12-Specifications](#)

[13-BSpecifications](#)

[14-Specifications Propose strategies to identify client needs 1.pdf](#)

[1WiringInstallationDrawing](#)

[7MachineDriveSystems](#)

[8PowerElectronicsDevices AutoCAD 2D 3D Lessons](#)

[Symbol A](#)

[Symbol B](#)

[Symbol C](#)

[Symbol D](#)

[Symbol E](#)

	Symbol F Symbol G
3	
4	As in 2
5	
6	E071_MEM09004_Tutorial E071_MEM09004_Tutorial_Mod.zip MEM09004-Electronics Drawing Electronics_Drawing.zip
7	EE07 & EE011 units mapping for Theory study & Exercises
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf
9	E07 & EE011 units mapping for Theory study & Exercises
10	E071DesiE071HVOverheadConductors_Wk2-3_.zip 6-ElectricalDrawing

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
UEENEEI006B Solve problems in process controllers, transmitters and converters	UEENEEI120A Provide solutions to problems in industrial control systems	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1	EE011 = EE07 + Additional					
See 1 below	See 3 below						
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	Amplifier+Power Supply+Digital H011+H012+H013.zip http://www.filefactory.com/file/c0b64d1/n/Amplifier Power Supply Digital H011 H012 H013.zip Process control-I006+I008+I020.zip http://www.filefactory.com/file/c0b7d9d/n/Process_control-I006_I008_I020.zip
2	AnalogDigitalSignalConditioning H085_66_I006_Note_1_Sensors_1 H085_66_I006_Note_2_Sensors_2 H085_66_I006_Note_3_Sensors_3 H085_66_I006_Note_4_Control_Concept1

	H085 66 I006 Note 5 Control Concept2 H085 66 I006 Note 6 Electronics Signal H085 66 I006 Note 8 Process Control 1 H085 66 I006 Note 9 Process Control 2 PID.zip
3	I020 Part 2 http://www.filefactory.com/file/7338x8vlddrj/n/I020_Part_2_zip
4	As 2
5	Process Control+ Digital Electronics +Signal Processing I006 Lesson 1 Process control Intro+Signal conditioning.zip http://www.filefactory.com/file/c0b2798/n/I006_Lesson_1_Process_control_Intro+Signal_conditioning.zip I006 Lesson 2 Op-amp in process control.zip http://www.filefactory.com/file/c0b25d5/n/I006_Lesson_2_Op-amp_in_process_control.zip I006 Lesson 3 Pnuematic.zip http://www.filefactory.com/file/c0b145a/n/I006_Lesson_3_Pnuematic.zip I006 Lesson 3+H012 Lesson 1 Digital principle+Logic gates.zip http://www.filefactory.com/file/c0b1488/n/I006_Lesson_3_H012_Lesson_1_Digital_principle_Logic_gates.zip I006 Lesson 4+H012 Lesson 2 Equivalent gate.zip http://www.filefactory.com/file/c0b16a2/n/I006_Lesson_4_H012_Lesson_2_Equivalent_gate.zip

I006 Lesson 5+H012 Lesson 3 Number system.zip

http://www.filefactory.com/file/c0b544e/n/I006_Lesson_5_H012_Lesson_3_Number_system.zip

I006 Lesson 6+H012 Lesson 4 Binary subtraction.zip

http://www.filefactory.com/file/c0b55f2/n/I006_Lesson_6_H012_Lesson_4_Binary_subtraction.zip

I006 Lesson 7+H012 Lesson 5 Encoder+Decoder.zip

http://www.filefactory.com/file/c0b18c8/n/I006_Lesson_7_H012_Lesson_5_Encoder_Decoder.zip

I006 Lesson 8+H012 Lesson 6 SR Flipflop.zip

http://www.filefactory.com/file/c27e44a/n/I006_Lesson_8_H012_Lesson_6_SR_Flipflop.zip

I006 Lesson 9+H012 Lesson 7 Shift register+Data latches.zip

http://www.filefactory.com/file/c0b1885/n/I006_Lesson_9_H012_Lesson_7_Shift_register_Data_latches.zip

I006 Lesson 10+H012 Lesson 8 Counter.zip

http://www.filefactory.com/file/c0b194c/n/I006_Lesson_10_H012_Lesson_8_Counter.zip

I006 Lesson 11+H012 Lesson 9 Display.zip

http://www.filefactory.com/file/c0b2ad0/n/I006_Lesson_11_H012_Lesson_9_Display.zip

I006 Lesson 12 Digital signal processing.zip

http://www.filefactory.com/file/c0b2b27/n/I006_Lesson_12_Digital_signal_processing.zip

I006 Lesson 13 Digital control design.zip

http://www.filefactory.com/file/c0b2cf2/n/I006_Lesson_13_Digital_control_design.zip

I006 Lesson 14 DAC.zip

http://www.filefactory.com/file/c0b2d00/n/I006_Lesson_14_DAC.zip

I006 Lesson 15 Ramp AD.zip

http://www.filefactory.com/file/c0b2d7d/n/I006_Lesson_15_Ramp_AD.zip

I006 Lesson 16 Sample and hold.zip

http://www.filefactory.com/file/c0b2548/n/I006_Lesson_16_Sample_and_hold.zip

I006 Lesson 17 Micro processor compatible DAC.zip

http://www.filefactory.com/file/c0b260b/n/I006_Lesson_17_Micro_processor_compatible_DAC.zip

I006 Lesson 18 Thermocouple.zip

http://www.filefactory.com/file/c0b2e67/n/I006_Lesson_18_Thermocouple.zip

I006 Lesson 19 Temperature measurement.zip

http://www.filefactory.com/file/c0b2fdd/n/I006_Lesson_19_Temperature_measurement.zip

I006 Lesson 20 Proportional mode.zip

http://www.filefactory.com/file/c0b2f26/n/I006_Lesson_20_Proportional_mode.zip

I006 Lesson 21 Industrial transducer.zip

http://www.filefactory.com/file/c0b2f95/n/I006_Lesson_21_Industrial_transducer.zip

I006 Lesson 22 Force measurement.zip

http://www.filefactory.com/file/c0b2673/n/I006_Lesson_22_Force_measurement.zip

I006 Lesson 23 Open loop control+Proportional control.zip

http://www.filefactory.com/file/c0b56d5/n/I006_Lesson_23_Open_loop_control_Proportional_control.zip

I006 Lesson 24 Closed loop control.zip

http://www.filefactory.com/file/c0b21e4/n/I006_Lesson_24_Closed_loop_control.zip

I006 Lesson 25 Electronics signal in process control.zip

http://www.filefactory.com/file/c0b220c/n/I006_Lesson_25_Electronics_signal_in_process_control.zip

I006 Lesson 26 PCM.zip

http://www.filefactory.com/file/c0b2255/n/I006_Lesson_26_PCM.zip

I006 Lesson 27 Control loop.zip

http://www.filefactory.com/file/c0b23bd/n/I006_Lesson_27_Control_loop.zip

I006 Lesson 28 Strain gauge+Piezo electric.zip

http://www.filefactory.com/file/c0b230b/n/I006_Lesson_28_Strain_gauge_Piezo_electric.zip

I006 Lesson 29 Light transducer.zip

http://www.filefactory.com/file/c0b237b/n/I006_Lesson_29_Light_transducer.zip

Process Control+ Digital Electronics +Signal Processing

	<p><u>PID Control</u></p> <p><u>I020 Part 1</u></p> <p>http://www.filefactory.com/file/1xq2qz7knp3z/n/I020_Part_1_zip</p> <p><u>I020 Part 2</u></p> <p>http://www.filefactory.com/file/7338x8vlddrj/n/I020_Part_2_zip</p>
6	Click <u>HERE</u> to download other Exercises
7	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p><u>I006 Tutorials.zip</u></p>
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf
9	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p><u>Practicals</u> <u>Work performance and practical instruction</u></p> <p>Click <u>HERE</u> to download practicals</p>
10	<p><u>PLC Textbook1</u></p> <p><u>PLC Textbook2</u></p> <p><u>PLC Textbook3</u></p> <p><u>PLC 6487E.zip</u></p> <p>PLC References</p> <p><u>User Manuals.zip</u></p> <p><u>TRILOGI5-purdue</u></p> <p><u>SetupTL6Edu Installation</u> <u>Installation Instruction</u> <u>F Nano-Product Sheets</u></p>

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
	UEENEEG006A Solve problems in single and three phase low voltage machines	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1	EE011 = EE07 + Additional					
See 1 below	See 3 below						
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	
2	
3	Elect Machine-G043+G044+G045.zip http://www.filefactory.com/file/c0b6668/n/Elect_Machine-G043_G044_G045.zip
4	G043_G045_7762AF_Notes G043_G045_Part_1_7762AF_Notes
5	
6	Click HERE to download other Exercises
7	EE07 & EE011 units mapping for Theory study & Exercises G015_G046_G040_G043_G045_G042Tutorials
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011.pdf
9	EE07 & EE011 units mapping for Theory study & Exercises Practicals Work performance and practical instruction Click HERE to download practicals

10	<p data-bbox="168 119 1467 167">ESI12_14_Syn_Motor_Generator.zip ESI_13_Voltage_regulation_devices.zip</p> <p data-bbox="168 207 660 255">ESI_19.4_Turbine_Control.zip</p> <p data-bbox="168 295 907 343">ESI_19.2_Generator_Control_Load_Flow.zip</p> <p data-bbox="168 383 582 430">ESI_19.3_Generator_.zip</p> <p data-bbox="168 470 560 518"><u>Synchronous Generator</u></p> <div data-bbox="168 558 1758 877"> <p data-bbox="168 566 985 614">2.Un intentional islanding in distribution grids</p> <p data-bbox="168 654 1108 702">2.Un intentional islanding in distribution grids-Part 2</p> <p data-bbox="168 742 1108 790">2.Un intentional islanding in distribution grids-Part 3</p> </div> <div data-bbox="168 885 1758 1204"> <p data-bbox="168 893 593 941">2.Distribution Network 1</p> <p data-bbox="168 981 593 1029">2.Distribution Network 2</p> <p data-bbox="168 1069 593 1117">2.Distribution Network 3</p> </div> <div data-bbox="168 1212 1758 1484"> <p data-bbox="168 1220 705 1268">3.Prime mover characteristics</p> <p data-bbox="168 1308 1243 1356">3. Requirement of mechanical thermal plant in Co-generation</p> <p data-bbox="168 1396 817 1444">3.Study for mechanical thermal plant</p> </div>
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[3. Generator Paralleling](#)

[Synchronous Generator Operation \(Power System Operation\)](#)

[Lesson 1](#)

[Lesson 3](#)

[Power System Operation \(General aspect\) Reading 1](#)

[Power System Operation \(General aspect\) Reading 2](#)

[Power System Operation \(General aspect\) Reading 3](#)

[Power System Operation \(General aspect\) Reading 4](#)

[Power System Operation \(General aspect\) Reading 5](#)

[Power System Operation \(General aspect\) Reading](#)

MACHINE CONTROL

[MachineControlCkt1.zip](#)

[MachineControlCkt2.zip](#)

[MachineControlCkt3.zip](#)

[Motor control 2](#)

[Motor control 3](#)

[Motor control 4](#)

[Motor control 5](#)

[Motor control 6](#)

[Motor control 7](#)

[Motor control 8](#)

[Motor control 9](#)

[Motor control 10](#)

[Motor control 11](#)

[Motor control 12](#)

[Motor control 13](#)

[Motor control 14](#)

[Motor control 15](#)

[Motor control 16](#)

[8273Z Variable Speed Drives](#)

Lesson 1-[Part a](#) [Part b](#) [Part c](#) [Part d](#)

Lesson 2 [Part a](#) [Part b](#) [Part c](#)

Lesson 3 [Part a](#) [Part b](#)

Lesson 4 [Part a](#) [Part b](#)

Lesson 5 [Part a](#) [Part b](#)

Lesson 6 [Part a](#) [Part b](#)

Lesson 7 [Part a](#) [Part b](#)

Lesson 8 [Part a](#) [Part b](#)

Lesson 9 [Part a](#) [Part b](#)

Lesson 10 [Part a](#) [Part b](#)

Lesson 11 [Part a](#) [Part b](#)

Lesson 12 [Part a](#) [Part b](#)

Lesson 13 [Part a](#) [Part b](#)

Lesson 14 [Part a](#) [Part b](#)

Lesson 15 [Part a](#) [Part b](#)

Lesson 16 [Part a](#) [Part b](#) [Part c](#)

Lesson 17 [Part a](#) [Part b](#) [Part c](#)

Study Guide EE07 & EE011

What to study		Which exercises to do		What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise	Additional exercises for EE011	
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07	
UEENEEH025B Provide solutions to single phase electronic power control problems	UEENEEI148A Solve problems in single phase electronic power control circuits	See 5 below	See 6 below	See 7 below	See 8 below
Study Option 1	Study Option 1	EE011 = EE07 + Additional			
See 1 below	See 3 below				
Study Option 2	Study Option 2				
See 2 below	See 4 below				

1	Power Electronics -H025+H026.zip http://www.filefactory.com/file/c0b6857/n/Power Electronics -H025 H026.zip
2	H025 Operational Amplifier H026 3 Ph Power Control Electronics 1 H026 3 Ph Power Control Electronics 2

	H026 3 Ph Power Control Electronics 3 H026 3 Ph Power Control Electronics 4
3	As 1
4	As 2
5	<p>Operational amplifier+ single phase power control equipments</p> <p>H025 Lesson 1-Differential Amplifier.zip http://www.filefactory.com/file/c20fef9/n/H025 Lesson 1-Differential Amplifier.zip</p> <p>H025 Lesson 2-Comparator.zip http://www.filefactory.com/file/c0b072e/n/H025 Lesson 2-Comparator.zip</p> <p>H025 Lesson 3-Timer IC.zip http://www.filefactory.com/file/c0b077e/n/H025 Lesson 3-Timer IC.zip</p> <p>H025 Lesson 4-Op Amp Circuit 1 & 2.zip http://www.filefactory.com/file/c0b08c8/n/H025 Lesson 4-Op Amp Circuit 1 2.zip</p> <p>H025 Lesson 5-Op amp characteristics+Band widthe compensation.zip http://www.filefactory.com/file/c0b09da/n/H025 Lesson 5-Op amp characteristics Band widthe compensation.zip</p>

H025 Lesson 6-Op amp diode characteristics.zip

http://www.filefactory.com/file/c0b09e1/n/H025_Lesson_6-Op_amp_diode_characteristics.zip

H025 Lesson 7-Sine & square wave oscillators.zip

http://www.filefactory.com/file/c0b090a/n/H025_Lesson_7-Sine_square_wave_oscillators.zip

H025 Lesson 8-Op amp ckt-Integrator+Differentiator.zip

http://www.filefactory.com/file/c0b0909/n/H025_Lesson_8-Op_amp_ckt-Integrator_Differentiator.zip

H025 Lesson 9-Active filter.zip

http://www.filefactory.com/file/c0b0916/n/H025_Lesson_9-Active_filter.zip

H025 Lesson 10-Multistage Op amp ckt.zip

http://www.filefactory.com/file/c0b0948/n/H025_Lesson_10-Multistage_Op_amp_ckt.zip

H025 Lesson 11-Transducers.zip

http://www.filefactory.com/file/c0b0978/n/H025_Lesson_11-Transducers.zip

	<p>H025 Lesson 12-Introduction to control.zip</p> <p>http://www.filefactory.com/file/c0b0986/n/H025_Lesson_12-Introduction_to_control.zip</p> <p><u>Operational amplifier+ single phase power control equipments</u></p> <p>http://uploading.com/files/983aee66/H025.zip/</p>
6	<p>Click <u>HERE</u> to download other Exercises</p>
7	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p><u>Electronics_H025_Tutorials</u></p>
8	<p>http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf</p>
9	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p><u>Practicals</u> <u>Work performance and practical instruction</u></p> <p>Click <u>HERE</u> to download practicals</p>
10	

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
UEENEEH026B Provide solutions to polyphase electronic power control problems	UEENEEI149A Solve problems in polyphase electronic power control circuits	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1	EE011 = EE07 + Additional					
See 1 below	See 3 below						
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	Power Electronics -H025+H026.zip http://www.filefactory.com/file/c0b6857/n/Power_Electronics_-H025_H026.zip
2	H026 3 Ph Power Control Electronics 1 H026 3 Ph Power Control Electronics 2 H026 3 Ph Power Control Electronics 3 H026 3 Ph Power Control Electronics 4
3	As 1
4	As 2
5	Three phase power control equipments H026 Lesson 1-Single &Three phase power control.zip

	http://www.filefactory.com/file/c0b1ac9/n/H026_Lesson_1-Single_Three_phase_power_control.zip H026 Lesson 2-Solid state switching devices.zip http://www.filefactory.com/file/c0b1af2/n/H026_Lesson_2-Solid_state_switching_devices.zip H026 Lesson 3-Inverter Converter.zip http://www.filefactory.com/file/c0b1a59/n/H026_Lesson_3-Inverter_Converter.zip H026 Lesson 4-Power Diodes.zip http://www.filefactory.com/file/c0b1a8f/n/H026_Lesson_4-Power_Diodes.zip H026 Lesson 5-AC Motor speed control.zip http://www.filefactory.com/file/c0b1ba7/n/H026_Lesson_5-AC_Motor_speed_control.zip H026 Lesson 6-Current fed inverter.zip http://www.filefactory.com/file/c0b1b0d/n/H026_Lesson_6-Current_fed_inverter.zip
6	Click HERE to download other Exercises
7	EE07 & EE011 units mapping for Theory study & Exercises
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011.pdf
9	EE07 & EE011 units mapping for Theory study & Exercises Practicals Work performance and practical instruction Click HERE to download practicals
10	

NOTE

The link in the yellow shaded cell can be accessed to download the notes if the direct link is not working

[Syllabus and Engineers Australia Competency.zip](#)

[Electrical diploma with electrician licensing program.zip](#)

Study the following units before you study any electrical units

[Electrician Licensing Requirements.zip](#)

[SubstationEntry.zip](#)

[Construction ElectricalSafety.zip](#)

[InserviceTesting.zip](#)

RECOGNITION OF PRIOR LEARNING (RPL)

Download the following references if you want to apply for RPL

[RPL Policy](#)

[Mutal Recognition/ Enrolment adjustment credit \)\(previous study\)](#)

[108 prev stud 1 1 .pdf](#)

□□□□ [Yellow Form 102 Enrolment Adjustment Credit \(Recognition of Prior Learning\)](#)

[102 yellow rpl 1 1 .pdf](#)

Gap training & assessment record for RPL [Word File](#) [PDF File](#)

STAGE 1

E001+E002+E007+E008+E005+E033+C002+C003

UEENEEE001		Apply OHS practices in the work place
UEENEEE002		Dismantle, assemble and fabricate electrotechnology components
UEENEEE005		Fix and secure equipment
UEENEEE007		Use drawings, diagrams, schedules and manuals
UEENEEE008		Lay wiring/cabling and terminate accessories for extra-low voltage circuits
UEENEEE033		Document occupational hazards and risks in electrical work

[Stage 1 Part 1.zip](#)

http://www.filefactory.com/file/c0cb8ab/n/Stage_1_Part_1.zip

E002+E005+E007+E008+E033-Wiring

Electrical safe working

1Wiring_E033_E008_

2Wiring_E033_E008_

Circuit safety

ConstructionElectricalSafety

DC_Circuit_E003_E004

E002_E005

Bachelor of Technology

Entry Requirement

- Completion of Advanced Diploma in Electro-mechanical and Construction Engineering

[ADEMC201-Sustainability and Electrical Practice](#)

[ADEMC202-Engineering Practice](#)

[ADEMC203-Design and Technology](#)

[ADEMC204-General Electrical Engineering](#)

[ADEMC205-General Civil Engineering and Construction](#)

[ADEMC206-General Mechanical Engineering](#)

[ADEMC207-Mathematics, Physics and Chemistry](#)

[ADEMC208-Engineering Materials](#)

[ADEMC209-Engineering Management](#)

[ADEMC210-Workshop Practice and Safety](#)

Completion Requirement , one of the following ways

1. Completion of BE (Special Program) Form 109 Subjects

[BAE401 Engineering Mathematics](#)

[BAE402 Calculus](#)

[RE010 Engineering Materials](#)

[BAE403 Engineering Mechanics \(10 Credits\)](#)

Additional Unit

[BAE404 Engineering Thermodynamics](#)

[RE505- Green Building Design \(3 credits\)](#)

[RE016A-Design & Management \(4 credits\)](#)

[BAE 523A Environmental Engineering \(1 credit\)](#)

[RE003- Solar and Thermal Energy Systems \(1 credit\)](#)

[RE004- Energy Storage Systems \(1 credit\)](#)

- 2 Selection of Examination (or) Assignment -Electrical, Civil, Mechanical, ICT based on Electrical, Civil, Mechanical, ICT subjects in Advanced Diploma in Electro-mechanical and Construction Engineering to determine the discipline of BTech degree.
- 3 Work experience submission to confer Bachelor of Technology (Special) degree.
- 4 Completion of Year 3 in BE Program for the students who completed Advanced Diploma in Electrical Engineering, Advanced Diploma in Civil Engineering, Advanced Diploma in Mechanical Engineering, Advanced Diploma in ICT Engineering,

Assignment Submission , one of the following ways

1. Messenger—to be advised
2. E mail —iqytechnicalcollege@gmail.com
3. Personal No 307(B) Thura 2 Street, 9 Ward, South Okkalapa , Yangon on Saturday, Sunday

BACHELOR OF APPLIED ENGINEERING (ELECTRICAL)

Pre-requisite

Advanced Diploma in Electrical Engineering

ASSESSMENT

The learning and assessment system involves two parts

- (1) Completion of the course works- submission of the assignments (Theory/ Practical/ Calculations) for the competency units of the subject
(Grading—Complete or Incomplete)
- (2) Completion of the course works- submission of the assignments Theory/ Practical/ Calculations) for the over all knowledge of the subject
(Grading—Complete or Incomplete)
- (3) Sitting the final test for the subject by either online or paper based test- -Grading—In accordance with St Clements University Higher Education School-Niue Students Handbook.

The following is the list of the subjects and competency units

BACHELOR OF APPLIED ENGINEERING (ELECTRICAL)

Subjects	Points	Competency Units
BAE 401 Advanced Engineering Mathematics	9	Maths 301 Introduction to Complex Variables (1 pt) Maths 302 Elementary Linear Algebra (1 pt) Maths 401 Continuous Distributions (1 pt) Maths 402 Discrete Distributions (1 pt) Maths 403 Engineering Mathematics (1 pt) Maths 501 Introduction to Probability(1 pt) Maths 501 Linear Algebra & Matrices (1 pt) Maths 502 Finite Difference Methods for Partial Differential Equations & Mathematical Modelling (1 pt) Maths 601 Random Variables (1 pt)
BAE 402 Calculus	3	Maths 304 Integration and Differential Equations. (1 pt) Maths 403 Second Order Ordinary Differential Equations

		(1 pt) Maths 303 Engineering Mathematics (1 pt)
BAE 403 Engineering Mechanics	1	ME 301 Applied Mathematics (1 pt)
BAE 404 Engineering Materials & Thermodynamics	3	ME 334 Engineering Thermodynamics (1 pt) ME 434 Wind Turbines (1 pt) ME 634 Pneumatics (1 pt)
BAE 405 Advanced Circuit Analysis	3	EE 301 Electrical Circuits (1 pt) EE 303 Engineering Circuit Analysis (1 pt) EE 404 Electrical Measurement (1 pt)
BAE 406 Electro-mechanics	2	EE 502 Electrical Machines (1 pt) ME 301 Machine Principle (1 pt)
BAE 407 Advanced Electro-magnetics Field & Materials	1	EE 407 Electromagnetism (1 pt)
BAE 408 Analogue & Digital Electronics	5	EE 403 Introduction to Electronic Engineering (1 pt) EE 524 Power Electronics & Applied Electronics (1 pt) EE 405 Digital System (1 pt) EE 526 Digital Signal Processing (1 pt) EE 527 Digital Image Processing 1/ 2 (1 pt)
BAE 501 Advanced Power Systems & Power Transmission Networks	3	EE 512 Power System (1 pt) EE 302 Power System Technology (Optional) EE 402 Electrical Power (1 pt) EE 513 Power Transmission and Distribution Lines (1 pt)
BAE 502 Linear System	1	EE 304 Computer Mathematics (1 pt)
BAE 503 Control System	4	EE 601 Non Linear Control Applications (1 pt) EE 601 Control Engineering , Feedback and Control System , P ID_ Control (1 pt) EE 624 Process Control (1 pt)

		ME 534 Numerical Control Part 1 / 2 (1 pt)
BAE 504 Power System Analysis	1	EE 614 Power System Analysis
BAE 505 Power System Optimization	1	EE 613 Power System Optimization
BAE 506 Power System Stability & Protection	2	EE 615 Power System Stability & Power Quality (1 pt) EE 616 Power System Protection (1 pt)
BAE 507 Electro-mechanical Energy Conversion	2	EE 602 Motor Control Electronics (1 pt) ME 434 Mechtronics & Robotics (1 pt)
BAE 508 Industrial Engineering & Industrial Management	1	Mgt 501 Basic Management & Communication Skills (1 pt)
BAE 601 Computer Programming	3	IT 401 Object Oriented Programming (1 pt) IT 402 Structured Programming (1 pt) IT 403 Visual Basic Programming (1 pt)
BAE 602 Computer Network	1	ICT 202 Information Systems Principles and Networking (1 pt)
BAE 603 Software Engineering	3	ICT 106 Software Engineering (1 pt) ICT 203 Information Systems, Analysis and Design (1 pt) EE 626 Nano Technology (1 pt)
BAE 604 Telecommunication Engineering	2	EE 525 Data Communication (1 pt) EE 603 Electronics Telecommunication (1 pt)
BAE 605 Engineering Management	5	Mgt 502 Operation Management (1 pt) Mgt 503 Production & Operation Management (1 pt) Mgt 504 Project Management (1 pt) Mgt 505 Quality Management and Manufacturing Engineering (1 pt) Mgt 506 Strategic Financial Management (1 pt)

BAE 606 Building Service Electrical & Mechanical Engineering	2	EE 617 Building Electrical and Mechanical System (1 pt) ME 334 Airconditioning and Refrigeration (1 pt) CE 301 Building Construction (Optional) CE 301 Conceise Hydroulics (Optional)
BAE 607 Radio Wave Propagation & Microwave Techniques	2	EE 625 Radio Wave Propagation (1 Pt) EE 626 Microwave Technique (1pt)
Total Credit points	60	

STAGE (1) DIPLOMA IN CIVIL ENGINEERING (Each 2.5 Credits) (30 Pt)

CE 101 Mathematics

CE 102 Physics

CE 103 Basic Surveying

CE 104 Fluid Dynamics

CE 105 Hydraulic

CE 106 Hydrology

CE 107 Sanitation-and-Water-supply

CE 108 Electrical Principle

CE 109 Energy Efficient Building Design

CE 110 Building Construction

CE 111 Engineering Mechanics

ME 301 Applied Mathematics

Sequence of study

CE 101, CE 102, CE 111, CE 110, ME 301

CE 103, CE 104, CE 105, CE 106, CE 107, CE 108

CE 109

STAGE (2) BASIC MECHANICAL ENGINEERING (30 Pt) (Each unit has 1 point)

Maths 101 Engineering Mathematics (1 pt)

Maths 301 Introductory Finite Difference Methods-for-partial differential equations(1 pt)

Maths 302 Elementary-Linear-Algebra(1 pt)

Maths 403 Engineering-Mathematics(1 pt)

Maths 501 Linear Algebra (1 pt)

Maths 303 Introductory Finite Volume Methods-for- partial differential equations(1 pt)

ME 103 Engineering Mechanics (2pt)

ME 101 Applied Mathematics (1 pt)
ME 107 Heat Transfer (1 pt)
ME 306 Theory-of-waves-in-materials (1 pt)
ME 102 Engineering Thermodynamics (2pt)
ME 234 Wind Turbines (1 pt)
ME 634 Pneumatics (1 pt)
ME 105 Electrical Principle (1 pt)
ME 106 Electrical Circuits (1 pt)
ME 104 Machine Principle (2 pt)
ME 304 Introduction to Nonlinearity-in-control-systems (1 pt)
ME 203 Control Engineering (1 pt)
EE 624 Process Control (2 pt)
ME 534 Numerical Control (1 pt)
ME 434 Mechtronics-Robotics (1 pt)
Mgt 501 Basic Management (1 pt)
EE 617 Building Electrical and Mechanical System Part 1 (2 pt)
ME 334 Airconditioning and Refrigeration (2 pt)

STAGE (3) BASIC ELECTRICAL & ELECTRONICS ENGINEERING (18 Pt)

Files--Certificate in Electrical Engineering, Diploma in Electrical Engineering, Advanced Diploma in Electrical Engineering , see the following contents

EE101 DC Circuit Problems
EE102 Basic Electrical Fitting & Wiring
EE103 Basic Electrical Drafting
EE104 Electrical Equipments Safety Protection

EE105 Electrical Installation Design

EE107 Electrical Equipments

EE106 Advanced Electrical Wiring

EE108 Electrical Fault Finding

EE109 Electrical Control Circuits

EE111 Electromagnetism & Basic Electrical Machines

EE112 Alternating Current Principle

EE113 Electrical Fundamental

EE115 Basic Analogue & Digital Electronics

EE116 Process Control System

EE117 Solar Electrical System

EE119 Electrical Risk Assessment

EE120 Electrical Contracting & Specifications

EE308 Sustainability

STAGE (4 A) ADVANCED MECHANICAL ENGINEERING STUDY (6Pt)

ME 108 Principle of Engines

ME 109 Engineering Drawing

ME 201 Introduction to Fluid Mechanics

ME 204 Engineering Fluid Mechanics

ME 301 Fluid Dynamics

EE 305 Corrosion Prevention

STAGE (4B)ADVANCED ELECTRICAL & ELECTRONICS ENGINEERING STUDY

(ADVANCED DIPLOMA) (4 pt)

Files--Certificate in Electrical Engineering, Diploma in Electrical Engineering, Advanced Diploma in Electrical Engineering , see the following contents (Each 2.5 pt)

EE201 Engineering Mathematics

EE204 Engineering Physics

EE302 Advanced Engineering Mathematics

EE307 Energy Efficient Building Design

STAGE (5)BACHELOR OF APPLIED ENGINEERING (BUILDING SERVICE) DEGREE (32 pt)

Subjects	Points	Competency Units	Page
BAE 401 Advanced Engineering Mathematics	9	Maths 301 Introduction to Complex Variables (1 pt) Maths 302 Elementary Linear Algebra (1 pt) Maths 401 Continuous Distributions (1 pt) Maths 402 Discrete Distributions (1 pt) Maths 403 Engineering Mathematics (1 pt) Maths 501 Introduction to Probability(1 pt) Maths 501 Linear Algebra & Matrices (1 pt) Maths 502 Finite Difference Methods for Partial Differential Equations & Mathematical Modelling (1 pt) Maths 601 Random Variables (1 pt)	
BAE 402 Calculus	3	Maths 304 Integration and Differential Equations (1 pt) Maths 403 Second Order Differential Equations (1 pt) Maths 303 Engineering Mathematics (1 pt)	
BAE 403 Engineering Mechanics	1	ME 301 Applied Mathematics (1 pt)	
BAE 404 Engineering Materials & Thermodynamics	3	ME 334 Engineering Thermodynamics (1 pt) ME 434 Wind Turbines (1 pt)	

		ME 634 Pneumatics (1 pt)	
BAE 508 Industrial Engineering & Industrial Management	1	Mgt 501 Basic Management & Communication Skills (1 pt)	
BAE 601 Computer Programming	3	IT 401 Object Oriented Programming (1 pt) IT 402 Structured Programming (1 pt) IT 403 Visual Basic Programming (1 pt)	
BAE 605 Engineering Management	5	Mgt 502 Operation Management (1 pt) Mgt 503 Production & Operation Management (1 pt) Mgt 504 Project Management (1 pt) Mgt 505 Quality Management and Manufacturing Engineering (1 pt) Mgt 506 Strategic Financial Management (1 pt)	
BAE 606 Building Service Electrical & Mechanical Engineering	2	EE 617 Building Electrical and Mechanical System (1 pt) ME 334 Airconditioning and Refrigeration (1 pt) CE 301 Building Construction (Optional) CE 301 Conceise Hydroulics (Optional)	
BAE 609 Design Project	5		
Total Credit points	32Pt		

Stage	Points
Stage 1—Diploma in Civil Engineering	30
Stage 2	30
Stage 3	18
Stage 4A	6
Stage 4B	4
Stage 5	32

Total (Bachelor of Applied Engineering-Mechtronics)	120
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STAGE (1) DIPLOMA IN MECHANICAL ENGINEERING (30 Pt) (Each unit has 1 point)

Maths 101 Engineering Mathematics (1 pt)

Maths 301 Introductory Finite Difference Methods-for-partial differential equations(1 pt)

Maths 302 Elementary-Linear-Algebra(1 pt)

Maths 403 Engineering-Mathematics(1 pt)

Maths 501 Linear Algebra (1 pt)

Maths 303 Introductory Finite Volume Methods-for- partial differential equations(1 pt)

ME 103 Engineering Mechanics (2pt)

ME 101 Applied Mathematics (1 pt)

ME 107 Heat Transfer (1 pt)

ME 306 Theory-of-waves-in-materials (1 pt)

ME 102 Engineering Thermodynamics (2pt)

ME 234 Wind Turbines (1 pt)

ME 634 Pneumatics (1 pt)

ME 105 Electrical Principle (1 pt)

ME 106 Electrical Circuits (1 pt)

ME 104 Machine Principle (2 pt)

ME 304 Introduction to Nonlinearity-in-control-systems (1 pt)

ME 203 Control Engineering (1 pt)

EE 624 Process Control (2 pt)

ME 534 Numerical Control (1 pt)

ME 434 Mechtronics-Robotics (1 pt)

Mgt 501 Basic Management (1 pt)

EE 617 Building Electrical and Mechanical System Part 1 (2 pt)

ME 334 Airconditioning and Refrigeration (2 pt)

STAGE (2)BASIC ELECTRICAL & ELECTRONICS ENGINEERING (17 Pt)

Files--Certificate in Electrical Engineering, Diploma in Electrical Engineering, Advanced Diploma in Electrical Engineering , see the following contents

EE101 DC Circuit Problems

EE102 Basic Electrical Fitting & Wiring

EE103 Basic Electrical Drafting

EE104 Electrical Equipments Safety Protection

EE105 Electrical Installation Design

EE107 Electrical Equipments

EE106 Advanced Electrical Wiring

EE108 Electrical Fault Finding

EE109 Electrical Control Circuits

EE111 Electromagnetism & Basic Electrical Machines

EE112 Alternating Current Principle

EE113 Electrical Fundamental

EE115 Basic Analogue & Digital Electronics

EE116 Process Control System

EE117 Solar Electrical System

EE119 Electrical Risk Assessment

EE120 Electrical Contracting & Specifications

STAGE (3) ADVANCED MECHANICAL ENGINEERING STUDY (13 Pt)

GROUP (1) (7 pt)

ME 108 Principle of Engines

ME 109 Engineering Drawing

ME 201 Introduction to Fluid Mechanics

ME 202 Introduction to Aero Dynamics

ME 204 Engineering Fluid Mechanics

ME 206 Introduction to Turbo Machinery

ME 301 Fluid Dynamics

GROUP (2) (4 pt)

ME 205 Manufacturing Processes-and-Materials

ME 302 Automation-and-Robotics

ME 303 Computer Aided Design and Manufacturing

ME 305 Corrosion Prevention

GROUP (3) (2 pt)

ME 207 Chemical Thermodynamics

ME 208 Hydrocarbons

STAGE (4) ADVANCED ELECTRICAL & ELECTRONICS ENGINEERING STUDY

(ADVANCED DIPLOMA) (10 pt)

Files--Certificate in Electrical Engineering, Diploma in Electrical Engineering, Advanced Diploma in Electrical Engineering , see the following contents

EE121 Electronics Power Control Devices

EE201 Engineering Mathematics

EE202 Electrical Circuits

EE203 Three Phase Power Circuits

EE204 Engineering Physics

EE206 AC Machines

EE207 DC Machines

EE208 Operational Amplifiers

EE209 Analogue Electronics

EE301 Advanced Electrical Drafting

EE302 Advanced Engineering Mathematics (Optional)

STAGE (5)BACHELOR OF APPLIED ENGINEERING (MECHTRONICS) DEGREE

Subjects	Points	Competency Units	Page
BAE 401 Advanced Engineering Mathematics	9	Maths 301 Introduction to Complex Variables (1 pt) Maths 302 Elementary Linear Algebra (1 pt) Maths 401 Continuous Distributions (1 pt) Maths 402 Discrete Distributions (1 pt) Maths 403 Engineering Mathematics (1 pt) Maths 501 Introduction to Probability(1 pt) Maths 501 Linear Algebra & Matrices (1 pt) Maths 502 Finite Difference Methods for Partial Differential Equations & Mathematical Modelling (1 pt) Maths 601 Random Variables (1 pt)	
BAE 402 Calculus	3	Maths 304 Integration and Differential Equations (1 pt) Maths 403 Second Order Differential Equations (1 pt) Maths 303 Engineering Mathematics (1 pt)	
BAE 403 Engineering Mechanics	1	ME 301 Applied Mathematics (1 pt)	
BAE 404 Engineering Materials & Thermodynamics	3	ME 334 Engineering Thermodynamics (1 pt) ME 434 Wind Turbines (1 pt) ME 634 Pneumatics (1 pt)	
BAE 405 Advanced Circuit Analysis	3	EE 301 Electrical Circuits (1 pt) EE 303 Engineering Circuit Analysis (1 pt) EE 404 Electrical Measurement (1 pt)	
BAE 406 Electro-mechanics	2	EE 502 Electrical Machines (1 pt) ME 301 Machine Principle (1 pt)	
Subjects	Points	Competency Units	Page

BAE 408 Analogue & Digital Electronics	5	EE 403 Introduction to Electronic Engineering (1 pt) EE 524 Power Electronics & Applied Electronics (1 pt) EE 405 Digital System (1 pt) EE 526 Digital Signal Processing (1 pt) EE 527 Digital Image Processing 1/ 2 (1 pt)	
BAE 502 Linear System	1	EE 304 Computer Mathematics (1 pt)	
BAE 503 Control System	4	EE 601 Non Linear Control Applications (1 pt) EE 601 Control Engineering , Feedback and Control System , PID_Control (1 pt) EE 624 Process Control (1 pt) ME 534 Numerical Control Part 1 / 2 (1 pt)	
BAE 507 Electro-mechanical Energy Conversion	2	EE 602 Motor Control Electronics (1 pt) ME 434 Mechtronics & Robotics (1 pt)	
BAE 508 Industrial Engineering & Industrial Management	1	Mgt 501 Basic Management & Communication Skills (1 pt)	
BAE 601 Computer Programming	3	IT 401 Object Oriented Programming (1 pt) IT 402 Structured Programming (1 pt) IT 403 Visual Basic Programming (1 pt)	
BAE 602 Computer Network	1	ICT 202 Information Systems Principles and Networking (1 pt)	
BAE 603 Software Engineering	3	ICT 106 Software Engineering (1 pt) ICT 203 Information Systems, Analysis and Design (1 pt) EE 626 Nano Technology (1 pt)	
BAE 604 Telecommunication Engineering	2	EE 525 Data Communication (1 pt)	
BAE 605 Engineering Management	5	Mgt 502 Operation Management (1 pt)	

		Mgt 503 Production & Operation Management (1 pt) Mgt 504 Project Management (1 pt) Mgt 505 Quality Management and Manufacturing Engineering (1 pt) Mgt 506 Strategic Financial Management (1 pt)	
BAE 606 Building Service Electrical & Mechanical Engineering	2	EE 617 Building Electrical and Mechanical System (1 pt) ME 334 Airconditioning and Refrigeration (1 pt) CE 301 Building Construction (Optional) CE 301 Conceise Hydroulics (Optional)	
Total Credit points	50 Pt		

Stage	Points
Stage 1—Diploma in Mechanical Engineering	30
Stage 2	17
Stage 3	13
Stage 4	10
Stage 5	50
Total (Bachelor of Applied Engineering-Mechtronics)	120

Bachelor of Applied Engineering (Electrical+Electronics) with Certificate IV in Electrical & Electronics Trade Studies

www.electricaldiploma2013.zoomshare.com/files/BAppEngElectricalElectronics.htm

Course Development Ideas, Brief Description of the subjects & Resources Links

This is a course that combines the trade skills, para-professional and professional competencies in electrical and electronics engineering.

Today industry demands the multi-skilled professionals. Especially in electro-technology industry, the graduates need to be equipped with multiple skills.

This course combines the Electrical & Electronics Trade Skills, Engineering Associate Competencies & Engineering Technologists Competencies.

Bachelor of Applied Engineering is designed to be equivalent to Engineering Technologist Degree.

The program consists of three level of electrical & electronics engineering competencies

Stage 1-- Year 1 is composed of Electrical & Electronics Trade Units.

The relevant electro-technology training package units are combined up to the stage of pre-capstone assessment level in electrical trades as well as theoretical part of telecommunication cabler competencies. The award after the Year 1 is Certificate IV in Electrical & Electronic Trade Studies.

Stage 2-Year 2 is composed of Advanced Diploma level Electrical & Electronic Training Package units. It is designed to train the students with both electrical and electronic engineering skills and knowledge at engineering associates level.

After the Year 2, the students can be graduated with Advanced Diploma in Applied Engineering (Electrical & Electronics)

Stage 3- Year 3 & 4 is composed of the degree level electrical and electronic engineering units. The study is a combined studies of electrical power, electronics, computer programming, computer networking, control system, building services engineering and renewable energy.

At the Advanced Diploma level, electro-technology training package units are referred as detailed contents. But the packaging is based on the study areas.

For example, the unit GE2 Electrical Machine is composed of several electro-technology training package units at trades & technician level related to electric machineries.

Program Objectives

Certificate IV in Electrical & Electronics Trade Studies

One year Certificate IV in Electrical & Electronics Trade Studies is designed to train the students to work as Engineering Trades Persons (Electrical/Electronics) in wide ranges of electrical & electronic industries

It is designed to provide the following competencies.

- Breadth, depth and complexity of knowledge and competencies would cover selecting, adapting and transferring skills and knowledge to Australian environments and providing technical advice and some leadership in resolution of specified problems. This would be applied across a range of roles in a variety of contexts with some complexity in the extent and choice of options available.
- Performance of a defined range of skilled operations, usually within a range of broader related activities involving known routines, methods and procedures, where some discretion and judgement is required in the selection of equipment, services or contingency measures and within known time constraints.
- Applications may involve some responsibility for others. Participation in teams including group or team coordination may be involved.
- Distinguishing Features of Learning Outcomes
- Do the competencies enable an individual with this qualification to:
 - demonstrate some relevant theoretical knowledge
 - apply a range of well-developed skills
 - apply known solutions to a variety of predictable problems
 - perform processes that require a range of well-developed skills where some discretion and judgement is required
 - interpret available information, using discretion and judgement
 - take responsibility for own outputs in work and learning
 - take limited responsibility for the output of others
- Breadth, depth and complexity of knowledge and competencies would cover a broad range of varied activities or application in a wider variety of contexts most of which are complex and non-routine. Leadership and guidance are involved when organising activities of self and others as well as contributing to technical solutions of a non-routine or contingency nature.
- Performance of a broad range of skilled applications including the requirement to evaluate and analyse current practices,

- develop Australian criteria and procedures for performing current practices and provision of some leadership and guidance to others in the application and planning of the skills.
- Applications involve responsibility for, and limited organisation of, others.
- Distinguishing Features of Learning Outcomes
- Do the competencies enable an individual with this qualification to:
 - demonstrate understanding of a broad knowledge base incorporating some theoretical concepts
 - apply solutions to a defined range of unpredictable problems
 - identify and apply skill and knowledge areas to a wide variety of contexts, with depth in some areas
 - identify, analyse and evaluate information from a variety of sources
 - take responsibility for own outputs in relation to specified quality standards
- take limited responsibility for the quantity and quality of the output of others.

Diploma/ Advanced Diploma in Applied Engineering (Electrical+ Electronics)

Two years Advanced Diploma in Applied Engineering (Electrical & Electronics) is designed to train the students to work as Engineering Associates Technicians in wide ranges of electrical & electronic industries to perform a wide range of functions within engineering enterprises and engineering teams.

It is designed to provide the following competencies.

- To be closely familiar with standards and codes of practice, and to become expert in their interpretation and application to a wide variety of situations.
- To develop very extensive experience of practical installations, and may well be more knowledgeable than Professional Engineers or Engineering Technologists on detailed aspects of plant and equipment that can contribute very greatly to safety, cost or effectiveness in operation.
- To develop high levels of expertise in aspects of design and development processes. These might include, for example, the use of advanced software to perform detailed design of structures, mechanical components and systems, manufacturing or process plant, electrical and electronic equipment, information and communications systems, and so on.
- To do the construction of experimental or prototype equipment.
- To develop detailed practical knowledge and experience complementing the broader or more theoretical knowledge of others.

Bachelor Applied Engineering (Electrical+ Electronics)

Four years Bachelor of Applied Engineering (Electrical & Electronics) is designed to train the students to work as Engineering Technologists in wide ranges of industries.

The training is designed to provide expertise to the students which may be at a high level, and fully equivalent to that of a Professional Engineer. That is designed

- to exercise the same breadth of perspective as Professional Engineers, or carry the same wide-ranging responsibilities for stakeholder interactions, for system integration, and for synthesising overall approaches to complex situations and complex engineering problems.
- to possess for a strong understanding of practical situations and applications, with the intellectual challenge of keeping abreast of leading-edge developments as a specialist in a technology domain and how these relate to established practice. For this purpose Engineering Technologists need a strong understanding of scientific and engineering principles and a well-developed capacity for analysis.
- to apply current and emerging technologies, often in new contexts; or with the application of established principles in the development of new practice.
- To contribute to the advancement of technology.
- to take responsibility for engineering projects, services, functions and facilities within a technology domain, for specific interactions with other aspects of an overall operating context and for managing
- to contribute the specialist work to a broader engineering system or solution. In these roles, Engineering
- to focus on sustainable solutions and practices which optimise technical, social, environmental and economic outcomes within the technology domain and over a whole systems life cycle.
- to have an intimate understanding of the standards and codes of practice that underpin the technology domain and ensure that Technology Outcomes comply with statutory requirements. Engineering Technologists are required to interact effectively with Professional Engineers and Engineering Associates, with other professionals, tradespersons, clients, stakeholders and society in general, to ensure that technology outcomes and developments fully integrate with the overall system and context.
- to ensure that all aspects of a technological product, or operation are soundly based in theory and fundamental principle.
- to understand how new developments relate to their specific field of expertise.
- to interpret technological possibilities, to investigate interfaces, limitations, consequences, costs and risks.

Credit Points

To be relevant to International Standard Credit Points system, the credit points for the studies are arranged as follows

Stage	Year	Course	Credit Points
1	1	Certificate IV in Electrical & Electronics Trade Studies	30
2	2	Diploma/ Advanced Diploma in Applied Engineering (Electrical+ Electronics)	30

Total points after Advanced Diploma			60
3	3	Bachelor Applied Engineering (Electrical+ Electronics) Part 1	30
3	4	Bachelor Applied Engineering (Electrical+ Electronics) Part 2	30
Total points after Bachelor of Applied Engineering			120

Time allocations & detailed credit arrangement for each unit at degree level

More detailed developments are required.

Structures of the units

GE-General Engineering IE-Intermediate Engineering

BAE-Bachelor of Applied Engineering

Year 1 Certificate IV in Electrical & Electronics Trades

Semester 1

IE6	Principle of Electricity
IE13	Workshop
GE14	Fitting & Machining
GE16	Engineering Drawing I
GE1	Electrical Wiring (EE) Part 1
GE27	Machine Principle(ME)
IE3	Material Science
GE6	Occupational Health & Safety

Semester 2

GE1	Electrical Wiring Part 2
IE23	Industrial Computer System
GE13	Principle of Engine
IE31	Introduction to Renewable Energy Technology
GE18	Air-conditioning & Refrigeration (ME)
GE2	Electrical Machine (EE)
GE8	Electronics (EE)
IE32	Telecommunication Cabling & Installation

Year 2- Diploma/Advanced Diploma in Applied Engineering -(Electrical & Electronics)

Semester 1-

Diploma in Engineering Technology-(Electrical & Electronics)

IE1	Engineering Mathematics
IE2	Engineering Physics
IE7+ IE8	Electrical Circuit (EE)
GE10	Industrial Electronics (EE)
GE3	Electrical Distribution (EE)
GE9	Process Control (EE/ME)
GE11	Programmable Logic Controller (EE/ME)
IE15	Advanced Engineering Design & Project Work
IE27	Control Concept

Semester 2-

Advanced Diploma in Engineering Technology-(Electrical & Electronics)

IE4	Advanced Engineering Mathematics
GE34	Engineering Business Management
GE4	Power System Operation (EE)
GE5	Power System Protection
GE20	Computer Networking (EE)

GE26	Energy Efficient Building Design
IE10	Transmission Line (EE)
GE7	Project Management (EE/CE/ME)

Year 3 - Bachelor of Applied Engineering -(Electrical & Electronics) Part 1

Semester 1-

BAE 401	Higher Engineering Mathematics
BAE 402	Calculus
GE12	Photovoltaic Solar Electrical System
GE24	Manufacturing Management (ME)
IE24	Microprocessor
IE28	Electronic Signal & System
IE29	Electrical Estimating

Semester 2-

IE34	Electricity Supply Industrial Skills
IE16	Power System Analysis-Fault Calculation
GE19	Computer Programming (EE/CE/ME)
IE26	Electrical Communication Fundamental
BAE 405	Advanced Circuit Analysis
BAE 406	Electro-mechanics
BAE 407	Advanced Electro-magnetics Field & Materials
BAE 408	Analogue & Digital Electronics

Year 4 - Bachelor of Applied Engineering -(Electrical & Electronics) Part 2

Semester 1-

- Professional Studies (Part 1)

IE33	Hybrid Energy System
IE18	Building services
BAE 502	Linear System
BAE 503	Control System
BAE 504	Power System Analysis
BAE 505	Power System Optimization
BAE 507	Electro-mechanical Energy Conversion

Semester 2-

- Professional Studies (Part 2)

BAE 508	Industrial Engineering & Industrial Management
BAE 603	Software Engineering
BAE 607	Radio Wave Propagation & Microwave Techniques

	PLUS Other elective BAE units at level 5 & 6
	Design Project

Learning Resources

- [Certificate to Advanced Diploma Curriculum & Resources Download Link](#)
- [Bachelor of Applied Engineering \(Electrical & Electronics\) Curriculum & Detailed Contents](#)
- [Bachelor Degree Resources Download Link](#)

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BMgt+BAppSC (IT)

Year 1+2

Advanced Diploma in Management (60 cp)+
Diploma in Information Technology(30 cp)

Year 3+4

Bachelor of Applied Science (Computer Science & Computer Technology)

Year (3)

Unit	Topics	Reference	Points
ICT 301	General Electrical Knowledge	EE101	3
ICT 302	Digital Electronics	EE209/H012	3
ICT 303	Amplifier	EE208/H013	3
ICT 304	Material Science	E081	3
EE204	Physics	E046	3
EE201	Mathematics 1	E050	3
EE202	Mathematics 2	E026	3
EE306	Basic Control	I008	3
BAE605	Management		3
BAE408	Analog & Digital Electronics		3
	Mgt 301 Electronics Business		3
	Mgt 302 Information Security		3
	Mgt 303 Management Information System		4
		TOTAL	40

Year (4)

Unit	Topics	Reference	Points
ICT 401	Advanced Mathematics 1	BAE401	3
ICT 402	Advanced Mathematics 2	BAE402	3
BAE604	Telecommunication System		3
BAE508	Project Management		3
ICT 305	Professional Programming (1) C++		3
ICT 403	Professional Programming (2) Object Oriented		3
ICT 404	Professional Programming (3) Java		3
ICT 405	Professional Practice (1) Network		3
ICT 406	Professional Practice (2) Website		3
ICT 407	Artificial Intelligence		3
	Mgt 304 Electronics Commerce		3
	Mgt 305 Quantitative Methods for Management		3
	Mgt 306 Human Resources Management		3
	Mgt 307 Marketing Management		3
		TOTAL	42

Total credit points Year 1+2= 90+ Yr3+4=82 = 172

IQY Technical College သည် Bachelor of Engineering (Rural Development) Engineering (online) Course အသစ်ကို Year 10/ THS/ITC အောင်များ အတွက်ထပ်မံဖွင့်မည်။ စိုက်ပျိုးရေး၊မွေးမြူရေး၊ဆောက်လုပ်ရေး၊လျှပ်စစ်၊ ကျေးလက်ရေဖြန့်ဖြူးရေး၊နေစွမ်းအင်မှလျှပ်စစ်ထုတ်လုပ်ရေး၊နေစွမ်းအင်သုံးရေခဲ စက်ဘာသာများပါဝင်သည်။

MVTC601-Professional Diploma of Rural Development Engineering

(Bachelor of Engineering-Rural Development Engineering)
BE(RDE)

(STC Technological University)

Advanced Diploma of Rural Development Engineering

Objective of the course

This course aims to provide the necessary skills required for people in rural areas to perform the followings

- Agricultural Foods Production and Animal Handling
- Building Construction, Drawing, Water Supply, Road and Bridge Construction, Irrigation
- Electrical Supply & Solar Electrical Supply System
- Hydraulics
- Machine Repair, Welding and Machining
- Water Chemical Treatment
- Transportation & Logistics

Course Structure

The course consists of Civil, Electrical and Mechanical Engineering principle together with Transportation, Logistics and Agricultural Foods Production.

Outcome of the course

After having completed this course, the attenders can perform rural developmental engineering basic works in their regions.

Detailed Structure of the course

Credit Points- 60 points to complete Advanced Diploma of Rural Development. Diploma and Certificate in Rural Development can be awarded upon completion of the specific units.

List of Subjects

Year 1

Advanced Certificate in Rural Development Engineering (16 Credits)

(MVTC Level (3) (Course Number MVTC301)

CE106 Brick Laying, Sprouting and Gutter Construction (4 Points)

CE104 Construction Drawing (4 Points)

CE110 Building Construction (4 Points)

CE107 Water Supply (4 Points)

Diploma in Rural Development (32 Credits)

(MVTC Level (4) (Course Number MVTC401)

All units in Certificate in Rural Development (16 Credits)

CE111 Road Bridge and Irrigation System Construction (4 Points)

MVTC13PC9 Electrical Wiring (4 Points)

MVTC201Agriculture+MVTC202Animal Handling(4 Points)

MVTC204 Water Chemical Treatment (4 Points)

Year 2

Advanced Diploma in Rural Development (60Credits)

(MVTC Level (5) (Course Number MVTC501)

All units in Diploma in Rural Development

RE002 Grid Connected Power System (4 Points) together with EE101 DC Circuits+EE112 AC Circuits

EE118 Electrical Supply System (4 Points)

ME108 Principle of Engine+MVTC13PC7 Engine Repairs (4 Points)

ME201 Hydraulics (4 Points)

MVTC13PC6 Welding+MVTC13PC5 Fitting Machining (4 Points)

MVTC209 Transport Logistics (4 Points)

Mgt101 Management Studies (4 Points)

(Bachelor of Engineering-Rural Development Engineering)

BE(RDE)

(STC Technological University)

TOTAL 21 Units at 60 Credit points

Entry requirement AGTI/ City & Guild Diploma

YEAR 3

Professional Diploma in Engineering (Year 3)

www.iqytechnicalcollege.com/profdipengg.htm

1 BAE 401 Advanced Engineering Mathematics (3 pt)

2 BAE 402 Calculus (3 pt)

3 BAE 403 Engineering Mechanics (3 pt)

4 BAE 404 Engineering Materials & Thermodynamics (3 pt)

5. BAE421 Building Construction Engineering (3 pt)

6. BAE422 Estimating (3 pt)

7. BAE423 Fluid Mechanics (3 pt)

- 8. BAE424 Reinforced Concrete (3 pt)
- 9. BAE 523A Environmental Engineering (3 pt)
- 10. BAE621 Structural Engineering (3 pt)
- 11. RE012a-Electrical Engineering Part 1(2 pt)
- 12. RE016-Design & Management (3 pt)

Professional Diploma/BE (Rural Development)

(Total 12 units) (Each 2 Credit points)

Year 4

- 13. RE013-Electrical Machines (3 pt)
- 14. BAE 501 Advanced Power Systems & Power Transmission Networks
Rural Electrical Power Supply System (3 pt)
- 15. RE001- Foundation Studies in Renewable Energy and Sustainability (2 pt)
- 16. RE003- Solar and Thermal Energy Systems (3 pt)
- 17. RE004- Energy Storage Systems(3 pt)
- 18. RE010-Engineering Materials(3 pt)
- 19. BAE 604 Telecommunication Engineering (3 pt)
Rural Telecommunication System
- 20. BAE511 Air-conditioning & Refrigeration (3 pt)
Solar Powered Refrigeration for Rural Area

Engineering Competency Demonstration Report

21.BAE608 Engineering Competency Demonstration Report (2 credit points)

Engineering Handbook Applications

DIPLOMA IN CIVIL ENGINEERING

Pre-requisite

Trade Certificate or Certificate in Civil Engineering/ Building / Brick Laying/ Carpentry /Surveying etc or work experience.

ASSESSMENT (DIPLOMA)

Completion of the course works- submission of the assignments Theory/ Practical/ Calculations) for the over all knowledge of the subject
(Grading—Complete or Incomplete)

BACHELOR OF APPLIED ENGINEERING (BUILDING SERVICE)

Pre-requisite

Diploma in Civil Engineering

ASSESSMENT

The learning and assessment system involves two parts

(1) Part (1)

Completion of the course works- submission of the assignments Theory/ Practical/ Calculations) for the over all knowledge of the subject
(Grading—Complete or Incomplete)

(2) Completion of the course works- submission of the assignments (Theory/ Practical/ Calculations) for the competency units of the subject (Grading—Complete or Incomplete)

(3) Part (2)

Sitting the final test for the subject by either online or paper based test- -Grading—In accordance with St Clements University Higher Education School-Niue Students Handbook.

STAGE (1) DIPLOMA IN CIVIL ENGINEERING (Each 2.5 Credits) (30 Pt)

Certificate in Construction Studies

CE 106A Detailed Construction & Building Construction Materials

CE 104 A Building Drawing

CE 101 Mathematics

CE 102 Physics

CE 108 Electrical Principle

DIPLOMA IN CIVIL ENGINEERING

CE 104 Fluid Dynamics

CE 105 Hydraulic

CE 106 Hydrology

CE 107 Sanitation-and-Water-supply

CE 109 Energy Efficient Building Design

CE 110 Building Construction

EE102 Basic Electrical Fitting & Wiring

Year (2) Advanced Diploma in Civil Engineering Program(30 pt) (Each 2.5 pt)

YEAR (2) SEMESTER (1)

CE103-Surveying

CE111A-Road+Bridges

CE113 Structure 1

CE114 Structure 2

CE115 Estimating & Specification

YEAR (2) SEMESTER (2)

EE104 Electrical Equipments Safety Protection

EE105 Electrical Installation Design

ME 102 Engineering Thermodynamics

ME 334 Airconditioning and Refrigeration

EE106 Advanced Electrical Wiring

CE 111 Engineering Mechanics+ ME 301 Applied Mathematics

EE308 Sustainability

Year (3) Part 1 ADVANCED GENERAL CIVIL ENGINEERING DEGREE LEVEL

Subjects	Points	Competency Units	Page
BAE 401 Advanced Engineering Mathematics	9	Maths 301 Introduction to Complex Variables (1 pt) Maths 302 Elementary Linear Algebra (1 pt) Maths 401 Continuous Distributions (1 pt) Maths 402 Discrete Distributions (1 pt) Maths 403 Engineering Mathematics (1 pt) Maths 501 Introduction to Probability(1 pt) Maths 501 Linear Algebra & Matrices (1 pt) Maths 502 Finite Difference Methods for Partial Differential Equations & Mathematical Modelling (1 pt) Maths 601 Random Variables (1 pt)	
BAE 402 Calculus	3	Maths 304 Integration and Differential Equations (1 pt) Maths 403 Second Order Differential Equations (1 pt) Maths 303 Engineering Mathematics (1 pt)	
BAE 403 Engineering Mechanics	1	ME 301 Applied Mathematics (1 pt)	
BAE 404 Engineering Materials & Thermodynamics	3	ME 334 Engineering Thermodynamics (1 pt) ME 434 Wind Turbines (1 pt) ME 634 Pneumatics (1 pt)	
BAE 508 Industrial Engineering & Industrial Management	1	Mgt 501 Basic Management & Communication Skills (1 pt)	
Total Credit points in this group	17 pt		

Year (3) Part 2 ADVANCED GENERAL CIVIL ENGINEERING DEGREE LEVEL (18 Pt)

BAE421 Building Construction Engineering (4 pt)

BAE422 Estimating (2 pt)

BAE423 Fluid Mechanics (2 pt)

BAE424 Reinforced Concrete (2 pt)

BAE425 Timber Engineering (2 pt)

BAE521 Road & Bridge (2 pt)

BAE522 Rock Mechanics (2 pt)

BAE523 Soil Mechanics (2 pt)

TOTAL 35 Pt

Year (4) Part 1

BAE 601 Computer Programming	3	IT 401 Object Oriented Programming (1 pt) IT 402 Structured Programming (1 pt) IT 403 Visual Basic Programming (1 pt)
BAE 605 Engineering Management	5	Mgt 502 Operation Management (1 pt) Mgt 503 Production & Operation Management (1 pt) Mgt 504 Project Management (1 pt) Mgt 505 Quality Management and Manufacturing Engineering (1 pt) Mgt 506 Strategic Financial Management (1 pt)
BAE 606 Building Service Electrical & Mechanical Engineering	2	EE 617 Building Electrical and Mechanical System (1 pt) ME 334 Airconditioning and Refrigeration (1 pt) CE 301 Building Construction (Optional) CE 301 Conceise Hydroulics (Optional)
BAE 609 Design Project	3	
Total Credit points in this group	13 Pt	

Year (4) Part 1

(12 Pt)

BAE621 Structural Engineering (3 pt)

BAE623 Surveying & Traffic Engineering (2 pt)

BAE624 Water Supply , Sanitation & Finishing (2 pt)

BAE 608 Engineering Competency Demonstration Report Writing (2pt)

SELF STUDY

BAE622 Architecture (3 pt)

TOTAL 25 pt

DIPLOMA IN MECHANICAL ENGINEERING

Pre-requisite

Trade Certificate or Certificate in Mechanical Engineering/ Fitting /Machining/Welding/Auto Mechanic etc or work experience.

ASSESSMENT (DIPLOMA)

Completion of the course works- submission of the assignments Theory/ Practical/ Calculations) for the over all knowledge of the subject
(Grading—Complete or Incomplete)

BACHELOR OF ENGINEERING (MECHANICAL)

Pre-requisite

Diploma in Mechanical Engineering

ASSESSMENT

The learning and assessment system involves two parts

(1) Part (1)

Completion of the course works- submission of the assignments Theory/ Practical/ Calculations) for the over all knowledge of the subject
(Grading—Complete or Incomplete)

(2) Completion of the course works- submission of the assignments (Theory/ Practical/ Calculations) for the competency units of the subject (Grading—Complete or Incomplete)

(3) Part (2)

Sitting the final test for the subject by either online or paper based test- -Grading—In accordance with St Clements University Higher Education School-Niue Students Handbook.

Year (1)

Certificate in Mechanical Engineering (Each 1.5 Credits) (15 Pt)

Unit Number	Unit Name	Credit Points
Maths 101	Engineering Mathematics	1.5
ME 101	Applied Mathematics	1.5
ME 102	Engineering Thermodynamics	1.5
ME 103	Engineering Mechanics	1.5
ME 104	Machine Principle	1.5
ME 105	Electrical Principle	1.5
ME 106	Electrical Circuits	1.5
ME 107	Heat Transfer	1.5
ME 108	Principle of Engines	1.5
ME201	Introduction to Fluid Mechanics	1.5
	Total	15

Diploma in Mechanical Engineering (Each 1.5 Credits) (15 Pt)

ME 202 Introduction to Aero Dynamics

ME 203 Control Engineering

ME 204 Engineering Fluid Mechanics

ME 205 Manufacturing Processes-and-Materials

ME 206 Introduction to Turbo Machinery

ME 207 Chemical Thermodynamics

ME 208 Hydrocarbons

ME 209 Introduction-to-polymer-science-and-technology

ME 234 Wind Turbines

Mgt 501 Basic Management

Year (2)

Advanced Diploma in Mechanical Engineering (Each 1.5 Credits) (30 Pt)

Mathematics

Maths 403 Engineering-Mathematics

Maths 301 Introductory Finite Difference Methods-for-pdes

Maths 302 Elementary-Linear-Algebra

Maths 303 Introductory Finite Volume Methods-for-pdes

Maths 501 Linear Algebra-c-1

Mechanical Engineering

ME 301 Fluid Dynamics

ME 302 Automation-and-Robotics

ME 303 Computer Aided Design and Manufacturing

ME 304 Introduction to Nonlinearity-in-control-systems

ME 305 Corrosion Prevention

ME 306 Theory-of-waves-in-materials

ME 334 Airconditioning and Refrigeration

ME 434 Mechtronics-Robotics

ME 534 Numerical Control Part 1

ME 634 Pneumatics

EE 617 Building Electrical and Mechanical System Part 1

EE 624 Process Control

Mgt 503 Production & Operation Management

Mgt 505 Quality Management and Manufacturing Engineering

Year (3)

GENERAL APPLIED ENGINEERING (MECHANICAL) DEGREE

Subjects	Points	Competency Units	Page
BAE 401 Advanced Engineering Mathematics	9	Maths 301 Introduction to Complex Variables (1 pt) Maths 302 Elementary Linear Algebra (1 pt) Maths 401 Continuous Distributions (1 pt) Maths 402 Discrete Distributions (1 pt) Maths 403 Engineering Mathematics (1 pt) Maths 501 Introduction to Probability(1 pt) Maths 501 Linear Algebra & Matrices (1 pt) Maths 502 Finite Difference Methods for Partial Differential Equations & Mathematical Modelling (1 pt) Maths 601 Random Variables (1 pt)	
BAE 402 Calculus	3	Maths 304 Integration and Differential Equations (1 pt) Maths 403 Second Order Differential Equations (1 pt) Maths 303 Engineering Mathematics (1 pt)	
BAE 403 Engineering Mechanics	1	ME 301 Applied Mathematics (1 pt)	

BAE 404 Engineering Materials & Thermodynamics	3	ME 334 Engineering Thermodynamics (1 pt) ME 434 Wind Turbines (1 pt) ME 634 Pneumatics (1 pt)	
BAE 507 Electro-mechanical Energy Conversion	2	EE 602 Motor Control Electronics (1 pt) ME 434 Mechtronics & Robotics (1 pt)	
BAE 508 Industrial Engineering & Industrial Management	1	Mgt 501 Basic Management & Communication Skills (1 pt)	
BAE511 Air-conditioning & Refrigeration	2 pt	ME511 Air-conditioning & Refrigeration	
BAE613 Mechanical Instrumentation Process	2 pt	ME 613 Mechanical Instrumentation & Process	
BAE614 Machine Design	2 pt	ME 614 Machine Design Part 1 Part 2 Part 3	
BAE512 Building Service Water Supply System	2 pt	ME512 Building Service Water Supply System	
BAE511 Air-conditioning & Refrigeration	2 pt	ME511 Air-conditioning & Refrigeration	
BAE613 Mechanical Instrumentation Process	2 pt	ME 613 Mechanical Instrumentation & Process	
	31 pt		

Year (4) Part 1 BE (Mechanical + General Related Subjects)

BAE 601 Computer Programming	3	IT 401 Object Oriented Programming (1 pt) IT 402 Structured Programming (1 pt) IT 403 Visual Basic Programming (1 pt)	
BAE 602 Computer Network	1	ICT 202 Information Systems Principles and Networking (1 pt)	
BAE 603 Software Engineering	3	ICT 106 Software Engineering (1 pt) ICT 203 Information Systems, Analysis and Design (1 pt) EE 626 Nano Technology (1 pt)	
BAE 605 Engineering Management	5	Mgt 502 Operation Management (1 pt) Mgt 503 Production & Operation Management (1 pt)	

		Mgt 504 Project Management (1 pt) Mgt 505 Quality Management and Manufacturing Engineering (1 pt) Mgt 506 Strategic Financial Management (1 pt)	
BAE 606 Building Service Electrical & Mechanical Engineering	2	EE 617 Building Electrical and Mechanical System (1 pt) ME 334 Airconditioning and Refrigeration (1 pt) CE 301 Building Construction (Optional) CE 301 Conceise Hydroulics (Optional)	
Total Credit points	14 Pt		

Year (4) Part 2

Bachelor of Engineering (Mechanical) Specialization (13 pt)

BAE311 Plant Engineering (2 pt)

BAE312 Design Engineering (2 pt)

BAE313 Environmental Control (2 pt)

BAE314 Mechanical Power Generation (2 pt)

BAE315 Materials Engineering (2 pt) Part 1 Part 2

BAE 608 Engineering Competency Demonstration Report Writing (3 pt)

Elective (2 pt)

Subjects	Points	Units
BAE513 Production Technology	2 pt	ME513 Production Technology
BAE611 Maintenance Engineering	2 pt	ME 611 Maintenance Engineering
BAE612 Engineering Metallurgy	2 pt	ME 612 Metallurgy

DIPLOMA OF AUTOMOTIVE ENGINEERING

PART (1) RELATED BASIC KNOWLEDGE (13 pt) (Each 1 pt)

Maths 101+302+403 (EE201) Engineering Mathematics

Maths 301+501+303 (EE302) Advanced Engineering Mathematics

ME103 Engineering Mechanics(EE204 Engineering Physics)

Mgt 501 Basic Management (EE309 Project Management)

EE101 DC Circuit Problems

EE102 Basic Electrical Fitting & Wiring

EE103 Basic Electrical Drafting

EE104 Electrical Equipments Safety Protection

EE111 Electromagnetism & Basic Electrical Machines

EE112 Alternating Current Principle

EE113 Electrical Fundamental

EE208 Operational Amplifiers

EE209 Analogue Electronics

PART (2) BASIC MECHANICAL (6 pt) (Each 2 pt)

Refer www.highlightcomputer.com/advdipmechengg.htm
and do the following units

ME108 Principle of Engine

ME 101 Applied Mathematics+ ME 103 Engineering Mechanics

ME 102 Engineering Thermodynamics

PART (3) SPECIALIZED AUTOMOTIVE ENGINEERING (10 pt) (Each 2 pt)

AE 101 Auto Diesel+ Auto Electrics

AE 102 Auto General Engine+ Fuel System+ Transmission

AE 103 Engine Assembly +Electrical +Electronics

AE 104 Brake & Steering System

AE 105 Automotive Mechanic

PROFESSIONAL DIPLOMA IN AUTOMOTIVE ENGINEERING

Year 3

Unit number	Unit name
BAE 401	Advanced Engineering Mathematics
BAE 402	Calculus
BAE 403	Engineering Mechanics
BAE 404	Engineering Materials & Thermodynamics
AE301	Automotive Engineering
AE302	Auto Vehicle Safety

RE004	Energy Storage Systems (2 pt)
RE005	Renewable Energy Resource Analysis (2 pt)
AE303	Automotive Chasis(2 pt)
RE010	Engineering Materials (2 pt)
AE304	AE304 Engine Testing(2pt)
RE016	Design & Management (BAE508) (2 pt)

Year 4

Subject	
BAE681	Welding Engineering
BAE684	Computerised Engine Control
BAE685	Electric Vehicle Technology
AE401	Automotive Mechatronics
BAE314	Mechanical Power Generation
BAE315	Materials Engineering
BAE511	Air-conditioning & Refrigeration
BAE690	Mechanical Estimating
BAE613	Mechanical Instrumentation Process
BAE614	Machine Design
RE007	Energy System Efficiency
AE402	Diesel Engine Repair
Graduating Unit	
BAE 605	Engineering Management
BAE 608	Engineering Competency Demonstration Report

BE+BAppSCIT

Year 1+2

Adv Dip in Engineering (60cp)+Dip IT (30 cp)

Year 3+4

Bachelor of Engineering (Electrical)

YEAR 3 +4

Subjects

BAE 401 Advanced Engineering Mathematics

BAE 402 Calculus

BAE 403 Engineering Mechanics

BAE 404 Engineering Materials & Thermodynamics

BAE 405 Advanced Circuit Analysis

BAE 406 Electro-mechanics

BAE 407 Advanced Electro-magnetics Field & Materials

BAE 408 Analogue & Digital Electronics

<u>ICT 302</u>	<u>Digital Electronics</u>	3
<u>ICT 303</u>	<u>Amplifier</u>	3
<u>ICT 304</u>	<u>Material Science</u>	3

BAE 501 Advanced Power Systems & Power Transmission Networks

BAE 502 Linear System

BAE 503 Control System

BAE 504 Power System Analysis

BAE 505 Power System Optimization

<u>BAE 506 Power System Stability & Protection</u>
<u>BAE 507 Electro-mechanical Energy Conversion</u>
<u>BAE 508 Industrial Engineering & Industrial Management</u>
<u>BAE 601 Computer Programming</u>
<u>BAE 602 Computer Network</u>
<u>BAE 603 Software Engineering</u>
<u>BAE 604 Telecommunication Engineering</u>
<u>BAE 605 Engineering Management</u>
<u>BAE 606 Building Service Electrical & Mechanical Engineering</u>
<u>BAE 607 Radio Wave Propagation & Microwave Techniques</u>
<u>BAE 608 Professional Engineer Competency Demonstration Report</u>
<u>ICT 401 Advanced Mathematics 1</u>
<u>ICT 402 Advanced Mathematics 2</u>
<u>ICT 305 Professional Programming (1) C++</u>

Engineering 72 CP+ ICT =12 CP= 84 CP

Year 5

<u>ICT 403</u>	<u>Professional Programming (2) Object Oriented</u>	3
<u>ICT 404</u>	<u>Professional Programming (3) Java</u>	3
<u>ICT 405</u>	<u>Professional Practice (1) Network</u>	3
<u>ICT 406</u>	<u>Professional Practice (2) Website</u>	3
<u>ICT 407</u>	<u>Artificial Intelligence</u>	3

Year 5= Engineering =24 CP+ICT 15 CP= 39 CP\

Total= Yr 1+2 90CP+ Yr 3+4=84CP+ Yr 5= 39 CP=Total 213 CP

Bachelor of Engineering (Civil)

Year (3) Part 1 ADVANCED GENERAL CIVIL ENGINEERING DEGREE LEVEL

Subjects
<u>BAE 401 Advanced Engineering Mathematics</u>

<u>BAE 402 Calculus</u>		
<u>BAE 403 Engineering Mechanics</u>		
<u>BAE 404 Engineering Materials & Thermodynamics</u>		
	<u>General Electrical Knowledge</u>	3
<u>ICT 302</u>	<u>Digital Electronics</u>	3
<u>ICT 303</u>	<u>Amplifier</u>	3
<u>ICT 304</u>	<u>Material Science</u>	
<u>BAE 508 Industrial Engineering & Industrial Management</u>		

Year (3) Part 2 ADVANCED GENERAL CIVIL ENGINEERING DEGREE LEVEL (18 Pt)

BAE421 Building Construction Engineering (4 pt)

BAE422 Estimating (2 pt)

BAE423 Fluid Mechanics (2 pt)

BAE424 Reinforced Concrete (2 pt)

BAE425 Timber Engineering (2 pt)

BAE521 Road & Bridge (2 pt)

BAE522 Rock Mechanics (2 pt)

BAE523 Soil Mechanics (2 pt)

BAE 523A Environmental Engineering

TOTAL 35 Pt

Year (4) Part 1

<u>BAE 601 Computer Programming</u>
<u>BAE 605 Engineering Management</u>
<u>BAE 606 Building Service Electrical & Mechanical Engineering</u>
<u>ICT 401Advanced Mathematics 1</u>

[ICT 402Advanced Mathematics 2](#)

[ICT 305Professional Programming \(1\) C++](#)

Year (4) Part 1

(12 Pt)

[BAE621 Structural Engineering \(3 pt \)](#)

[BAE623 Surveying& Traffic Engineering \(2 pt\)](#)

[BAE624 Water Supply , Sanitation & Finishing \(2 pt \)](#)

[BAE 608 Engineering Competency Demonstration Report Writing \(2pt\)](#)

SELF STUDY

[BAE622 Architecture \(3 pt \)](#)

Engineering 72 CP+ ICT =12 CP= 84 CP

Year 5

ICT 403	Professional Programming (2) Object Oriented	3
ICT 404	Professional Programming (3) Java	3
ICT 405	Professional Practice (1) Network	3
ICT 406	Professional Practice (2) Website	3
ICT 407	Artificial Intelligence	3

Year 5= Engineering =24 CP+ICT 15 CP= 39 CP\

Total= Yr 1+2 90CP+ Yr 3+4=84CP+ Yr 5= 39 CP=Total 213 CP

Bachelor of Engineering (Mechanical)

Year (3)

GENERAL APPLIED ENGINEERING (MECHANICAL) DEGREE

Subjects		
<u>BAE 401 Advanced Engineering Mathematics</u>		
<u>BAE 402 Calculus</u>		
<u>BAE 403 Engineering Mechanics</u>		
<u>BAE 404 Engineering Materials & Thermodynamics</u>		
	<u>General Electrical Knowledge</u>	3
<u>ICT 302</u>	<u>Digital Electronics</u>	3
<u>ICT 303</u>	<u>Amplifier</u>	3
<u>ICT 304</u>	<u>Material Science</u>	
<u>BAE 507 Electro-mechanical Energy Conversion</u>		
<u>BAE 508 Industrial Engineering & Industrial Management</u>		
<u>BAE511 Air-conditioning & Refrigeration Part 1</u>		
<u>BAE613 Mechanical Instrumentation Process</u>		
<u>BAE614 Machine Design</u>		
<u>BAE512 Building Service Water Supply System</u>		
<u>BAE511 Air-conditioning & Refrigeration Part 2</u>		
<u>BAE613 Mechanical Instrumentation Process</u>		
<u>ICT 401Advanced Mathematics 1</u>		
<u>ICT 402Advanced Mathematics 2</u>		
<u>ICT 305Professional Programming (1) C++</u>		

Year (4) Part 1 BE (Mechanical + General Related Subjects)

<u>BAE 601 Computer Programming</u>
<u>BAE 602 Computer Network</u>
<u>BAE 603 Software Engineering</u>
<u>BAE 605 Engineering Management</u>
<u>BAE 606 Building Service Electrical & Mechanical Engineering</u>

Year (4) Part 2

Bachelor of Engineering (Mechanical) Specialization (13 pt)

[BAE311 Plant Engineering \(2 pt\)](#)

[BAE312 Design Engineering \(2 pt\)](#)

[BAE313 Environmental Control \(2 pt\)](#)

[BAE314 Mechanical Power Generation \(2 pt\)](#)

[BAE315 Materials Engineering \(2 pt\) Part 1 Part 2](#)

[BAE 608 Engineering Competency Demonstration Report Writing \(3 pt\)](#)

Elective (2 pt)

Subjects	
<u>BAE513 Production Technology</u>	
<u>BAE611 Maintenance Engineering</u>	
<u>BAE612 Engineering Metallurgy</u>	

Engineering 72 CP+ ICT =12 CP= 84 CP

Year 5

<u>ICT 403</u>	<u>Professional Programming (2) Object Oriented</u>	3
<u>ICT 404</u>	<u>Professional Programming (3) Java</u>	3
<u>ICT 405</u>	<u>Professional Practice (1) Network</u>	3
<u>ICT 406</u>	<u>Professional Practice (2) Website</u>	3
<u>ICT 407</u>	<u>Artificial Intelligence</u>	3

Year 5= Engineering =24 CP+ICT 15 CP= 39 CP\

Total= Yr 1+2 90CP+ Yr 3+4=84CP+ Yr 5= 39 CP=Total 213 CP

BE+BMgt

Year 1+2

Advanced Diploma in Engineering 60 credit+
Diploma in Management 30 credits concurrent study

Year 3+4

Bachelor of Engineering (Electrical)

YEAR 3 +4

Subjects

BAE 401 Advanced Engineering Mathematics

BAE 402 Calculus

BAE 403 Engineering Mechanics

BAE 404 Engineering Materials & Thermodynamics

BAE 405 Advanced Circuit Analysis

BAE 406 Electro-mechanics

BAE 407 Advanced Electro-magnetics Field & Materials

BAE 408 Analogue & Digital Electronics

MANAGEMENT

Mgt 301 Electronics Business

Mgt 302 Information Security

<u>BAE 501 Advanced Power Systems & Power Transmission Networks</u>
<u>BAE 502 Linear System</u>
<u>BAE 503 Control System</u>
<u>BAE 504 Power System Analysis</u>
<u>BAE 505 Power System Optimization</u>
<u>BAE 506 Power System Stability & Protection</u>
<u>BAE 507 Electro-mechanical Energy Conversion</u>
<u>BAE 508 Industrial Engineering & Industrial Management</u>
<p>MANAGEMENT</p> <p><u>Mgt 303 Management Information System</u></p> <p><u>Mgt 304 Electronics Commerce</u></p> <p><u>Mgt 305 Quantitative Methods for Management</u></p>
<u>BAE 601 Computer Programming</u>
<u>BAE 602 Computer Network</u>
<u>BAE 603 Software Engineering</u>
<u>BAE 604 Telecommunication Engineering</u>
<u>BAE 605 Engineering Management</u>
<u>BAE 606 Building Service Electrical & Mechanical Engineering</u>
<u>BAE 607 Radio Wave Propagation & Microwave Techniques</u>
<u>BAE 608 Professional Engineer Competency Demonstration Report</u>

MANAGEMENT

Mgt 306 Human Resources Management

Mgt 307 Marketing Management

Mgt 308 Artificial Intelligence

Yr 3+4 Total Engineering = 72 CP+ Management=24 cp= 96 cp

Total Credit points= 90cp (Yr 1+2)+ 96 cp (Yr 3+4+5)= 186 cp

Bachelor of Engineering (Civil)

Year (3) Part 1 ADVANCED GENERAL CIVIL ENGINEERING DEGREE LEVEL

Subjects
<u>BAE 401 Advanced Engineering Mathematics</u>
<u>BAE 402 Calculus</u>
<u>BAE 403 Engineering Mechanics</u>
<u>BAE 404 Engineering Materials & Thermodynamics</u>
<u>BAE 508 Industrial Engineering & Industrial Management</u>
MANAGEMENT
<u>Mgt 301 Electronics Business</u>
<u>Mgt 302 Information Security</u>

Year (3) Part 2 ADVANCED GENERAL CIVIL ENGINEERING DEGREE LEVEL (18 Pt)

[BAE421 Building Construction Engineering \(4 pt\)](#)

[BAE422 Estimating \(2 pt\)](#)

[BAE423 Fluid Mechanics \(2 pt\)](#)

[BAE424 Reinforced Concrete \(2 pt\)](#)

[BAE425 Timber Engineering \(2 pt \)](#)

[BAE521 Road & Bridge \(2 pt \)](#)

[BAE522 Rock Mechanics \(2 pt \)](#)

[BAE523 Soil Mechanics \(2 pt \)](#)

[BAE 523A Environmental Engineering](#)

MANAGEMENT

[Mgt 303 Management Information System](#)

[Mgt 304 Electronics Commerce](#)

[Mgt 305 Quantitative Methods for Management](#)

TOTAL 35 Pt

Year (4) Part 1

<u>BAE 601 Computer Programming</u>
<u>BAE 605 Engineering Management</u>
<u>BAE 606 Building Service Electrical & Mechanical Engineering</u>
<u>BAE 609 Design Project</u>
Total Credit points in this group

Year (4) Part 1

(12 Pt)

[BAE621 Structural Engineering \(3 pt \)](#)

[BAE623 Surveying& Traffic Engineering \(2 pt\)](#)

[BAE624 Water Supply , Sanitation & Finishing \(2 pt \)](#)

[BAE 608 Engineering Competency Demonstration Report Writing \(2pt\)](#)

SELF STUDY

[BAE622 Architecture \(3 pt \)](#)

MANAGEMENT

[Mgt 306 Human Resources Management](#)

[Mgt 307 Marketing Management](#)

[Mgt 308 Artificial Intelligence](#)

Yr 3+4Total Engineering = 72 CP+ Management=24 cp= 96 cp

Total Credit points= 90cp (Yr 1+2)+ 96 cp (Yr 3+4+5)= 186 cp

Bachelor of Engineering (Mechanical)

Year (3)

GENERAL APPLIED ENGINEERING (MECHANICAL) DEGREE

Subjects
<u>BAE 401 Advanced Engineering Mathematics</u>
<u>BAE 402 Calculus</u>
<u>BAE 403 Engineering Mechanics</u>
<u>BAE 404 Engineering Materials & Thermodynamics</u>
<u>BAE 507 Electro-mechanical Energy Conversion</u>
<u>BAE 508 Industrial Engineering & Industrial Management</u>
<u>BAE511 Air-conditioning & Refrigeration Part 1</u>
<u>BAE613 Mechanical Instrumentation Process</u>
<u>BAE614 Machine Design</u>
<u>BAE512 Building Service Water Supply System</u>
<u>BAE511 Air-conditioning & Refrigeration Part 2</u>
<u>BAE613 Mechanical Instrumentation Process</u>
 MANAGEMENT <u>Mgt 301 Electronics Business</u> <u>Mgt 302 Information Security</u>

Year (4) Part 1 BE (Mechanical + General Related Subjects)

<u>BAE 601 Computer Programming</u>

<u>BAE 602 Computer Network</u>
<u>BAE 603 Software Engineering</u>
<u>BAE 605 Engineering Management</u>
<u>BAE 606 Building Service Electrical & Mechanical Engineering</u>

MANAGEMENT

[Mgt 303 Management Information System](#)

[Mgt 304 Electronics Commerce](#)

[Mgt 305 Quantitative Methods for Management](#)

Year (4) Part 2

Bachelor of Engineering (Mechanical) Specialization (13 pt)

[BAE311 Plant Engineering \(2 pt\)](#)

[BAE312 Design Engineering \(2 pt\)](#)

[BAE313 Environmental Control \(2 pt\)](#)

[BAE314 Mechanical Power Generation \(2 pt\)](#)

[BAE315 Materials Engineering \(2 pt\) Part 1 Part 2](#)

[BAE 608 Engineering Competency Demonstration Report Writing \(3 pt\)](#)

Elective (2 pt)

Subjects
<u>BAE513 Production Technology</u>
<u>BAE611 Maintenance Engineering</u>
<u>BAE612 Engineering Metallurgy</u>

MANAGEMENT

[Mgt 306 Human Resources Management](#)

[Mgt 307 Marketing Management](#)

[Mgt 308 Artificial Intelligence](#)

Yr 3+4Total Engineering = 72 CP+ Management=24 cp= 96 cp

Total Credit points= 90cp (Yr 1+2)+ 96 cp (Yr 3+4+5)= 186 cp

PROFESSIONAL DIPLOMA IN SCHOOL & VOCATIONAL EDUCATION)

(BACHELOR OF EDUCATION (SCHOOL & VOCATIONAL EDUCATION)

www.highlightcomputer.com/bedschoolvet.htm

This course aims to provide the teacher education theories and practical applications in school and vocational education classes.

Principles of teaching , learning , training and assessment are combined with instruction design methodologies and knowledge related to learning environment.

Modern learning technologies and technology in classroom contexts are added..

Teachers who are working in voluntary schools can be provided with necessary teaching and training knowledge to work as qualified teachers by attending this course.

Pre-requisite

Degree Holders	Non Degree Holders
<ul style="list-style-type: none">• Bachelor Degree & Teaching Experiences	<ul style="list-style-type: none">• Completion of Year 11+12 (Certificate in General & Vocational Education Level 4) PLUS• Completion of Diploma level qualification in Engineering, IT & Management courses of IQY Technical College & other vocational colleges/schools

Course structure

This course integrates Diploma in Teaching Practice , Teaching Practicum and Advanced study in Education to achieve 120 credit points required to get Professional Diploma in School & Vocational Education .awarded by IQY Technical College (Authorized Training Centre of Singapore Institute of Engineering Technologists, Member of ASEAN Federation of Engineering Organizations)

The universities (STC Technological University & St Clements University) affiliated to IQY Technical College award Bachelor of Education (School & Vocational Education) to holders of Professional Diploma in School & Vocational Education.

Year 1/2

Diploma in Teaching Practice (60 credits)

jointly taught by (STC Technological University/St Clements University)

Singapore Institute of Engineering Technologists/ IQY Technical College)

ENROLMENT LINK

Click the following link & fill the form.

<http://www.emailmeform.com/builder/form/tq48xQ6acb>

List of Subjects for Teaching Practice

ED101P Teaching Support (5 Credits)

ED102P Application of Information Technology in School Education (5 Credits)

ED103P Classroom Management (5 Credits)

ED104P Teaching Portfolio (5 Credits)

ED105P Inclusive Teaching (5 Credits)

ED106P Subject Area Knowledge (5 Credits)

ED107 Theory of Education, Educational Technology & Teaching Practice

(15 Credits)

ED107A-Theory of Education (ED101) (Slide 1 to 60 Principle of Learning)
ED107B-Education Technology (ED102) (Slide 61 to 100)
ED107C-Teaching Practice (ED103 Classroom Management) (Slide 101 to 140)
ED107D-Lesson Planning (ED104 Teaching Portfolio)(Slide 241 to 300)
ED107E-Teaching& Learning (Slide 141 to 160+ Slide 200 to 240)
ED107F-Inclusive Teaching (ED105 Inclusive Teaching Slide 161 to 200)
ED107G-Evaluation& Assessment (Slide 301 to 320)

ED108 Curriculum Study , Teaching & Learning (15- Credits)

Interpreting Curriculums

Study Sequence for Graduates

ED106 Subject Area Knowledge (Present Degree)

Part (1) Theory Training & Assignment (Certificate in Teaching Practice)

ED107 Theory of Education, Educational Technology & Teaching Practice

(15 Credits)

ED108 Curriculum Study , Teaching & Learning (15 Credits)

Part (2) Teaching Practice Portfolio Presentation (Diploma in Teaching Practice)

ED101P Teaching Support (5 Credits)

ED102P Application of Information Technology in School Education (5 Credits)

ED103P Classroom Management (5 Credits)

ED104P Teaching Portfolio (5 Credits)

ED105P Inclusive Teaching (5 Credits)

Study Sequence for Experienced Teachers

ED106 Subject Area Knowledge (Present Degree)

Part (1) Theory Training & Assignment (Certificate in Teaching Practice)

ED107 Theory of Education, Educational Technology & Teaching Practice

(15 Credits)

ED108 Curriculum Study , Teaching & Learning (15 Credits)

Part (2) Teaching Practice Portfolio Presentation (Diploma in Teaching Practice)

The following subjects can be exempted by presenting the reference letter from the school.

ED101 Teaching Support (5 Credits)

ED103 Classroom Management (5 Credits)

ED105 Inclusive Teaching (5 Credits)

The following subject needs to be studied

ED102 Application of Information Technology in School Education (5 Credits)

Teaching portfolio needs to be presented for the following subject

ED104 Teaching Portfolio(5 Credits)



REFERENCE EDUCATION THEORIES

ED 101 Theory of Education (5 Credits)

ED 102 Education Technology (5 Credits)

ED 103 Teaching Practice (5 Credits)

ED 104 Lesson Planning (5 Credits)

ED 105 Principle of Learning (5 Credits)

ED 106 Interpreting Curriculums (5 Credits)

VIDEOS

IQY Teacher Training 1

<https://youtu.be/CHqmQ1Ifwa4>

IQY Teacher Training 2

<https://youtu.be/i-VpgngRumw>

IQY Teacher Training 3

<https://youtu.be/eYujIkvdPYw>

IQY Teacher Training 4

<https://youtu.be/n9y49b5qO8g>

TEACHER TRAINING- IQY-AUDIO Download Links

VN860195.zip (96.74MB)

<http://www.filefactory.com/file/6s4a0e57kz25/n/VN860195.zip>

VN860197.zip (98.04MB)

<http://www.filefactory.com/file/19yvqu2vqrdl/n/VN860197.zip>

VN860196.zip (39.01MB)

<http://www.filefactory.com/file/5ukezf8qmmb3/n/VN860196.zip>

VN860136 (147MB)

<http://www.filefactory.com/file/3wbq5wqon6zn/VN860136.zip>

STUDY GUIDES & LESSONS

ED101 to ED106

www.highlightcomputer.com/ED101106.pdf

ED107 Lessons

ED107 Exercises

www.highlightcomputer.com/ED107Exercises.pdf

ED107 Part 1 (Slide 1 to 20) ED107A-Theory of Education (ED101) (Slide 1 to 60 Principle of Learning)

www.highlightcomputer.com/ED1071.pdf

ED107 Part 2 (Slide 21 to 40) ED107A-Theory of Education (ED101) (Slide 1 to 60 Principle of Learning)

www.highlightcomputer.com/ED1072.pdf

ED107 Part 3 (Slide 41 to 60) ED107A-Theory of Education (ED101) (Slide 1 to 60 Principle of Learning)

www.highlightcomputer.com/ED1073.pdf

ED107 Part 4 (Slide 61 to 80) ED107B-Education Technology (ED102) (Slide 61 to 100)

www.highlightcomputer.com/ED1074.pdf

ED107 Part 5 (Slide 81 to 120) ED107B-Education Technology (ED102) (Slide 61 to 100)+ ED107C-Teaching Practice (ED103 Classroom Management) (Slide 101 to 140)

www.highlightcomputer.com/ED1075.pdf

ED107 Part 6 (Slide 121 to 140) ED107C-Teaching Practice (ED103 Classroom Management) (Slide 101 to 140)

www.highlightcomputer.com/ED1076.pdf

ED107 Part 7 (Slide 141 to 160) ED107E-Teaching& Learning (Slide 141 to 160)

www.highlightcomputer.com/ED1077.pdf

ED107 Part 8 (Slide 161 to 180) (ED105 Inclusive Teaching Slide 161 to 200)

www.highlightcomputer.com/ED1078.pdf

ED107 Part 9 (Slide 181 to 200) (ED105 Inclusive Teaching Slide 161 to 200)

www.highlightcomputer.com/ED1079.pdf

ED107 Part 10 (Slide 201 to 220) (ED107E-Teaching & Learning Slide 200 to 240)

www.highlightcomputer.com/ED10710.pdf

ED107 Part 11 (Slide 221 to 240) (ED107E-Teaching& Learning Slide 200 to 240)

www.highlightcomputer.com/ED10711.pdf

ED107 Part 12 (Slide 241 to 260) ED107D-Lesson Planning (ED104 Teaching Portfolio)(Slide 241 to 300)

www.highlightcomputer.com/ED10712.pdf

ED107 Part 13 (Slide 261 to 280) - ED107D Lesson Planning (ED104 Teaching Portfolio)(Slide 241 to

300)

www.highlightcomputer.com/ED10713.pdf

ED107 Part 14 (Slide 261 to 300) - ED107D Lesson Planning (ED104 Teaching Portfolio)(Slide 241 to 300)

www.highlightcomputer.com/ED10714.pdf

ED107 Part 15 (Slide 301 to 320)- ED107G-Evaluation& Assessment (Slide 301 to 320)

www.highlightcomputer.com/ED10715.pdf

ED108 Lessons

ED108 Exercises

www.highlightcomputer.com/ED108Exercises.pdf

ED108 Part 1 (Slide 1 to 20)

www.highlightcomputer.com/ED1081.pdf

ED108 Part 2 (Slide 21 to 40)

www.highlightcomputer.com/ED1082.pdf

ED108 Part 3 (Slide 41 to 60)

www.highlightcomputer.com/ED1083.pdf

ED108 Part 4 (Slide 61 to 80)

www.highlightcomputer.com/ED1084.pdf

ED108 Part 5 (Slide 81 to 100)

www.highlightcomputer.com/ED1085.pdf

ED108 Part 6 (Slide 101 to 120)

www.highlightcomputer.com/ED1086.pdf

ED108 Part 7 (Slide 121 to 140)

www.highlightcomputer.com/ED1087.pdf

ED108 Part 8 (Slide 141 to 160)

www.highlightcomputer.com/ED1088.pdf

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OPTIONAL

(Certificate in Vocational Education& Training-Engineering Technology Teaching)

Online training & assignment

<http://www.highlightcomputer.com/gtc.htm>

ADDITIONAL REFERENCES FOR ED107 LESSONS

ED 101 Theory of Education

www.highlightcomputer.com/ED101.ppt

ED 102 Education Technology

www.highlightcomputer.com/ED102.ppt

Integration of Learning Technology in Teaching & Learning Part 1

http://youtu.be/bV_CJdY7fs0

Technology in Classroom

<http://youtu.be/rzLQq6D6-OU>

ED 103 Teaching Practice

www.highlightcomputer.com/ED103Part1.ppt

www.highlightcomputer.com/ED103Part2.ppt

ED 104 Lesson Planning

www.highlightcomputer.com/ED104.ppt

ED 105 Principle of Learning

www.highlightcomputer.com/ED105.ppt

ED 106 Interpreting Curriculums

www.highlightcomputer.com/ED106.ppt

ED101 to ED106 ASSIGNMENTS

www.highlightcomputer.com/ED101106.pdf

Year 3 / 4

Professional Diploma in School & Vocational Education

60 credits in the following subjects

ED437 Teaching Skills (5 Credits)

ED438 Assessment & Feedback (5 Credits)

ED439 Fostering Students' Learning (5 Credits)

ED 402A Educational Leadership & Change Management in School Education

(10 Credits)

ED407A Learning Environment in School Education(10 Credits)

ED440 Science Teaching (5 Credits)
ED441 Mathematics Teaching (5 Credits)
ED442 Technology Teaching (5 Credits)
ED443 TVET Teaching (10 Credits)

GROUP (1) CURRICULUM SUBJECTS

ED437 Teaching Skills (5 Credit Points)

- **ED431-Critical Thinking**

www.highlightcomputer.com/ED431CriticalThinking.pptx

VIDEOS

<https://youtu.be/Cekuc04E2xM>

Assessment

-

Assignment

Refer your textbooks, select one chapter and write the followings

- the main purpose, the key question, the most important information, the main references or conclusions, the key idea, the main assumptions of the material, the implications, and the main point of view.
- Prepare one assessment requiring critical thinking by the students.
- Do internet research by using www.google.com and type Socratic questioning then submit the examples of Socratic questions.

- **ED431-Reflection& Evaluation (Day 2)**

www.highlightcomputer.com/ED431ReflectionEvaluation.pptx

VIDEO

https://youtu.be/Ezre_83QIfE

Assessment

Assignment

Write the lesson plan on how will you provide Problem Based Learning & Self Reflection for a group of students

Write one significant event in your class teaching and write down your own plan how to improve your teaching.

- **ED431-Teaching and learning strategies (Day 3)**

www.highlightcomputer.com/ED431Teachinglearningstrategies.pptx

VIDEO

https://youtu.be/gMJi_3CSDq0

Assessment

Assignment

- Outline 3 teaching strategies that you prefer to apply in your teaching and discuss the good points and bad points. Also write how to improve them for best teaching and learning

ED438 Assessment & Feedback (5 Credit Points)

ED432A-assessment principles+ED432B-constructive feedback+

Lessons

Down load and study the following power point slides and answer the questions

www.highlightcomputer.com/ED432ABC.pptx

VIDEO

<https://youtu.be/CIi1k4NECoQ>

Assessment

Assignment

ED432A-assessment principles

Provide three assessment evidences that you use in teaching.

ED432B-constructive feedback

Provide three assessment feedbacks that you provide to your students

ED439 Fostering Students' Learning (5 Credit Points)

ED433H-consequences for student learning+ED433I-improving students learning+ED433J-different ways of thinking about university teaching+ED433K-identify problems and issues

Lessons

Down load and study the following power point slides and answer the questions

www.highlightcomputer.com/ED433HIJK.pptx

VIDEO

<https://youtu.be/F2gUlg4qBho>

Assessment

Assignment

Provide one task that you want your students to do critical thinking.

Write one learning outcome of the lesson that you are teaching & provide your plan how to teach, facilitate & assess the students to reach that outcome

ED434H-reflect critically on and evaluate own teaching+ED434J-reflecting on learning from formal learning programs

Lessons

Down load and study the following power point slides and answer the questions

www.highlightcomputer.com/ED434HIJK.pptx

VIDEO

<https://youtu.be/wIbNCUXxlMI>

Assessment

Assignment

Write a plan how will you maximize the effectiveness of teaching & learning for your students

ED 402A Educational Leadership & Change Management for School Education (10 CP)

Video

· Day 10 Session 2-Change Management

<http://youtu.be/ynkcUcKr8tQ>

· Powerpoint+Audio

POWER POINT

· Day10Session2+3.ppt (0.57MB)

<http://www.mongroupsdney1.com/Day10Session23.ppt>

· AUDIO

<http://yourlisten.com/Kyaw.Naing/day-10-session-23>

ASSIGNMENT

Down load the following file

www.highlightcomputer.com/MgtAdvDip.zip

Read the contents in "Mgt 211" and answer the followings.

- Q1. How does leadership relate to management?
- Q2. Explain Instructional leadership
- Q3. Explain Transformational leadership
- Q4. Explain Moral leadership
- Q5. Explain Participative leadership
- Q6. Explain Managerial leadership
- Q7. Explain Contingent leadership
- Q8. Explain New Model of Leadership
- Q9. Compare manager and leader.
- Q10. What are the competencies of a leader?
- Q11. What type of leadership is preferred by you and provide the reason.

ED407A Learning Environment in Schools (10 CP)

· POWER POINT

Day10Session1.ppt (11.78MB)

<http://www.mongroupsyzdney1.com/Day10Session1.ppt>

AUDIO

<http://yourlisten.com/Kyaw.Naing/day-10-session-1>

ASSIGNMENT

Based on your classroom experience, write the factors important for class room environment.

Project

Prepare a project plan how to develop a school that will provide the education for needy students.

GROUP (2) TEACHING PRACTICE SUBJECTS

ED440 Science Teaching (5 credits)

Review the Science Teaching Videos in the following links

<http://www.highlightcomputer.com/y712lessons.htm#A>

<http://www.highlightcomputer.com/y910.htm>

Then develop your own teaching plan which combines e-Learning strategies. Your plan should contain

- Written notes to be given to students
- The lessons to be explained to the students
- Exercises to be given to the students
- Time frame and detailed teaching plan

ED441 Mathematics Teaching (5 credits)

Review the Mathematics Teaching Videos in the following links

<http://www.highlightcomputer.com/y712lessons.htm#A>

<http://www.highlightcomputer.com/y910.htm>

Then develop your own teaching plan which combines e-Learning strategies. Your plan should contain

- Written notes to be given to students
- The lessons to be explained to the students
- Exercises to be given to the students
- Time frame and detailed teaching plan

ED442 Technology Teaching (5 credits)

Review the Technology Teaching Videos in the following links

<http://www.highlightcomputer.com/y712lessons.htm#A>

<http://www.highlightcomputer.com/y910.htm>

Then develop your own teaching plan which combines e-Learning strategies. Your plan should contain

- Written notes to be given to students
- The lessons to be explained to the students
- Exercises to be given to the students
- Time frame and detailed teaching plan

GROUP (3) TVET TEACHING SUBJECTS

ED443 TVET Teaching (10 Credits)

Lesson Video

NNER Conference Presentation by Myanmar Vocational Training Collaboration Youtube

<https://youtu.be/2ZYnsJWSZU4>

(1) Select any two Vocational Education Subjects from the following link

<http://www.mongroupsdney.com/mvtclessons.htm>

(2) Teach the students

(3) Provide evidence of their works

GROUP (4) SELF DEVELOPMENT SUBJECTS

www.highlightcomputer.com/selfdevelopmentsubjects.htm

Download from above link

ED 308 Computer Supported Learning & Distance Education.zip (44.37MB)

ED 408 Middle & High School Teaching.zip (3.63MB)

ED 403 School Culture.zip (14.7MB)

ED 305 Science Teaching.zip (14.87MB)

ED 306 Technology Teaching.zip (4.63MB)

ED 304 Maths Teaching.zip (10.03MB)

ED 204 School & Vocational Education.zip (26.56MB)

ED 208 Inclusive Teaching.zip (5.38MB)

ED 207 Teacher Education.zip (9.65MB)

ED 205 Teaching & Measuring.zip (3.79MB)

ED 203 K-12 Education.zip (3.17MB)

BE Industrial Engineering

First year

Teaching period	Subject title	Credit points
ICT103	Programming for Engineers and Scientists	15
FE101	Number Systems and Linear Algebra	15
FE102	Principles of Physics A	15
ADMEC203	Engineering Design and Problem Solving	15
ME303	Computer Aided Design	15
EE201/EE302	Calculus and Differential Equations	15
EE101/113/202	Introduction to Electrical and Electronic Engineering	15
ME101	Mechanics of Solids	15



Second year

Teaching period	Subject title	Credit points
BAE401	Vector Calculus	15
ADMEC203	Ideas to Innovation	15
RE010	Engineering Materials	15
ME201	Fluid Mechanics	15
BAE312	Systems Modelling	15
RE001/RE005	Sustainability and Renewable Energy Design	15

Teaching period	Subject title	Credit points
BAE508	Engineering Enterprise	15
BAE402	Engineering Probability and Statistics	15



Third year

Teaching period	Subject title	Credit points
BAE503	Control Systems	15
BAE408	Digital Electronics and Controllers	15
EE306/EE624	Measurement and Instrumentation	15
BAE614	Mechanical Component Design	15
BAE672-ME-EE Course	Systems Engineering	15
BAE404/ME102/ME107	Thermodynamics	15
BAE608	Engineering Design Project	30



Fourth year

Teaching period	Subject title	Credit points
BAE605	Engineering Project	30
Elective EE/CE/ME		

Teaching period	Subject title	Credit points
BAE608	Engineering Major Project	60
internship	Work Integrated Learning	60
BAE606	Integrated Building Design	15
Mgt307	Commercialising Innovation	15
BAE682 (ME Mech)	Design for Manufacture	15
BAE691 (ME Mech)	Robotic Systems Design	15

Bachelor of Engineering Management

To complete Bachelor of Engineering Managements, the following units are required to complete. Total Credit points= 120

	Units	Credit Points
Part 1	<u>General Management</u>	
	Mgt 101 Management	5
	Mgt 102 Performance Management	5
	Mgt 104 Project Management	5
	Mgt 105 Quality Management	5
	Mgt 106 Financial Management	5
	Mgt107 Industrial Risk & Safety Management	5
Part 2	<u>Leadership & Management</u>	
	Mgt 202 Change Management	5
	Mgt 203 Inventory & Budget Management	5
	Mgt 204 Continuous Improvement Management	5
	Mgt 208 Safety Management	5
	Mgt 209 Risk Management	5
	Mgt 211 Leadership	5
	Mgt 213 Conflict Management	5
Part 3	<u>Engineering & Information Management</u>	
	Mgt 210 Professional Development Management	5
	Mgt 303 Management Information System	5
	Mgt 305 Quantitative Methods for Management	5
	Mgt 306 Human Resources Management	5
	BAE606 Building Service Engineering Project	5

	RE007 Energy Efficiency Management	5
	RE016/BAE 508-Design& Management	5
Part 4	Engineering Topics	
	E071 Contract Management	5
	K041 Energy Efficient Building Management	5
	ME 205 Manufacturing Processes-and-Materials	5
	ME 303 Computer Aided Design and Manufacturing	5

Professional Diploma/ BE (Special Program) for Experienced Site Engineers

This course is designed to provide formal engineering degree qualification for experienced engineers with relevant engineering diploma by combining their engineering experience and relevant BE level higher education studies.

It has total 120 credit points in which 60 credits points is awarded for engineering diploma and the remaining points are to be assessed on work experience, training and higher education studies.

Pre-requisite

- AGTI (3 Years) with minimum 7 Years experience
- Other engineering diplomas/ certificates with non engineering degrees such as BSc/BA/BEcon /BSc(IT) etc and minimum 10 years experience
- Matured age engineers/ technicians
- Marine Engineers (MOT Second Class)

Arrangement of study

B Tech- Completion of Part 2 + 3 Stream 1 or Stream 2—for Experienced +Non Experience Engineers

B E- Completion of Part 1+2+3 Stream 1 or Stream 2-for Only Experienced Engineers

PART (1)- Entry Qualification and Experience Assessment

ENG601- Engineering Studies

AGTI Certificate / Relevant Engineering Diplomas(60 Credits)

ENG602-Engineering Applications

Work Experience Curriculum Vitae (10 Credits)

ENG603-Engineering Practicals

Engineering Practice Report or Experience Portfolio (10 Credits)

BAE705 Engineering Competency Development

Other degree OR Appropriate Self Study Record

Continuing Professional Development

(10 Credits)

PART (2)- Degree Level Studies in General Engineering and Management

Degree Level Study Part 1-Engineering Mathematics+Materials+Mechanic Seminars (4 days)

BAE401 Engineering Mathematics

BAE402 Calculus

RE010 Engineering Materials

BAE403 Engineering Mechanics (10 Credits)

Study Record

<http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf>

Degree Level Study Part 2 -Engineering Management Seminars (2 days)

BAE508 Management

BAE605 Engineering Management (10 Credits)

Study Record

<http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf>

PART (3)- Degree Level Studies in Higher Engineering

Stream 1-Combined Studies

(To be supported by Live Online Lectures)

Stream 2-Discipline Studies-

(Personal Attendance or Self study Online)

Stream (1)- Combined studies-

- Professional Diploma/BE (Electrical and Renewable Energy Engineering)
 - Professional Diploma/BE (Civil and Renewable Energy Engineering)
 - Professional Diploma/BE (Mechanical and Renewable Energy Engineering)
- Which will depend on the discipline of AGTI/ Engineering Diploma

Degree Level Study Part 3 -Engineering Subjects Seminars (4 days)

5 subjects at BE Final Level (10 Credits)

- RE505- Green Building Design (3 credits)
- RE016A-Design & Management (4 credits)

- BAE 523A Environmental Engineering (1 credit)
- RE003- Solar and Thermal Energy Systems (1 credit)
- RE004- Energy Storage Systems (1 credit)

Stream (2)- Discipline studies

- Professional Diploma/BE (Electrical)
 - Professional Diploma/BE (Civil)
 - Professional Diploma/BE (Mechanical)
- Which will depend on the discipline of AGTI/ Engineering Diploma

Degree Level Study -Engineering Subjects Seminars (4 days)

3 or 4 subjects at BE Final Level (10 Credits)

Civil

BAE621 Structural Engineering

BAE421 Building Construction Engineering

BAE623 Surveying & Traffic Engineering

Study Record

<http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf>

Mechanical

Mechanical

BAE613 Mechanical Instrumentation Process

BAE311 Plant Engineering

BAE614 Machine Design

Study Record

<http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf>

Electrical

Electrical Power

BAE 501 Advanced Power Systems& Power Transmission Networks

BAE 506 Power System Stability& Protection

RE013-Electrical Machines

Electronics

RE014-Electronics Control

BAE 604 Telecommunication Engineering

BAE 601 Computer Programming

Or other subjects by discussing with trainer Study Record

Professional Diploma/ BE (Special Program) for Experienced Site Engineers

This course is designed to provide formal engineering degree qualification for experienced engineers with relevant engineering diploma by combining their engineering experience and relevant BE level higher education studies.

It has total 120 credit points in which 60 credits points is awarded for engineering diploma and the remaining points are to be assessed on work experience, training and higher education studies.

Pre-requisite

- AGTI (3 Years) with minimum 7 Years experience
- Other engineering diplomas/ certificates with non engineering degrees such as BSc/BA/BEcon /BSc(IT) etc and minimum 10 years experience
- Matured age engineers/ technicians
- Marine Engineers (MOT Second Class)

Arrangement of study

B Tech- Completion of Part 2 + 3 Stream 1 or Stream 2—for Experienced +Non Experience Engineers

B E- Completion of Part 1+2+3 Stream 1 or Stream 2-for Only Experienced Engineers

PART (1)- Entry Qualification and Experience Assessment

ENG601- Engineering Studies

AGTI Certificate / Relevant Engineering Diplomas(60 Credits)

ENG602-Engineering Applications

Work Experience Curriculum Vitae (10 Credits)

ENG603-Engineering Practicals

Engineering Practice Report or Experience Portfolio (10 Credits)

BAE705 Engineering Competency Development

Other degree OR Appropriate Self Study Record

Continuing Professional Development

(10 Credits)

PART (2)- Degree Level Studies in General Engineering and Management

Degree Level Study Part 1-Engineering Mathematics+Materials+Mechanic Seminars (4 days)

BAE401 Engineering Mathematics

BAE402 Calculus

RE010 Engineering Materials

BAE403 Engineering Mechanics (10 Credits)

Study Record

<http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf>

Degree Level Study Part 2 -Engineering Management Seminars (2 days)

BAE508 Management

BAE605 Engineering Management (10 Credits)

Study Record

<http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf>

PART (3)- Degree Level Studies in Higher Engineering

Stream 1-Combined Studies

(To be supported by Live Online Lectures)

Stream 2-Discipline Studies-

(Personal Attendance or Self study Online)

Stream (1)- Combined studies-

- Professional Diploma/BE (Electrical and Renewable Energy Engineering)
 - Professional Diploma/BE (Civil and Renewable Energy Engineering)
 - Professional Diploma/BE (Mechanical and Renewable Energy Engineering)
- Which will depend on the discipline of AGTI/ Engineering Diploma

Degree Level Study Part 3 -Engineering Subjects Seminars (4 days)

5 subjects at BE Final Level (10 Credits)

- RE505- Green Building Design (3 credits)
- RE016A-Design & Management (4 credits)

- BAE 523A Environmental Engineering (1 credit)
- RE003- Solar and Thermal Energy Systems (1 credit)
- RE004- Energy Storage Systems (1 credit)

Stream (2)- Discipline studies

- Professional Diploma/BE (Electrical)
 - Professional Diploma/BE (Civil)
 - Professional Diploma/BE (Mechanical)
- Which will depend on the discipline of AGTI/ Engineering Diploma

Degree Level Study -Engineering Subjects Seminars (4 days)

3 or 4 subjects at BE Final Level (10 Credits)

Civil

BAE621 Structural Engineering

BAE421 Building Construction Engineering

BAE623 Surveying & Traffic Engineering

Study Record

<http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf>

Mechanical

Mechanical

BAE613 Mechanical Instrumentation Process

BAE311 Plant Engineering

BAE614 Machine Design

Study Record

<http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf>

Electrical

Electrical Power

BAE 501 Advanced Power Systems& Power Transmission Networks

BAE 506 Power System Stability& Protection

RE013-Electrical Machines

Electronics

RE014-Electronics Control

BAE 604 Telecommunication Engineering

BAE 601 Computer Programming

Or other subjects by discussing with trainer Study Record

BE (Electrical/Civil/Mechanical with Renewable Energy) Programs

Pre-requisite= Advanced Diploma in Engineering (Electrical/Machnaical/Civil)

Total Credit points= 60

BE (Electrical/Mechanical/Civil with Renewable Energy) (Total 12 units)

YEAR 3 (24 credit points / 2 points per unit)

1 BAE 401 Advanced Engineering Mathematics

2 BAE 402 Calculus

3 BAE 403 Engineering Mechanics

4 BAE 404 Engineering Materials & Thermodynamics

5 RE001- Foundation Studies in Renewable Energy and Sustainability

6.RE003- Solar and Thermal Energy Systems

7.RE004- Energy Storage Systems

8 RE005- Renewable Energy Resource Analysis

9.RE006- Wind Energy Conversion Systems

10 RE010-Engineering Materials

11 RE012a-Electrical Engineering Part 1

12RE016/ BAE508-Design & Project Management

BE (Electrical with Renewable Energy)

YEAR 4 (36 credit points / 3 points per unit)

- 1 BAE 601 Computer Programming
 - 2 BAE 602 Computer Network
 - 3 BAE 603 Software Engineering
 - 4 RE012b-Electrical Engineering Part 2
 - 5 RE002- Grid Connected Photovoltaic Power Systems
 - 6 RE013-Electrical Machines
 - 7 RE014-Electronics Control
 - 8 RE015-Electrical Project/ Practice
 - 9 BAE 501 Advanced Power Systems & Power Transmission Networks
 - 10 BAE 506 Power System Stability & Protection
 - 11 BAE 604 Telecommunication Engineering
 - 12.RE007- Energy System Efficiency
 - 13 BAE 608 Professional Engineer Engineering Competency Demonstration Report & BAE 605 Engineering Management (Completion Certification with no credit points)
-

BE (Civil with Renewable Energy)

YEAR 4 (36 credit points / 3 points per unit)

- 1 RE011a-Civil & Mechanical Engineering Part 1
- 2 RE011b-Civil & Mechanical Engineering Part 2a

3 BAE 606 Building Service Electrical & Mechanical Engineering

4BAE421 Building Construction Engineering

5 BAE422 Estimating

6 BAE423 Fluid Mechanics

7 BAE424 Reinforced Concrete

8 BAE522 Rock Mechanics

9 BAE 523A Environmental Engineering

10BAE621 Structural Engineering

11BAE623 Surveying & Traffic Engineering

12BAE624 Water Supply , Sanitation & Finishing

13 BAE 608 Professional Engineer Engineering Competency Demonstration Report & BAE 605 Engineering Management (Completion Certification with no credit points)

BE (Mechanical with Renewable Energy)

YEAR 4 (36 credit points / 3 points per unit)

1 RE011a-Civil & Mechanical Engineering Part 1

2 RE011b-Civil & Mechanical Engineering Part 2a

3BAE 606 Building Service Electrical & Mechanical Engineering

4 BAE311 Plant Engineering

5 BAE314 Mechanical Power Generation

6 BAE315 Materials Engineering

7 BAE511 Air-conditioning & Refrigeration

8 BAE512 Building Service Water Supply System

9 BAE613 Mechanical Instrumentation Process

10 BAE614 Machine Design

11.RE007- Energy System Efficiency

12 BAE 601 Computer Programming

13 BAE 608 Professional Engineer Engineering Competency Demonstration Report & BAE 605 Engineering Management (Completion Certification with no credit points)

BE (Electrical/Civil/Mechanical with Renewable Energy) Programs

Pre-requisite= Advanced Diploma in Engineering (Electrical/Machnaical/Civil)

Total Credit points= 60

BE (Electrical/Mechanical/Civil with Renewable Energy) (Total 12 units)

YEAR 3 (24 credit points / 2 points per unit)

1 BAE 401 Advanced Engineering Mathematics

2 BAE 402 Calculus

3 BAE 403 Engineering Mechanics

4 BAE 404 Engineering Materials & Thermodynamics

5 RE001- Foundation Studies in Renewable Energy and Sustainability

6.RE003- Solar and Thermal Energy Systems

7.RE004- Energy Storage Systems

8 RE005- Renewable Energy Resource Analysis

9.RE006- Wind Energy Conversion Systems

10 RE010-Engineering Materials

11 RE012a-Electrical Engineering Part 1

12RE016/ BAE508-Design & Project Management

BE (Electrical with Renewable Energy)

YEAR 4 (36 credit points / 3 points per unit)

- 1 BAE 601 Computer Programming
 - 2 BAE 602 Computer Network
 - 3 BAE 603 Software Engineering
 - 4 RE012b-Electrical Engineering Part 2
 - 5 RE002- Grid Connected Photovoltaic Power Systems
 - 6 RE013-Electrical Machines
 - 7 RE014-Electronics Control
 - 8 RE015-Electrical Project/ Practice
 - 9 BAE 501 Advanced Power Systems & Power Transmission Networks
 - 10 BAE 506 Power System Stability & Protection
 - 11 BAE 604 Telecommunication Engineering
 - 12.RE007- Energy System Efficiency
 - 13 BAE 608 Professional Engineer Engineering Competency Demonstration Report & BAE 605 Engineering Management (Completion Certification with no credit points)
-

BE (Civil with Renewable Energy)

YEAR 4 (36 credit points / 3 points per unit)

- 1 RE011a-Civil & Mechanical Engineering Part 1
- 2 RE011b-Civil & Mechanical Engineering Part 2a

3 BAE 606 Building Service Electrical & Mechanical Engineering

4BAE421 Building Construction Engineering

5 BAE422 Estimating

6 BAE423 Fluid Mechanics

7 BAE424 Reinforced Concrete

8 BAE522 Rock Mechanics

9 BAE 523A Environmental Engineering

10BAE621 Structural Engineering

11BAE623 Surveying & Traffic Engineering

12BAE624 Water Supply , Sanitation & Finishing

13 BAE 608 Professional Engineer Engineering Competency Demonstration Report & BAE 605 Engineering Management (Completion Certification with no credit points)

BE (Mechanical with Renewable Energy)

YEAR 4 (36 credit points / 3 points per unit)

1 RE011a-Civil & Mechanical Engineering Part 1

2 RE011b-Civil & Mechanical Engineering Part 2a

3BAE 606 Building Service Electrical & Mechanical Engineering

4 BAE311 Plant Engineering

5 BAE314 Mechanical Power Generation

6 BAE315 Materials Engineering

7 BAE511 Air-conditioning & Refrigeration

8 BAE512 Building Service Water Supply System

9 BAE613 Mechanical Instrumentation Process

10 BAE614 Machine Design

11.RE007- Energy System Efficiency

12 BAE 601 Computer Programming

13 BAE 608 Professional Engineer Engineering Competency Demonstration Report & BAE 605 Engineering Management (Completion Certification with no credit points)

Bachelor of Engineering (Computer Aided Engineering)

[BE \(Civil with CAE\)](#)

[BE \(Electrical with CAE\)](#)

[BE \(Mechanical with CAE\)](#)

[BE \(CAE\)](#)

[BTech \(CAE\) \(BE Year 3 CAE\)](#)

Year 1

Diploma/ Advanced Diploma in Electro-mechanical and Construction Engineering

Year 2

Civil ETAB+REVIT

Mechanical and Electrical 181 M & E Software

Mechanical CAM/CNC/Master CAM

BTech (CAE) (BE Year 3 CAE)

Year 3

[1 BAE 401 Advanced Engineering Mathematics](#)

[2 BAE 402 Calculus](#)

[3 BAE 403 Engineering Mechanics](#)

[4 BAE 404 Engineering Materials & Thermodynamics](#)

[5 RE001- Foundation Studies in Renewable Energy and Sustainability](#)

[6.RE003- Solar and Thermal Energy Systems](#)

[7.RE004- Energy Storage Systems](#)

8 RE005- Renewable Energy Resource Analysis

[9.RE006- Wind Energy Conversion Systems](#)

[10 RE010-Engineering Materials](#)

[11 RE012a-Electrical Engineering Part 1](#)

[12RE016/ BAE508-Design & Project Management](#)

1 BAE 401 Advanced Engineering Mathematics

2 BAE 402 Calculus

Mathcad

3 BAE 403 Engineering Mechanics

Gear Box Design

MESYS Shaft System Calculation - Interface with TBK Gear Calculation

1/TBK 2014 CAD PugIn for SOLIDWORKS: pinion shaft run out

2/TBK 2014 CAD-PlugIn for SOLIDWORKS: Bidirectional connection for CAD and calculation

3/TBK 2014 CAD-PlugIn for SOLIDWORKS: Create bevel gears in SOLIDWORKS

4/TBK 2014 CAD-PlugIn for SOLIDWORKS: Cylindrical gear with involute spline hub (DIN5480)

5/TBK 2014 CAD-PlugIn for SOLIDWORKS: save eAssistant password

6/TBK 2014 CAD-PlugIn for SOLIDWORKS: Insert gear manufacturing data

7/TBK 2014 CAD-PlugIn for SOLIDWORKS: pinion shaft with involute spline (DIN 5480)

BAE 403 MESYS-Axial-Radial-Rollerbearings

BAE403 Ball Screw ReportExample_BallScrew

BAE403 DIN743_CalculationBasis

BAE403 ExampleSlewingRing

BAE403 FlyerRollingBearingAnalysis

BAE403 FlyerShaftCalculation

BAE403 FlyerTrackRoller

BAE403 MESYS_Manual

BAE403 Tutorial_Angular_Contact

BAE403 Tutorial_Cylindrical_Roller

BAE403 TutorialShaft

BAE403 TutorialShaftSystems

BAE403 TutorialShiftGearTransmission

Software

BAE403 Calcula-3.5

BAE403 Engg Power Tools eptool20

BAE403 Engg Power Tool eptool19

BAE403 Shaft Calculation Tutorial_SolutionFiles

BAE 404 Engineering Materials & Thermodynamics

Engineering Materials

[Materials Database Online Software](#)

Engineering Thermodynamics

Videos

1/Steam

2/Solid Liquid Equilibria using Excel
3/Residue Curves for Benzene(x1) + Ethanol(x2) + Methanol(x3)
4/Sillen Basics
5/Z vs. Pr Plot using Matlab
6/Using Preos.xlsx to plot an isotherm
7/LLE Excel Macro
8/PrMix Spreadsheet
9/Publishing from Matlab to html to Microsoft Word
10/Fitting Pxy data using Excel

5 RE001- Foundation Studies in Renewable Energy and Sustainability
6.RE003- Solar and Thermal Energy Systems

RE001+003 Charge Controller V1.95-Windows

RE001+003 eLOG-Windows

RE001+003 Inverter(SHI&STI)V1.1-Windows

RE001+003 Inverter(TP)V1.1-Windows

RE001+003 Inverter(UPower)V1.2-Windows

RE001+003 SPP-02(Sealed)V4.0-Windows

RE001+003 SunDATForSketchUp-V3-9-0-B12

RE001+003-SPP Tools(Li)V3.0

Wire Calculator- Online

Sundata

7.RE004- Energy Storage Systems

The ESWare™ Suite

ES/Analyzer

ES/Optimizer

S/Pilot

9.RE006- Wind Energy Conversion Systems

WAsP Bundle

Wind farm production

Wake Effect Model

Micro siting

Wind Power Potential

Wind Resource Mapping

Wind Climate Estimate

Wind Atlas Generation

10 RE010-Engineering Materials

[Materials Database Online Software](#)

11 RE012a-Electrical Engineering Part 1

Circuit Draw

RE012 CLStudent_Setup

RE012 edraw-max_setup_full5371

RE012 gnucap-master

RE012 LTspiceXVII

RE012 ngspice-31_64

RE012 pecs

RE012 solveelec25ensetup

1/Spice

2/Analog Circuit Simulator

3/SIM Plus

4/Circuit Logix

5/SPICE

6/Multi SIM

7/PSPICE

8/LSPICE

9/SIMULATOR

10/Android Circuit Simulation'

[NgSpice](#) –[GnuCap](#) –.

[EasyEDA](#) –[CircuitLogix](#) –[LTSpice](#)

[TopSpice](#) –[Circuit Simulator 1.5j](#) [MacSpice](#) [SimScale](#) –[5Spice](#) [Beige Bag](#) [Micro-Cap 10](#) [PECS](#) –

12RE016/ BAE508-Design & Project Management

RE016-user-manual-seavus-project-viewer

Year 4

BE (Civil with CAE)

BE (Electrical with CAE)

BE (Mechanical with CAE)

BE (CAE)

Specialized Professional Software Applications- Open Studies

Diploma in Work Studies/ Advanced Diploma in Work Studies/ Bachelor of Work Studies

This course is structured as linking Skills Recognition and Bridging of work experiences and training in vocational practice other than engineering to academic qualifications at Diploma/ Advanced Diploma and Bachelors degree levels.

This course is prepared and taught by IQY Technical College/ Myanmar Vocational Training Collaboration/ STC Technological University and St Clements University Myanmar College.

အင်ဂျင်နီယာလုပ်ငန်းမဟုတ်သောအခြားအသက်မွေးဝမ်းကျောင်းအလုပ်အကိုင်အကြံပြုနှင့်လေ့ကျင့်သင်ကြားမှုများကိုအထက်တန်းပညာရေးနှင့်တက္ကသိုလ်ပညာရေးပူးပေါင်းပြီး Diploma/ Advanced Diploma/ Bachelors သို့ များရရှိစေရန် IQY Technical College/ Myanmar Vocational Training Collaboration/ STC Technological University/ St Clements University Myanmar College တို့က စီစဉ်သင်ကြားသည်။

Diploma in Work Studies (30 credits)

Outcome

On completion of this course, the candidates will be able to effectively provide vocational work services to the customers.

ဤသင်တန်းပြီးပါကစားသုံးသူတို့ ကိုလိုအပ်သောအလုပ်များလုပ်ပေးနိုင်မည်။

Course Structure (သင်ရိုးဖွဲ့ စည်းပုံ)

It consists of compulsory work-based unit and elective units

WS101 Vocational Studies (10 credits)

- Vocational Experience and/ or completion of Vocational Training and studies at other schools and training centres

WS102 Safety Training (5 credits)

WS103 English (5 credits)

WS104 Myanmar Vocational Training Certificate (10 credits)

Optional

WS105 Myanmar

Advanced Diploma in Work Studies (30 credits)

Outcome

On completion of this course, the candidates will be able to effectively organize and manage the services needed by the customers.

ဤသင်တန်းပြီးပါကစားသုံးသူတို့ ကိုလိုအပ်သောအလုပ်များလုပ်ပေးသောလုပ်ငန်းကိုထိရောက်စွာ စီမံခန့်ခွဲနိုင်မည်။

Course Structure

It consists of credit transfer from Diploma in Work Studies, compulsory work-based unit and compulsory theory studies units.

Credit Transfer Completion of Diploma in Work Studies (30 Credit Points)

Mgt 101 Management (5 Credit points)

Mgt 201 Customer Service Management (5 Credit points)

Mgt 203 Inventory & Budget Management (5 Credit points)

Mgt 208 Safety Management (5 Credit points)

Mgt 211 Leadership in Humanitarian Works (5 Credit points)

WS 201 Business Plan and Work Record (5 Credit points)

Total Credits = 60 (5 Credit points)

Bachelor of Work Studies (60 credits)

Outcome

On completion of this course, the candidates will be able to effectively set up the strategic tasks and judge the nature of humanities services needed by the customers

ဤသင်တန်းပြီးပါကစားသုံးသူတို့ ကိုလိုအပ်သောအလုပ်များလုပ်ပေးသောလုပ်ငန်းကိုထိရောက်စွာ စီမံခန့်ခွဲနိုင်မည်သာမကလုပ်ငန်းမဟာဗျူဟာချမှတ်ရန်ခြံ့ချိန်ကြံဆစွမ်းရည်လဲရရှိမည်။

Course Structure

It consists of credit transfer from Advanced Diploma in work Studies, compulsory self study unit compulsory theory studies units and a Work based project

Credit transfer

Completion of Diploma in Work Studies (60 Credit Points)

Subjects

(English Notes+ Myanmar Explanation)

ED 431-Critical Thinking (10 Credits)

Mgt 303 Management Information System (10 Credits)

Mgt 306 Human Resources Management (10 Credits)

Mgt302 Information Security (10 Credits)

Mgt 307 Marketing Management (10 Credits)

(English)

BWS 401 Advanced Work Studies (Individualized Unit) (10 Credits)

Total Credits 120

Sample Structure (သင်ရိုးဖွဲ့ စည်းပုံနမူနာ)

Garment Factory Worker (အထည်ချုပ်လုပ်ငန်းအလုပ်သမားသို့ မဟုတ်အထည်ချုပ်သင်တန်းဆင်းသူ)

WS101 Vocational Studies (10 credits)

By submitting work experience or Certificate issued by other training school, WS101 will be given credits

အလုပ်အတွေ့ အကြုံတင်ပြခြင်းသို့ မဟုတ်အခြားသင်တန်းဆင်းလက်မှတ်တင်ပြခြင်းဖြင့်

WS101 Vocational Studies (10 credits)ရရှိမည်။

Study at IQY (အောက်ပါတို့ ကို IQY တွင်တက်ရန်

WS102 Safety Training (5 credits), WS103 English (5 credits)

WS104 Myanmar Vocational Training Certificate (10 credits)

ပြီးစီးပါက Diploma in Work Studies (Garment) ရရှိပြီး Advanced Diploma/ Bachelors

Degree ဆက်တက်နိုင်မည်။ When completed, Diploma in Work Studies (Garment) will

be awarded and then can proceed to Advanced Diploma in Work Studies (Garment) and Bachelor of Work Studies (Garment).

WS104 Myanmar Vocational Training Certificate (10 credits)

CERTIFICATE IN AGRICULTURE FOOD PRODUCTION (MVTC201)

CERTIFICATE IN ANIMALS HANDLING (MVTC202)

CERTIFICATE IN BUSINESS (MVTC203)

CERTIFICATE IN LABORATORY WATER OPERATIONS (MVTC204)

CERTIFICATE IN COMMUNITY SERVICE (MVTC205)

CERTIFICATE IN PROPERTIES SERVICES (MVTC206)

CERTIFICATE IN PERFORMING (MVTC207)

CERTIFICATE IN PUBLIC SAFETY (MVTC208)

CERTIFICATE IN LOGISTICS (MVTC209)

As Myanmar Vocational Training Certificate is designed with the study resources for the above vocational areas, the workers who are working in other vocational areas can study ADEMC203-Design and Technology (Year 12 Level) Subjects as tertiary preparation.

မြန်မာ့အသက်မွေးဝမ်းကျောင်းပညာလေ့ကျင့်ရေးလက်မှတ်ကိုအထက်ပါလုပ်ငန်းများအတွက်စီစဉ်ထားသည့်အဆိုပါဘာသာများသည်အလုပ်နှင့်မသက်ဆိုင်ပါက ADEMC203-Design and Technology (Year 12 Level) ကိုအထက်တန်းပညာရေးပေါင်းကူးအဖြစ်သင်နိုင်သည်။

BWS/BSc-Engg /Prof Dip Engg Sc (Course 5066689)

THS/ITC/ Year 10 မှဝင်သူများသည်အောက်ပါအစီအစဉ်အတိုင်းတက်ရမည်။

Year 1

Diploma in General Engineering and Certificate in Tertiary Preparation (First 6 months)

Diploma in Electrical/Mechanical/Civil Engineering (Myanmar Version) (Second 6 months)

Associate Degree in Work Studies-Engineering

Year 2

Advanced Diploma in Electrical/Mechanical/Civil Engineering Part 1+Associate Degree of Work Studies in Engineering (Course 332256)

Year 3

BTech/BE ဆက်မတက်နိုင်ပါက Bachelor of Work Studies-Engineering /Professional Diploma in Work Studies-Engineering ကို Year 3 တွင်အခမဲ့တက်ကာဘွဲ့ရယူနိုင်မည်။

အလုပ်အတွေ့အကြုံတစ်နှစ်ရှိပါက Bachelor of Work Studies-Engineering ကို Bachelor of Science-Engineering (Professional Diploma in Engineering Science) သို့ CV (Curriculum Vitae) တင်ပြပြီးအဆင့်မြှင့်နိုင်သည်။

IQY ကျောင်းသားအားလုံး IQY Technical College website www.iqytechnicalcollege.com

သင်ရိုးများ <http://www.iqytechnicalcollege.com/offeredcourses.htm>

စာရင်းသွင်းခြင်း <http://www.iqytechnicalcollege.com/enrolment.htm>

သင်တန်းကြေးပြန်အမ်းမှုပေါ်လစီ www.highlightcomputer.com/iqyrefundpolicy.pdf

ကိုမလွဲမသွေဖတ်ရှုသိရှိရမည်။

Career Conversion System

- BE graduates can convert their specialist field by attending final year semester 2 of Professional Diploma in Engineering (Electrical/Civil/Mechanical/Building Services/ Mechatronics/Telecommunication/ICT).
- B Tech graduates can convert their specialist field by attending final year of Professional Diploma in Engineering (Electrical/Civil/Mechanical/Building Services/ Mechatronics/Telecommunication/ICT).

Fees

6.3 Lakhs Kyats (Face to Face)

4 Lakhs (Online)

Fees

(Singapore Institute of Engineering Technologist Membership Application Fee and ASEAN Engineering Technologist/ Engineering Technician/ associate Technologist/ Associate Technician Registration fees are extra)

- AGTI graduates can attend Year 3 & 4 of Professional Diploma in Engineering (Electrical/Civil/Mechanical/Building Services/ Mechatronics/Telecommunication/ICT).

Fees

6.3 Lakhs Kyats (Face to Face)

4 Lakhs (Online)

Fees

(Singapore Institute of Engineering Technologist Membership Application Fee and ASEAN Engineering Technologist/ Engineering Technician/ associate Technologist/ Associate Technician Registration fees are extra)

AGTI with over 10 years experience or with other degrees,

Please see the following link

<http://www.iqytechnicalcollege.com/IPEM%20AGTI%20to%20BE%20Conversion%20Mod.pdf>

AND

<http://www.iqytechnicalcollege.com/IPEM%20AGTI%20to%20BE%20Conversion%20Mod.pdf>

Enrolment

<http://www.emailmeform.com/builder/form/T34dj3Wg8DNweJf04>

Certificate in Information Technology (Introductory Course)

	St Clements+Highlight IT Course	Australian ICA20105_R1 Training Package Certificate 2 in IT
	COMPULSORY UNITS	CORE UNITS
ICT 101	Information Technology Fundamentals + Workplace Evidences	ICAU2005B Operate computer hardware ICAU2231B Use computer operating system ICAW2001B Work effectively in an IT environment
ICT 102	Computer Applications and Operations + workplace evidences	BSBCMN106A Follow workplace safety procedures ICAD2012B Design organisational documents using computing packages ICAU2006B Operate computing packages ICAU2013B Integrate commercial computing packages ICAW2002B Communicate in the workplace
	<u>Technical Report Presentation</u> The candidate to provide customer interaction record at the workplace. It may include log book, work record etc The candidate will need to provide the report on which programs he or she installed at workplace & clients & highlight the significant things The candidate communicate with teacher via e-mail & browse the reference sites as directed by the teacher & retrieve the information	<u>Elective Units</u> ICAS2009B Interact with clients ICAS2016B Record client support requirements ICAI2015B Install software applications ICAS2008B Maintain inventories for equipment, software and documentation ICPMM263B Access and use the internet ICPMM32B Capture a digital image

Certificate in Financial Management

Financial Management is an important aspect in Business Management. This course does not train the students to become accountants but it trains the students to understand the financial statements of the company & to assess the financial situation of the company & will be able to perform the financial management.

By doing this course, the students will be able to

- Explain how accounting information assists in making decisions.
- Describe the components of the balance sheet.
- Analyze business transactions and relate them to changes in the balance sheet.
- Compare features of proprietorships, partnerships, and corporations
- Explain how income is measured using both the accrual basis and cash basis accounting methods.
- Use the concepts of recognition, matching, and cost recovery to record revenues and expenses.
- Prepare an income statement and show how it is related to the balance sheet.
- Prepare a statement of cash flows and show how it differs from an income statement.
- Use double-entry accounting.
- Analyze and journalize transactions.
- Post journal entries to the ledgers.
- Prepare and use a trial balance.
- Correct erroneous journal entries and describe how errors affect accounts.
- Use T-accounts to analyze accounting relationships.
- Explain how computers have transformed processing of accounting data
- Explain the concept of the statement of cash flows.
- Classify activities affecting cash as operating, investing, or financing activities.
- Use the direct method to measure cash flow.
- Determine cash flows from income statement and balance sheet accounts.
- Use the indirect method to calculate cash flows from operations.
- Relate depreciation to cash flows provided by operating activities.
- Reconcile net income to cash provided by operating activities.
- Adjust for gains and losses from fixed asset sales and debt extinguishments in the statement of cash flows.
- Use the T-account approach to prepare the statement of cash flows.

Completion of this course can be given the credit in Mgt 106 Financial Management subject in Diploma in Management Course.

Learning Resources

Mgt106-Financial Management.ppt

Mgt106-Financial Management.ppt with audio explanation

Mgt106-Financial Management References.pdf

Mgt 106 Financial Management Questions.pdf

Certificate in Occupational Health and Safety (12128)

This course aims to provide the general safety knowledge for workers in all workplace.

Credit points 15

Contents

- OHS101 Workplace Safety (10 Credits)
- OHS102 Workplace Safety Risk Assessment (5 Credits)

Contents

- Safety Responsibilities
- Work Environment
- Materials Handling
- Chemical and Fire Safety
- Working at Height Safety
- Confined Space Area Safety
- General Physical and Psychological Impacts
- Electrical Safety
- CPR
- Risk Assessment

IQY Technical College

Diploma in Tourism Management

Course 214467

List of subjects (3 creditsx 10= 30 credits)

- TMGT101 Tourism Management
- TMGT102 Tour Guiding
- TMGT103 Airline Ticketing
- TMGT104 Advertising in Tourism Management
- TMGT105 Cultural awareness in Hospitality and Tourism
- TMGT106 Tourist Safety and Security
- TMGT107 Code of Ethics of Tour Operators
- TMGT108 Global Code of Ethics for Tourism
- TMGT109 Dispute Resolution in Tourism Management
- TMGT110 Destination Attractiveness
- TMGT110 Example
- Work as Tour guide

DIPLOMA OF AUTOMOTIVE ENGINEERING

PART (1) RELATED BASIC KNOWLEDGE (13 pt) (Each 1 pt)

Maths 101+302+403 (EE201) Engineering Mathematics

Maths 301+501+303 (EE302) Advanced Engineering Mathematics

ME103 Engineering Mechanics(EE204 Engineering Physics)

Mgt 501 Basic Management (EE309 Project Management)

EE101 DC Circuit Problems

EE102 Basic Electrical Fitting & Wiring

EE103 Basic Electrical Drafting

EE104 Electrical Equipments Safety Protection

EE111 Electromagnetism & Basic Electrical Machines

EE112 Alternating Current Principle

EE113 Electrical Fundamental

EE208 Operational Amplifiers

EE209 Analogue Electronics

PART (2) BASIC MECHANICAL (6 pt) (Each 2 pt)

ME108 Principle of Engine

ME 101 Applied Mathematics+ ME 103 Engineering Mechanics

ME 102 Engineering Thermodynamics

PART (3) SPECIALIZED AUTOMOTIVE ENGINEERING (10 pt) (Each 2 pt)

AE 101 Auto Diesel+ Auto Electrics

AE 102 Auto General Engine+ Fuel System+ Transmission

AE 103 Engine Assembly +Electrical +Electronics

AE 104 Brake & Steering System

AE 105 Automotive Mechanic

DIPLOMA OF MARINE ENGINEERING

Mar E 101 Mathematics

Mar E 102 Applied Mechanics

Mar E 103 Heat & Heat Engine

Mar E 104 Engineering Drawing

Mar E 105 Workshop Technology

Mar E 106 General Seamanship

Mar E 107 Marine Electrical Practice

Mar E 108 Automation and Power Electronics

Mar E 109 Computerized Control

Mar E 110 General Engineering Knowledge

Mar E 111 Motor Engineering Knowledge

Mar E 112 General Mechanical Engineering

Mar E 113 Ship Construction

Mar E 114 Marine Engine Room Watch-keeping

Mar E 115 Electro-technology

YEAR (1)

Diploma of Management

Mgt 101 Management
Mgt 102 Performance Management
Mgt 103 Operation Management
Mgt 105 Quality Management
Mgt 106 Financial Management
Mgt 108 Computer Application in
Management

Mgt 107 Industrial Risk & Safety
Assessment
Mgt 104 Project Management

YEAR (2)

Advanced Diploma of Information Technology Management

Study the following units

ICT 103 Applied Programming

ICT 105 Systems Analysis and Programs

ICT 106 Software Engineering

ICT 202 Information Systems Principles and Networking

ICT 203 Information Systems, Analysis and Design

ICT 204 Advanced Programming

ICT 104 Program Projects

Mgt 501 Communication Skills & Management Leadership

Study BAE 508 Industrial Engineering & Industrial Management . You need to read the books in English.

(Focus on Mgt 501 Communication Skills & Mgt 501 Basic Management)

& do the exercises assigned by teacher.

YEAR (3)

Bachelor of Business (E-Business & Management)

The learning system will be based on self study. Read the given references study materials and prepare the project work. You need to read the books in English.

The following units common to MBA course are to be studied.

Mgt 301	Electronics Business
Mgt 302	Information Security
Mgt 303	Management Information System
Mgt 304	Electronics Commerce
Mgt 305	Quantitative Methods for Management
Mgt 306	Human Resources Management
Mgt 307	Marketing Management
Mgt 308	Artificial Intelligence

To assess Level 3, you need to write the report of 10 pages each on what you have learnt in the unit.

YEAR (4)

Mgt 401 Management Project

Mgt 402 Electronics Business Project

Two reports one for Management for (Mgt 303+Mgt 305+Mgt 306) & another for Electronics Business + Marketing (Mgt 301+Mgt 302+Mgt 304+Mgt 307+Mgt 308) subjects are required to be presented.

Each should contain 4000 to 6000 words of how you pursue the study in Management,, Marketing, Electronics Business subjects should be described.

The project should contain management plans, business plan & performance, task, job procedures IT integration etc of the topics of your choices.

Certificate/ Diploma in Computer Aided Engineering

Dip CAE

Topics

- ETAB
- REVIT
- Auto CAD
- Smart Plant
- Staad
- CAD WROX
- ELECTRICAL CAD
- TEKLA
- CNC
- Master CAM
- CAM

Online Training

Advanced Diploma in Engineering Design

www.highlightcomputer.com/dipenggdesign.pdf

This course trains the students to work as Engineering Design Drafters in Electrical, Civil & Mechanical Engineering Design and Construction.

The graduates of the courses satisfy the academic requirement for Associate Membership (Engineering Technician) of Singapore Institute of Engineering Technologists

The students can follow three strands

- Mechanical
- Civil
- Electrical

to complete the program

Pre-requisite

Completion of

Diploma in Engineering (Design & Drafting) or other diploma level relevant qualifications

Course 31115 Advanced Diploma in Mechanical Engineering Design

Total 30 Credit points. Each unit has 3 credit points. Total 10 units (Accumulated credit 60 points with Diploma in Engineering (Design & Drafting))

- ME 205 Manufacturing Processes-and-Materials & ME 303 Computer Aided Design and Manufacturing
- ME101 Applied Mathematics & CE113 Structure 1
- ME102 Engineering Thermodynamics
- ME201 Fluid Mechanics
- ME104 Machine Principle
- ME 234 Wind Turbines
- ME 334 Airconditioning and Refrigeration
- ME109 Engineering Drawing
- ME110 Mechanical Engineering Design Software Applications

Note-

The students who have completed Computer Aided Design training related to Mechanical design at affiliated educational establishment will be given advanced standing for the following units

- ME109 Engineering Drawing
- ME110 Mechanical Engineering Design Software Applications

Further Course-

The graduates of this course can continue Advanced Diploma in Mechanical Engineering which is recognized by Singapore Institute of Engineering Technologists as satisfying the academic requirement for Member /Fellow (Engineering Technologists)

Course 31015 Advanced Diploma in Civil Engineering Design

Total 30 Credit points. Each unit has 3 credit points. Total 10 units (Accumulated credit 60 points with Diploma in Engineering (Design & Drafting))

- CE111A-Road+Bridges
- ME101 Applied Mathematics & CE113 Structure 1
- ME201 Fluid Mechanics
- CE 109 Energy Efficient Building Design
- CE106A (Part 1) Detailed Construction & Building Construction Materials
- CE106A (Part 2) Brick Laying & Sprouting & Guttering
- CE115 Estimating & Specification
- ME 334 Airconditioning and Refrigeration
- CE104B Building Drawing Advanced
- CE120 Civil Engineering Design Software Applications

Note-

The students who have completed Computer Aided Design training related to Civil design at affiliated educational establishment will be given advanced standing for the following units

- CE104B Building Drawing Advanced
- CE120 Civil Engineering Design Software Applications

Further Course-

The graduates of this course can continue Professional Diploma in Civil Engineering which is recognized by Singapore Institute of Engineering Technologists as satisfying the academic requirement for Member /Fellow (Engineering Technologists).

Course 30915 Advanced Diploma in Electrical Engineering Design

- Total 30 Credit points. Each unit has 3 credit points. Total 10 units (Accumulated credit 60 points with Diploma in Engineering (Design & Drafting))

- CE 109/EE307 Energy Efficient Building Design & ME 334 Airconditioning and Refrigeration
- ME101 Applied Mathematics & CE113 Structure 1
- EE117 Solar Electrical System
- EE103B Advanced Electrical Drafting
- EEE306 Electro-mechanical Control & EE121 Electronic Power Control Devices
- EE202 Electrical Circuits & EE112 Alternating Current Principle
- EE118 Electrical Energy Supply System
- EE111 Electro-magnetism & Basic Electrical Machines
- EE110 Computer Applications in Electrical Design

Note-

The students who have completed Computer Aided Design training related to Electrical design at affiliated educational establishment will be given advanced standing for the following units

- EE103B Advanced Electrical Drafting
- EE110 Computer Applications in Electrical Design

Further Course-

The graduates of this course can continue Professional Diploma in Electrical Engineering which is recognized by Singapore Institute of Engineering Technologists as satisfying the academic requirement for Member /Fellow (Engineering Technologists).

Diploma in Vocational Education & Training, Diploma in Technical Teaching (Training, Assessment & Learning Management)
Diploma in Engineering Education (YTU)

www.highlightcomputer.com/ProfDipTechTchg.pdf

Objective of the course

This Diploma in Engineering Education/Professional Diploma in Technical Teaching (Training, Assessment & Learning Management) is designed as Teachers Education Professional Development for teachers in Government Technical Colleges , Technological Universities and other Vocational Education and Training Institutions in Myanmar to upgrade their skills and knowledge in training and assessment, curriculum design and development, management of technical training institutions, adult and vocational education and training ,assessment validation and current accreditation rules and requirements of Myanmar Engineering Council as well as current training and assessment practices of overseas industrialized countries.

Learning Outcomes

After completion of the levels of the training programs, the students should be able to

- Understand adult learning principles in technical education and training contexts
- Apply the skills in training, assessment, course development, curriculum development, learning management and management of technical training institutions.
- Understand the accreditation requirements of Myanmar Engineering Council in accredited engineer, technologist and technician education & prepare for the compliance processes.
- Understand the technology, science and mathematics teaching & educational pedagogies principles of outcome based education and effectively utilize them in the workplace
- Provide effective work-based learning & career development for the working people in industries and apply the various ways of assessing the competences

Components of the course

- Educational theories ,educational technology, teaching and learning, teaching and measuring.
- Lesson planning, interpreting curriculums, class room management, instruction and assessment design, training principle, competency based training and assessment integrated the competencies of Australian Training and Assessment (TAE40110) course
- Management of educational establishment in line with the accreditation requirements of Myanmar Engineering Council by customizing the competencies in Australian Vocational Education and Training Diploma (TAE50111) to be relevant to the requirements of Myanmar Vocational Education and Training .
- Postgraduate level educational knowledge related to Learning Technology, Technology in classrooms, educational leadership, leadership and change management , computer supported learning and distance education,
- Teaching practicum preparation at different levels of training

Level	Course	Abbreviation	Pre-requisite	Target Group
1	Diploma in Vocational Education & Training (Certificate in Vocational Education & Training for completion of certain subjects)	Dip VET	Degree/Diploma /Certificate In relevant professional/vocational areas	Vocational Education Teachers in various training courses
2	Diploma in Technical Teaching	Dip Tech Tchg	Diploma in Vocational Education & Training	Government Technical College Teachers
3	Diploma in Engineering Education	Dip Engg Ed	Diploma in Technical Teaching	Technological University Teachers
4	Diploma in Engineering Education (Specialist Discipline)	Dip Engg Ed (Specialist Area)	Diploma in Engineering Education	Technological University Teachers with specialized teaching in specific area of study.

Training & Assessment System Overview

Level	Course	2 weeks workshop (Assessment based on participation in workshop sessions)	Teaching Experience Assessment +Teaching Portfolio Assessment (Individual Assessment-During/After two weeks workshop) (The candidates can submit their portfolios)	Self study & Assignment Assessment (Individual Assessment)
1	Diploma in Vocational Education & Training (Certificate in Vocational Education & Training for completion of certain subjects)	ED120-Part (2A) Basic Teaching Practicum Preparation ED121-Part (2B) Training & Assessment Practice (Day 1 to 6 Session 3 s)	ED 103 Teaching Practice ED 104 Lesson Planning ED 106 Interpreting Curriculums ED 107 Teaching & Learning ED 201 Class Room Management & Teaching	ED 101 Theory of Education ED 102 Education Technology

Level	Course	2 weeks workshop (Assessment based on participation in workshop sessions)	Teaching Experience Assessment +Teaching Portfolio Assessment (Individual Assessment- During/After two weeks workshop)	Self study & Assignment Assessment (Individual Assessment)
2	Diploma in Technical Teaching	ED 202 Curriculum & Design ED 405 Training Principle ED220-Part (2) Vocational Education & Training Practice (Diploma in Vocational Education & Training TAE50111) (All session 3s)	ED 206 Designing Instructions & Assessment	ED 401 Adult Learning Technology ED 205 Teaching & Measuring ED411-Engineering Education (1)
3	Diploma in Engineering Education	ED 301 Educational Policy (Myanmar Engineering Council Accreditation Requirements) ED309 Educational Communication ED311 Outcome based Education ED320-Part (2) Myanmar Engineering Council's Accreditation Compliance Practice (All Sessions 1/2/3)	ED301P- Curriculum design for accreditation compliance ED302P-Overall accreditation and compliance practice	ED 402 Educational Leadership ED 308 Change Management ED 407 Learning Environment ED412 Engineering Education (2)

Level	Course	2 weeks workshop (Assessment based on participation in workshop sessions)	Teaching Experience Assessment +Teaching Portfolio Assessment (Individual Assessment- During/After two weeks workshop)	Self study & Assignment Assessment (Individual Assessment)
4	Diploma in Engineering Education (Specialist Discipline)		ED 308 Computer Supported Learning & Distance Education ED310 Learning Technology I & II ED312 Technology in Classrooms	ED 304 Maths Teaching ED 305 Science Teaching ED 306 Technology Teaching ED 404 Educational Research (Part 2) ED413 Engineering Education (3)

Study Areas & Levels of Training

Level 1-Educational Theories , Teaching Pedagogies & Training and Assessment Practice

Part (1) Educational Theoretical Subjects

- ED 101 Theory of Education
- ED 102 Education Technology
- ED 103 Teaching Practice
- ED 104 Lesson Planning
- ED 105 Principle of Learning
- ED 106 Interpreting Curriculums
- ED 107 Teaching & Learning
- ED 201 Class Room Management & Teaching

ED120-Part (2A) Basic Teaching Practicum Preparation

ED101P-Teaching Support

ED102P- Application of Information Technology in School /Vocational Education

ED103P- Classroom Management

ED104P- Teaching Portfolio

ED105P- Inclusive Teaching

ED106P- Subject Area Knowledge

ED107P- Theory of Education, Educational Technology & Teaching Practice

ED107PA-Theory of Education

ED107PB-Education Technology

ED107PC-Teaching Practice

ED107PD-Lesson Planning

ED108P- Curriculum Study , Teaching & Learning

ED108PA-Principle of Learning

ED108PB-Interpreting Curriculums

ED108PC-Teaching & Learning

- ED111P Learning Program Design & Development Practice
(TAEDES401A Design and develop learning programs)
- ED112P Assessing the needs of trainees
(TAEDES402A Use training packages and accredited courses to meet client needs Delivery)
- ED113P Group based learning
(TAEDEL401A Plan, organise and deliver group-based learning)
- ED114P Workplace Assessment
(TAEDEL402A Plan, organise and facilitate learning in the workplace Assessment)
- ED115P Assessment Planning
(TAEASS401B Plan assessment activities and processes)
- ED116P Competency Assessment
(TAEASS402B Assess competence)
- ED117P Assessment Validation
(TAEASS403B Participate in assessment validation)
- ED118P Work skills Instruction
(TAEDEL301A Provide work skill instruction)
- ED119P Educational Presentation
(BSBCMM401A Make a presentation)(TAEASS301B Contribute to assessment

Level 2-Adult Vocational Education

Part (1) Adult Vocational Education Theoretical Subjects

- ED 401 Adult Learning Technology
- ED 202 Curriculum & Design
- ED 205 Teaching & Measuring
- ED 206 Designing Instructions & Assessment
- ED 405 Training Principle
- ED411-Engineering Education (1)

ED220-Part (2) Vocational Education & Training Practice (Diploma in Vocational Education & Training TAE50111)

- ED201P-Advanced Assessment Practice
(TAEASS501A: Provide advanced assessment practice)
- ED202P-Assessment Development
(TAEASS502B: Design and develop assessment tools)
- ED203P-Training Facilitation
(TAEDEL502A: Provide advanced facilitation practice)
- ED204P-Learning Strategies
(TAEDES501A: Design and develop learning strategies)
- ED205P- Language Literacy & Numeracy
(TAEELN401A: Address adult language, literacy and numeracy skills)
- ED206P-Continuing Professional Development
(TAEPPD501A: Maintain and enhance professional practice)
- ED207P Learning Resources Design & Development
(TAEDES502A: Design and develop learning resources)
- ED208P Organizational Training Needs Analysis
(TAETAS501B: Undertake organisational training needs analysis)
- ED 404 Educational Research (Part 1)
(TAERES501A: Apply research to training and assessment practice)
- ED209P- Training Program Evaluation
(TAEDES505A: Evaluate a training program)

Level 3-Training Authorities Accreditation Compliance

Part (1) Educational Leadership Subjects

- ED 402 Educational Leadership
- ED 301 Educational Policy (Myanmar Engineering Council Accreditation Requirements)
- ED 308 Change Management
- ED309 Educational Communication
- ED 407 Learning Environment
- ED311 Outcome based Education
- ED412 Engineering Education (2)

- ED301P- Curriculum design for accreditation compliance
- ED302P-Overall accreditation and compliance practice

Level 4-Specialized Teaching Areas

- ED 308 Computer Supported Learning & Distance Education
- ED 304 Maths Teaching
- ED 305 Science Teaching
- ED 306 Technology Teaching
- ED 404 Educational Research (Part 2)
- ED310 Learning Technology I & II
- ED312 Technology in Classrooms
- ED413 Engineering Education (3)

Diploma in Engineering Education

The following units can be added to Diploma in Technical Teaching to award Diploma in Engineering Education

ED411-Engineering Education Part 1

ED412-Engineering Education Part 2

ED413-Engineering Education Part 3

CURRICULUM

Level 1-Educational Theories , Teaching Pedagogies & Training and Assessment Practice

ED101 Theory of Education

Objective-

This unit provided the concept of education to enable the learners to understand the complex system of education by developing an understanding at different levels, inner workings of the individual learner, thinking processes and motivation & apply in practical teaching

Outcomes

- to understand all the different levels of education at the same time,
- to see personal learning and national legislation
- to build an understanding of education at all of these different levels.

Contents

Education theory, Modelling, Classroom Management, Equality of opportunity, Learning & Teaching, Quality Assurance, Theory into practice.

Instruction Reference Textbook-

Theory of Education.pdf by David A Turner + Lecture slides

Assessment

Assignments = 100% (4 assignments with 25% each)

ED 102 Education Technology

Objective-

This unit provide the knowledge to include reference to the use of technology for instruction, training, learning, or teaching. In practice, definitions serve to focus the interest of associations of individuals by emphasizing a particular scope of interest.

Outcomes

- To design, development, utilization, management, and evaluation
- To provide instructional technology,” “instructional systems design,” and “instructional media
- To do the design and development of instruction and instructional resources using education technologies

Contents

Active Learning, Alternative Assessment, Adult Learners, Analysis, Assistive Technology, Cognitive Apprenticeship, Computer-Assisted Instruction

Instruction Reference Textbook-

Education Technology - An Encyclopedia Edited by Ann Kovalchick and Kara Dawson+ Lecture slides
Assessment

Assignments = 100% (7 assignments)

ED 103 Teaching Practice

Objective-

To use developmental process for reflecting on and improving one's teaching; and as an evaluative product for personnel decisions such as tenure, promotion, or a teaching

Outcomes

- To provide different sources of evidence of teaching performance.
- To contribute important information about teaching performance
- To collect variety of sources of information related to teaching
- To reflect more of teaching's intellectual substance and complexity.
- To make teaching more visible through their demonstration of a variety of teaching-related activities.
- To place the initiative for reflecting on and evaluating teaching in the hands of faculty.
- To give the individual an opportunity to think about own teaching —
- To change priorities or teaching strategies as needed, and to reflect about future

Contents

Meaning of Teaching Portfolio, Why Prepare a Teaching Portfolio? ,How Does One Develop a Teaching Portfolio? ,Preparing Portfolio ,Shaping the Final Portfolio ,Keeping Your Portfolio Up to Date ,Assembling an Electronic Portfolio ,Portfolio evaluation.

Instruction Reference Textbook-

Lecture slides

Teaching-portfolio (University of South Australia)

Assessment

Assignments = 100% Portfolio Assessment

ED 104 Lesson Planning

Objective-

This unit provides the methods to apply thought-stimulating examples teaching & learning techniques to be applied in training design and delivery to apply the various techniques and strategies in training design and presentation, that will stick! Specific strategies.

Outcomes

- To create trainings that are fun and memorable.
- To write learner-based trainings that guarantee success for each learner performance.
- To develop learning activities that match the need, learning style, and level of understanding of the participants.
- To use learning strategies that encourage learners to build on their experiences.
- To plan ongoing training activities that evaluate learner mastery during the entire learning event.
- To design blended and accelerated learning strategies that strengthen learning transfer back on the job.
- To identify methods that accurately measure training results.

Contents

Introducing planning, Needs, aims and objectives ANALYSIS OF NEEDS ,THE RATIONALE OF OBJECTIVES ,WRITING YOUR LEARNING OBJECTIVES ,SETTING A VARIETY OF OBJECTIVES , Learning, SKILLS, TECHNIQUES AND METHODS ,JUDGEMENT AND DECISION-MAKING,THE PLACE OF EMOTIONAL EDUCATION,PLANNING FOR THEORETICAL LEARNING,PLANNING FOR LEARNING FROM THE CONCRETE,PLANNING FOR REFLECTIVE LEARNING,PLANNING FOR ACTIVE LEARNING,PLANNING PROGRESSION FROM PRIOR LEARNING,PLANNING FUTURE PROGRESSION,CROSS-CURRICULAR LINKS,DIFFERENTIATION,PLANNING LISTENING ACTIVITIES,PLANNING SPEAKING ACTIVITIES,PLANNING WHOLE CLASS DISCUSSION,PLANNING READING,PLANNING TO DEVELOP COMPREHENSION,TEACHING PUPILS TO LEARN FROM WHOLE BOOKS,PLANNING WRITING,TEACHING ABOUT SUBJECT DISCOURSE ,Pedagogy, TASK ANALYSIS ,A SUCCESSFUL LESSON STRUCTURE ,PLANNING PRACTICE SESSIONS

Instruction Reference Textbook-

Lecture slides

Instructional Design for Action Learning By GERI M C ARDLE

100 Ideas for Lesson Planning – By Anthony Haynes

Read the above textbooks and prepare three lesson plans

Assessment

Assignments = 100% (Assessment of three lesson plans)

ED 105 Principle of Learning

Objective-

To understand the memory concept & apply it in effective teaching and learning.

Outcomes

- To demonstrate the principle of learning
- To understand the principle of control memory
- To understand the principle of Inhibition
- To apply the Principle of Adaptive Specialization as It Applies to Learning and Memory

Contents

FORMATION OF MEMORIES, ORGANIZATION OF MEMORIES, CONSOLIDATION OF MEMORIES, CONTROL OF MEMORIES, ADAPTIVE SPECIALIZATION OF MEMORIES

Instruction Reference Textbook-

Lecture slides

Principle of learning & memory Edited by Rainer H. Kluwe, Gerd Liier and Frank Räsler

Assessment

Assignments = 100% (5 Assignments of 20% each)

ED 106 Interpreting Curriculums

Objective-

To interpret the curriculum & develop the detailed lesson plans in teaching process.

Outcomes

- To interpret the curriculum presented to teachers;
- To adopt the curriculum;

- To understand the curriculum assimilated by learners; and
- To evaluate curriculum.

Contents

KINDS OF CURRICULUM, ORIENTATIONS TO CURRICULUM, ORIENTATIONS TO CURRICULUM, TYPES OF CURRICULUM, Competency Curriculum, LEVELS OF CURRICULUM, STAGES OF THE PROCESS, CURRICULUM PLANNING, CURRICULUM DESIGN, CURRICULUM DEVELOPMENT- PHASES, CURRICULUM DEVELOPMENT. IMPLEMENTATION OF THE CURRICULUM, CURRICULUM EVALUATION, CURRICULAR CHANGES

Instruction Reference Textbook-

Lecture slides

CURRICULUM DESIGN AND DEVELOPMENT-1.pdf

THE CURRICULUM by Cecilia Braslavsky 1

Assessment

Assessment = 100% (Assess as part of Learning outcomes & curriculum development tasks in Residential Workshop session)

ED 107 Teaching & Learning

Objective-

This unit provides new and experienced faculty in all disciplines with practical, tested strategies for addressing all major aspects of college and university teaching, from planning a course through assigning final grades. Graduate student instructors and teaching assistants will also benefit from the foundational knowledge and research findings described in this unit.

Outcomes

- To addresses planning: designing a new course or revising an existing one, creating a syllabus, preparing for the class, and managing classroom conduct and decorum.
- To respond to a Changing Student Body,
- To do “ Discussion Strategies, ” provides ideas for leading a productive discussion, framing challenging questions, and encouraging student participation, both in class and online.
- To explore aspects of the lecture in the Large-Enrolment Course, ” method: preparing and delivering effective lectures, engaging students and providing for student participation, and maintaining instructional quality with limited resources.
- To find the Alternatives and Supplements to Lectures and Discussion,
- To Enhance Students ’ Learning and Motivation, ” provides research -based approaches to helping students become more confident, independent, and self - motivated learners. Informal ways to assess learning and the use of mobile

- To Strengthen Students ' Writing and Problem-Solving Skills, ”

Contents

RESPONDING TO A CHANGING STUDENT BODY ,DISCUSSION STRATEGIES ,THE LARGE-ENROLLMENT COURSE ,Maintaining Instructional Quality with Limited Resources ,ENHANCING STUDENTS' LEARNING AND MOTIVATION ,STRENGTHENING STUDENTS' WRITING AND,PROBLEM-SOLVING SKILLS ,TESTING AND GRADING,PRESENTATION TECHNOLOGIES ,EVALUATION TO IMPROVE TEACHING,TEACHING OUTSIDE THE CLASSROOM ,FINISHING UP

Instruction Reference Textbook-

Lecture slides

Tools for teaching by Barbara Gross Davis

Assessment

Experience Assessment = 100% (Assessed on Formal Teaching experience record for the teachers being employed by Government Technical Colleges & Technological Universities)

Separate assessment system is applied for pre-service teacher trainees.

ED 201 Class Room Management & Teaching

Objective-

To define classroom management, explain the relationship between classroom management and discipline, and describe the concept of “culturally responsive classroom management”

Outcomes

1. To describe the characteristics of an effective teacher
2. To explain why reflection on teaching is so important for teacher growth
3. To describe the reflective decision making model of teaching
4. To identify important factors that affect instructional decision making
- 5.To contrast the characteristics of authoritative, authoritarian, and permissive teachers
- 6.To identify the ongoing tasks involved in classroom management and to explain how each contributes to a well-functioning learning environment

Contents

Instruction Reference Textbook-

Lecture slides

Other Reference

Classroom Management by Deborah Diffily & Charlotte Sassman

Assessment

Experience Assessment = 100% (Assessed on Formal Teaching experience record for the teachers being employed by Government Technical Colleges & Technological Universities)

Separate assessment system is applied for pre-service teacher trainees.

Level 2-Adult Vocational Education

ED 401 Adult Learning Technology

Objective-

This unit provides and skills and the roles of training developers and instructional designers who are responsible for analysing training needs and designing training solutions and products to meet workplace capability requirements, and evaluating the effectiveness of adult training programs.

Outcomes

To provide the guidance and advice to trainers and assessors, promoting innovative practices, e.g. e-learning, and in researching and incorporating best practice in training and assessment into training programs and products.

Contents

- Learner-Centered Teaching and the Use of Technology
- Effective Teaching with Technology in Adult Education
- Adult Learners and Their Development in the Information Society
- Supporting Lifelong Learning and Flexicurity Policies
- Adult Learning Principles as the Foundation for Innovative Technology Applications in Business and Higher Education Venues
- The Role of Learning Styles and Technology
- Innovative Instructional Strategies with the Use of Technology for Adult Learners
- Integrating Adult Learning and Technology for Effective Education:
- Strategic Approaches
- Comparing the Principles of Adult Learning with Traditional Pedagogical Teaching in Relation to the Use of Technology:

- Provide Training through instruction and demonstration of work skills
- Facilitate work-based learning
- Group based delivery
- Design and develop learning programs
- Foster and promote an inclusive learning culture
- Ensure a safe and healthy learning environment
- Individual learning
- Language Literacy & Numeracy

Instruction Reference Textbook-

Lecture Slides

Adult Learning Technology by Victor C.X. Wang

Assessment

Participation in Educational Support Workshop sessions=100%

(Assess as part of Learning outcomes & curriculum development tasks in Residential Workshop session)

ED 202 Curriculum & Design

Objective-

To provide theoretical consideration for the twenty-first century curriculum, & technological and pedagogical innovations influencing curriculum renewal together with sustainable practice in technology-rich environments.

Outcomes

- To address theoretical foundations for the development of curricula.
- To explore the pedagogical options available to higher education instructors
- To explore new ways of accessing and connecting content to multimodal forms
- To examine how curriculum design needs to be influenced by the effective development of virtual collaborative learning environments
- To devise more adaptive, educationally focused teaching and learning

Contents

Curriculum Design for the Twenty-First Century, Online Collaboration: Coordinating Technology, Strategies for Collaborative Learning, Designing a Virtual Collaborative Learning Environment, Curriculum Design as Applied to Virtual Collaborative, Course Evaluation, Creating Curriculum Within the Context of an Enterprise, Teaching Instructional Design, Online education examples.

Instruction Reference Textbook-

Lecture Slides

Curriculum Models for the 21st Century Using Learning Technologies in Higher Education

Assessment

Participation in Educational Support Workshop sessions=100%

(Assess as part of Learning outcomes & curriculum development tasks in Residential Workshop session)

ED 205 Teaching & Measuring

Objective-

To apply adaptive expertise, creative thinking, metacognition, and teamwork in teaching and measuring task

Outcomes

To apply Adaptability, Adaptive expertise, Adaptive problem solving, Communication, Creative thinking , Decision making , Metacognition, Situation awareness & Teamwork

Contents

Cognitive Readiness, A Model for Instruction and Assessment of Cognitive Readiness, The Development and Assessment of Cognitive Readiness: Lessons Learned from K-12 Education, Cognitive Readiness for Solving Equations . Cognitive Readiness Applications, Creative Thinking Abilities: Measures for Various Domains, Using Analogies as a Basis for Teaching Cognitive Readiness . Simulation Assessment of Cognitive Readiness . Assessing Cognitive Readiness in a Simulation- Based Training Environment, Software Support for Teaching and Measuring Cognitive Readiness, Cognitive Readiness for Complex Team Performance, Impact of Individual Game-Based Training on Team Cognitive Readiness

Instruction Reference Textbook-

Teaching and Measuring Cognitive Readiness by Harold F. O'Neil • Ray S. Perez • Eva L. Baker

Assessment

Participation in Educational Support Workshop sessions=100%

(Assess as part of Learning outcomes & curriculum development tasks in Residential Workshop session)

ED 206 Designing Instructions & Assessment

Objective-

To deconstruct the broad-sweeping goals of the standards and transform them into unit plan objectives (more specific) and daily instructional objectives

Outcomes

To entails a logical progression from (1) content area standards to (2) modified standards to

(3) unit plan objectives to (4) daily instructional objectives in an understandable sequence of increasing specificity

Contents

Deconstructing the Standards ,Writing Unit and Daily Instructional Objectives , Writing True–False and Completion, Items and Matching Exercises ,Writing Multiple-Choice Items ,Writing Short-Answer and Essay Items .Performance-Based Assessment ,Portfolios

Instruction Reference Textbook-

Lecture Slides

Designing Elementary Instructions & Assessments

By John L. Badgett Edwin P . Christmann

Assessment

Participation in Educational Support Workshop sessions=100%

(Assess as part of Learning outcomes & curriculum development tasks in Residential Workshop session)

ED 405 Training Principle

Objective-

To provide numerous techniques, designs, case examples, and tips for designing and facilitating training that is participant centred, brain-friendly, and experiential

Outcomes

- To explore all aspects of training.
- To promote an active approach to training
- To provide a practical handbook of techniques

Contents

INTRODUCING ACTIVE TRAINING, DESIGNING AN ACTIVE TRAINING PROGRAM, Assessing Training Needs, Developing Active Training Objectives, Creating Opening Exercises, Preparing Brain-Friendly Lectures, Using

Experiential Learning Approach, Designing Active Training Activities, Sequencing Active Training Activities, Planning Active Training Programs, Blending Technology into Active Training, CONDUCTING AN ACTIVE TRAINING PROGRAM, Beginning an Active Training Program, Gaining Leadership of the Training Group, Giving Presentations and Leading Discussions, facilitating Structured Activities and Promoting Team Learning, Concluding an Active Training Program, EXTENDING THE VALUE OF AN ACTIVE TRAINING PROGRAM, Evaluating an Active Training Program

Instruction Reference Textbook-

Lecture Slides

Active Training by Mel Silberman

Assessment

Participation in Educational Support Workshop sessions=100%

(Assess as part of Learning outcomes & curriculum development tasks in Residential Workshop session)

ED411-Engineering Education (1)

Objective-

To design the engineering educational programs and teaching programs by applying multi disciplinary approaches by combining technological aspects

Outcomes

- To attain the strategies to promote the engineering education
- To apply technological concepts in engineering teaching support system
- To develop the quality work-based learning system
- To write Sociological Rationale of a design curriculum
- To find the strategies to improve the communication skills of engineers
- To design the computer server for engineering education program

Contents

- Pre-university Outreach: Encouraging Students to Consider Engineering Careers
- The ASTutE Tutorial Assistant: Efficient, Accessible and Interactive
- Learning at Work within the Ford Motor Company
- Using Rubrics to Assess the Development of CDIO
- Syllabus Personal and Professional Skills and Attributes at the 2.x.x Level*
- Quality Assurance Issues Relating to the Delivery of Work Based Learning Programmes*

- The Role of Work-Based Learning Methodologies in the 21 st Century
- Development of Life-Long Engineering Education in the 21 st Century
- Traits Analysis and Influences on High Performing Students in Mechanical Education
- The Construction of an Instructional Quality System for Industrial Technology Education
- Design Hegemony: an Exploration of Hegemony in the Curriculum and Instruction of Industrial Design Education
- The Engineering Mechanics Interactive Lecture Series: Oligomedia Resources for Computer-Based Learning
- The Sociological Rationale of the Industrial Design Curriculum
- Achieving Advances and New Developments in Engineering and Technological Education
- Important Considerations in Improving the Acquisition of Communication Skills by Engineers
- Client-Server and Gateway Systems for Remote Control in Engineering Education
- The Development of Online Conference Management Tools as a Student Project*
- Co-operation across Disciplines in Engineering Education Using Technical and Scientific Computing Environments

Instruction Reference Textbook-

Lecture Slides

ED411 folder, read the following files

- AndersonGilbride.pdf
- austin.pdf
- barlow.pdf
- BodenGrays.pdf
- Burns&Chisholm.pdf
- BurnsChisholm1.pdf
- ChaoHuang.pdf
- Chaos.pdf
- ChengHsiao.pdf
- chapman.pdf
- ChengLiao.pdf
- Chisholm1.pdf

- DanilovaZJPs.pdf
- Dulevicius.pdf
- EwaldPage.pdf
- GolNafalskiNguynTran.pdf
- grunwald1.pdf

Assessment

Questions & answers

Level 3-Training Authorities Accreditation Compliance

ED 402 Educational Leadership

Objective-

This course provides the educators with skills to take an active and creative approach to their personal and professional development. While it may be of most interest to those in middle or senior education management, it is also designed to help teachers, governors and those in organizations allied with education.

Outcomes

To attain the competencies in

- Leading and managing
- Changing and learning
- Undertake Tasks and responsibilities

Instruction Reference Textbook-

**Educational leadership and learning Practice, policy and research
by Sue Law and Derek Glover**

Contents

- The context for educational leadership
- Developing leadership and management effectiveness
- Managing ourselves and leading others
- Motivating and managing others
- Leading effective teams
- Effective communication
- Organizational cultures

- Managing change and creating opportunities
- Educational improvement, inspection and effectiveness
- Leading and managing in learning organizations
- Managing staff and promoting quality
- Managing resources and finance
- Managing stakeholder relationships and partnerships
- Leading and managing for professional development

Assessment

Assignments = 100%

ED 301 Educational Policy (Myanmar Engineering Council Accreditation Requirements)

Objective-

This course provides the educators with Myanmar Engineering Council Laws, Rules, Regulations, Accreditation Requirements, Accreditation Practices, procedures related to accreditation of engineering courses and engineering professionals in Myanmar to enable them to design, develop and teach the engineering programs accredited by Myanmar Engineering Council.

Outcomes

- To understand Myanmar Engineering Council Accreditation Rules & Regulations related to accreditation of Government Technical Colleges & Technological Universities in Myanmar.
- Get the information & knowledge on Current issues related to international & Myanmar Engineering profession.
- Participate in hand on practice workshop focussing on curriculum development & collecting and preparing the materials for accreditation by Myanmar Engineering Council Engineering Accreditation Committee & taking part in mock accreditation sessions.

Contents

- Overview of Myanmar Engineering Council Law, Regulation, Accreditation Principles
- Examples of marine engineers competency assessment in Myanmar/ in line with International Certification standards & explore the way to apply the similar competency based training in other engineering areas
- Requirement of Myanmar Engineering Council & how to design the curriculum to address the learning outcomes
- Discussing the programme structure and course contents(MEng C)
- Discussing the programme delivery and assessment methods

- Assessment Validation Guide of Myanmar Engineering Council
- Educational Resources Development in line with Myanmar Engineering Council Requirements
- Curriculum design for accreditation compliance
- Overall accreditation and compliance practice
- Preparation for self accreditation report
- Engineering Accreditation Plan

Instruction Reference Textbook-

1. Accreditation Manual
2. Graduate Attributes & Terminology.pptx
3. SAR.pptx
4. EngineerCouncilRegulation
5. Policy - Qualifications Policy POL11 v4
6. Myanmar Engineering Council Law
7. Policies for Accreditation of Programs
8. Time line,EAC Code,Guidelines,Fees

Assessment

Assignments = Participation in workshop sessions

ED 308 Change Management

Objective-

The unit involves candidates in leading a complete cycle of the change process. This process falls into three phases that correspond broadly to the elements of competency.

- i. Preparing for change
- ii. Planning for change
- iii. Implementing and evaluating change

Outcomes

- To provide leadership and support to others within the organization
- To manage change more effectively
- To develop educational business skills
- To analyse work practice and context, and make improvements
- To contribute to innovation and capacity building in the organization.

Contents

- Leadership issues Raising achievement
- The Leadership of Change
- A shift from management to leadership
- How not to do change management
- Managing change and transition

Instruction Reference Textbook-

Lecture Slides

Leadership+ Change Management DVD

Assessment Assignment-100%

ED309 Educational Communication

Objective-

This program uses methods of the social sciences, encompassing both qualitative and quantitative approaches to the study of communication and education. It asks in particular how education and other social systems change under the impact of new media

Outcomes

- Reflect on the historical effects of media and on the cultural uses of developments such as face-to-face speech, writing, printing, photography, film, radio, television, computers, and networked multimedia;
- Use anthropological and linguistic methods to study how the diverse forms of communication, literacy, information processing, and cognition condition educational practice; and
- Explore positive and negative effects of media on social relations and develop strategies for using information and communication technologies to improve conditions of education and life.

Contents

- Creating a production that communicates your message
- Digital Design
- Great Looking Presentations
- Planning

- Technical Papers related to effectiveness of ICT in education
- Access and equity issues
- Educational Communication Portfolio Presentation

Instruction Reference Textbook-

Lecture Slides

ED309 Educational Communication Assignment Tasks-806A Modified (Worked Examples)

Assignment

Assignments = Portfolio Assessment- 100%

ED 407 Learning Environment

Objective-

The objective of this unit is to give the candidate an understanding of the conceptualisation, historical development, assessment, determinants and effects of classroom learning environments.

Outcomes

- To review classroom learning environment for effective educational setting
- To prepare effective educational setting for teaching and learning
- To understand the students' behaviour in the classroom and the cause of the behaviour
- To effectively use the teaching and learning strategies for keeping the good learning environment in the class
- To perform educational survey task on learning environment assessment.

Contents

- Background information about the fields of school and classroom environment
- Outcomes and environment; evaluation of educational innovations
- Quantitative and qualitative methods
- Teachers' use of classroom and school environment instruments in practical attempts to improve their own classrooms and schools.
- Current trends and future desirable directions in research on educational environments.

Instruction Reference Textbook-

Lecture Slides

Assessment

Assignments = 100%

Action Research Project

ED311 Outcome based Education

Objective-

At the end of this training, participants will be able to understand:

- ☐ Outcome-Based Education (OBE)
- ☐ Programme Education Objectives (PEO'S),

Outcomes

Programme Outcomes (PO's), Course Outcomes (CO) and Performance Indicators

- ☐ Bloom's Learning Taxonomy
- ☐ Assessment and Evaluation Methods
- ☐ Continual Quality Improvement Process

Contents

- ☐ The Origins of Outcome Based Education
- ☐ *Approaches to OBE*
- ☐ *OBE Process*
- ☐ Educational Process - Stakeholders
- ☐ Educational Process – Lecturers' Roles
- ☐ Educational Process - References
- ☐ OBE Model Hierarchy
- ☐ Characteristics of OBE curricula
- ☐ *Types of Teaching/Learning Delivery Activities*
- ☐ *OBE Delivery*
- ☐ Continual Quality Improvement (CQI)
- ☐ Essentials for OBE's success
- ☐ Essentials Components of OBE

- ☐ Different Levels of Outcomes
- ☐ Development of Programme Education Objectives
- ☐ CHARACTERISTICS OF GOOD OUTCOME STATEMENTS
- ☐ Course Development
- ☐ ENGINEERING EDUCATION
BLOOM'S TAXONOMY
- ☐ DOMAINS of LEARNING OUTCOMES
- ☐ Assessment in OBE
- ☐ Continual Quality Improvement (CQI)

Instruction Reference Textbook-

Lecture Slides

Final OBE Training at Myanmar July 2014. by **Ir. Professor Academician Dato' Dr. HT Chuah**
President of FEIAP

Assessment

Participation in workshop & presenting the portfolios

ED412 Engineering Education (2)

Objective-

To design the international standard engineering education program by applying total quality management

Outcomes

- To have the knowledge and skills in total quality management
- To foster the cross border co-operation
- To interface the school to engineering programs

Contents

- Secondary School-University Interface: Science and Engineering
- The Educational Process
- Quality Engineering Education: Student Skills and Experience
- The Web as a Tool for Supporting Student Learning
- Develop a Long-Term Plan to Overcome Skills Shortage
- Cross border engineering practice

- Cross-cultural Skills for engineers

Instruction Reference Textbook-

Lecture Slides

ED412 File

Assessment

Assignments = 100% (Two assignments of 50% each)

Level 4-Specialized Teaching Areas

ED 308 Computer Supported Learning & Distance Education

Objective-

This unit provides the skills related to contribute to the central questions of how students can learn collaboratively using the new technologies, the problems that can be expected, and the benefits that may ensue. The various ways to examine how computer supported group work differs from face-to-face group work, and the implications for both educators and students are provided.

Outcomes

- ☐ To offer assessment of e-learning with the hope of offering ideas in terms of practical guide and points of good practices, while addressing potential pitfalls to avoid.
- ☐ To be aware of what constitutes good and effective e-learning practices and how to design them for specific contexts and audiences in the global information
- ☐ Innovative uses of e-learning, Addressing various divides in e-learning, user centred focus in e-learning, special considerations in e-learning and development economy.

Contents

- ☐ Computer-Supported Collaborative Learning in Higher Education:
- ☐ An Introduction
- ☐ Online Group Projects: Preparing the Instructors to Prepare the Students
- ☐ Time, Place and Identity in Project Work on the Net
- ☐ The Collective Building of Knowledge in Collaborative Learning Environments
- ☐ Collaboration or Cooperation
- ☐ Analyzing Small Group
- ☐ Interactions in Educational Environments
- ☐ Mapping Perceived Socio-Emotive Quality of Small-Group Functioning
- ☐ A Constructivist Framework for Online Collaborative Learning:
- ☐ Adult Learning and Collaborative Learning Theory
- ☐ The Real Challenge of Computer-Supported Collaborative Learning
- ☐ Use and Mis-Use of Technology for Online, Asynchronous, Collaborative Learning
- ☐ The Personal and Professional Learning Portfolio
- ☐ An Online Environment for Mentoring, Collaboration, and Publication
- ☐ Problems and Opportunities of Learning Together in a Virtual Learning Environment
- ☐ Web-Based Learning by Tele-Collaborative Production in Engineering Education

- ☐ Relational Online Collaborative Learning Model
- ☐ Online, Offline and In-Between: Analyzing Mediated-Action

Instruction Reference Textbook-

Lecture Slides

Computer Supported Learning by Tim S. Roberts

Assessment

Assignments = 100%

ED 304 Maths Teaching

Objective-

This unit provides the skills to the teachers to act as mechanisms for communicating an approach to mathematics education that is eclectic and embracing, respectful and engaging, reflective and, ultimately, educational.

Outcomes

To provide the methods to the educators in class teaching to provide the students with conceptual understanding of mathematics content through modelling or interpretation of representations,

- computational fluency,
- problem solving through application of the content.

Contents

- Strategies for Vocabulary Development
- Strategies for Using Manipulatives
- Strategies for Teaching Procedures
- Strategies for Understanding Problem Solving
- Strategies for Using Mathematical Games
- Strategies for Assessing
- Mathematical Thinking

Instruction Reference Textbook-

Lecture Slides

- ☐ Multiple Perspectives on Mathematics Teaching and Learning Edited by Jo Boaler
- ☐ Strategies for Teaching Mathematics by *Deborah V. Mink*

Assessment

Assignments = 100%

ED 305 Science Teaching

Objective-

This unit provide the teaching pedagogy in science that effectively enable the teacher to transfer what they learn in our courses into their own classroom practices.

Outcomes

- To shine a spotlight on important work that science teacher educators are doing with teachers and youth
- To describe the professional purposes and benefits realized when they, as science teacher educators, arranged opportunities to teach children or adolescents.
- To utilize model teaching lessons in class room practice

Contents

- Pedagogical Content Knowledge
- Teaching & learning Through experience
- Teaching examples

Instruction Reference Textbook-

Lecture Slides

- Understanding and Developing Science Teachers' Pedagogical Content Knowledge
By John Loughran
- Science Teacher Educators as K-12 Teachers edited by Michael Dias • Charles J. Eick, Laurie Brantley-Dias

Assessment

Assignments = 100%

ED 306 Technology Teaching

Objective-

This unit provides the teaching idea for teaching students with unique opportunities to develop a range of process skills such as critical and creative thinking skills in addition to their practical skills, through undertaking authentic tasks of real purpose.

Outcomes

- To link philosophy and educational issues in my daily work
- To help teachers to improve the teaching by means of the insights that philosophy of technology offers.

Contents

- Philosophy of technology:
- Technological artifacts
- Technological knowledge
- Technological processes
- Technology and the nature of humans
- Ethics and aesthetics of technology
- Learners' philosophies of technology
- Reconceptualizing technology through education
- Practical issues in teaching about technology

Instruction Reference Textbook-

Lecture Slides

Teaching about Technology by MARC J. DE VRIES

Assessment

Assignments = 100%

ED 404 Educational Research

Objective-

This unit describes the performance outcomes, skills and knowledge required to undertake research into educational theory and apply this research to improve current training and assessment practice.

This unit typically applies to those who need to develop skills in research in order to apply educational theory to improve current and future training and assessment practice

Outcomes

- Prepare research brief relating to training and assessment practice
- Conduct research in training and assessment practice
- Investigate and apply educational theory to the research
- Report on application of educational theory to training and assessment practice
- Review entire process

Contents

Qualitative Research and Public Policy

- Multilevel Analysis in Higher Education Research: A Multidisciplinary Approach .
- Conducting Multi-paradigm Inquiry in the Study of Higher Education Organization and Governance: Transforming
- Research Perspectives on Colleges and Universities

- Examining Pathways to and Through the Community College for Youth and Adults
- Review of the Theories Developed to Describe the Process of College Persistence and Attainment

Instruction Reference Textbook-

Lecture Slides

Higher Education: Handbook of Theory and Research

Published under the Sponsorship of the Association for Institutional Research (AIR) and the Association for the Study of Higher Education (ASHE)

Assessment

Assignments = 100%

Prepare & submit one educational research paper.

ED310 Learning Technology I & II

Objective-

On completion of this unit you should be able to demonstrate your achievement of the following learning outcomes:

All participants will be competent, confident and professional users of e-Learning system in teaching

Outcomes

To use e-Learning tools to:

- improve their own professional productivity,
- improve their preparation for classes and teaching generally and
- improve their ability to use and integrate IT appropriately within the classroom

Contents

The Syllabus:

The unit consists of five inter-related modules:

- 1. Module 1: Getting Started and IT Empowerment and Teaching**
 - a. Unit Introduction
- 2. Module 2: IT and Education:**
 - a. The Hype and the Reality
 - b. Multimedia in Education

3. Module 3: Ghosts of Schooling Past, Present and Future

- a. Technology and the Whole Curriculum
- b. Technology as a Classroom Tool
- c. Creating an active learning Environment

4. Module 4: Making the World Wide Web Work for You

- a. The Tools of the Trade
- b. Using the internet for information

5. Module 5: Technology in Your Classroom

- a. Classroom Applications of the
- b. WWW
- c. Educational Software
- d. Ideas, Approaches, Tools and Tricks
- e. Integration
- f. Early Learning and Primary

Tuition Pattern:

This unit is provided as an online unit. All tuition is provided through the online course website. The length of the unit is one semester (12 weeks); however, some students will finish sooner, and some may require additional time to complete it. While the weekly time commitment will vary from student to student, most should allow approximately 10 hours per week total study time for the unit.

Instruction Reference Textbook-

Lecture Slides

The CD in the folder Day 7 Session 2/ 5.Learning Technology 1/ index.html

Recommended Texts and Principal References:

- Shelly G. Cashman T.J. Gunter R.E. Gunter G.A. (2002). Teachers discovering computers: A link to the future WWW. Course Technology, Cambridge.

All other materials are supplied on Course CD-ROMS and online.

Assessment

Two assignments= 100%

ED312 Technology in Classrooms

Objective-

To provide use of technology in educational context by combining with teaching and learning principle, educational leadership skills and educational leadership skills.

Outcomes

On completion of this unit you should be able to demonstrate your achievement of the following learning outcomes:

Upon completion, the participant;

1. Through the use of professional based portfolios will design, implement and evaluate the use of IT, multimedia and the Internet in their own classrooms
2. Using the skills and knowledge developed within the unit, conduct research of the use on learning technologies within the areas of;
 - a. Learning technologies and Developing Leadership Skills in Technology
 - b. Assessing and Changing IT Learning EnvironmentsTeaching and Learning Principles for Technology-Rich Classrooms

Contents The unit consists of 2 inter-related sections:

1. **Section 1**
 - a. Conduct independent research in one of the following
 - i. Developing Leadership Skills in Technology
 - ii. Assessing and Changing IT Learning Environments
 - iii. Teaching and Learning Principles for Technology-Rich Classrooms
2. **Section 2**
 - a. The development of two Portfolios
 - i. "Classroom" based portfolio that demonstrates the use and integration of educational technology in your classroom or workplace.
 - ii. "Personal" based portfolio that provides the student with the opportunity to demonstrate the use and educational practice in professional practice.

Instruction Reference Textbook-

Lecture Slides

Day 8 Session 1/ 7. Technology in classroom/ index.html

Assessment

Assignments = 100%

ED413 Engineering Education (3)

Objective-

This unit provides the engineering educators with engineering ethical issues, New pedagogy , Industrial co-operation & Lifelong learning and Strategic Planning skills in engineering education

Outcomes

Design the engineering programs by taking account on emphasizing in engineering ethics & by utilizing innovative new teaching pedagogies

Contents

- Engineering ethics
- Engineering teaching pedagogies
- New training and work-based approach
- Strategies planning in engineering education

Instruction Reference Textbook-

- ED413 Par1 Ethics
- ED413 Part2 New pedagogy , Industrial co-operation & Lifelong learning
- ED413 Part3 Strategic Planning in Engineering Education
- ED413 Part4 Training & Work-based Approach

Assessment

Assignments = Project 100%

RESOURCES

ASSESSMENT FOR THE SUBJECTS IN PART 1 OF THE LEVELS

The students will have to write 20 pages study report for each of the subjects outlined in the Part 1 of any level .

The report general needs to include

- Book review- Review on each chapter of the book highlighting the key concepts, points, key theory & practical application concepts
- Own idea on how to apply those concepts in real practical applications.
- Examples of curriculum designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book

The book references for the subjects can be downloaded from the following links by entering the given password. The detailed instruction will be given in subject study guides. Some of the units can be assessed in residential training workshops.

Password- to be given

ASSESSMENT FOR THE SUBJECTS IN PART 2 OF THE LEVELS

Follow the specific assessment instruction provided for the units in Part 2 of the levels

ED120-Part (2A) Basic Teaching Practicum Preparation

Study Areas & Levels of Training

Level 1-Educational Theories , Teaching Pedagogies & Training and Assessment Practice

Part (1) Educational Theoretical Subjects

- ED 101 Theory of Education

<http://www.filefactory.com/file/4fuby1dpqs9f/ED%20101%20Theory%20of%20Education.zip>

- ED 102 Education Technology

<http://www.filefactory.com/file/1ghlzng7e0n3/ED%20102%20Education%20Technology.zip>

- ED 103 Teaching Practice

<http://www.filefactory.com/file/1o732n0j46mf/ED%20103%20Teaching%20Practice.zip>

- ED 104 Lesson Planning

<http://www.filefactory.com/file/4m30ym0ez37r/ED%20104%20Lesson%20Planning.zip>

- ED 105 Principle of Learning

<http://www.filefactory.com/file/7660l6kjr8sx/ED%20105%20Principle%20of%20Learning.zip>

- ED 106 Interpreting Curriculums

<http://www.filefactory.com/file/1h141zxbov8z/ED%20106%20Interpreting%20Curriculums.zip>

- ED 107 Teaching & Learning

<http://www.filefactory.com/file/6u5o455lyqj7/ED%20107%20Teaching%20%26amp%3B%20Learning.zip>

- ED 201 Class Room Management & Teaching

<http://www.filefactory.com/file/48gvqykksgiz/ED%20201%20Class%20Room%20Mgt%20%26amp%3B%20Teaching.zip>

Part (2A) Basic Teaching Practicum Preparation

Follow the specific assessment instruction provided for the units in Part 2 of the levels

ED101P-Teaching Support

ED102P- Application of Information Technology in School /Vocational Education

ED103P- Classroom Management

ED104P- Teaching Portfolio

ED105P- Inclusive Teaching

ED106P- Subject Area Knowledge

[Certificate in Teaching Support+ Diploma in Teaching Practice+ Bachelor of Teaching+ Bachelor of Education \(School & Vocational\)](http://www.filefactory.com/file/4a5o50idxqvr/Diploma%20in%20Teaching%20Practice.pdf)

<http://www.filefactory.com/file/4a5o50idxqvr/Diploma%20in%20Teaching%20Practice.pdf>

ED107P- Theory of Education, Educational Technology & Teaching Practice

ED107PA-Theory of Education

ED107PB-Education Technology

ED107PC-Teaching Practice

ED107PD-Lesson Planning

ED108P- Curriculum Study , Teaching & Learning

ED108PA-Principle of Learning

ED108PB-Interpreting Curriculums

ED108PC-Teaching & Learning

ED 107 Lesson Slide 1 to 20 Mod.pdf (4.71MB)

http://www.filefactory.com/file/1w4faybri0p9/n/ED_107_Lesson_Slide_1_to_20_Mod.pdf

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ED107 Lesson Slide 41 to 60.pdf (3.27MB)

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http://www.filefactory.com/file/3o4wea6j5uof/n/ED107_Lesson_Slide_201_to_220.pdf

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http://www.filefactory.com/file/32bcquqzs1ll/n/ED107_Lesson_Slide_221_to_240.pdf

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ED107 Lesson Slide 241 to 260.pdf (2.83MB)

http://www.filefactory.com/file/p0y76lkvkjd/n/ED107_Lesson_Slide_241_to_260.pdf

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ED107 Lesson Slide 261 to 280.pdf (2.84MB)

http://www.filefactory.com/file/2kdx8ty4uj1d/n/ED107_Lesson_Slide_261_to_280.pdf

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ED107 Lesson Slide 281 to 304.pdf (3.78MB)

http://www.filefactory.com/file/1y06uzz0iaq1/n/ED107_Lesson_Slide_281_to_304.pdf

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ED 107 Exercises.pdf (2.3MB)

http://www.filefactory.com/file/1isf2cao4gxx/n/ED_107_Exercises.pdf

[Download now!](#)

ED 108 Curriculum Study , Teaching & Learning Lessons

ED108 Lesson Slide 1 to 20.pdf (2.37MB)

http://www.filefactory.com/file/6r5rg8bucgkx/n/ED108_Lesson_Slide_1_to_20.pdf

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ED108 Lesson Slide 21 to 40.pdf (2.69MB)

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ED 108 Exercises.pdf (1.22MB)

http://www.filefactory.com/file/5o110j6pg6dz/n/ED_108_Exercises.pdf

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Follow the specific assessment instruction provided for the units in Part 2 of the levels

- ED111P Learning Program Design & Development Practice
(TAEDES401A Design and develop learning programs)
- ED112P Assessing the needs of trainees
(TAEDES402A Use training packages and accredited courses to meet client needs Delivery)
- ED113P Group based learning
(TAEDEL401A Plan, organise and deliver group-based learning)
- ED114P Workplace Assessment
(TAEDEL402A Plan, organise and facilitate learning in the workplace Assessment)
- ED115P Assessment Planning
(TAEASS401B Plan assessment activities and processes)
- ED116P Competency Assessment
(TAEASS402B Assess competence)
- ED117P Assessment Validation
(TAEASS403B Participate in assessment validation)
- ED118P Work skills Instruction
(TAEDEL301A Provide work skill instruction)
- ED119P Educational Presentation
(BSBCMM401A Make a presentation)(TAEASS301B Contribute to assessment

RESOURCES FOR ABOVE UNITS

Working in Vocational Education & Assessment

http://www.filefactory.com/file/136bwooflstr/n/3_Assessment_Working_in_VET_zip

Preparing vocational teaching portfolios

http://www.filefactory.com/file/2l9iu8ptfk0t/n/8_Guides_for_preparing_VET_portfolios_zip

Learning , Facilitation & Teaching in Vocational Education and Training

http://www.filefactory.com/file/3b1d9kdudz515/n/4_Learning_Facilitation_Teaching_in_VET_zip

Work-based Learning & Assessment

http://www.filefactory.com/file/5pef2h8dhav9/n/10_Workbased_Learning_amp_Assessment_2_zip

Learning Environment

http://www.filefactory.com/file/5l12qji9s67j/n/12_Learning_Environment_zip

Level 2-Adult Vocational Education

ED220-Part (2) Vocational Education & Training Practice (Diploma in Vocational Education & Training TAE50111)

Part (1) Adult Vocational Education Theoretical Subjects

Password- to be given

- ED 401 Adult Learning Technology

<http://www.filefactory.com/file/68y4bd94ianb/ED%20401%20Adult%20Learning%20Technology.zip>

- ED 202 Curriculum & Design

<http://www.filefactory.com/file/1jotv5d428j1/ED%20202%20Curriculum%20%26amp%3B%20Design.zip>

- ED 205 Teaching & Measuring

<http://www.filefactory.com/file/4eu01ck2awl/ED%20205%20Teaching%20%26amp%3B%20Measuring.zip>

- ED 206 Designing Instructions & Assessment

<http://www.filefactory.com/file/4dnh3r8wsd9t/ED%20206%20Designing%20Instructions%20%26amp%3B%20Assessment.zip>

- ED 405 Training Principle

<http://www.filefactory.com/file/5qupttpxznn/ED%20405%20Training%20Principle.zip>

Part (2) Vocational Education & Training Practice (Diploma in Vocational Education & Training TAE50111)

Follow the specific assessment instruction provided for the units in Part 2 of the levels

- ED201P-Advanced Assessment Practice
(TAEASS501A: Provide advanced assessment practice)
- ED202P-Assessment Development
(TAEASS502B: Design and develop assessment tools)
- ED203P-Training Facilitation
(TAEDEL502A: Provide advanced facilitation practice)
- ED204P-Learning Strategies
(TAEDES501A: Design and develop learning strategies)

- ED205P- Language Literacy & Numeracy
(TAELLN401A: Address adult language, literacy and numeracy skills)
- ED206P-Continuing Professional Development
(TAEPDD501A: Maintain and enhance professional practice)
- ED207P Learning Resources Design & Development
(TAEDES502A: Design and develop learning resources)
- ED208P Organizational Training Needs Analysis
(TAETAS501B: Undertake organisational training needs analysis)
- ED 404 Educational Research (Part 1)
(TAERES501A: Apply research to training and assessment practice)
- ED209P- Training Program Evaluation
(TAEDES505A: Evaluate a training program)

Vocational Education & Training Practice (Diploma in Vocational Education & Training TAE50111) Portfolio Guide

<http://www.filefactory.com/file/rh0eb9n4sfm/TAE50111PortfolioGuide.pdf>

SAMPLE PORTFOLIOS

Please note that the reference & example documents contained in the link of the portfolio can not be downloaded from the internet, they can only be available in DVDs that can be sent upon request.

The document is password protected. Password is needed and can be given upon request.

http://www.filefactory.com/file/3i8k0ls9peup/TAE50110_Diploma%20RPL%20Submission%20U%20Kyaw%20Naing.pdf

Level 3-Training Authorities Accreditation Compliances

ED320-Part (2) Myanmar Engineering Council's Accreditation Compliance Practice

Part (1) Educational Leadership Subjects

- ED 402 Educational Leadership
<http://www.filefactory.com/file/68h2rewfq7jx/ED%20402%20Educational%20Leadership.zip>
- ED 301 Educational Policy (Myanmar Engineering Council Accreditation Requirements)

Registration Rules

<http://www.filefactory.com/file/yzxtm3a7z2b/06.%20Licensing%20%26amp%3B%20Registration%20Rules%20-%20Engineering%20-%20Myanmar%20-%20CCS%2068%20reduced.pdf>

Myanmar Assessment Statement

<http://www.filefactory.com/file/9adocfm4877/06.%20Myanmar%20Assessment%20Statement%20-%20%28ACPECC%2014%29.pdf>

Graduates Attributes

<http://www.filefactory.com/file/4r5z3i9uxw5p/1%20Graduate%20Attributes%20%26amp%3B%20Terminology.pptx>

Qualification Policy

<http://www.filefactory.com/file/69mj6zk64zj5/Policy%20%20Qualifications%20Policy%20POL11%20v4.PDF>

Regulations

<http://www.filefactory.com/file/65cxuftzoxmh/Regulations.pdf>

Engineers Australia References

www.highlightcomputer.com/engineersaustraliareferences.htm

- ED 308 Change Management

http://www.filefactory.com/file/4cxrjx86buot/n/9_Leadership_Change_Management_zip

- ED309 Educational Communication

http://www.filefactory.com/file/6tbjy1omi7kz/n/1_Educational_Communication_zip

- ED 407 Learning Environment

<http://www.filefactory.com/file/31o7fw99ux7l/ED%20407%20Learning%20Environment.zip>

- ED311 Outcome based Education

<http://www.filefactory.com/file/6sq2l3hmac3b/Final%20OBE%20Training%20at%20Myanmar%20July%202014.pptx>

Part (2) Myanmar Engineering Council's Accreditation Compliance Practice

- ED301P- Curriculum design for accreditation compliance

<http://www.filefactory.com/file/2vyvpy64k4w3/Accreditation%20Manual.pdf>

Example

www.highlightcomputer.com/OverallProgramGeneral.pdf

- ED302P-Overall accreditation and compliance practice

<http://www.filefactory.com/file/2vyvpy64k4w3/Accreditation%20Manual.pdf>

<http://www.highlightcomputer.com/Accreditation.htm>

Preparation for self accreditation report

<http://www.filefactory.com/file/43x0yutpx31v/2%20SAR.pptx>

Engineering Accreditation Plan

<http://www.filefactory.com/file/2ynzo3fydckb/2015%20YTU%20First%20Workshop.pptx>

ASSIGNMENT

Prepare the portfolios for your section/ department to comply with Myanmar Engineering Council's Accreditation Requirements.

Level 4-Specialized Teaching Areas

The students will have to write 20 pages study report for each of the subjects outlined in the Part 1 of any level .

The report needs to include

- Book review- Review on each chapter of the book highlighting the key concepts, points, key theory & practical application concepts
- Own idea on how to apply those concepts in real practical applications.
- Examples of curriculum designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book

The book references for the subjects can be downloaded from the following links by entering the given password.

Password- to be given

- ED 308 Computer Supported Learning & Distance Education
<http://www.filefactory.com/file/4mdzrx52kl45/ED%20308%20Computer%20Supported%20Learning%20%26amp%3B%20Distance%20Education.zip>
- ED 304 Maths Teaching
<http://www.filefactory.com/file/60ngdjnse60x/ED%20304%20Maths%20Teaching.zip>
- ED 305 Science Teaching
<http://www.filefactory.com/file/4hqlf7r16xyf/ED%20305%20Science%20Teaching.zip>
- ED 306 Technology Teaching
<http://www.filefactory.com/file/3crwj4pdyt7b/ED%20306%20Techology%20Teaching.zip>
- ED 404 Educational Research (Part 2)
<http://www.filefactory.com/file/42pl9c8013ab/ED%20404%20Educational%20Research.zip>

- ED310 Learning Technology I & II

http://www.filefactory.com/file/3bsfz0ehba7z/n/5_Learning_Technology_1.zip

http://www.filefactory.com/file/cvavvr9gonr/n/6_Learning_Technology_2.zip

- ED312 Technology in Classrooms

http://www.filefactory.com/file/7jcivu232opx/n/7_Technology_in_classroom.zip

Diploma in Vocational Education & Training, Diploma in Technical Teaching (Training, Assessment & Learning Management)
Diploma in Engineering Education (YTU)

www.highlightcomputer.com/ProfDipTechTchg.pdf

Objective of the course

This Diploma in Engineering Education/Professional Diploma in Technical Teaching (Training, Assessment & Learning Management) is designed as Teachers Education Professional Development for teachers in Government Technical Colleges , Technological Universities and other Vocational Education and Training Institutions in Myanmar to upgrade their skills and knowledge in training and assessment, curriculum design and development, management of technical training institutions, adult and vocational education and training ,assessment validation and current accreditation rules and requirements of Myanmar Engineering Council as well as current training and assessment practices of overseas industrialized countries.

Learning Outcomes

After completion of the levels of the training programs, the students should be able to

- Understand adult learning principles in technical education and training contexts
- Apply the skills in training, assessment, course development, curriculum development, learning management and management of technical training institutions.
- Understand the accreditation requirements of Myanmar Engineering Council in accredited engineer, technologist and technician education & prepare for the compliance processes.
- Understand the technology, science and mathematics teaching & educational pedagogies principles of outcome based education and effectively utilize them in the workplace
- Provide effective work-based learning & career development for the working people in industries and apply the various ways of assessing the competences

Components of the course

- Educational theories ,educational technology, teaching and learning, teaching and measuring.
- Lesson planning, interpreting curriculums, class room management, instruction and assessment design, training principle, competency based training and assessment integrated the competencies of Australian Training and Assessment (TAE40110) course
- Management of educational establishment in line with the accreditation requirements of Myanmar Engineering Council by customizing the competencies in Australian Vocational Education and Training Diploma (TAE50111) to be relevant to the requirements of Myanmar Vocational Education and Training .
- Postgraduate level educational knowledge related to Learning Technology, Technology in classrooms, educational leadership, leadership and change management , computer supported learning and distance education,
- Teaching practicum preparation at different levels of training

Level	Course	Abbreviation	Pre-requisite	Target Group
1	Diploma in Vocational Education & Training (Certificate in Vocational Education & Training for completion of certain subjects)	Dip VET	Degree/Diploma /Certificate In relevant professional/ vocational areas	Vocational Education Teachers in various training courses
2	Diploma in Technical Teaching	Dip Tech Tchg	Diploma in Vocational Education & Training	Government Technical College Teachers
3	Diploma in Engineering Education	Dip Engg Ed	Diploma in Technical Teaching	Technological University Teachers
4	Diploma in Engineering Education (Specialist Discipline)	Dip Engg Ed (Specialist Area)	Diploma in Engineering Education	Technological University Teachers with specialized teaching in specific area of study.

Training & Assessment System Overview

Level	Course	2 weeks workshop (Assessment based on participation in workshop sessions)	Teaching Experience Assessment +Teaching Portfolio Assessment (Individual Assessment- During/After two weeks workshop) (The candidates can submit their portfolios)	Self study & Assignment Assessment (Individual Assessment)
1	Diploma in Vocational Education & Training (Certificate in Vocational Education & Training for completion of certain subjects)	ED120-Part (2A) Basic Teaching Practicum Preparation ED121-Part (2B) Training & Assessment Practice (Day 1 to 6 Session 3 s)	ED 103 Teaching Practice ED 104 Lesson Planning ED 106 Interpreting Curriculums ED 107 Teaching & Learning ED 201 Class Room Management & Teaching	ED 101 Theory of Education ED 102 Education Technology

Level	Course	2 weeks workshop (Assessment based on participation in workshop sessions)	Teaching Experience Assessment +Teaching Portfolio Assessment (Individual Assessment- During/After two weeks workshop)	Self study & Assignment Assessment (Individual Assessment)
2	Diploma in Technical Teaching	ED 202 Curriculum & Design ED 405 Training Principle ED220-Part (2) Vocational Education & Training Practice (Diploma in Vocational Education & Training TAE50111) (All session 3s)	ED 206 Designing Instructions & Assessment	ED 401 Adult Learning Technology ED 205 Teaching & Measuring ED411-Engineering Education (1)
3	Diploma in Engineering Education	ED 301 Educational Policy (Myanmar Engineering Council Accreditation Requirements) ED309 Educational Communication ED311 Outcome based Education ED320-Part (2) Myanmar Engineering Council's Accreditation Compliance Practice (All Sessions 1/2/3)	ED301P- Curriculum design for accreditation compliance ED302P-Overall accreditation and compliance practice	ED 402 Educational Leadership ED 308 Change Management ED 407 Learning Environment ED412 Engineering Education (2)

Level	Course	2 weeks workshop (Assessment based on participation in workshop sessions)	Teaching Experience Assessment +Teaching Portfolio Assessment (Individual Assessment- During/After two weeks workshop)	Self study & Assignment Assessment (Individual Assessment)
4	Diploma in Engineering Education (Specialist Discipline)		ED 308 Computer Supported Learning & Distance Education ED310 Learning Technology I & II ED312 Technology in Classrooms	ED 304 Maths Teaching ED 305 Science Teaching ED 306 Technology Teaching ED 404 Educational Research (Part 2) ED413 Engineering Education (3)

Study Areas & Levels of Training

Level 1-Educational Theories , Teaching Pedagogies & Training and Assessment Practice

Part (1) Educational Theoretical Subjects

- ED 101 Theory of Education
- ED 102 Education Technology
- ED 103 Teaching Practice
- ED 104 Lesson Planning
- ED 105 Principle of Learning
- ED 106 Interpreting Curriculums
- ED 107 Teaching & Learning
- ED 201 Class Room Management & Teaching

ED120-Part (2A) Basic Teaching Practicum Preparation

ED101P-Teaching Support

ED102P- Application of Information Technology in School /Vocational Education

ED103P- Classroom Management

ED104P- Teaching Portfolio

ED105P- Inclusive Teaching

ED106P- Subject Area Knowledge

ED107P- Theory of Education, Educational Technology & Teaching Practice

ED107PA-Theory of Education

ED107PB-Education Technology

ED107PC-Teaching Practice

ED107PD-Lesson Planning

ED108P- Curriculum Study , Teaching & Learning

ED108PA-Principle of Learning

ED108PB-Interpreting Curriculums

ED108PC-Teaching & Learning

ED121-Part (2B) Training & Assessment Practice (Certificate IV in Training & Assessment TAE40110)

- ED111P Learning Program Design & Development Practice
(TAEDES401A Design and develop learning programs)
- ED112P Assessing the needs of trainees
(TAEDES402A Use training packages and accredited courses to meet client needs Delivery)
- ED113P Group based learning
(TAEDEL401A Plan, organise and deliver group-based learning)
- ED114P Workplace Assessment
(TAEDEL402A Plan, organise and facilitate learning in the workplace Assessment)
- ED115P Assessment Planning
(TAEASS401B Plan assessment activities and processes)
- ED116P Competency Assessment
(TAEASS402B Assess competence)
- ED117P Assessment Validation
(TAEASS403B Participate in assessment validation)
- ED118P Work skills Instruction
(TAEDEL301A Provide work skill instruction)
- ED119P Educational Presentation
(BSBCMM401A Make a presentation)(TAEASS301B Contribute to assessment

Level 2-Adult Vocational Education

Part (1) Adult Vocational Education Theoretical Subjects

- ED 401 Adult Learning Technology
- ED 202 Curriculum & Design
- ED 205 Teaching & Measuring
- ED 206 Designing Instructions & Assessment
- ED 405 Training Principle
- ED411-Engineering Education (1)

ED220-Part (2) Vocational Education & Training Practice (Diploma in Vocational Education & Training TAE50111)

- ED201P-Advanced Assessment Practice
(TAEASS501A: Provide advanced assessment practice)
- ED202P-Assessment Development
(TAEASS502B: Design and develop assessment tools)
- ED203P-Training Facilitation
(TAEDEL502A: Provide advanced facilitation practice)
- ED204P-Learning Strategies
(TAEDES501A: Design and develop learning strategies)
- ED205P- Language Literacy & Numeracy
(TAEELN401A: Address adult language, literacy and numeracy skills)
- ED206P-Continuing Professional Development
(TAEPPD501A: Maintain and enhance professional practice)
- ED207P Learning Resources Design & Development
(TAEDES502A: Design and develop learning resources)
- ED208P Organizational Training Needs Analysis
(TAETAS501B: Undertake organisational training needs analysis)
- ED 404 Educational Research (Part 1)
(TAERES501A: Apply research to training and assessment practice)
- ED209P- Training Program Evaluation
(TAEDES505A: Evaluate a training program)

Level 3-Training Authorities Accreditation Compliance

Part (1) Educational Leadership Subjects

- ED 402 Educational Leadership
- ED 301 Educational Policy (Myanmar Engineering Council Accreditation Requirements)
- ED 308 Change Management
- ED309 Educational Communication
- ED 407 Learning Environment
- ED311 Outcome based Education
- ED412 Engineering Education (2)

- ED301P- Curriculum design for accreditation compliance
- ED302P-Overall accreditation and compliance practice

Level 4-Specialized Teaching Areas

- ED 308 Computer Supported Learning & Distance Education
- ED 304 Maths Teaching
- ED 305 Science Teaching
- ED 306 Technology Teaching
- ED 404 Educational Research (Part 2)
- ED310 Learning Technology I & II
- ED312 Technology in Classrooms
- ED413 Engineering Education (3)

Diploma in Engineering Education

The following units can be added to Diploma in Technical Teaching to award Diploma in Engineering Education

ED411-Engineering Education Part 1

ED412-Engineering Education Part 2

ED413-Engineering Education Part 3

CURRICULUM

Level 1-Educational Theories , Teaching Pedagogies & Training and Assessment Practice

ED101 Theory of Education

Objective-

This unit provided the concept of education to enable the learners to understand the complex system of education by developing an understanding at different levels, inner workings of the individual learner, thinking processes and motivation & apply in practical teaching

Outcomes

- to understand all the different levels of education at the same time,
- to see personal learning and national legislation
- to build an understanding of education at all of these different levels.

Contents

Education theory, Modelling, Classroom Management, Equality of opportunity, Learning & Teaching, Quality Assurance, Theory into practice.

Instruction Reference Textbook-

Theory of Education.pdf by David A Turner + Lecture slides

Assessment

Assignments = 100% (4 assignments with 25% each)

ED 102 Education Technology

Objective-

This unit provide the knowledge to include reference to the use of technology for instruction, training, learning, or teaching. In practice, definitions serve to focus the interest of associations of individuals by emphasizing a particular scope of interest.

Outcomes

- To design, development, utilization, management, and evaluation
- To provide instructional technology,” “instructional systems design,” and “instructional media
- To do the design and development of instruction and instructional resources using education technologies

Contents

Active Learning, Alternative Assessment, Adult Learners, Analysis, Assistive Technology, Cognitive Apprenticeship, Computer-Assisted Instruction

Instruction Reference Textbook-

Education Technology - An Encyclopedia Edited by Ann Kovalchick and Kara Dawson+ Lecture slides
Assessment

Assignments = 100% (7 assignments)

ED 103 Teaching Practice

Objective-

To use developmental process for reflecting on and improving one's teaching; and as an evaluative product for personnel decisions such as tenure, promotion, or a teaching

Outcomes

- To provide different sources of evidence of teaching performance.
- To contribute important information about teaching performance
- To collect variety of sources of information related to teaching
- To reflect more of teaching's intellectual substance and complexity.
- To make teaching more visible through their demonstration of a variety of teaching-related activities.
- To place the initiative for reflecting on and evaluating teaching in the hands of faculty.
- To give the individual an opportunity to think about own teaching —
- To change priorities or teaching strategies as needed, and to reflect about future

Contents

Meaning of Teaching Portfolio, Why Prepare a Teaching Portfolio? ,How Does One Develop a Teaching Portfolio? ,Preparing Portfolio ,Shaping the Final Portfolio ,Keeping Your Portfolio Up to Date ,Assembling an Electronic Portfolio ,Portfolio evaluation.

Instruction Reference Textbook-

Lecture slides

Teaching-portfolio (University of South Australia)

Assessment

Assignments = 100% Portfolio Assessment

ED 104 Lesson Planning

Objective-

This unit provides the methods to apply thought-stimulating examples teaching & learning techniques to be applied in training design and delivery to apply the various techniques and strategies in training design and presentation, that will stick! Specific strategies.

Outcomes

- To create trainings that are fun and memorable.
- To write learner-based trainings that guarantee success for each learner performance.
- To develop learning activities that match the need, learning style, and level of understanding of the participants.
- To use learning strategies that encourage learners to build on their experiences.
- To plan ongoing training activities that evaluate learner mastery during the entire learning event.
- To design blended and accelerated learning strategies that strengthen learning transfer back on the job.
- To identify methods that accurately measure training results.

Contents

Introducing planning, Needs, aims and objectives ANALYSIS OF NEEDS ,THE RATIONALE OF OBJECTIVES ,WRITING YOUR LEARNING OBJECTIVES ,SETTING A VARIETY OF OBJECTIVES , Learning, SKILLS, TECHNIQUES AND METHODS ,JUDGEMENT AND DECISION-MAKING,THE PLACE OF EMOTIONAL EDUCATION,PLANNING FOR THEORETICAL LEARNING,PLANNING FOR LEARNING FROM THE CONCRETE,PLANNING FOR REFLECTIVE LEARNING,PLANNING FOR ACTIVE LEARNING,PLANNING PROGRESSION FROM PRIOR LEARNING,PLANNING FUTURE PROGRESSION,CROSS-CURRICULAR LINKS,DIFFERENTIATION,PLANNING LISTENING ACTIVITIES,PLANNING SPEAKING ACTIVITIES,PLANNING WHOLE CLASS DISCUSSION,PLANNING READING,PLANNING TO DEVELOP COMPREHENSION,TEACHING PUPILS TO LEARN FROM WHOLE BOOKS,PLANNING WRITING,TEACHING ABOUT SUBJECT DISCOURSE ,Pedagogy, TASK ANALYSIS ,A SUCCESSFUL LESSON STRUCTURE ,PLANNING PRACTICE SESSIONS

Instruction Reference Textbook-

Lecture slides

Instructional Design for Action Learning By GERI M C ARDLE

100 Ideas for Lesson Planning – By Anthony Haynes

Read the above textbooks and prepare three lesson plans

Assessment

Assignments = 100% (Assessment of three lesson plans)

ED 105 Principle of Learning

Objective-

To understand the memory concept & apply it in effective teaching and learning.

Outcomes

- To demonstrate the principle of learning
- To understand the principle of control memory
- To understand the principle of Inhibition
- To apply the Principle of Adaptive Specialization as It Applies to Learning and Memory

Contents

FORMATION OF MEMORIES, ORGANIZATION OF MEMORIES, CONSOLIDATION OF MEMORIES, CONTROL OF MEMORIES, ADAPTIVE SPECIALIZATION OF MEMORIES

Instruction Reference Textbook-

Lecture slides

Principle of learning & memory Edited by Rainer H. Kluwe, Gerd Liier and Frank Räsler

Assessment

Assignments = 100% (5 Assignments of 20% each)

ED 106 Interpreting Curriculums

Objective-

To interpret the curriculum & develop the detailed lesson plans in teaching process.

Outcomes

- To interpret the curriculum presented to teachers;
- To adopt the curriculum;

- To understand the curriculum assimilated by learners; and
- To evaluate curriculum.

Contents

KINDS OF CURRICULUM, ORIENTATIONS TO CURRICULUM, ORIENTATIONS TO CURRICULUM, TYPES OF CURRICULUM, Competency Curriculum, LEVELS OF CURRICULUM, STAGES OF THE PROCESS, CURRICULUM PLANNING, CURRICULUM DESIGN, CURRICULUM DEVELOPMENT- PHASES, CURRICULUM DEVELOPMENT. IMPLEMENTATION OF THE CURRICULUM, CURRICULUM EVALUATION, CURRICULAR CHANGES

Instruction Reference Textbook-

Lecture slides

CURRICULUM DESIGN AND DEVELOPMENT-1.pdf

THE CURRICULUM by Cecilia Braslavsky 1

Assessment

Assessment = 100% (Assess as part of Learning outcomes & curriculum development tasks in Residential Workshop session)

ED 107 Teaching & Learning

Objective-

This unit provides new and experienced faculty in all disciplines with practical, tested strategies for addressing all major aspects of college and university teaching, from planning a course through assigning final grades. Graduate student instructors and teaching assistants will also benefit from the foundational knowledge and research findings described in this unit.

Outcomes

- To addresses planning: designing a new course or revising an existing one, creating a syllabus, preparing for the class, and managing classroom conduct and decorum.
- To respond to a Changing Student Body,
- To do “ Discussion Strategies, ” provides ideas for leading a productive discussion, framing challenging questions, and encouraging student participation, both in class and online.
- To explore aspects of the lecture in the Large-Enrolment Course, ” method: preparing and delivering effective lectures, engaging students and providing for student participation, and maintaining instructional quality with limited resources.
- To find the Alternatives and Supplements to Lectures and Discussion,
- To Enhance Students ’ Learning and Motivation, ” provides research -based approaches to helping students become more confident, independent, and self - motivated learners. Informal ways to assess learning and the use of mobile

- To Strengthen Students ' Writing and Problem-Solving Skills, ”

Contents

RESPONDING TO A CHANGING STUDENT BODY ,DISCUSSION STRATEGIES ,THE LARGE-ENROLLMENT COURSE ,Maintaining Instructional Quality with Limited Resources ,ENHANCING STUDENTS' LEARNING AND MOTIVATION ,STRENGTHENING STUDENTS' WRITING AND,PROBLEM-SOLVING SKILLS ,TESTING AND GRADING,PRESENTATION TECHNOLOGIES ,EVALUATION TO IMPROVE TEACHING,TEACHING OUTSIDE THE CLASSROOM ,FINISHING UP

Instruction Reference Textbook-

Lecture slides

Tools for teaching by Barbara Gross Davis

Assessment

Experience Assessment = 100% (Assessed on Formal Teaching experience record for the teachers being employed by Government Technical Colleges & Technological Universities)

Separate assessment system is applied for pre-service teacher trainees.

ED 201 Class Room Management & Teaching

Objective-

To define classroom management, explain the relationship between classroom management and discipline, and describe the concept of “culturally responsive classroom management”

Outcomes

1. To describe the characteristics of an effective teacher
2. To explain why reflection on teaching is so important for teacher growth
3. To describe the reflective decision making model of teaching
4. To identify important factors that affect instructional decision making
- 5.To contrast the characteristics of authoritative, authoritarian, and permissive teachers
- 6.To identify the ongoing tasks involved in classroom management and to explain how each contributes to a well-functioning learning environment

Contents

Instruction Reference Textbook-

Lecture slides

Other Reference

Classroom Management by Deborah Diffily & Charlotte Sassman

Assessment

Experience Assessment = 100% (Assessed on Formal Teaching experience record for the teachers being employed by Government Technical Colleges & Technological Universities)

Separate assessment system is applied for pre-service teacher trainees.

Level 2-Adult Vocational Education

ED 401 Adult Learning Technology

Objective-

This unit provides and skills and the roles of training developers and instructional designers who are responsible for analysing training needs and designing training solutions and products to meet workplace capability requirements, and evaluating the effectiveness of adult training programs.

Outcomes

To provide the guidance and advice to trainers and assessors, promoting innovative practices, e.g. e-learning, and in researching and incorporating best practice in training and assessment into training programs and products.

Contents

- Learner-Centered Teaching and the Use of Technology
- Effective Teaching with Technology in Adult Education
- Adult Learners and Their Development in the Information Society
- Supporting Lifelong Learning and Flexicurity Policies
- Adult Learning Principles as the Foundation for Innovative Technology Applications in Business and Higher Education Venues
- The Role of Learning Styles and Technology
- Innovative Instructional Strategies with the Use of Technology for Adult Learners
- Integrating Adult Learning and Technology for Effective Education:
- Strategic Approaches
- Comparing the Principles of Adult Learning with Traditional Pedagogical Teaching in Relation to the Use of Technology:

- Provide Training through instruction and demonstration of work skills
- Facilitate work-based learning
- Group based delivery
- Design and develop learning programs
- Foster and promote an inclusive learning culture
- Ensure a safe and healthy learning environment
- Individual learning
- Language Literacy & Numeracy

Instruction Reference Textbook-

Lecture Slides

Adult Learning Technology by Victor C.X. Wang

Assessment

Participation in Educational Support Workshop sessions=100%

(Assess as part of Learning outcomes & curriculum development tasks in Residential Workshop session)

ED 202 Curriculum & Design

Objective-

To provide theoretical consideration for the twenty-first century curriculum, & technological and pedagogical innovations influencing curriculum renewal together with sustainable practice in technology-rich environments.

Outcomes

- To address theoretical foundations for the development of curricula.
- To explore the pedagogical options available to higher education instructors
- To explore new ways of accessing and connecting content to multimodal forms
- To examine how curriculum design needs to be influenced by the effective development of virtual collaborative learning environments
- To devise more adaptive, educationally focused teaching and learning

Contents

Curriculum Design for the Twenty-First Century, Online Collaboration: Coordinating Technology, Strategies for Collaborative Learning, Designing a Virtual Collaborative Learning Environment, Curriculum Design as Applied to Virtual Collaborative, Course Evaluation, Creating Curriculum Within the Context of an Enterprise, Teaching Instructional Design, Online education examples.

Instruction Reference Textbook-

Lecture Slides

Curriculum Models for the 21st Century Using Learning Technologies in Higher Education

Assessment

Participation in Educational Support Workshop sessions=100%

(Assess as part of Learning outcomes & curriculum development tasks in Residential Workshop session)

ED 205 Teaching & Measuring

Objective-

To apply adaptive expertise, creative thinking, metacognition, and teamwork in teaching and measuring task

Outcomes

To apply Adaptability, Adaptive expertise, Adaptive problem solving, Communication, Creative thinking , Decision making , Metacognition, Situation awareness & Teamwork

Contents

Cognitive Readiness, A Model for Instruction and Assessment of Cognitive Readiness, The Development and Assessment of Cognitive Readiness: Lessons Learned from K-12 Education, Cognitive Readiness for Solving Equations . Cognitive Readiness Applications, Creative Thinking Abilities: Measures for Various Domains, Using Analogies as a Basis for Teaching Cognitive Readiness . Simulation Assessment of Cognitive Readiness . Assessing Cognitive Readiness in a Simulation- Based Training Environment, Software Support for Teaching and Measuring Cognitive Readiness, Cognitive Readiness for Complex Team Performance, Impact of Individual Game-Based Training on Team Cognitive Readiness

Instruction Reference Textbook-

Teaching and Measuring Cognitive Readiness by Harold F. O'Neil • Ray S. Perez • Eva L. Baker

Assessment

Participation in Educational Support Workshop sessions=100%

(Assess as part of Learning outcomes & curriculum development tasks in Residential Workshop session)

ED 206 Designing Instructions & Assessment

Objective-

To deconstruct the broad-sweeping goals of the standards and transform them into unit plan objectives (more specific) and daily instructional objectives

Outcomes

To entails a logical progression from (1) content area standards to (2) modified standards to

(3) unit plan objectives to (4) daily instructional objectives in an understandable sequence of increasing specificity

Contents

Deconstructing the Standards ,Writing Unit and Daily Instructional Objectives , Writing True–False and Completion, Items and Matching Exercises ,Writing Multiple-Choice Items ,Writing Short-Answer and Essay Items .Performance-Based Assessment ,Portfolios

Instruction Reference Textbook-

Lecture Slides

Designing Elementary Instructions & Assessments

By John L. Badgett Edwin P . Christmann

Assessment

Participation in Educational Support Workshop sessions=100%

(Assess as part of Learning outcomes & curriculum development tasks in Residential Workshop session)

ED 405 Training Principle

Objective-

To provide numerous techniques, designs, case examples, and tips for designing and facilitating training that is participant centred, brain-friendly, and experiential

Outcomes

- To explore all aspects of training.
- To promote an active approach to training
- To provide a practical handbook of techniques

Contents

INTRODUCING ACTIVE TRAINING, DESIGNING AN ACTIVE TRAINING PROGRAM, Assessing Training Needs, Developing Active Training Objectives, Creating Opening Exercises, Preparing Brain-Friendly Lectures, Using

Experiential Learning Approach, Designing Active Training Activities, Sequencing Active Training Activities, Planning Active Training Programs, Blending Technology into Active Training, CONDUCTING AN ACTIVE TRAINING PROGRAM, Beginning an Active Training Program, Gaining Leadership of the Training Group, Giving Presentations and Leading Discussions, facilitating Structured Activities and Promoting Team Learning, Concluding an Active Training Program, EXTENDING THE VALUE OF AN ACTIVE TRAINING PROGRAM, Evaluating an Active Training Program

Instruction Reference Textbook-

Lecture Slides

Active Training by Mel Silberman

Assessment

Participation in Educational Support Workshop sessions=100%

(Assess as part of Learning outcomes & curriculum development tasks in Residential Workshop session)

ED411-Engineering Education (1)

Objective-

To design the engineering educational programs and teaching programs by applying multi disciplinary approaches by combining technological aspects

Outcomes

- To attain the strategies to promote the engineering education
- To apply technological concepts in engineering teaching support system
- To develop the quality work-based learning system
- To write Sociological Rationale of a design curriculum
- To find the strategies to improve the communication skills of engineers
- To design the computer server for engineering education program

Contents

- Pre-university Outreach: Encouraging Students to Consider Engineering Careers
- The ASTutE Tutorial Assistant: Efficient, Accessible and Interactive
- Learning at Work within the Ford Motor Company
- Using Rubrics to Assess the Development of CDIO
- Syllabus Personal and Professional Skills and Attributes at the 2.x.x Level*
- Quality Assurance Issues Relating to the Delivery of Work Based Learning Programmes*

- The Role of Work-Based Learning Methodologies in the 21 st Century
- Development of Life-Long Engineering Education in the 21 st Century
- Traits Analysis and Influences on High Performing Students in Mechanical Education
- The Construction of an Instructional Quality System for Industrial Technology Education
- Design Hegemony: an Exploration of Hegemony in the Curriculum and Instruction of Industrial Design Education
- The Engineering Mechanics Interactive Lecture Series: Oligomedia Resources for Computer-Based Learning
- The Sociological Rationale of the Industrial Design Curriculum
- Achieving Advances and New Developments in Engineering and Technological Education
- Important Considerations in Improving the Acquisition of Communication Skills by Engineers
- Client-Server and Gateway Systems for Remote Control in Engineering Education
- The Development of Online Conference Management Tools as a Student Project*
- Co-operation across Disciplines in Engineering Education Using Technical and Scientific Computing Environments

Instruction Reference Textbook-

Lecture Slides

ED411 folder, read the following files

- AndersonGilbride.pdf
- austin.pdf
- barlow.pdf
- BodenGrays.pdf
- Burns&Chisholm.pdf
- BurnsChisholm1.pdf
- ChaoHuang.pdf
- Chaos.pdf
- ChengHsiao.pdf
- chapman.pdf
- ChengLiao.pdf
- Chisholm1.pdf

- DanilovaZJPs.pdf
- Dulevicius.pdf
- EwaldPage.pdf
- GolNafalskiNguynTran.pdf
- grunwald1.pdf

Assessment

Questions & answers

Level 3-Training Authorities Accreditation Compliance

ED 402 Educational Leadership

Objective-

This course provides the educators with skills to take an active and creative approach to their personal and professional development. While it may be of most interest to those in middle or senior education management, it is also designed to help teachers, governors and those in organizations allied with education.

Outcomes

To attain the competencies in

- Leading and managing
- Changing and learning
- Undertake Tasks and responsibilities

Instruction Reference Textbook-

**Educational leadership and learning Practice, policy and research
by Sue Law and Derek Glover**

Contents

- The context for educational leadership
- Developing leadership and management effectiveness
- Managing ourselves and leading others
- Motivating and managing others
- Leading effective teams
- Effective communication
- Organizational cultures

- Managing change and creating opportunities
- Educational improvement, inspection and effectiveness
- Leading and managing in learning organizations
- Managing staff and promoting quality
- Managing resources and finance
- Managing stakeholder relationships and partnerships
- Leading and managing for professional development

Assessment

Assignments = 100%

ED 301 Educational Policy (Myanmar Engineering Council Accreditation Requirements)

Objective-

This course provides the educators with Myanmar Engineering Council Laws, Rules, Regulations, Accreditation Requirements, Accreditation Practices, procedures related to accreditation of engineering courses and engineering professionals in Myanmar to enable them to design, develop and teach the engineering programs accredited by Myanmar Engineering Council.

Outcomes

- To understand Myanmar Engineering Council Accreditation Rules & Regulations related to accreditation of Government Technical Colleges & Technological Universities in Myanmar.
- Get the information & knowledge on Current issues related to international & Myanmar Engineering profession.
- Participate in hand on practice workshop focussing on curriculum development & collecting and preparing the materials for accreditation by Myanmar Engineering Council Engineering Accreditation Committee & taking part in mock accreditation sessions.

Contents

- Overview of Myanmar Engineering Council Law, Regulation, Accreditation Principles
- Examples of marine engineers competency assessment in Myanmar/ in line with International Certification standards & explore the way to apply the similar competency based training in other engineering areas
- Requirement of Myanmar Engineering Council & how to design the curriculum to address the learning outcomes
- Discussing the programme structure and course contents(MEng C)
- Discussing the programme delivery and assessment methods

- Assessment Validation Guide of Myanmar Engineering Council
- Educational Resources Development in line with Myanmar Engineering Council Requirements
- Curriculum design for accreditation compliance
- Overall accreditation and compliance practice
- Preparation for self accreditation report
- Engineering Accreditation Plan

Instruction Reference Textbook-

1. Accreditation Manual
2. Graduate Attributes & Terminology.pptx
3. SAR.pptx
4. EngineerCoulcilRegulation
5. Policy - Qualifications Policy POL11 v4
6. Myanmar Engineering Council Law
7. Policies for Accreditation of Programs
8. Time line,EAC Code,Guidelines,Fees

Assessment

Assignments = Participation in workshop sessions

ED 308 Change Management

Objective-

The unit involves candidates in leading a complete cycle of the change process. This process falls into three phases that correspond broadly to the elements of competency.

- i. Preparing for change
- ii. Planning for change
- iii. Implementing and evaluating change

Outcomes

- To provide leadership and support to others within the organization
- To manage change more effectively
- To develop educational business skills
- To analyse work practice and context, and make improvements
- To contribute to innovation and capacity building in the organization.

Contents

- Leadership issues Raising achievement
- The Leadership of Change
- A shift from management to leadership
- How not to do change management
- Managing change and transition

Instruction Reference Textbook-

Lecture Slides

Leadership+ Change Management DVD

Assessment Assignment-100%

ED309 Educational Communication

Objective-

This program uses methods of the social sciences, encompassing both qualitative and quantitative approaches to the study of communication and education. It asks in particular how education and other social systems change under the impact of new media

Outcomes

- Reflect on the historical effects of media and on the cultural uses of developments such as face-to-face speech, writing, printing, photography, film, radio, television, computers, and networked multimedia;
- Use anthropological and linguistic methods to study how the diverse forms of communication, literacy, information processing, and cognition condition educational practice; and
- Explore positive and negative effects of media on social relations and develop strategies for using information and communication technologies to improve conditions of education and life.

Contents

- Creating a production that communicates your message
- Digital Design
- Great Looking Presentations
- Planning

- Technical Papers related to effectiveness of ICT in education
- Access and equity issues
- Educational Communication Portfolio Presentation

Instruction Reference Textbook-

Lecture Slides

ED309 Educational Communication Assignment Tasks-806A Modified (Worked Examples)

Assignment

Assignments = Portfolio Assessment- 100%

ED 407 Learning Environment

Objective-

The objective of this unit is to give the candidate an understanding of the conceptualisation, historical development, assessment, determinants and effects of classroom learning environments.

Outcomes

- To review classroom learning environment for effective educational setting
- To prepare effective educational setting for teaching and learning
- To understand the students' behaviour in the classroom and the cause of the behaviour
- To effectively use the teaching and learning strategies for keeping the good learning environment in the class
- To perform educational survey task on learning environment assessment.

Contents

- Background information about the fields of school and classroom environment
- Outcomes and environment; evaluation of educational innovations
- Quantitative and qualitative methods
- Teachers' use of classroom and school environment instruments in practical attempts to improve their own classrooms and schools.
- Current trends and future desirable directions in research on educational environments.

Instruction Reference Textbook-

Lecture Slides

Assessment

Assignments = 100%

Action Research Project

ED311 Outcome based Education

Objective-

At the end of this training, participants will be able to understand:

- ☐ Outcome-Based Education (OBE)
- ☐ Programme Education Objectives (PEO'S),

Outcomes

Programme Outcomes (PO's), Course Outcomes (CO) and Performance Indicators

- ☐ Bloom's Learning Taxonomy
- ☐ Assessment and Evaluation Methods
- ☐ Continual Quality Improvement Process

Contents

- ☐ The Origins of Outcome Based Education
- ☐ *Approaches to OBE*
- ☐ *OBE Process*
- ☐ Educational Process - Stakeholders
- ☐ Educational Process – Lecturers' Roles
- ☐ Educational Process - References
- ☐ OBE Model Hierarchy
- ☐ Characteristics of OBE curricula
- ☐ *Types of Teaching/Learning Delivery Activities*
- ☐ *OBE Delivery*
- ☐ Continual Quality Improvement (CQI)
- ☐ Essentials for OBE's success
- ☐ Essentials Components of OBE

- ☐ Different Levels of Outcomes
- ☐ Development of Programme Education Objectives
- ☐ CHARACTERISTICS OF GOOD OUTCOME STATEMENTS
- ☐ Course Development
- ☐ ENGINEERING EDUCATION
BLOOM'S TAXONOMY
- ☐ DOMAINS of LEARNING OUTCOMES
- ☐ Assessment in OBE
- ☐ Continual Quality Improvement (CQI)

Instruction Reference Textbook-

Lecture Slides

Final OBE Training at Myanmar July 2014. by **Ir. Professor Academician Dato' Dr. HT Chuah**
President of FEIAP

Assessment

Participation in workshop & presenting the portfolios

ED412 Engineering Education (2)

Objective-

To design the international standard engineering education program by applying total quality management

Outcomes

- To have the knowledge and skills in total quality management
- To foster the cross border co-operation
- To interface the school to engineering programs

Contents

- Secondary School-University Interface: Science and Engineering
- The Educational Process
- Quality Engineering Education: Student Skills and Experience
- The Web as a Tool for Supporting Student Learning
- Develop a Long-Term Plan to Overcome Skills Shortage
- Cross border engineering practice

- Cross-cultural Skills for engineers

Instruction Reference Textbook-

Lecture Slides

ED412 File

Assessment

Assignments = 100% (Two assignments of 50% each)

Level 4-Specialized Teaching Areas

ED 308 Computer Supported Learning & Distance Education

Objective-

This unit provides the skills related to contribute to the central questions of how students can learn collaboratively using the new technologies, the problems that can be expected, and the benefits that may ensue. The various ways to examine how computer supported group work differs from face-to-face group work, and the implications for both educators and students are provided.

Outcomes

- ☐ To offer assessment of e-learning with the hope of offering ideas in terms of practical guide and points of good practices, while addressing potential pitfalls to avoid.
- ☐ To be aware of what constitutes good and effective e-learning practices and how to design them for specific contexts and audiences in the global information
- ☐ Innovative uses of e-learning, Addressing various divides in e-learning, user centred focus in e-learning, special considerations in e-learning and development economy.

Contents

- ☐ Computer-Supported Collaborative Learning in Higher Education:
- ☐ An Introduction
- ☐ Online Group Projects: Preparing the Instructors to Prepare the Students
- ☐ Time, Place and Identity in Project Work on the Net
- ☐ The Collective Building of Knowledge in Collaborative Learning Environments
- ☐ Collaboration or Cooperation
- ☐ Analyzing Small Group
- ☐ Interactions in Educational Environments
- ☐ Mapping Perceived Socio-Emotive Quality of Small-Group Functioning
- ☐ A Constructivist Framework for Online Collaborative Learning:
- ☐ Adult Learning and Collaborative Learning Theory
- ☐ The Real Challenge of Computer-Supported Collaborative Learning
- ☐ Use and Mis-Use of Technology for Online, Asynchronous, Collaborative Learning
- ☐ The Personal and Professional Learning Portfolio
- ☐ An Online Environment for Mentoring, Collaboration, and Publication
- ☐ Problems and Opportunities of Learning Together in a Virtual Learning Environment
- ☐ Web-Based Learning by Tele-Collaborative Production in Engineering Education

- ☐ Relational Online Collaborative Learning Model
- ☐ Online, Offline and In-Between: Analyzing Mediated-Action

Instruction Reference Textbook-

Lecture Slides

Computer Supported Learning by Tim S. Roberts

Assessment

Assignments = 100%

ED 304 Maths Teaching

Objective-

This unit provides the skills to the teachers to act as mechanisms for communicating an approach to mathematics education that is eclectic and embracing, respectful and engaging, reflective and, ultimately, educational.

Outcomes

To provide the methods to the educators in class teaching to provide the students with conceptual understanding of mathematics content through modelling or interpretation of representations,

- computational fluency,
- problem solving through application of the content.

Contents

- Strategies for Vocabulary Development
- Strategies for Using Manipulatives
- Strategies for Teaching Procedures
- Strategies for Understanding Problem Solving
- Strategies for Using Mathematical Games
- Strategies for Assessing
- Mathematical Thinking

Instruction Reference Textbook-

Lecture Slides

- ☐ Multiple Perspectives on Mathematics Teaching and Learning Edited by Jo Boaler
- ☐ Strategies for Teaching Mathematics by *Deborah V. Mink*

Assessment

Assignments = 100%

ED 305 Science Teaching

Objective-

This unit provide the teaching pedagogy in science that effectively enable the teacher to transfer what they learn in our courses into their own classroom practices.

Outcomes

- To shine a spotlight on important work that science teacher educators are doing with teachers and youth
- To describe the professional purposes and benefits realized when they, as science teacher educators, arranged opportunities to teach children or adolescents.
- To utilize model teaching lessons in class room practice

Contents

- Pedagogical Content Knowledge
- Teaching & learning Through experience
- Teaching examples

Instruction Reference Textbook-

Lecture Slides

- Understanding and Developing Science Teachers' Pedagogical Content Knowledge
By John Loughran
- Science Teacher Educators as K-12 Teachers edited by Michael Dias • Charles J. Eick, Laurie Brantley-Dias

Assessment

Assignments = 100%

ED 306 Technology Teaching

Objective-

This unit provides the teaching idea for teaching students with unique opportunities to develop a range of process skills such as critical and creative thinking skills in addition to their practical skills, through undertaking authentic tasks of real purpose.

Outcomes

- To link philosophy and educational issues in my daily work
- To help teachers to improve the teaching by means of the insights that philosophy of technology offers.

Contents

- Philosophy of technology:
- Technological artifacts
- Technological knowledge
- Technological processes
- Technology and the nature of humans
- Ethics and aesthetics of technology
- Learners' philosophies of technology
- Reconceptualizing technology through education
- Practical issues in teaching about technology

Instruction Reference Textbook-

Lecture Slides

Teaching about Technology by MARC J. DE VRIES

Assessment

Assignments = 100%

ED 404 Educational Research

Objective-

This unit describes the performance outcomes, skills and knowledge required to undertake research into educational theory and apply this research to improve current training and assessment practice.

This unit typically applies to those who need to develop skills in research in order to apply educational theory to improve current and future training and assessment practice

Outcomes

- Prepare research brief relating to training and assessment practice
- Conduct research in training and assessment practice
- Investigate and apply educational theory to the research
- Report on application of educational theory to training and assessment practice
- Review entire process

Contents

Qualitative Research and Public Policy

- Multilevel Analysis in Higher Education Research: A Multidisciplinary Approach .
- Conducting Multi-paradigm Inquiry in the Study of Higher Education Organization and Governance: Transforming
- Research Perspectives on Colleges and Universities

- Examining Pathways to and Through the Community College for Youth and Adults
- Review of the Theories Developed to Describe the Process of College Persistence and Attainment

Instruction Reference Textbook-

Lecture Slides

Higher Education: Handbook of Theory and Research

Published under the Sponsorship of the Association for Institutional Research (AIR) and the Association for the Study of Higher Education (ASHE)

Assessment

Assignments = 100%

Prepare & submit one educational research paper.

ED310 Learning Technology I & II

Objective-

On completion of this unit you should be able to demonstrate your achievement of the following learning outcomes:

All participants will be competent, confident and professional users of e-Learning system in teaching

Outcomes

To use e-Learning tools to:

- improve their own professional productivity,
- improve their preparation for classes and teaching generally and
- improve their ability to use and integrate IT appropriately within the classroom

Contents

The Syllabus:

The unit consists of five inter-related modules:

- 1. Module 1: Getting Started and IT Empowerment and Teaching**
 - a. Unit Introduction
- 2. Module 2: IT and Education:**
 - a. The Hype and the Reality
 - b. Multimedia in Education

3. Module 3: Ghosts of Schooling Past, Present and Future

- a. Technology and the Whole Curriculum
- b. Technology as a Classroom Tool
- c. Creating an active learning Environment

4. Module 4: Making the World Wide Web Work for You

- a. The Tools of the Trade
- b. Using the internet for information

5. Module 5: Technology in Your Classroom

- a. Classroom Applications of the
- b. WWW
- c. Educational Software
- d. Ideas, Approaches, Tools and Tricks
- e. Integration
- f. Early Learning and Primary

Tuition Pattern:

This unit is provided as an online unit. All tuition is provided through the online course website. The length of the unit is one semester (12 weeks); however, some students will finish sooner, and some may require additional time to complete it. While the weekly time commitment will vary from student to student, most should allow approximately 10 hours per week total study time for the unit.

Instruction Reference Textbook-

Lecture Slides

The CD in the folder Day 7 Session 2/ 5.Learning Technology 1/ index.html

Recommended Texts and Principal References:

- Shelly G. Cashman T.J. Gunter R.E. Gunter G.A. (2002). Teachers discovering computers: A link to the future WWW. Course Technology, Cambridge.

All other materials are supplied on Course CD-ROMS and online.

Assessment

Two assignments= 100%

ED312 Technology in Classrooms

Objective-

To provide use of technology in educational context by combining with teaching and learning principle, educational leadership skills and educational leadership skills.

Outcomes

On completion of this unit you should be able to demonstrate your achievement of the following learning outcomes:

Upon completion, the participant;

1. Through the use of professional based portfolios will design, implement and evaluate the use of IT, multimedia and the Internet in their own classrooms
2. Using the skills and knowledge developed within the unit, conduct research of the use on learning technologies within the areas of;
 - a. Learning technologies and Developing Leadership Skills in Technology
 - b. Assessing and Changing IT Learning EnvironmentsTeaching and Learning Principles for Technology-Rich Classrooms

Contents The unit consists of 2 inter-related sections:

1. **Section 1**
 - a. Conduct independent research in one of the following
 - i. Developing Leadership Skills in Technology
 - ii. Assessing and Changing IT Learning Environments
 - iii. Teaching and Learning Principles for Technology-Rich Classrooms
2. **Section 2**
 - a. The development of two Portfolios
 - i. "Classroom" based portfolio that demonstrates the use and integration of educational technology in your classroom or workplace.
 - ii. "Personal" based portfolio that provides the student with the opportunity to demonstrate the use and educational practice in professional practice.

Instruction Reference Textbook-

Lecture Slides

Day 8 Session 1/ 7.Technology in classroom/ index.html

Assessment

Assignments = 100%

ED413 Engineering Education (3)

Objective-

This unit provides the engineering educators with engineering ethical issues, New pedagogy , Industrial co-operation & Lifelong learning and Strategic Planning skills in engineering education

Outcomes

Design the engineering programs by taking account on emphasizing in engineering ethics & by utilizing innovative new teaching pedagogies

Contents

- Engineering ethics
- Engineering teaching pedagogies
- New training and work-based approach
- Strategies planning in engineering education

Instruction Reference Textbook-

- ED413 Par1 Ethics
- ED413 Part2 New pedagogy , Industrial co-operation & Lifelong learning
- ED413 Part3 Strategic Planning in Engineering Education
- ED413 Part4 Training & Work-based Approach

Assessment

Assignments = Project 100%

RESOURCES

ASSESSMENT FOR THE SUBJECTS IN PART 1 OF THE LEVELS

The students will have to write 20 pages study report for each of the subjects outlined in the Part 1 of any level .

The report general needs to include

- Book review- Review on each chapter of the book highlighting the key concepts, points, key theory & practical application concepts
- Own idea on how to apply those concepts in real practical applications.
- Examples of curriculum designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book

The book references for the subjects can be downloaded from the following links by entering the given password. The detailed instruction will be given in subject study guides. Some of the units can be assessed in residential training workshops.

Password- to be given

ASSESSMENT FOR THE SUBJECTS IN PART 2 OF THE LEVELS

Follow the specific assessment instruction provided for the units in Part 2 of the levels

ED120-Part (2A) Basic Teaching Practicum Preparation

Study Areas & Levels of Training

Level 1-Educational Theories , Teaching Pedagogies & Training and Assessment Practice

Part (1) Educational Theoretical Subjects

- ED 101 Theory of Education

<http://www.filefactory.com/file/4fuby1dpqs9f/ED%20101%20Theory%20of%20Education.zip>

- ED 102 Education Technology

<http://www.filefactory.com/file/1ghlzng7e0n3/ED%20102%20Education%20Technology.zip>

- ED 103 Teaching Practice

<http://www.filefactory.com/file/1o732n0j46mf/ED%20103%20Teaching%20Practice.zip>

- ED 104 Lesson Planning

<http://www.filefactory.com/file/4m30ym0ez37r/ED%20104%20Lesson%20Planning.zip>

- ED 105 Principle of Learning

<http://www.filefactory.com/file/7660l6kjr8sx/ED%20105%20Principle%20of%20Learning.zip>

- ED 106 Interpreting Curriculums

<http://www.filefactory.com/file/1h141zxbov8z/ED%20106%20Interpreting%20Curriculums.zip>

- ED 107 Teaching & Learning

<http://www.filefactory.com/file/6u5o455lyqj7/ED%20107%20Teaching%20%26amp%3B%20Learning.zip>

- ED 201 Class Room Management & Teaching

<http://www.filefactory.com/file/48gvqykksgiz/ED%20201%20Class%20Room%20Mgt%20%26amp%3B%20Teaching.zip>

Part (2A) Basic Teaching Practicum Preparation

Follow the specific assessment instruction provided for the units in Part 2 of the levels

ED101P-Teaching Support

ED102P- Application of Information Technology in School /Vocational Education

ED103P- Classroom Management

ED104P- Teaching Portfolio

ED105P- Inclusive Teaching

ED106P- Subject Area Knowledge

[Certificate in Teaching Support+ Diploma in Teaching Practice+ Bachelor of Teaching+ Bachelor of Education \(School & Vocational\)](http://www.filefactory.com/file/4a5o50idxqvr/Diploma%20in%20Teaching%20Practice.pdf)

<http://www.filefactory.com/file/4a5o50idxqvr/Diploma%20in%20Teaching%20Practice.pdf>

ED107P- Theory of Education, Educational Technology & Teaching Practice

ED107PA-Theory of Education

ED107PB-Education Technology

ED107PC-Teaching Practice

ED107PD-Lesson Planning

ED108P- Curriculum Study , Teaching & Learning

ED108PA-Principle of Learning

ED108PB-Interpreting Curriculums

ED108PC-Teaching & Learning

ED 107 Lesson Slide 1 to 20 Mod.pdf (4.71MB)

http://www.filefactory.com/file/1w4faybri0p9/n/ED_107_Lesson_Slide_1_to_20_Mod.pdf

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http://www.filefactory.com/file/32bcquqzs1ll/n/ED107_Lesson_Slide_221_to_240.pdf

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http://www.filefactory.com/file/p0y76lkvkjd/n/ED107_Lesson_Slide_241_to_260.pdf

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http://www.filefactory.com/file/1y06uzz0iaq1/n/ED107_Lesson_Slide_281_to_304.pdf

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ED 107 Exercises.pdf (2.3MB)

http://www.filefactory.com/file/1isf2cao4gxx/n/ED_107_Exercises.pdf

[Download now!](#)

ED 108 Curriculum Study , Teaching & Learning Lessons

ED108 Lesson Slide 1 to 20.pdf (2.37MB)

http://www.filefactory.com/file/6r5rg8bucgkx/n/ED108_Lesson_Slide_1_to_20.pdf

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ED108 Lesson Slide 21 to 40.pdf (2.69MB)

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ED 108 Exercises.pdf (1.22MB)

http://www.filefactory.com/file/5o110j6pg6dz/n/ED_108_Exercises.pdf

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Follow the specific assessment instruction provided for the units in Part 2 of the levels

- ED111P Learning Program Design & Development Practice
(TAEDES401A Design and develop learning programs)
- ED112P Assessing the needs of trainees
(TAEDES402A Use training packages and accredited courses to meet client needs Delivery)
- ED113P Group based learning
(TAEDEL401A Plan, organise and deliver group-based learning)
- ED114P Workplace Assessment
(TAEDEL402A Plan, organise and facilitate learning in the workplace Assessment)
- ED115P Assessment Planning
(TAEASS401B Plan assessment activities and processes)
- ED116P Competency Assessment
(TAEASS402B Assess competence)
- ED117P Assessment Validation
(TAEASS403B Participate in assessment validation)
- ED118P Work skills Instruction
(TAEDEL301A Provide work skill instruction)
- ED119P Educational Presentation
(BSBCMM401A Make a presentation)(TAEASS301B Contribute to assessment

RESOURCES FOR ABOVE UNITS

Working in Vocational Education & Assessment

http://www.filefactory.com/file/136bwooflstr/n/3_Assessment_Working_in_VET_zip

Preparing vocational teaching portfolios

http://www.filefactory.com/file/2l9iu8ptfk0t/n/8_Guides_for_preparing_VET_portfolios_zip

Learning , Facilitation & Teaching in Vocational Education and Training

http://www.filefactory.com/file/3b1d9kdudz515/n/4_Learning_Facilitation_Teaching_in_VET_zip

Work-based Learning & Assessment

http://www.filefactory.com/file/5pef2h8dhav9/n/10_Workbased_Learning_amp_Assessment_2_zip

Learning Environment

http://www.filefactory.com/file/5l12qji9s67j/n/12_Learning_Environment_zip

Level 2-Adult Vocational Education

ED220-Part (2) Vocational Education & Training Practice (Diploma in Vocational Education & Training TAE50111)

Part (1) Adult Vocational Education Theoretical Subjects

Password- to be given

- ED 401 Adult Learning Technology

<http://www.filefactory.com/file/68y4bd94ianb/ED%20401%20Adult%20Learning%20Technology.zip>

- ED 202 Curriculum & Design

<http://www.filefactory.com/file/1jotv5d428j1/ED%20202%20Curriculum%20%26amp%3B%20Design.zip>

- ED 205 Teaching & Measuring

<http://www.filefactory.com/file/4eu01ck2awl/ED%20205%20Teaching%20%26amp%3B%20Measuring.zip>

- ED 206 Designing Instructions & Assessment

<http://www.filefactory.com/file/4dnh3r8wsd9t/ED%20206%20Designing%20Instructions%20%26amp%3B%20Assessment.zip>

- ED 405 Training Principle

<http://www.filefactory.com/file/5qupttpxznn/ED%20405%20Training%20Principle.zip>

Part (2) Vocational Education & Training Practice (Diploma in Vocational Education & Training TAE50111)

Follow the specific assessment instruction provided for the units in Part 2 of the levels

- ED201P-Advanced Assessment Practice
(TAEASS501A: Provide advanced assessment practice)
- ED202P-Assessment Development
(TAEASS502B: Design and develop assessment tools)
- ED203P-Training Facilitation
(TAEDEL502A: Provide advanced facilitation practice)
- ED204P-Learning Strategies
(TAEDES501A: Design and develop learning strategies)

- ED205P- Language Literacy & Numeracy
(TAELLN401A: Address adult language, literacy and numeracy skills)
- ED206P-Continuing Professional Development
(TAEPDD501A: Maintain and enhance professional practice)
- ED207P Learning Resources Design & Development
(TAEDES502A: Design and develop learning resources)
- ED208P Organizational Training Needs Analysis
(TAETAS501B: Undertake organisational training needs analysis)
- ED 404 Educational Research (Part 1)
(TAERES501A: Apply research to training and assessment practice)
- ED209P- Training Program Evaluation
(TAEDES505A: Evaluate a training program)

Vocational Education & Training Practice (Diploma in Vocational Education & Training TAE50111) Portfolio Guide

<http://www.filefactory.com/file/rh0eb9n4sfm/TAE50111PortfolioGuide.pdf>

SAMPLE PORTFOLIOS

Please note that the reference & example documents contained in the link of the portfolio can not be downloaded from the internet, they can only be available in DVDs that can be sent upon request.

The document is password protected. Password is needed and can be given upon request.

http://www.filefactory.com/file/3i8k0ls9peup/TAE50110_Diploma%20RPL%20Submission%20U%20Kyaw%20Naing.pdf

Level 3-Training Authorities Accreditation Compliances

ED320-Part (2) Myanmar Engineering Council's Accreditation Compliance Practice

Part (1) Educational Leadership Subjects

- ED 402 Educational Leadership
<http://www.filefactory.com/file/68h2rewfq7jx/ED%20402%20Educational%20Leadership.zip>
- ED 301 Educational Policy (Myanmar Engineering Council Accreditation Requirements)

Registration Rules

<http://www.filefactory.com/file/yzxtm3a7z2b/06.%20Licensing%20%26amp%3B%20Registration%20Rules%20-%20Engineering%20-%20Myanmar%20-%20CCS%2068%20reduced.pdf>

Myanmar Assessment Statement

<http://www.filefactory.com/file/9adocfm4877/06.%20Myanmar%20Assessment%20Statement%20-%2028ACPECC%2014%29.pdf>

Graduates Attributes

<http://www.filefactory.com/file/4r5z3i9uxw5p/1%20Graduate%20Attributes%20%26amp%3B%20Terminology.pptx>

Qualification Policy

<http://www.filefactory.com/file/69mj6zk64zj5/Policy%20%20Qualifications%20Policy%20POL11%20v4.PDF>

Regulations

<http://www.filefactory.com/file/65cxuftzoxmh/Regulations.pdf>

Engineers Australia References

www.highlightcomputer.com/engineersaustraliareferences.htm

- ED 308 Change Management

http://www.filefactory.com/file/4cxrjx86buot/n/9_Leadership_Change_Management_zip

- ED309 Educational Communication

http://www.filefactory.com/file/6tbjy1omi7kz/n/1_Educational_Communication_zip

- ED 407 Learning Environment

<http://www.filefactory.com/file/31o7fw99ux7l/ED%20407%20Learning%20Environment.zip>

- ED311 Outcome based Education

<http://www.filefactory.com/file/6sq2l3hmac3b/Final%20OBE%20Training%20at%20Myanmar%20July%202014.pptx>

Part (2) Myanmar Engineering Council's Accreditation Compliance Practice

- ED301P- Curriculum design for accreditation compliance

<http://www.filefactory.com/file/2vyvpy64k4w3/Accreditation%20Manual.pdf>

Example

www.highlightcomputer.com/OverallProgramGeneral.pdf

- ED302P-Overall accreditation and compliance practice

<http://www.filefactory.com/file/2vyvpy64k4w3/Accreditation%20Manual.pdf>

<http://www.highlightcomputer.com/Accreditation.htm>

Preparation for self accreditation report

<http://www.filefactory.com/file/43x0yutpx31v/2%20SAR.pptx>

Engineering Accreditation Plan

<http://www.filefactory.com/file/2ynzo3fydckb/2015%20YTU%20First%20Workshop.pptx>

ASSIGNMENT

Prepare the portfolios for your section/ department to comply with Myanmar Engineering Council's Accreditation Requirements.

Level 4-Specialized Teaching Areas

The students will have to write 20 pages study report for each of the subjects outlined in the Part 1 of any level .

The report needs to include

- Book review- Review on each chapter of the book highlighting the key concepts, points, key theory & practical application concepts
- Own idea on how to apply those concepts in real practical applications.
- Examples of curriculum designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book

The book references for the subjects can be downloaded from the following links by entering the given password.

Password- to be given

- ED 308 Computer Supported Learning & Distance Education
<http://www.filefactory.com/file/4mdzrx52kl45/ED%20308%20Computer%20Supported%20Learning%20%26amp%3B%20Distance%20Education.zip>
- ED 304 Maths Teaching
<http://www.filefactory.com/file/60ngdjnse60x/ED%20304%20Maths%20Teaching.zip>
- ED 305 Science Teaching
<http://www.filefactory.com/file/4hqf7r16xyf/ED%20305%20Science%20Teaching.zip>
- ED 306 Technology Teaching
<http://www.filefactory.com/file/3crwj4pdyt7b/ED%20306%20Techology%20Teaching.zip>
- ED 404 Educational Research (Part 2)
<http://www.filefactory.com/file/42pl9c8013ab/ED%20404%20Educational%20Research.zip>

- ED310 Learning Technology I & II

http://www.filefactory.com/file/3bsfz0ehba7z/n/5_Learning_Technology_1.zip

http://www.filefactory.com/file/cvavvr9gonr/n/6_Learning_Technology_2.zip

- ED312 Technology in Classrooms

http://www.filefactory.com/file/7jcivu232opx/n/7_Technology_in_classroom.zip

IQY Technical College

of Highlight Computer Group

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Affiliated to Singapore Institute of Engineering Technologists & St Clements
Technological University of British West Indies

Diploma in Engineering Education Training Program

www.highlightcomputer.com/dipengged1.htm

Diploma in Engineering Education Curriculum

Curriculum Click [HERE](#) to download

Study Guide Click [HERE](#) to download

Curriculum Click [HERE](#) to download

Study Guide Click [HERE](#) to download

Diploma in Technical Teaching Resources Click [HERE](#)

Two Weeks Training Course Resources

2 weeks training course program outline , Click [HERE](#)

2 weeks training course detailed program, Click [HERE](#)

2 weeks training course program outline , Click [HERE](#)

2 weeks training course detailed program, Click [HERE](#)

2 weeks training course Record Worksheets Click [HERE](#)

POWER POINTS

POWER POINT

Day1Session3.ppt (0.28MB)

<http://www.mongroupsyzdney1.com/Day1Session3.ppt>

<http://www.filefactory.com/file/3iplqaoqoa9/n/Day1Session3.ppt>

AUDIO

<http://yourlisten.com/Kyawnaing2524/day-1-session-3>

POWER POINT

Day2Session2.ppt (10.52MB)

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<http://www.filefactory.com/file/g1s8vs9ex71/n/Day2Session2.ppt>

AUDIO

<http://yourlisten.com/Kyaw.Naing/day-2-session-2>

POWER POINT

Day3Session1.ppt (3.26MB)

<http://www.mongroupsydney1.com/Day3Session1.ppt>

<http://www.filefactory.com/file/6wotz02sfoct/n/Day3Session1.ppt>

AUDIO

<http://yourlisten.com/Kyaw.Naing/day-3-session-1>

POWER POINT

Day 4 Session 2

<http://www.mongroupsydney1.com/Day4Session2.ppt>

<http://www.filefactory.com/file/20f4rg477rll/Day4Session2.ppt>

AUDIO

<http://yourlisten.com/Kyaw.Naing/day-4-session-2>

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Day5Session1.ppt (20.26MB)

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<http://www.filefactory.com/file/b7m0w90g5iv/n/Day5Session1.ppt>

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<http://yourlisten.com/Kyaw.Naing/day-5-session-1b>

POWER POINT

Day5Session2.ppt (2.54MB)

<http://www.mongroupsydney1.com/Day5Session2.ppt>

<http://www.filefactory.com/file/6ivsoirx2q53/Day5Session2.ppt>

AUDIO

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AUDIO

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POWER POINT

Day6Session2.ppt (0.56MB)

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AUDIO

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Day6Session2+3.ppt (4.63MB)

<http://www.mongroupsydney1.com/Day6Session23.ppt>

<http://www.filefactory.com/file/43fpt0cwbm5d/n/Day6Session2+3.ppt>

AUDIO

<http://yourlisten.com/Kyaw.Naing/day-6-session-23>

POWER POINT

Day7Session2+3Mod.pdf (42.53MB)

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<http://www.filefactory.com/file/1ikpltc7rck9/n/Day7Session2+3Mod.pdf>

AUDIO

<http://yourlisten.com/Kyaw.Naing/day-7-session23>

POWER POINT

Day8Session1.ppt (1.15MB)

<http://www.mongroupsydney1.com/Day8Session1.ppt>

<http://www.filefactory.com/file/5fv0twznzs5cv/n/Day8Session1.ppt>

AUDIO

<http://yourlisten.com/Kyaw.Naing/day-8-session-1a>

POWER POINT

Day8Session2+3.pdf (17.25MB)

<http://www.mongroupsydney1.com/Day8Session2+3.pdf>

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AUDIO

<http://yourlisten.com/Kyaw.Naing/day-8-session-23>

POWER POINT

Day9Session2+3.ppt (0.51MB)

<http://www.mongroupsydney1.com/Day9Session23.ppt>

<http://www.filefactory.com/file/6bn1bijhuz/n/Day9Session2+3.ppt>

AUDIO

<http://yourlisten.com/Kyaw.Naing/day-9-session-23>

POWER POINT

Day10Session1.ppt (11.78MB)

<http://www.mongroupsydney1.com/Day10Session1.ppt>

<http://www.filefactory.com/file/10mfxaxufq4r/Day10Session1.ppt>

AUDIO

<http://yourlisten.com/Kyaw.Naing/day-10-session-1>

POWER POINT

Day10Session2+3.ppt (0.57MB)

<http://www.mongroupsydney1.com/Day10Session23.ppt>

<http://www.filefactory.com/file/1ryzba7f66c7/Day10Session2+3.ppt>

AUDIO

<http://yourlisten.com/Kyaw.Naing/day-10-session-23>

POWER POINTS WITH AUDIO

Day 1 Session 3A.zip (41.59MB)

<http://www.filefactory.com/file/pfj082llzzf/Day1Session3PPTwithAudio.zip>

Day 2 Session 2A.zip (45.42MB)

<http://www.filefactory.com/file/4bc2l5a9h6f9/Day2Session2PPTwithAudio.zip>

Day 3 Session 1A.zip (54.45MB)

<http://www.filefactory.com/file/4wfmlyk2uq0z/Day3Session1PPTwithAudio.zip>

Day 4 Session 2A.zip (66.62MB)

http://www.filefactory.com/file/565rmb1n39op/n/Day_4_Session_2A.zip

Day 5 Session 1A.zip (77.86MB)

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Day 5 Session 2A

http://www.filefactory.com/file/1a5vrach5ibt/Day_5_Session_2A.zip

Day 6 Session 1A.zip (91.42MB)

http://www.filefactory.com/file/4ofk5oigav1n/n/Day_6_Session_1A.zip

Day 6 Session 23A.zip (61.29MB)

<http://www.filefactory.com/file/54i7504ymx1x/Day6Session23PPTwithAudio.zip>

Day 7 Session 23A.zip (226.17MB)

http://www.filefactory.com/file/38t5wd7eancf/n/Day_7_Session_23A.zip

Day 8 Session 1A.zip (86.47MB)

http://www.filefactory.com/file/55q1g6ol05gv/n/Day_8_Session_1A.zip

Day 8 Session 23A

http://www.filefactory.com/file/7edyewtzfvd/Day_8_Session_23A.zip

Day 9 Session 23A.zip (32.47MB)

<http://www.filefactory.com/file/51l8euxvugox/Day9Session23PPTwithAudio.zip>

Day 9 Session 2+3.zip (42MB) with References Resources

<http://www.filefactory.com/file/67v7vr63gnj5/Day9Session23PPTwithAudio.zip>

Day 10 Session 1A

http://www.filefactory.com/file/1pub28vgql41/Day_10_Session_1A.zip

Day 10 Session 23A

http://www.filefactory.com/file/2au2d9n4837f/Day_10_Session_23A.zip

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Day 2 Session 2 - Audio.zip (35.51MB)

http://www.filefactory.com/file/20t89q78dhah/n/Day_2_Session_2_-_Audio.zip

Day 3 Session 1 - Audio.zip (51.78MB)

http://www.filefactory.com/file/5fvmmgv49y07/n/Day_3_Session_1_-_Audio.zip

Day 4 Session 2 - Audio.zip (61.03MB)

http://www.filefactory.com/file/257aj7ips37/n/Day_4_Session_2_-_Audio.zip

Day 5 Session 1 - Audio.zip (58.49MB)

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Day 6 Session 1 - Audio.zip (86.22MB)

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Day 6 Session 23 - Audio.zip (54.8MB)

http://www.filefactory.com/file/6q9ypxgudxvf/n/Day_6_Session_23_-_Audio.zip

Day 5 Session 2 - Audio.zip (64.39MB)

http://www.filefactory.com/file/64h81tnu8air/n/Day_5_Session_2_-_Audio.zip

Day 7 Session 23 - Audio.zip (11.82MB)

http://www.filefactory.com/file/785qljbnsxzf/n/Day_7_Session_23_-_Audio.zip

Day 8 Session 1 - Audio.zip (85.75MB)

http://www.filefactory.com/file/261i358b6dpx/n/Day_8_Session_1_-_Audio.zip

Day 8 Session 23 - Audio.zip (4.3MB)

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Day 10 Session 1 - Audio.zip (65.79MB)

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Day 10 Session 23 - Audio.zip (50.39MB)

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Diploma in Engineering Education Resources

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Dip Engg Ed with subject instruction4.pdf (1.09MB)

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Vocational Education Teacher Education.pdf (0.23MB)

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ED 104 Lesson Planning.zip (6.36MB)

http://www.filefactory.com/file/2504ph61mvy9/n/ED_104_Lesson_Planning.zip

ED 105 Principle of Learning.zip (22.71MB)

http://www.filefactory.com/file/57aec9659o7n/n/ED_105_Principle_of_Learning.zip

ED 106 Interpreting Curriculums.zip (2.15MB)

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ED 107 Teaching & Learning.zip (46.85MB)

http://www.filefactory.com/file/5c15a5k9sobb/n/ED_107_Teaching_&_Learning.zip

ED 201 Class Room Mgt & Teaching.zip (6.05MB)

http://www.filefactory.com/file/6jg5ixiodatp/n/ED_201_Class_Room_Mgt_&_Teaching.zip

ED 202 Curriculum & Design.zip (5.27MB)

http://www.filefactory.com/file/5je0086xv2g7/n/ED_202_Curriculum_&_Design.zip

ED 205 Teaching & Measuring.zip (3.78MB)

http://www.filefactory.com/file/i1cd1ba6dix/n/ED_205_Teaching_&_Measuring.zip

ED 206 Designing Instructions & Assessment.zip (21.23MB)

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ED 208 Inclusive Teaching.zip (5.38MB)

http://www.filefactory.com/file/1xr41whxmlcx/n/ED_208_Inclusive_Teaching.zip

ED 304 Maths Teaching.zip (10MB)

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ED 305 Science Teaching.zip (14.88MB)

http://www.filefactory.com/file/6yvzh8hc5ge1/n/ED_305_Science_Teaching.zip

ED 306 Techology Teaching.zip (4.56MB)

http://www.filefactory.com/file/srx9d671hl9/n/ED_306_Techology_Teaching.zip

ED 308 Computer Supported Learning & Distance Education.zip (44.38MB)

http://www.filefactory.com/file/7hsrr19eogfv/n/ED_308_Computer_Supported_Learning_&_Distance_Education.zip

ED309 Educational Communication Assignment Tasks-806A Modified.zip (0.21MB)

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ED309 Educational Communication Assignment Tasks-806A.zip (1.18MB)

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ED 401 Adult Learning Technology.zip (36.88MB)

http://www.filefactory.com/file/3lhgpfk894cb/n/ED_401_Adult_Learning_Technology.zip

ED 402 Educational Leadership.zip (14.42MB)

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ED 404 Educational Research.zip (10.56MB)

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ED 405 Training Principle.zip (2.73MB)

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ED 407 Learning Environment.zip (29.13MB)

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ED 408 Rules Regulations & Accreditation.zip (7.83MB)

http://www.filefactory.com/file/dwobfiin1pv/n/ED_408_Rules_Regulations_&_Accreditation.zip

ED 409 Outcome Based Education.zip (0.88MB)

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ED411.zip (2.39MB)

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ED413 Par1 Ethics.zip (1.98MB)

http://www.filefactory.com/file/681yypraxpcv/n/ED413_Par1_Ethics.zip

ED413 Part2 New pedagogy , Industrial co-operation & Lifelong learning.zip (7.32MB)

http://www.filefactory.com/file/4jbocnnuosh1/n/ED413_Part2_New_pedagogy_._Industrial_co-operation_&_Lifelong_learning.zip

ED413 Part3 Strategic Planning in Engg Education.zip (2.37MB)

http://www.filefactory.com/file/2jeuyfg7l4pt/n/ED413_Part3_Strategic_Planning_in_Engg_Education.zip

ED411+412+413 General References.zip (28.39MB)

http://www.filefactory.com/file/4gbk3aciu755/n/ED411+412+413_General_References.zip

3.Assessment+Working in VET.zip (16.03MB)

http://www.filefactory.com/file/3jqc8c9tt0ut/n/3.Assessment+Working_in_VET.zip

4.Learning+Facilitation+Teaching in VET.zip (13.49MB)

http://www.filefactory.com/file/271eceluq4f/n/4.Learning+Facilitation+Teaching_in_VET.zip

7.Technology in classroom.zip (0.49MB)

http://www.filefactory.com/file/5rc4zjqhqzf5/n/7.Technology_in_classroom.zip

8.Guides for preparing VET portfolios.zip (0.28MB)

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10.Workbased Learning & Assessment (2).zip (22.95MB)

[http://www.filefactory.com/file/1s3rzm1dm1rv/n/10.Workbased_Learning_&_Assessment_\(2\).zip](http://www.filefactory.com/file/1s3rzm1dm1rv/n/10.Workbased_Learning_&_Assessment_(2).zip)

12. Learning Environment.zip (14.55MB)

http://www.filefactory.com/file/5icok9a01fhf/n/12._Learning_Environment.zip

Diploma+ Advanced Diploma in Management Study Guide.pdf (0.3MB)

http://www.filefactory.com/file/rwrnj8ar8cx/n/Diploma+Advanced_Diploma_in_Management_Study_Guide.pdf

Teaching Portfolio Preparation Resources

Theory of Education+ Educational Technology & Teaching Practice

Diploma in Teaching Practice

http://www.filefactory.com/file/65jbab8hy8nt/Diploma_in%20Teaching%20Practice.pdf

ED107 Lesson Slide 1 to 20.pdf (3.62MB)

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ED 107 Lesson Slide 1 to 20 Mod.pdf (4.71MB)

http://www.filefactory.com/file/26ntxrndm323/n/ED_107_Lesson_Slide_1_to_20_Mod.pdf

ED107 Lesson Slide 21 to 40.pdf (3.06MB)

http://www.filefactory.com/file/35zsbhnnst1d/n/ED107_Lesson_Slide_21_to_40.pdf

ED107 Lesson Slide 41 to 60.pdf (3.27MB)

http://www.filefactory.com/file/3awtvj5u8wcp/n/ED107_Lesson_Slide_41_to_60.pdf

ED107 Lesson Slide 61 to 80.pdf (3.22MB)

http://www.filefactory.com/file/4x6b1z68u26j/n/ED107_Lesson_Slide_61_to_80.pdf

ED107 Lesson Slide 81 to 100.pdf (2.97MB)

http://www.filefactory.com/file/5409jr1rd4dt/n/ED107_Lesson_Slide_81_to_100.pdf

ED107 Lesson Slide 101 to 120.pdf (3.07MB)

http://www.filefactory.com/file/3wsxm4x7ozgj/n/ED107_Lesson_Slide_101_to_120.pdf

ED107 Lesson Slide 121 to 140.pdf (2.69MB)

http://www.filefactory.com/file/5jvr2yubiw61/n/ED107_Lesson_Slide_121_to_140.pdf

ED107 Lesson Slide 141 to 160.pdf (2.57MB)

http://www.filefactory.com/file/5pwkqixzihbl/n/ED107_Lesson_Slide_141_to_160.pdf

ED107 Lesson Slide 161 to 180.pdf (2.99MB)

http://www.filefactory.com/file/3jyqk9qcd0z9/n/ED107_Lesson_Slide_161_to_180.pdf

ED107 Lesson Slide 181 to 200.pdf (2.76MB)

http://www.filefactory.com/file/6p7cfqqamsc7/n/ED107_Lesson_Slide_181_to_200.pdf

ED107 Lesson Slide 201 to 220.pdf (2.86MB)

http://www.filefactory.com/file/1g73b41rh0yf/n/ED107_Lesson_Slide_201_to_220.pdf

ED107 Lesson Slide 221 to 240.pdf (3.27MB)

http://www.filefactory.com/file/659n38dkjogp/n/ED107_Lesson_Slide_221_to_240.pdf

ED107 Lesson Slide 241 to 260.pdf (2.83MB)

http://www.filefactory.com/file/3922kd8wlp5v/n/ED107_Lesson_Slide_241_to_260.pdf

ED107 Lesson Slide 261 to 280.pdf (2.84MB)

http://www.filefactory.com/file/749hkwbbdps9/n/ED107_Lesson_Slide_261_to_280.pdf

ED107 Lesson Slide 281 to 304.pdf (3.78MB)

http://www.filefactory.com/file/2v3t2aurbbjv/n/ED107_Lesson_Slide_281_to_304.pdf

ED 107 Exercises.pdf (2.3MB)

http://www.filefactory.com/file/2m9ymal4pkkr/n/ED_107_Exercises.pdf

Curriculum Interpretation

ED108 Lesson Slide 1 to 20.pdf (2.37MB)

http://www.filefactory.com/file/5gexj68voz1t/n/ED108_Lesson_Slide_1_to_20.pdf

ED108 Lesson Slide 21 to 40.pdf (2.69MB)

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ED108 Lesson Slide 41 to 60.pdf (2.27MB)

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ED108 Lesson Slide 61 to 80.pdf (2.12MB)

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ED108 Lesson Slide 81 to 100.pdf (2.22MB)

http://www.filefactory.com/file/38lndpf840b5/n/ED108_Lesson_Slide_81_to_100.pdf

ED108 Lesson Slide 101 to 120.pdf (2.57MB)

http://www.filefactory.com/file/1t6q4zvtdfcf/n/ED108_Lesson_Slide_101_to_120.pdf

ED108 Lesson Slide 121 to 140.pdf (2.32MB)

http://www.filefactory.com/file/4ctrdna2c3zv/n/ED108_Lesson_Slide_121_to_140.pdf

ED108 Lesson Slide 141 to 168.pdf (2.7MB)

http://www.filefactory.com/file/ozio6sdlkmt/n/ED108_Lesson_Slide_141_to_168.pdf

Ed108 English.ppt (11.04MB)

http://www.filefactory.com/file/2qhtrb6jqc0v/n/Ed108_English.ppt

ED 108 Exercises.pdf (1.22MB)

http://www.filefactory.com/file/6a73s45dcutt/n/ED_108_Exercises.pdf

Ed108.pdf (10.83MB)

<http://www.filefactory.com/file/6mx994obk6ah/n/Ed108.pdf>

Ed108.ppt (11.07MB)

<http://www.filefactory.com/file/6u1gtnz3hwj5/n/Ed108.ppt>

St Clements Technological University

Bachelor of Teaching (School & Vocational Education) Course Resources

B Teaching (School & Vocational).pdf (0.21MB)

[http://www.filefactory.com/file/n10lkp9za4n/n/B_Teaching_\(School_&_Vocational\).pdf](http://www.filefactory.com/file/n10lkp9za4n/n/B_Teaching_(School_&_Vocational).pdf)

BACHELOR OF TEACHING.pdf (0.24MB)

http://www.filefactory.com/file/42yeuz4u0xrx/n/BACHELOR_OF_TEACHING.pdf

Vocational_Education_Teacher_Education.pdf (0.23MB)

http://www.filefactory.com/file/4wfv9n3flst1/n/Vocatinal_Education_Teacher_Education.pdf

BACHELOR OF TEACHING.doc (0.04MB)

http://www.filefactory.com/file/5tab70ou3pjn/n/BACHELOR_OF_TEACHING.doc

ED101 Child Studies.zip (8.2 MB)

http://www.filefactory.com/file/7korkflzv8q7/ED_101S%20Child%20Teaching.zip

ED 102S Teaching & Learning Concepts.zip (1.32MB)

http://www.filefactory.com/file/1cr2kr8fs0ht/n/ED_102S_Teaching_&_Learning_Concepts.zip

ED 103S Middle School Teaching.zip (0.89MB)

http://www.filefactory.com/file/61hwczw1llsp/n/ED_103S_Middle_School_Teaching.zip

ED 104S High School Teaching.zip (2.9MB)

http://www.filefactory.com/file/4426yezka5w5/n/ED_104S_High_School_Teaching.zip

ED 105S Teaching Portfolios.zip (0.93MB)

http://www.filefactory.com/file/47w1ibhnh9v1/n/ED_105S_Teaching_Portfolios.zip

ED 106S Interpreting Curriculum.zip (2.15MB)

http://www.filefactory.com/file/2rdxksuo3rxt/n/ED_106S_Interpreting_Curriculum.zip

ED 201S-VET Policy.zip (5.19MB)

http://www.filefactory.com/file/1q8oy93ztpur/n/ED_201S-VET_Policy.zip

ED 202S -Working in School Vocational Education.zip (2.84MB)

http://www.filefactory.com/file/2ufpth2ygy3j/n/ED_202S_-Working_in_School_Vocational_Education.zip

ED 203S -4.Learning+Facilitation+Teaching in VET.zip (13.47MB)

http://www.filefactory.com/file/1dpq4x20hpyb/n/ED_203S_-4.Learning+Facilitation+Teaching_in_VET.zip

ED 204S-Workbased Learning & Assessment Samples.zip (22.83MB)

http://www.filefactory.com/file/6tvk6bf7rhgb/n/ED_204S-Workbased_Learning_&_Assessment_Samples.zip

ED 205S-Guides for preparing teaching & training portfolios.zip (0.28MB)

http://www.filefactory.com/file/6wbht76ud0up/n/ED_205S-Guides_for_preparing_teaching_&_training_portfolios.zip

ED 206S-. Learning Environment.zip (14.53MB)

http://www.filefactory.com/file/7kf9ffq45met/n/ED_206S-. Learning_Environment.zip

TeachingandLearning(LeadershipTraining).pdf (0.12MB)

[http://www.filefactory.com/file/1nnceyou98dln/n/TeachingandLearning\(LeadershipTraining\).pdf](http://www.filefactory.com/file/1nnceyou98dln/n/TeachingandLearning(LeadershipTraining).pdf)

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Bachelor of Education (School& Vocational Education) Course Resources

BEd Syllabus.pdf (25.57MB)

http://www.filefactory.com/file/47ok3yh0ptdf/n/BEd_Syllabus.pdf

Vocatinal_Education_Teacher_Education.pdf (0.23MB)

http://www.filefactory.com/file/7dio96wj0fpn/n/Vocatinal_Education_Teacher_Education.pdf

ED 101M Theory of Education.zip (23.6MB)

http://www.filefactory.com/file/37wny3i62snh/n/ED_101M_Theory_of_Education.zip

ED 102M Education Technology.zip (8.05MB)

http://www.filefactory.com/file/4737kz2hd25v/n/ED_102M_Education_Technology.zip

ED 103M Teaching Practice.zip (3.43MB)

http://www.filefactory.com/file/7j6gqcne2vhx/n/ED_103M_Teaching_Practice.zip

ED 104M Lesson Planning.zip (6.36MB)

http://www.filefactory.com/file/1tflgnii2np/n/ED_104M_Lesson_Planning.zip

ED 105M Principle of Learning.zip (22.69MB)

http://www.filefactory.com/file/42ca0fkc9237/n/ED_105M_Principle_of_Learning.zip

ED 106M Interpreting Curriculums.zip (2.15MB)

http://www.filefactory.com/file/3kh03prq42qx/n/ED_106M_Interpreting_Curriculums.zip

ED 106M Reading & Writing to Learn.zip (34.11MB)

http://www.filefactory.com/file/iz7lmx1wmq9/n/ED_106M_Reading_&_Writing_to_Learn.zip

ED 107M Teaching & Learning.zip (46.75MB)

http://www.filefactory.com/file/631987knookb/n/ED_107M_Teaching_&_Learning.zip

ED 108M Teaching Elementary.zip (12.08MB)

http://www.filefactory.com/file/5c6qccz7cucr/n/ED_108M_Teaching_Elementary.zip

ED 109M Reading & Writing to Learn.zip (34.11MB)

http://www.filefactory.com/file/4gj7suey229v/n/ED_109M_Reading_&_Writing_to_Learn.zip

ED 201M Class Room Mgt & Teaching.zip (6.07MB)

http://www.filefactory.com/file/kgrydg3ypwb/n/ED_201M_Class_Room_Mgt_&_Teaching.zip

ED 202M Curriculum & Design.zip (5.3MB)

http://www.filefactory.com/file/7cqhq7j9kwh/n/ED_202M_Curriculum_&_Design.zip

ED 203M K-12 Education.zip (3.17MB)

http://www.filefactory.com/file/4js0izomztn/n/ED_203M_K-12_Education.zip

ED 204M School & Vocational Education.zip (26.56MB)

http://www.filefactory.com/file/3qmrqi582r/n/ED_204M_School_&_Vocational_Education.zip

ED 205M Teaching & Measuring.zip (3.79MB)

http://www.filefactory.com/file/6kf3r9t4h77h/n/ED_205M_Teaching_&_Measuring.zip

ED 206M Designing Instructions & Assessment.zip (21.22MB)

http://www.filefactory.com/file/728astf67jp5/n/ED_206M_Designing_Instructions_&_Assessment.zip

ED 207M Teacher Education.zip (9.65MB)

http://www.filefactory.com/file/7i2ete7opoq1/n/ED_207M_Teacher_Education.zip

ED 208M Inclusive Teaching.zip (5.39MB)

http://www.filefactory.com/file/bn1hae6bi4l/n/ED_208M_Inclusive_Teaching.zip

ED 301M Educational Policy.zip (3.85MB)

http://www.filefactory.com/file/3sxa5wbss6t3/n/ED_301M_Educational_Policy.zip

ED 302M English Teaching.zip (2.53MB)

http://www.filefactory.com/file/2d8pfjzl4qip/n/ED_302M_English_Teaching.zip

ED 303M Humanities Teaching.zip (3.11MB)

http://www.filefactory.com/file/3kg8izoj3rt9/n/ED_303M_Humanities_Teaching.zip

ED 304M Maths Teaching.zip (10.03MB)

http://www.filefactory.com/file/66veqfc8j3lz/n/ED_304M_Maths_Teaching.zip

ED 305M Science Teaching.zip (14.87MB)

http://www.filefactory.com/file/5fj9qd094r8l/n/ED_305M_Science_Teaching.zip

ED 306M Technology Teaching.zip (4.63MB)

http://www.filefactory.com/file/4s19f6qglmud/n/ED_306M_Technology_Teaching.zip

ED 307M Business Teaching.zip (12.84MB)

http://www.filefactory.com/file/1p17ptf0vnf9/n/ED_307M_Business_Teaching.zip

ED 308M Computer Supported Learning & Distance Education.zip (44.37MB)

http://www.filefactory.com/file/199w1e2bz4n/n/ED_308M_Computer_Supported_Learning_& Distance_Education.zip

ED 401M Adult Learning Technology.zip (37.55MB)

http://www.filefactory.com/file/7b0acvxskizv/n/ED_401M_Adult_Learning_Technology.zip

ED 402M Educational Leadership.zip (14.42MB)

http://www.filefactory.com/file/rsofrjay7zf/n/ED_402M_Educational_Leadership.zip

ED 403M School Culture.zip (14.7MB)

http://www.filefactory.com/file/crtcalwa6yx/n/ED_403M_School_Culture.zip

ED 404M Educational Research.zip (10.58MB)

http://www.filefactory.com/file/18hsluxzajyf/n/ED_404M_Educational_Research.zip

ED 405M Training Principle.zip (2.73MB)

http://www.filefactory.com/file/l89e26ckyup/n/ED_405M_Training_Principle.zip

ED 406M Educational Policy.zip (9.04MB)

http://www.filefactory.com/file/3xbww7cqc4z9/n/ED_406M_Educational_Policy.zip

ED 407M Learning Environment.zip (29.11MB)

http://www.filefactory.com/file/3t0xpd7mkrl/n/ED_407M_Learning_Environment.zip

ED 408M Middle & High School Teaching.zip (3.66MB)

http://www.filefactory.com/file/efhe9b3ae4p/n/ED_408M_Middle_& High_School_Teaching.zip

Preparation for Teaching Practice & TVET Teacher Training (Introductory 2 weeks course)

Course Outline

This two weeks course is designed as Technical Teacher Education Professional Development course for teachers working at Government Schools, Private Schools, TVET Centres, Voluntary Schools as well as Government Technological Universities and Technical Colleges to effectively design, teach and assess the quality learning programs at upper secondary, TVET and tertiary technical education sectors..

Aim of the course

To provide the training to the technical education teachers to understand and apply the principles of secondary and adult & vocational education outcome based education, competency based training. compliance with Qualification & Training Authority-such as Ministry of Education/TVET Council etc , Educational Regulations and Standards by taking part in intensive workshop focussing on curriculum development and assessment documents portfolio preparations for meeting the relevant educational standards.

Outcome of the course

After completion of this course, the participant will be able to

- Understand the objective of National Education Strategic Plan 2016 to 2021 of Myanmar.
- Understand and utilize the principle & features of Outcome based education & critical thinking
- Understand the Technical & Vocational Education, Work based Learning and Competency based training & assessments tasks.
- Acquire the knowledge on Competency based education and training and training packages being used in industrialized countries (Examples of Australian Standard Competency based vocational education & training system.
- Get the information & knowledge on Current issues related to international & Myanmar TVET .
- Participate in hand on practice workshop focussing on curriculum development & collecting and preparing the materials for educational quality control tasks.

- Explore the School , Technical ,Adult & Vocational Educational Literatures, Textbooks, References & Resources, e-Learning, Learning Technology & Technology in classroom resources knowledge sharing.
- Certificate/Diploma of Teaching Practice & Certificate/Diploma of Vocational Education & Training will be issued.

Target Group

- TVET Teachers, Voluntary School Teachers, Government & Private Vocational / Engineering Education Teachers.

Arrangement of attendances

- It will be teacher professional development course for various Government & Non Government Schools and Colleges. The attenders should seek the appropriate permission from their employments.

Place of the course

- Appropriate training venue arranged by Myanmar Vocational Training Collaboration and its partnered organization: Welfare Evolvment & Development Organization

Course Duration

12 days (Mondays to Saturdays) (December 2017)(The exact date will be provided)

Requirements

The participants will need to bring the documents related to teaching plan, curriculum, course materials or reference notes that they are using in teaching. Access to laptop/computer will be required for the participants. Teaching aids such as white board , computer & Overhead Projector will be required to show the slides. It will be better to access Internet.

Sessions , trainers and facilitators

Day	Session 1 9 to 10:30AM	Tea break	Session 2 11 to 12:30 Noon	Lunch break 12:30 to 1:30 PM	Session 3 1:30 to 3:30PM (The extended time up to 5PM can be taken up to the duration of workshop & group works)
1	<p>Welcome speech by</p> <ul style="list-style-type: none"> Chairman of Welfare Evolvment & Development Organization Introduction to trainers & facilitators Outline of the program Participants ' self introduction General information and arrangement <p>(detailed time schedule needs to be arranged)</p>	Morning tea and networking	<p>Overview of National Education Strategic Plan</p> <p>Role of TVET</p> <p><u>For TU/GTC Teachers</u></p> <p>Overview of Myanmar Engineering Council Law, Regulation, Accreditation Principles</p>	Lunch	<p>Theory of Education+ Curriculum</p> <p>ED107 Theory of Education, Educational Technology & Teaching Practice (15 Credits)</p> <p>ED107A-Theory of Education (ED101) (Slide 1 to 60 Principle of Learning)</p> <p>ED107B-Education Technology (ED102) (Slide 61 to 100)</p> <p>Supporting slides</p> <p>Teacher Training/ Support Lesson Slides/</p> <ul style="list-style-type: none"> ED101-Teaching Support-Fundamental of Education.ppt <p><u>For TU/GTC Teachers</u></p> <p>Highlighting 9.2.1 General Information (MEng C)</p> <p>9.2.2 Programme Objectives</p> <p>& writing the objectives of the course by Dr Kyaw Naing</p> <p><u>Reference Reading (Education theory)</u></p> <p>ED 106 Interpreting Curriculums</p> <p>E6%20Interpreting%20Curriculums.zip</p> <p><u>Practical Information</u></p> <p>Provide the examples of how to set up the program</p>

					<p>Stage 1 Competencies of PEng, Eng Technologists & Eng Associates</p> <p>Engineering job competencies http://www.highlightcomputer.com/EngineeringJobCompetencies.pdf</p> <p>Participants' tasks</p> <p>Write the Lesson objectives of one lesson in teaching/ engineering programs that they are teaching, discussion</p>
2	<p>Teaching Practice</p> <p>ED107C-Teaching Practice (ED103 Classroom Management) (Slide 101 to 140)</p> <p>Supporting slides</p> <ul style="list-style-type: none"> ED103 Classroom Management-bestpracticesinteaching.ppt 	<p>Morning tea and networking</p>	<p>Outcome based Education + Competency based education & training & how the competency based training is important to reach the desired outcome</p> <p>By Dr Kyaw Naing</p> <p>References</p> <p><i>Characteristics of Learning Outcomes</i></p> <p>In Certificate I to Vocational Diploma http://www.filefactory.com/file/32hy8l1za8wz/TAE10_R3.4.doc m Page 36 to 41</p>	<p>Lunch</p>	<p>Critical Thinking</p> <p>National Strategic Plan 2016-2021 Myanmar/ Grad Cert HEd/ ED431-434MP4/ ED431CriticalThinking 24 Slides.pptx</p>

			<p>Provide the level of performances of the students tasks in the curriculums & activities</p> <p>Sample Curriculums</p> <p>Certificate to Advanced Diploma http://www.highlightcomputer.com/detailedcontent.htm</p> <p>Bachelor degrees equivalent level http://highlightcomputer.com/B%20E+B%20App%20Sc(IT)+B%20Bus%20Course%20Detailed%20Contents.htm</p>		
3	<p>Lesson Planning ED107D-Lesson Planning (ED104 Teaching Portfolio)(Slide 241 to 300) ED107E-Teaching& Learning (Slide 141 to 160+ Slide 200 to 240)</p> <p>Supporting slides</p> <ul style="list-style-type: none"> • ED104 lesson planning.ppt <p>TU GTC Teachers 9.2.3 Learning Outcomes Requirement of Myanmar Engineering Council</p>	<p>Morning tea and networking</p>	<p>Career Flow Diagram & Vocational Training/ Resources MyanmarVocationalTraining Certificate TVET Lessons MVTCLLevelTraining Mvtccourseresources</p> <p>TU GTC Teachers Engineering Fundamental</p>	<p>Lunch</p>	<p>Curriculum Study</p> <p>Ed108</p> <p>Supporting slides ED106-Interpreting Curriculum.ppt</p>

	<p>ED 202 Curriculum & Design http://www.filefactory.com/file/1jotv5d428j1/ED%20202%20Curriculum%20%26amp%3B%20Design.Zip</p> <p>Practical Example</p> <p>www.highlightcomputer.com/OverallProgramGeneral.pdf Page 13 to 21</p>				<p><u>Education Theory Reference</u></p> <p>ED 106 Interpreting Curriculums</p> <p>http://www.filefactory.com/file/1h141zxbv8z/ED%20106%20Interpreting%20Curriculums.zip</p>
4	<p><u>School Education</u> Overview of Year 9 to 12 Subjects http://www.highlightcomputer.com/nldschooll.htm http://www.highlightcomputer.com/y712.htm http://www.highlightcomputer.com/y712lessons.htm http://www.highlightcomputer.com/y910.htm</p> <p>TU GTC Teachers</p> <p><u>9.2.4 Academic Curriculum</u> <u>Discuss the programme structure and course contents(MEng C)</u></p>	<p>Morning tea and networking</p>	<p><u>General Knowledge related to overseas programs/ Vocational Training Packages</u> By Dr Kyaw Naing <u>Vocational Education Teacher Education</u> http://www.filefactory.com/file/4yb11lp1x9b/n/Vocatinal_Education_Teacher_Education_pdf</p> <p><u>Sample Training Packages</u> Electrotechnology/ Electronics/ /Communication UEE11_R1.5.docm (13.37MB) http://www.filefactory.com/file/1n283tjamw2p/n/UEE11_R1.5.doc</p>	<p>Lunch</p>	<p><u>Curriculum Development / Individual Teaching Needs Workshop</u></p> <p>Group work on selecting the Contents of curriculums & training packages into teaching curriculums of participants' institutions. Group discussion, feedback</p> <p>Facilitator</p> <p>Dr Kyaw Naing & Other trainers</p> <p><u>Examples</u> www.highlightcomputer.com/OverallProgramGeneral.pdf Page 22 to 43</p>

			<p>Electricity Supply UET12_R2.1.docm (7.86MB) http://www.filefactory.com/file/56saqflqmh41/n/UET12_R2.1.docm</p> <p>Electrical Power Generation UEP12_R2.1.docm (7.79MB) http://www.filefactory.com/file/52pe03hs2xq1/n/UEP12_R2.1.docm</p> <p>Automotive AUR12_R2.1.docm (13.37MB) http://www.filefactory.com/file/4qtgr5i39dzt/n/AUR12_R2.1.docm</p> <p>Manufacturing & Engineering (Mechanical) MEM05_R11.1.docm (9.8MB) http://www.filefactory.com/file/29evfecw9yk9/n/MEM05_R11.1.docm</p> <p>Marine MAR_R2.0.docm (1.78MB) http://www.filefactory.com/file/6sodu2z259j3/n/MAR_R2.0.docm</p>		<p>Samples http://www.highlightcomputer.com/BECurriculum.htm</p> <p>http://www.highlightcomputer.com/DiplomaAdvancedDiplomaCivilEngineeringCurriculum.htm</p> <p>http://www.highlightcomputer.com/DiplomaAdvancedDiplomaElectricalEngineeringCurriculum.htm</p> <p>http://www.highlightcomputer.com/DiplomaAdvancedDiplomaMechanicalEngineeringCurriculum.htm</p> <p>Examples Page 77 to 86 of www.highlightcomputer.com/OverallProgramGeneral.pdf</p>
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			<p>Textile</p> <p>LMT07_R4.1.docm (8.28MB) http://www.filefactory.com/file/6gea7ztqqsq3/n/LMT07_R4.1.docm</p> <p>Construction</p> <p>CPC08_R9.0.docm (9.59MB) http://www.filefactory.com/file/3j1y315nbze7/n/CPC08_R9.0.docm</p> <p>Information Technology</p> <p>ICA11_R2.0.docm (5.27MB) http://www.filefactory.com/file/4e3ioubld73n/n/ICA11_R2.0.docm</p> <p>Chemical</p> <p>PMA02_2.pdf (1.92MB) http://www.filefactory.com/file/2t53b3xj0slr/n/PMA02_2.pdf</p> <p>PMA02_1.pdf (1.65MB) http://www.filefactory.com/file/33ikm94dl8jb/n/PMA02_1.pdf</p> <p>Manufacturing</p> <p>MSA07_R8.4.docm (4.93MB) http://www.filefactory.com/file/4tcjlsetp0rd/n/MSA07_R8.4.docm</p>		
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			<p>TAE10_R3.4.docm (1.87MB) http://www.filefactory.com/file/566jfcvasu5/n/TAE10_R3.4.docm</p> <p>Gas</p> <p>UEG11_R2.0.docm (5.44MB) http://www.filefactory.com/file/6shho87gm1nh/n/UEG11_R2.0.docm</p> <p>Mining</p> <p>MNM05_3.pdf (2.28MB) http://www.filefactory.com/file/78fk485ew98v/n/MNM05_3.pdf</p> <p>MNM05_2.pdf (2.29MB) http://www.filefactory.com/file/72yjazer7njj/n/MNM05_2.pdf</p> <p>MNM05_1.pdf (1.77MB) http://www.filefactory.com/file/6ahwwdwosk8j/n/MNM05_1.pdf</p>		
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5	<p><u>Approach to various learning modes in VET</u></p> <p>By- Dr Kyaw Naing & the speakers from various technological universities</p> <p>Topics & References</p> <p><u>Practical focus</u></p> <p>Group Base learning.pdf (3.25MB) http://www.filefactory.com/file/266najo91o3/n/16.taadel401a_Plan_&_Organize_Group_Base_learning.pdf</p> <p>Facilitate Group based learning.pdf (2.81MB) http://www.filefactory.com/file/1tvk73q17j43/n/18.taadel402a_Facilitate_Group_based_learning.pdf</p> <p>Work based learning.pdf (4.15MB) http://www.filefactory.com/file/24apg5s5n0fx/n/22.taadel404a_Facilitate_work_based_learning.pdf</p> <p>individual learning.pdf (1.94MB) http://www.filefactory.com/file/4nmwy8ldewh1/n/20.taadel403a_Facilitate_individual_learning.pdf</p> <p>Distance based learning (2.56MB) http://www.filefactory.com/file/3w2b2mdy</p>	<p>Morning tea and networking</p>	<p><u>Preparing teaching portfolios</u></p> <p>By Dr Kyaw Naing</p> <p>Teacher Training/ED101106.pdf</p> <p>References Worksheets</p> <p>Teacher Training/ED101106.pdf</p> <p>Provide Training through instruction and demonstration of work skills</p> <p>TAADEL301A.doc (0.03MB) http://www.filefactory.com/file/2ppyhdlqhlsh/n/TAADEL301A.doc</p> <p>Facilitate work-based learning</p> <p>TAADEL404A.doc (0.03MB) http://www.filefactory.com/file/60ojucglvyu3/n/TAADEL404A.doc</p> <p>Group based delivery</p> <p>TAADEL401A.doc (0.03MB) http://www.filefactory.com/file/3i5scp12gkdn/n/TAADEL401A.doc</p> <p>Use Training Packages to meet client needs TAADES401A.doc (0.03MB)</p>	<p>Lunch</p>	<p>Best Teaching Practice</p> <p>Support Lesson Slides ED103/ ED105 Inclusive Teaching</p> <p>TU GTC Teachers</p> <p>Develop teaching and learning strategies in the curriculum for the courses that are taught by the participants</p> <p>Group work, group discussions</p> <p><u>Example</u></p> <p>Page 44 to 49 of www.highlightcomputer.com/OverallProgramGeneral.pdf</p> <p><u>Facilitator</u> Dr Kyaw Naing & Other trainers</p> <p>Contents Research http://www.filefactory.com/file/eovzqp6gd1/assessment%20strategies.pdf</p> <p>http://www.filefactory.com/file/7jfakka1vpfx/G015BWor%20performance%20report.doc</p>
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	<p>cbx1/n/24.taadel405a_Coordinate_7_facilitate_distance_based_learnin.pdf</p> <p>Educational Theory Resources</p> <p>ED 103 Teaching Practice</p> <p>http://www.filefactory.com/file/1o732n0j46mf/ED%20103%20Teaching%20Practice.zip</p> <p>ED 105 Principle of Learning</p> <p>http://www.filefactory.com/file/7660l6kjr8sx/ED%20105%20Principle%20of%20Learning.zip</p> <p>ED 107 Teaching & Learning</p> <p>http://www.filefactory.com/file/6u5o455lyqj7/ED%20107%20Teaching%20%26amp%3B%20Learning.zip</p> <p>Myanmar Engineering Council References</p> <ul style="list-style-type: none"> the choice of the teaching-learning (delivery) methods. 		<p>TAADES402A.doc (0.03MB) http://www.filefactory.com/file/4nhro84kl2nx/n/TAADES402A.doc</p> <p>Work effectively in vocational education and training</p> <p>TAAENV401A.doc (0.03MB) http://www.filefactory.com/file/45zeif6cy5zx/n/TAAENV401A.doc</p> <p>Foster and promote an inclusive learning culture</p> <p>TAAENV402A.doc (0.03MB) http://www.filefactory.com/file/3zoufgaty89n/n/TAAENV402A.doc</p> <p>Ensure a safe and healthy learning environment</p> <p>TAAENV403A.doc (0.03MB) http://www.filefactory.com/file/6ireaw7s5jg9/n/TAAENV403A.doc</p> <p>Individual learning</p> <p>TAADEL403A.doc (0.03MB) http://www.filefactory.com/file/7g3h9iwpodfr/n/TAADEL403A.doc</p> <p>Language Literacy & Numeracy</p>		<p>DELIVERY & ASSESSMENT PLAN SAMPLES http://www.filefactory.com/file/1c03t5k3fp8p/SAMPLE%20ASSESSMENT%20ITEMS.htm</p>
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	<ul style="list-style-type: none"> • A balanced curriculum • The curriculum shall integrate theory with practice through adequate exposure to laboratory work and professional engineering(MEng C) • Time allocation • Credit points <p>ED 401 Adult Learning Technology</p> <p>http://www.filefactory.com/file/68y4bd94ianb/ED%20401%20Adult%20Learning%20Technology.zip</p>		<p>1397606218-taelln411_sample.pdf (0.34MB)</p> <p>http://www.filefactory.com/file/5fh2bd8z3k0r/n/1397606218-taelln411_sample.pdf</p> <p>Report.pdf (0.41MB)</p> <p>http://www.filefactory.com/file/655u3qypqyj3/n/Report.pdf</p> <p>Section 4 Model for core skills analysis.pdf (0.69MB)</p> <p>http://www.filefactory.com/file/6p480mpcelft/n/Section_4_Model_for_core_skills_analysis.pdf</p> <p>ACSF_Document.pdf (1.03MB)</p> <p>http://www.filefactory.com/file/54s5xbe3esdn/n/ACSF_Document.pdf</p> <p>LLN Preparation of students.docx (0.02MB)</p> <p>http://www.filefactory.com/file/77ps5dxgbhpi/n/LLN_Preparation_of_students.docx</p> <p>Australian Core Skills Framework for LLN Level determination.docx (0.02MB)</p> <p>http://www.filefactory.com/file/4q</p>	
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			t7gx24cd9l/n/Australian_Core_Skills_Framework_for_LLN_Level_determination.docx LLN Preparation of students.docx (0.02MB) http://www.filefactory.com/file/1rvd487gxw0j/n/LLN_Preparation_of_students.docx		
6	<p><u>Developing the assessment strategies in VET</u></p> <p>By Dr Kyaw Naing</p> <p>TU GTC Teachers</p> <p><u>Assessment Validation Guide of Myanmar Engineering Council</u></p> <ul style="list-style-type: none"> assessment & evaluation methods for the attainment achievement of the Learning Outcome <p><u>Practical Application Resources</u></p> <p>Participate in assessment validation TAAASS404A.doc (0.03MB) http://www.filefactory.com/file/5zv1ke</p>	Morning tea and networking	<p>Develop teaching and learning strategies in the curriculum for the courses that are taught by the participants</p> <p>By the educators from various technological universities / schools& skills training organizations</p>	Lunch	<p><u>Prepare the sample assessment activities for the courses that the participants are teaching</u></p> <p>Group work, group discussions</p> <p><u>Facilitator</u> Dr Kyaw Naing & Other trainers</p> <p>Page 49 to 76 of www.highlightcomputer.com/OverallProgramGeneral.pdf</p> <p>Sample Assessment validation matrices http://www.filefactory.com/file/617mgi9ir63x/UEENEEEO46B.zip</p> <p>http://www.filefactory.com/file/333wtizbok0n/UEENEEEO02.zip</p>

	<p>TAAASS403A.doc (0.03MB) http://www.filefactory.com/file/5rxw2igqk7rx/n/TAAASS403A.doc</p> <p>Plan and organise assessment</p> <p>TAAASS401A.doc (0.03MB) http://www.filefactory.com/file/1tpnwpwxgxgv/n/TAAASS401A.doc</p> <p>Assess competence</p> <p>TAAASS402A.doc (0.03MB) http://www.filefactory.com/file/48yye4zmmxt7/n/TAAASS402A.doc</p> <p>Reference Textbooks (Theory aspect)</p> <p>ED 205 Teaching & Measuring http://www.filefactory.com/file/4eu01ck2awl/ED%20205%20Teaching%20%26amp%3B%20Measuring.zip</p> <p>ED 206 Designing Instructions & Assessment http://www.filefactory.com/file/4dnh3r8wsd9t/ED%20206%20Designing%20Instructions%20%26amp%3B%20Assessment.zip</p>				<p>Sample delivery & assessment schedules http://www.filefactory.com/file/5k19ps1z6xj9/20222%20Sequence%20%28V1%29%20%28001%200861%29%2020120726.pdf</p> <p>Self assessment journal/ Reflection http://www.filefactory.com/file/1c0jfwumb27p/Self%20Assessment%20Journal%20Reflection.doc</p> <p>Sample-Student Assessment Guide.doc (0.09MB) http://www.filefactory.com/file/10m1ja7dnha3/n/UEENEEE101A_Student_Assessment_Guide.doc</p> <p>Sample- RPL Tool Validation Record.pdf (0.08MB) http://www.filefactory.com/file/34muh9bkgpk9/n/UEENEE101A_RPL_Tool_Validation_Record.pdf</p> <p>Sample- Assessment Cover sheet.doc (0.08MB) http://www.filefactory.com/file/n6s0sk8izqj/n/UEENEEE101A_Assessment_Cover_sheet.doc</p> <p>Sample-Assessment Feedback Sheet.docx (0.05MB) http://www.filefactory.com/file/3soxroqt927j/n/UEENEEE101A_Assessment_Feedback_Sheet.docx</p> <p>Evaluation check list http://www.filefactory.com/file/6jslcpuborkx/Evaluation%20Check%20List%20General%2BOnline%20Survey.docx</p> <p>http://www.filefactory.com/file/4crkqpqke02z/Evaluation.docx</p>
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	ED 405 Training Principle http://www.filefactory.com/file/5qupttpxznn/ED%20405%20Training%20Principle.zip				Recognition of Prior Learning Tools-Sample http://www.filefactory.com/file/2gtq6nqjag03/20278%20RPL_form_WVL_2014_V1_multi.xlsm http://www.filefactory.com/file/4phu09gmmy89/20281%20RPL_form_WVL_2014_V1_multi.xlsm http://www.filefactory.com/file/6qtg6w4uh3fh/20282%20RPL_form_WVL_2014_V1_multi.xlsm
7	<u>Educational Resources Development</u> <u>9.2.7 Facilities</u> By- Myanmar Engineering Council Engineering Accreditation Committee <u>Overviews of Professional Development Programs provided by Myanmar Engineering Society</u> By- Myanmar Engineering Society	Morning tea and networking	<u>Integration of Learning Technology in Teaching & Learning Part 1</u> Support Lesson Slides/ ED102 Computer Application in Teaching-techclass By Dr Kyaw Naing <u>Resources</u> http://www.filefactory.com/file/3bsfz0ehba7z/n/5_Learning_Technology_1_zip http://www.filefactory.com/file/cvavvr9gonr/n/6_Learning_Technology_2_zip Due to the big file size, the	Lunch	<u>On line & offline e-Learning systems Part 1</u> By Dr Kyaw Naing <u>Samples</u> Learning Platform example http://www.highlightcomputer.com/onlineteaching1.htm Using multimedia & videos in teaching & Learning http://www.highlightcomputer.com/videos1.htm Using Youtube in teaching & learning http://www.highlightcomputer.com/videos2.htm Practice Use of DVD recorder, Digital note takers to record the lessons and prepare the multimedia power point lectures, PDF-JPG format conversion softwares

8	<p><u>Technology in Classroom</u> By Dr Kyaw Naing</p> <p>Resources ED312 Technology in Classrooms http://www.filefactory.com/file/7jciyu232opx/n/7_Technology_in_classroom_zip</p> <p>D 308 Computer Supported Learning & Distance Education http://www.filefactory.com/file/4mdzrx52kl45/ED%20308%20Computer%20Supported%20Learning%20%26amp%3B%20Distance%20Education.zip</p>		<p><u>Integration of Learning Technology in Teaching & Learning Part 2</u> By Dr Kyaw Naing</p> <p>Sharing the e-Learning work experience utilized in TAFE-NSW Australian Classroom</p> <ul style="list-style-type: none"> • Resources development • Computer assisted test • Use of online test/online survey • Online simulated practicals <p>www.easytestmaker.com http://www.emailmeform.com/</p>		<p><u>On line & offline e-Learning systems Part 2</u></p> <p><u>Development of e-Learning Resources Practice workshop</u> Development of learning support website & contents placement Sample www.electricaldiploma2013.zoomshare.com Use of online documents sharing sites</p> <p>www.filefactory.com www.uploading.com www.zoomshare.com www.webs.com</p>
9	<p>8.5.2 Programme Quality Management and Planning 8.5.4 Quality Assurance 9.2.8 Quality Management System</p> <p>Preparation of self accreditation report Requirements of Myanmar Engineering Council By -Myanmar Engineering Council</p>	Morning tea and networking	<p><u>Preparing the documents to comply with Educational Quality Control Authorities</u></p> <p>TU GTC Teachers</p> <p><u>Myanmar Engineering Council Requirement</u></p>	Lunch	<p><u>Quality Assurance Compliance Documentation preparation workshop</u></p> <p>The participants to prepare the quality assurance documents for the courses that they are teaching to comply with the requirements of Educational Quality Control Authorities</p> <p>TU GTC Teachers</p> <p>Myanmar Engineering Council</p>

	References Curriculum design for accreditation compliance http://www.filefactory.com/file/2vvy64k4w3/Accreditation%20Manual.pdf Overall accreditation and compliance practice http://www.filefactory.com/file/2vvy64k4w3/Accreditation%20Manual.pdf Preparation for self accreditation report http://www.filefactory.com/file/43x0yutpx31v/2%20SAR.pptx Engineering Accreditation Plan http://www.filefactory.com/file/2ynzo3fydckb/2015%20YTU%20First%20Workshop.pptx		Quality Assurance http://www.highlightcomputer.com/QualityAssurance.htm		Reference Page 92 to 96 of www.highlightcomputer.com/OverallProgramGeneral.pdf
10	Learning Environment By- Dr Kyaw Naing Reference ED 407 Learning Environment http://www.filefactory.com/file/31o	Morning tea and networking	Change Management By- Daw Hla Myat Mon References University of Technology Master of Business Change Management References	Lunch	Educational Leadership work experience knowledge By- Daw Hla Myat Mon Textbook ED 308 Change Management http://www.filefactory.com/file/4cxrjx86buot/n/9_Leade

	7fw99ux7l/ED%20407%20Learning%20Environment.zip		& experience in University of Technology Sydney		rship_Change_Management.zip ED309 Educational Communication http://www.filefactory.com/file/6tbjy1omi7kz/n/1_Educational_Communication.zip ED 402 Educational Leadership http://www.filefactory.com/file/68h2rewfq7jx/ED%20402%20Educational%20Leadership.zip
11	Practice Teaching	Morning tea and networking	Practice Teaching	Lunch	<u>Performance Evaluation</u>
12	National Strategic Plan 2016-2021 Myanmar/ Grad Cert HEd/ ED435 Governance of University.pptx	Morning tea and networking	General Discussion		Conclusion of the training.

Diploma in Intermediate Science (Australian Year 12 Equivalent)

Course 107777

Entry Qualifications

Year 10 Pass, Year 10 Not Passed, THS Pass, ITC

Study System

- Online self study
- Self arrangement with home tuition teacher
- IQY Technical College can connect the students to home tutors
- Examination in every December. Examination fees Ks10,000

Outcome

Diploma in Intermediate Science will be issued by Australian Registered IQY Technical College if the examination is passed. (Pass Mark 50)

Then IQY Professional Diploma in Technological Science/ Bachelor of Science (Technology) of STC Technological University

Or

Can use Diploma in Intermediate Science (issued by Australian Registered IQY Technical College) to attend the other foreign universities

Note

Myanmar Year 10 Pass can not attend the foreign universities. High School to be re-attended.. This is why we design the Diploma in Intermediate Science (Year 12 Equivalent)

အလယ်အလတ်သိပ္ပံဒီပလိုမာ (သြစတြေးလျ ၁၂ တန်းအဆင့်)

ဝင်ခွင့်အရည်အချင်းများ

Year 10 Pass, Year 10 မ Pass၊ THS Pass, ITC

လေ့လာမှုစနစ်

•အွန်လိုင်းကိုယ်ပိုင်လေ့လာမှု

•အိမ်မှာကျူရှင်ဆရာဆရာမနှင့်သင်ခြင်း

• IQY နည်းပညာကောလိပ်သည်ကျောင်းသားများကိုအိမ်ကျူရှင်ဆရာဆရာမနှင့်များနှင့်ဆက်သွယ်

ပေးမည် ။

•ဒီဇင်ဘာလတိုင်းတွင်စာမေးပွဲ။ စာမေးပွဲကြေး ကျပ်၁၀,၀၀၀

ရလဒ်

အလယ်အလတ်သိပ္ပံဒီပလိုမာကိုစာမေးပွဲအောင်ပြီးပါကဩစတြေးလျ မှတ်ပုံတင် IQY နည်းပညာကောလိပ်မှ အလယ်အလတ်သိပ္ပံဒီပလိုမာ (ဩစတြေးလျ ၁၂ တန်းအဆင့်)

ထုတ်ပေးလိမ့်မည်။(အောင်မှတ်၅၀) ထို့နောက် IQY နည်းပညာသိပ္ပံဘွဲ့ဒီဂရီ / STC နည်းပညာတက္ကသိုလ်မှသိပ္ပံဘွဲ့ (နည်းပညာ) တက်နိုင်သည်။

သို့မဟုတ် အခြားနိုင်ငံခြားတက္ကသိုလ်များသို့တက်ရောက်ရန် ၁၂ တန်းအဆင့် ဒီပလိုမာကို (ဩစတြေးလျမှတ်ပုံတင်ထားသော IQY နည်းပညာကောလိပ်မှထုတ်ပေးမည်။

မှတ်စု

မြန်မာဘဝတန်းအောင်လက်မှတ်နှင့်နိုင်ငံခြားတက္ကသိုလ်များသို့မတက်နိုင်ပါ။
အထက်တန်းကျောင်းပြန်လည်တက်ရောက်နိုင်ရမည်။

ထို့ကြောင့်ကျွန်ုပ်တို့သည်ဒီပလိုမာကိုအလယ်အလတ်သိပ္ပံပညာ ၁၂ တန်းအဆင့် ဒီပလိုမာကို စီစဉ်သည်။

Subjects

- Y1112A-MATHEMATICS
- Y1112B-PHYSICS
- Y1112C-CHEMISTRY
- Y1112D-SCIENCE
- Y1112E-DESIGN & TECHNOLOGY
- Y1112F-SOFTWARE DESIGN
- Y1112G-ENGLISH
-

Learning Support site, Notes, Videos Free access

Form253 Diploma in Intermediate Science (Dip ISc)

www.iqytechnicalcollege.com/Form253dipisc.htm

Exam Centres

Yangon ,Mandalay ,Pyay ,Shan State

St Clements University Certificate/ Diploma / Advanced Diploma in Electrical Engineering

Course + Credit Outlines

YEAR 1 Certificate in Electrical Engineering 15 credits

	<u>SEMESTER (1)</u>	<u>Credits</u>
EE101	DC Circuit Problems	1
EE102	Basic Electrical Fitting & Wiring	1
EE103	Basic Electrical Drafting	1
EE104	Electrical Equipments Safety Protection	2
EE105	Electrical Installation Design	1
EE106	Advanced Electrical Wiring	1
EE107	Electrical Equipments	1
EE108	Electrical Fault Finding	1
EE109	Electrical Control Circuits	1
EE110	Computer Applications	1
EE111	Electromagnetism & Basic Electrical Machines	2
EE112	Alternating Current Principle	2
		15 Credits
	Diploma in Electrical Engineering 30 credits	<u>Credits</u>
	<u>SEMESTER (2)</u>	
EE113	Electrical Fundamental	2
EE114	Electrical Power Principle	1
EE115	Basic Analogue & Digital Electronics	2
EE116	Process Control System	3
EE117	Solar Electrical System	1
EE118	Electrical Energy Supply System	3
EE119	Electrical Risk Assessment	1
EE120	Electrical Contracting & Specification	1
EE121	Electronics Power Control Device	1
		30 Credits

	Advanced Diploma in Electrical Engineering 60 credits	<u>Credits</u>
	<u>SEMESTER (1)</u>	
EE201	Engineering Mathematics	1
EE202	Electrical Circuits	1
EE203	Three Phase Power Circuits	1
EE204	Engineering Physics	1
EE205	Electrical Power System	2
EE206	AC Machines	2
EE207	DC Machine	1
EE208	Operational Amplifiers	2
EE209	Analogue Electronics	1

	<u>SEMESTER (2)</u>	
EE301	Advanced Electrical Drafting	1
EE302	Advanced Engineering Mathematics	2
EE303	Transmission Line	2
EE304	Power System Protection	2
EE305	Power Transformer	2
EE306	Electro-mechanical Control	2
EE307	Energy Efficient Building Design	2
EE308	Sustainability	1
EE309	Project Management	2
EE310	Engineering Officer Competency Report	2
		30 Credits

(Stage 1) DIPLOMA IN CIVIL ENGINEERING (Each 2.5 Credits) (30 Pt)

Certificate in Construction Studies

CE 106A Detailed Construction & Building Construction Materials

CE 104 A Building Drawing

CE 101 Mathematics (EE201)

CE 102 Physics (EE204)

CE 108 Electrical Principle

DIPLOMA IN CIVIL ENGINEERING

CE 104 Fluid Dynamics

CE 105 Hydraulic

CE 106 Hydrology

CE 107 Sanitation-and-Water-supply

CE 109 Energy Efficient Building Design (EE309)

CE 110 Building Construction

EE102 Basic Electrical Fitting & Wiring

Stage (2) Advanced Diploma in Civil Engineering Program (30 pt) (Each 5 pt)

YEAR (2)

CE103-Surveying

CE111A-Road+Bridges

CE113 Structure 1

CE114 Structure 2

CE115 Estimating & Specification

CE 112 Engineering Mechanics+ ME 301 Applied Mathematics

YEAR (2) ADDITIONAL COURSES

EE104 Electrical Equipments Safety Protection

EE105 Electrical Installation Design

ME 102 Engineering Thermodynamics

ME 334 Airconditioning and Refrigeration

[EE106 Advanced Electrical Wiring](#)

[CE 112 Engineering Mechanics+ ME 301 Applied Mathematics](#)

[EE308 Sustainability](#)

http://www.highlightcomputer.com/Diploma_in_Civil_Engineering.pdf

Diploma in Information Technology Course outline

ICT101	Information Technology Fundamentals	3	GC	ICAICT501A	Research and review hardware technology options for organisations	
ICT 102	Computer Applications and Operations	2	GC GC	ICASAS509A ICASAS503A	Provide client IT support services Perform systems tests	
ICT 103	Applied Programming	5	BAE601	GB	ICAPRG523A	Apply advanced programming skills in another language
ICT 104	Program Project	5	BAE601	GB GC GD GG	ICAPRG502A ICAICT510A ICAWEB507A CAPMG501A	Manage a project using software management tools Determine appropriate IT strategies and solutions Customise a complex IT content management system Manage IT projects
ICT 105	Systems Analysis and Programs	5	BAE603	Core GC	ICAICT509A ICAICT502A	Gather data to identify business requirements Develop detailed component specifications from project specifications
Core		ICAICT511A		Match IT needs with the strategic direction of the enterprise		
ICT 106	Software Engineering	5	BAE603	GB	ICAPRG502A	Manage a project using software management tools
GB		ICAPRG510A		Maintain custom software		
GB		ICAPRG512A		Prepare for the build phase of an IT system		
ICT 107	Business Information Systems	5	GA	ICANWK501A	Plan, implement and test enterprise communication solutions	

WORK PERFORMANCE

Task 1	Provide the OHS Procedure in workplace	Core	BSBOHS509A	Ensure a safe workplace
Task 2	Provide the procedure to maintain the IT equipments in	Core	BSBSUS501A	Develop workplace policy and procedures for sustainability

	workplace			
Task 3	Take the record of sound & picture from an event	GE	ICAGAM504A	Manage interactive media production
Task 4	Take the digital video by using digital camera & edit/ convert to other formats by provided software	GF	CADMT501A	Incorporate and edit digital video

Diploma in Information Technology Course outline

ICT101	Information Technology Fundamentals	3	GC	ICAICT501A	Research and review hardware technology options for organisations	
ICT 102	Computer Applications and Operations	2	GC GC	ICASAS509A ICASAS503A	Provide client IT support services Perform systems tests	
ICT 103	Applied Programming	5	BAE601	GB	ICAPRG523A	Apply advanced programming skills in another language
ICT 104	Program Project	5	BAE601	GB GC GD GG	ICAPRG502A ICAICT510A ICAWEB507A CAPMG501A	Manage a project using software management tools Determine appropriate IT strategies and solutions Customise a complex IT content management system Manage IT projects
ICT 105	Systems Analysis and Programs	5	BAE603	Core GC	ICAICT509A ICAICT502A	Gather data to identify business requirements Develop detailed component specifications from project specifications
Core		ICAICT511A		Match IT needs with the strategic direction of the enterprise		
ICT 106	Software Engineering	5	BAE603	GB	ICAPRG502A	Manage a project using software management tools
GB		ICAPRG510A		Maintain custom software		
GB		ICAPRG512A		Prepare for the build phase of an IT system		
ICT 107	Business Information Systems	5	GA	ICANWK501A	Plan, implement and test enterprise communication solutions	

WORK PERFORMANCE

Task 1	Provide the OHS Procedure in workplace	Core	BSBOHS509A	Ensure a safe workplace
Task 2	Provide the procedure to maintain the IT equipments in	Core	BSBSUS501A	Develop workplace policy and procedures for sustainability

	workplace			
Task 3	Take the record of sound & picture from an event	GE	ICAGAM504A	Manage interactive media production
Task 4	Take the digital video by using digital camera & edit/ convert to other formats by provided software	GF	CADMT501A	Incorporate and edit digital video

Diploma in Mechanical Engineering (Each 1.5 Credits) (30 Pt)

Maths 101 Engineering Mathematics

ME 101 Applied Mathematics

ME 102 Engineering Thermodynamics

ME 103 Engineering Mechanics

ME 104 Machine Principle

ME 105 Electrical Principle

ME 106 Electrical Circuits

ME 107 Heat Transfer

ME 108 Principle of Engines

ME 201 Introduction to Fluid Mechanics

ME 202 Introduction to Aero Dynamics

ME 203 Control Engineering

ME 204 Engineering Fluid Mechanics

ME 205 Manufacturing Processes-and-Materials

ME 206 Introduction to Turbo Machinery

ME 207 Chemical Thermodynamics

ME 208 Hydrocarbons

ME 209 Introduction-to-polymer-science-and-technology

ME 234 Wind Turbines

Mgt 501 Basic Management

Study sequence

From top to down

Advanced Diploma in Mechanical Engineering (Each 1.5 Credits) (30 Pt)

Mathematics

Maths 403 Engineering-Mathematics

Maths 301 Introductory Finite Difference Methods-for-pdes

Maths 302 Elementary-Linear-Algebra

Maths 303 Introductory Finite Volume Methods-for-pdes

Maths 501 Linear Algebra-c-1

Study sequence

From top to down

Mechanical Engineering

ME 301 Fluid Dynamics

ME 302 Automation-and-Robotics

ME 303 Computer Aided Design and Manufacturing

ME 304 Introduction to Nonlinearity-in-control-systems

ME 305 Corrosion Prevention

ME 306 Theory-of-waves-in-materials

ME 334 Airconditioning and Refrigeration

ME 434 Mechtronics-Robotics

ME 534 Numerical Control Part 1

ME 634 Pneumatics

EE 617 Building Electrical and Mechanical System Part 1

EE 624 Process Control

Mgt 503 Production & Operation Management

Mgt 505 Quality Management and Manufacturing Engineering

Study sequence

From top to down

Certificate in Teaching Support/ Diploma in Teaching Practice Program for Voluntary School Staff and Teachers (St Clements Technological University)

စေတနာ့ဝန်ထမ်းကျောင်းဆရာထောက်ကူပြုသူများအတွက်လက်မှတ်ဒီပလိုမာဘွဲ့ အစီအစဉ် (စိန့်.ကလီးမင့်နည်းပညာတက္ကသိုလ်)

Teachers of the voluntary schools and school supports can get the following qualifications awarded by St Clements Technological University Scholarship Program by presenting their experiences.

စေတနာ့ဝန်ထမ်းကျောင်းဆရာထောက်ကူပြုသူများသည်အတွေ့အကြုံများကိုတင်ပြပြီး စိန့်.ကလီးမင့်နည်းပညာတက္ကသိုလ်၏ပညာသင်ဆုအစီအစဉ်ဖြင့်လက်မှတ်ဒီပလိုမာဘွဲ့များရယူနိုင်သည်။

YEAR (1)

Certificate in Teaching Support

- Ed101 Teaching Support
- Ed102 Application of Information Technology in School Education

Diploma in Teaching Practice

The students can complete the following units to complete Diploma in Teaching Practice

အောက်ပါတို့ကိုဆက်လက်ပြီးပါက Diploma in Teaching Practice ရရှိမည်။

- Ed103 Classroom Management
- Ed104 Teaching Portfolio
- Ed105 Inclusive Teaching
- Ed106 Subject Area Knowledge
- Ed107 Theory of Education, Educational Technology & Teaching Practice
 - Ed107A-Theory of Education
 - Ed107B-Education Technology
 - Ed107C-Teaching Practice
 - Ed107D-Lesson Planning
- Ed108 Curriculum Study , Teaching & Learning
 - Ed108A-Principle of Learning
 - Ed108B-Interpreting Curriculums
 - Ed108C-Teaching & Learning

Process (နည်းလမ်းစဉ်)

Fill the scholarship application form & submit it to the university through kyawnaing225@yahoo.com ပညာသင်ဆုအစီအစဉ်လျှောက်လွှာကိုဖြည့်ပြီး kyawnaing225@yahoo.com မှတစ်ဆင့်စိန့်.ကလီးမင့်နည်းပညာတက္ကသိုလ်သို့ ပို့ရန်။

Submit the evidences/ do the study to complete the units

အတွေ့အကြုံများကိုတင်ပြရန်၊ ဘာသာရပ်များလေ့လာရန်။

Ed101-Teaching Support

The students need to provide the following information to complete Ed 101 Teaching Support in English or in Myanmar.

Ed101 ပြီးစီးရန်အောက်ပါတို့ကိုတင်ပြရမည်။ (အင်္ဂလိပ် သို့မဟုတ် မြန်မာ ဘာသာဖြင့်တင်ပြနိုင်သည်)

(၁)ကျောင်းသားအမည်-

Name of student

(၂)လုပ်အားပေးခဲ့သောကျောင်း

Name of the school where you have volunteered.

(၃)ထမ်းဆောင်ခဲ့သောတာဝန်များကိုအောက်ပါအတိုင်းဖြည့်သွင်းရန်-

Records of the duties performed are to be written in the following aspects.

၁။ ကျောင်းခေါ်ချိန်မည်သို့မှတ်သနည်း။

How do you record the students' attendances?

၂။ ကျောင်းစည်းကမ်းထိန်းသိမ်းရေးကိုမည်သို့ဆောင်ရွက်သနည်း။

How do you maintain the school disciplines?

၃။ ဆရာများစာသင်ကြားရေးအဆင်ပြေစေရန်သင်မည်သို့ဆောင်ရွက်သနည်း။

How do you support the teachers in their teaching?

၄။ စာသင်ကြားရေးထောက်ကူပြုပစ္စည်းများကိုမည်သို့စီစဉ်ဆောင်ရွက်သနည်း။

How do you arrange the teaching support materials?

၅။ ကျောင်းမှတ်တမ်းများကိုမည်သို့ ထိန်းသိမ်းသနည်း။

How do you maintain the school records?

၆။ စာသင်ကြားရေးထောက်ကူပြုပစ္စည်းများတိုးပွားရေးကိုမည်သို့ဆောင်ရွက်သနည်း။

What do you perform in development of teaching resources?

၇။ ကျောင်းသားများကိစ္စနှင့်ပတ်သက်၍မိဘများ၊ ရပ်ကွက်လူထုများနှင့်မည်သို့ဆက်

သွယ်ဆောင်ရွက်သနည်း။

How do you communicate with the parents and community regarding the students matters?

Ed102 Application of Information Technology in School Education

Ed102 ပြီးစီးရန်အောက်ပါတို့ကိုတင်ပြရမည်။ (အင်္ဂလိပ် သို့မဟုတ် မြန်မာ ဘာသာဖြင့်တင်ပြနိုင်သည်)

The followings must be completed to complete Ed 102 in English or in Myanmar.

အခြေခံကွန်ပျူတာအသုံးပြုခြင်း

Basic Computer Applications

- Word
- Excel
- Internet
- E-mail

The students who have completed Ed101 and Ed102 will be awarded Certificate in Teaching Support by St Clements Technological University.

Ed101, Ed102 ပြီးစီးပါက St Clements Technological University (စိန့်.ကလီးမင်းနည်းပညာတက္ကသိုလ်)မှ Certificate in Teaching Support လက်မှတ်အပ်နှင်းမည်။

Diploma in Teaching Practice

The students can complete the following units to complete Diploma in Teaching Practice

အောက်ပါတို့ကိုဆက်လက်ပြီးစီးပါက Diploma in Teaching Practice ရရှိမည်။

- Ed103 Classroom Management
- Ed104 Teaching Portfolio
- Ed105 Inclusive Teaching
- Ed106 Subject Area Knowledge
- Ed107 Theory of Education, Educational Technology & Teaching Practice
 - Ed107A-Theory of Education
 - Ed107B-Education Technology
 - Ed107C-Teaching Practice
 - Ed107D-Lesson Planning
- Ed108 Curriculum Study , Teaching & Learning
 - Ed108A-Principle of Learning
 - Ed108B-Interpreting Curriculums
 - Ed108C-Teaching & Learning
 - Ed108D-Teaching Elementary

အောက်ပါတို့ကိုဆက်လက်ပြီးအင်္ဂလိပ်ဘာသာဖြင့်သင်ယူနိုင်သည်။

Bachelor of Teaching (Year 2) & Bachelor of Education (Year 3+4) can be studied in English.

Diploma in Teaching Practice

Ed103 Classroom Management

The students need to provide the following information to complete Ed103 Classroom Management in English or in Myanmar.

Ed103 ပြီးစီးရန်အောက်ပါတို့ကိုတင်ပြရမည်။ (အင်္ဂလိပ် သို့မဟုတ် မြန်မာ ဘာသာဖြင့်တင်ပြနိုင်သည်)

- စာသင်ကြားရေးအချိန်ဇယားရေးဆွဲခြင်း။
Timetabling
- ကျောင်းသားအုပ်စုခွဲခြင်း။
Grouping the students
- စာသင်ကြားရေးထောက်ပံ့ပစ္စည်းများပြုလုပ်ခြင်း။
Making the teaching & learning support resources
- စာမေးပွဲစစ်ဆေးခြင်း။
Arranging the examinations
- ကျောင်းဖွဲ့စည်းမှုတွင်ပါဝင်ခြင်း။
Participation in organizing of the school
- ကျောင်းကော်မတီအစည်းအဝေးများတက်ရောက်ခြင်း။
Attending & participating in school committee meetings.

Ed104 Teaching Portfolio

The students need to provide the following information to complete Ed104 Teaching Portfolio in English or in Myanmar.

Ed104 ပြီးစီးရန်အောက်ပါတို့ကိုတင်ပြရမည်။ (အင်္ဂလိပ် သို့မဟုတ် မြန်မာ ဘာသာဖြင့်တင်ပြနိုင်သည်)

- သင်ခန်းစာများကိုမသင်ကြားခင်ကြိုတင်စီစဉ်သောအထောက်အထား
Evidences of lesson planning
- သင်ခန်းစာခေါင်းစဉ်
Title of lesson
- သင်ခန်းစာနိဒါန်း
Lesson introduction
- သင်ခန်းစာအစအဆုံးပို့ချချက်
Lesson delivery from the beginning to the end.
- သင်ခန်းစာနိဂုံး
Conclusion of lesson

- လေ့ကျင့်ခန်းများ
Exercises
- စစ်ဆေးမည့်အစီအစဉ်
Plan to assess the exercises
- ကျောင်းသားများတင်ပြသော လေ့ကျင့်ခန်းများပြီးစီးမှုနမူနာ
Students' work samples

Ed105 Inclusive Teaching

The students need to provide the following information to complete Ed105 Inclusive Teaching in English or in Myanmar.

Ed105 ပြီးစီးရန်အောက်ပါတို့ကိုတင်ပြရမည်။ (အင်္ဂလိပ် သို့မဟုတ် မြန်မာ ဘာသာဖြင့်တင်ပြနိုင်သည်)

- ကျောင်းသားတိုင်းသင်ကြားမှုရရှိရန်စီစဉ်ပုံ။
How do you plan to enable every student to learn the lessons?
- တတ်သိမှုနှေးသော ကျောင်းသားတိုင်းသင်ကြားမှုရရှိရန်စီစဉ်ပုံ။
How do you plan to enable slow learning student to learn the lessons?
- ချို့တဲ့နွမ်းပါးသော ကျောင်းသားတိုင်းသင်ကြားမှုရရှိရန်စီစဉ်ပုံ။
How do you plan to enable every student from poor economic background to learn the lessons?
- မသန်စွမ်းသော ကျောင်းသားတိုင်းသင်ကြားမှုရရှိရန်စီစဉ်ပုံ။
How do you plan to enable students with disability to learn the lessons?
- ကျား/မ အသက်အရွယ်မခွဲခြားဘဲ ကျောင်းသားတိုင်းသင်ကြားမှုရရှိရန်စီစဉ်ပုံ။
How do you plan to enable students regardless of gender, marital status and ages to learn the lessons?

Ed106 Subject Area Knowledge

- ပြီးစီးခဲ့သောဘွဲ့လက်မှတ်များတင်ပြရန်။
Submit the degree/ diploma/ certificate that you have obtained previously
- E-Learning သင်ခန်းစာများ တင်ပြရန်။
Submit the E-Learning lessons.

Ed107 Theory of Education, Educational Technology & Teaching Practice
Ed108 Curriculum Studies , Teaching & Learning

အောက်ပါအင်္ဂလိပ် + မြန်မာ ဘာသာဖြင့်သင်ကြားသော ပါဝါပွိုင့်သင်ခန်းစာများကိုအီလက်ထရောနစ်စာသင်စနစ်ဖြင့်လေ့လာသင်ကြားပြီးလေ့ကျင့်ခန်းများကိုတင်ပြရန်၊သင်ခန်းစာများကိုသီးသန့်ပေးမည်။

The following English +Myanmar Powerpoint lessons are to be studied by E-Learning and exercises are to be submitted.

The lessons will be given separately.

- Ed107 Teaching Theory & Practice
 - Ed107A-Theory of Education
 - Ed107B-Education Technology
 - Ed107C-Teaching Practice
 - Ed107D-Lesson Planning
- Ed108 Curriculum Studies , Teaching & Learning
 - Ed108A-Principle of Learning
 - Ed108B-Interpreting Curriculums
 - Ed108C-Teaching & Learning

ဗြိတိန် St Clements Technological University (စိန် .ကလီးမင်းနည်းပညာတက္ကသိုလ်)မှ Diploma in Teaching Practice ရရှိမည်။

When all units are completed, Diploma in Teaching Practice will be awarded by St Clements Technological University.

YEAR 2+3

Bachelor of Teaching course outline (Only study in English medium of instruction will be available)

ED 201 Class Room Management & Teaching
 ED 202 Curriculum & Design
 ED 203 K-12 Education
 ED 204 School & Vocational Education
 ED 205 Teaching & Measuring
 ED 206 Designing Instructions & Assessment
 ED 207 Teacher Education
 ED 208 Inclusive Education
 ED 301 Educational Policy

+

Any two units from the ED 302 to ED 307

ED 302 English Teaching
 ED 303 Humanities Teaching
 ED 304 Mathematics Teaching
 ED 305 Science Teaching
 ED 306 Technology Teaching
 ED 307 Business Teaching

+

ED 308 Computer Supported Learning & Distance Education

Total 120 points= 5 credit points x 12 units= 60 points+ 60 points for completion of Diploma in Teaching Practice

YEAR 4

Bachelor of Education (School & Vocational Education) course outline
(Only study in English medium of instruction will be available)

ED 401 Adult Learning Technology

ED 402 Educational Leadership

ED 403 School Culture

ED 404 Educational Research

ED 405 Training Principle

ED 406 Educational Policy

ED 407 Learning Environment

ED 408 Middle & High School Teaching

Each unit 5 points x 8 units = 40 points

Total credit points for Bed = 160 points

Diploma in Engineering (Drafting & Design) (30 Credit Points)

Unit No	Unit Name	Credit point
EE201G	Mathematics	2
EE204G	Physics	2
ME 207G	Chemistry	2
EE101	DC Circuit Problems	1
EE102	Basic Electrical Fitting & Wiring	1
EE103	Basic Electrical Drafting	1
EE105	Electrical Installation Design	1
EE110	Computer Applications	1
CE 106A	Detailed Construction & Building Construction Materials	2
CE 104 A	Building Drawing	2
CE 110	Building Construction	2
CE 107	Sanitation-and-Water-supply	2
EE107	Electrical Equipments	1
ME103	Engineering Mechanics	1
ME 108	Principles of Engines	1
EE113	Electrical Fundamental	1
EE106	Advanced Electrical Wiring	2
EE104	Electrical Equipments Safety Protection	1
EE120	Electrical Contracting & Specification—Business Aspect	2
EE109	Electrical Control Circuits	2
	Total Points	30

Career

Advanced Diploma/ Professional Diploma in

- Engineering Design
- Electrical Engineering (OR)
- Civil Engineering (OR)
- Mechanical Engineering (OR)
- Renewable Energy Engineering (OR)
- Other engineering disciplines.

BTech+BE courses are divided into the parts. The student who need to pay three equal instalments. Arrangement of teachers/ fees need to be arranged on Part 1/ 2/ 3 basics. Each part will take 4 months.

If the student pays the fees for part 1, he or she can attend part 1 and upon completion, the Statement/ Transcript will be issued for completion of part 1. Proceed to Part 2 will depend on fees payment. Copying lessons into Students USB/ Hard drive will depend on payment of fees. Only copy for the part that was paid for.

Manager will need to check students progress and fees payment and work with teacher to request me to issue the progress transcript.

No dividing of fees and part in Diploma and Advanced Diploma courses.

Please refer <http://www.highlightcomputer.com/iqyadministration.htm>

Form 7A -Student' s work and progress transcript submission

Form 7B -Student' s payment record

Form 7C Final Qualification issued check list

And prepare the checking system documents.

BTech Part 1/ BE Yr 3

- 1 BAE 401 Advanced Engineering Mathematics
- 2 BAE 402 Calculus
- 3 BAE 403 Engineering Mechanics
- 4 BAE 404 Engineering Materials & Thermodynamics

BTech Part 2/ BE Yr 3

- 10 RE010-Engineering Materials
- 11 RE012a-Electrical Engineering Part 1
- 12RE016/ BAE508-Design & Project Management

BTech Part 3 Online/ BE Yr 3

- 5 RE001- Foundation Studies in Renewable Energy and Sustainability
 - 6.RE003- Solar and Thermal Energy Systems
 - 7.RE004- Energy Storage Systems
 - 8 RE005- Renewable Energy Resource Analysis
 - 9.RE006- Wind Energy Conversion Systems
-

BE Electrical Part 1/ BE Yr 4

4 RE012b-Electrical Engineering Part 2

6 RE013-Electrical Machines

9 BAE 501 Advanced Power Systems & Power Transmission Networks

10 BAE 506 Power System Stability & Protection

BE Electrical Part 2/ BE Yr 4

1 BAE 601 Computer Programming

2 BAE 602 Computer Network

3 BAE 603 Software Engineering

11 BAE 604 Telecommunication Engineering

BE Electrical Part 3/ BE Yr 4

5 RE002- Grid Connected Photovoltaic Power Systems

12.RE007- Energy System Efficiency

7 RE014-Electronics Control

8 RE015-Electrical Project/ Practice

Final Part

13 BAE 608 Professional Engineer Engineering Competency Demonstration

Report & BAE 605 Engineering Management (Completion Certification with no

BE Civil Part 1/ BE Yr 4

1 RE011a-Civil & Mechanical Engineering Part 1

2 RE011b-Civil & Mechanical Engineering Part 2a

6 BAE423 Fluid Mechanics

8 BAE522 Rock Mechanics

BE Civil Part 2/ BE Yr 4

4BAE421 Building Construction Engineering

10BAE621 Structural Engineering

7 BAE424 Reinforced Concrete

5 BAE422 Estimating

BE Civil Part 3/ BE Yr 4

3 BAE 606 Building Service Electrical & Mechanical Engineering

9 BAE 523A Environmental Engineering

11BAE623 Surveying & Traffic Engineering

12BAE624 Water Supply , Sanitation & Finishing

Final Part

13 BAE 608 Professional Engineer Engineering Competency Demonstration Report & BAE 605 Engineering Management (Completion Certification with no credit points)

BE Mechanical Part 1/ BE Yr 4

1 RE011a-Civil & Mechanical Engineering Part 1

2 RE011b-Civil & Mechanical Engineering Part 2a

6 BAE315 Materials Engineering

10 BAE614 Machine Design

BE Mechanical Part 2/ BE Yr 4

4 BAE311 Plant Engineering
5 BAE314 Mechanical Power Generation
9 BAE613 Mechanical Instrumentation Process
12 BAE 601 Computer Programming

BE Mechanical Part 3/ BE Yr 4

3BAE 606 Building Service Electrical & Mechanical Engineering
7 BAE511 Air-conditioning & Refrigeration
8 BAE512 Building Service Water Supply System
10 BAE614 Machine Design
11.RE007- Energy System Efficiency

Final Part

13 BAE 608 Professional Engineer Engineering Competency Demonstration Report & BAE 605 Engineering Management (Completion Certification with no credit points)

Double Degrees

www.highlightcomputer.com/doubleddegrees.htm

Bachelor of Engineering+ Bachelor of Management (Course 67111/67112/67113)

www.highlightcomputer.com/BAppSCBMgt.pdf

Bachelor of Engineering+ Bachelor of Applied Science (Information Technology)
(67211/67212/67213)

www.highlightcomputer.com/BEBAppScIT.pdf

Bachelor of Management+ Bachelor of Applied Science (Information Technology)(67214)

www.highlightcomputer.com/BEBMgt.pdf

Diploma in Telecommunication Engineering

Theory to be assessed	Self study advanced practical
BAE607 Radio Wave Propagation & Micro Wave Technique	DTE306 Wireless Communication DTE307 Satellite Communication
EE625 Advanced Radio Wave Propagation	DTE302 Photonics DTE306 Wireless Communication
EE626 Advanced Microwave Technique	DTE305 Optical Communication
BAE604 Telecommunication Engineering	DTE303 Telecommunication Engineering DTE310 Customer Premise Installations
EE525 Data Communication	DTE301 Network Management DTE304 TCP/IP
EE603 Electronic Communication Principle	DTE308 Mobile Communication DTE309 VOIP DTE311 OFDM/CDMA DET312 SDH/SONET

Diploma in Telecommunication Engineering

Theory to be assessed	Self study advanced practical
BAE607 Radio Wave Propagation & Micro Wave Technique	DTE306 Wireless Communication DTE307 Satellite Communication
EE625 Advanced Radio Wave Propagation	DTE302 Photonics DTE306 Wireless Communication
EE626 Advanced Microwave Technique	DTE305 Optical Communication
BAE604 Telecommunication Engineering	DTE303 Telecommunication Engineering DTE310 Customer Premise Installations
EE525 Data Communication	DTE301 Network Management DTE304 TCP/IP
EE603 Electronic Communication Principle	DTE308 Mobile Communication DTE309 VOIP DTE311 OFDM/CDMA DET312 SDH/SONET

-

1/Sewing Garment

2/Cooking

/

5/Waiter/ Reception / Tourism

10/Shop Attendant & Marketing

11/Handyman and Asset Maintenance

24/Visual Arts and Crafts

စာရင်းသွင်းရန်လင့်

<https://www.emailmeform.com/builder/form/PXcY6O9gHaafufMf52exs>

Diploma Advanced Diploma and Bachelor of Work Studies -Garment

WS101	Vocational Studies
WS102	Safety Training
WS103	English
ADMEC 203	Design and Technology
WS201A	Sewing
WS201B	Garment
WS201C	Weaving Technology
WS3001A	Management Theory
WS3001B	Project
WS3001C	Work Experience

Diploma Advanced Diploma and Bachelor of Work Studies -Food Services

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC205	CERTIFICATE IN COMMUNITY SERVICE
WS200A	Cooking 1
WS200B	Cooking 2
WS200C	Chef
WS3001A	Management Theory
WS3001B	Project
WS3001C	Work Experience

Diploma Advanced Diploma and Bachelor of Work Studies -Children Services

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC205	CERTIFICATE IN COMMUNITY SERVICE
WS200A	Child studies Unit 1+2
WS200B	Child studies Unit 3+4
WS200C	Child studies Unit 5+6
WS3001A	Management Theory
WS3002A	Child Studies Unit 7+
WS3002B	Child Studies Unit 9+10
WS3002C	Child Studies Unit 11+12
WS3002D	Child Studies Unit 13

**Diploma Advanced Diploma and Bachelor of Work Studies -Aged Care
Services and Nurse assisting**

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC205	CERTIFICATE IN COMMUNITY SERVICE
WS2004A	Aged Care
WS2004B	Caring Protection Support Training
WS2004C	Citizenship Duty and Responsibility
WS2004D	Community Approach for Disaster Protection
WS2004E	Community Work
WS2004F	Democratic Service
WS3004A	Health Care of Displaced People
WS3004B	Home Care Domestic Assistant Support
WS3004C	Mental Health
WS3004D	Nursing Law
WS3004E	Welfare Tasks
WS3004F	Standardized Health Message

**Diploma Advanced Diploma and Bachelor of Work Studies -Customer
Services, guest House Waiter and Tourism**

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC205	CERTIFICATE IN COMMUNITY SERVICE
WS2005A	Reception and Guest House Operation
WS2005B	Tourism and Tour Guide
WS3001A	Management Theory
WS3001B	Project
WS3001C	Work Experience

Diploma Advanced Diploma and Bachelor of Work Studies-Public Safety

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC20	CERTIFICATE IN PUBLIC SAFETY
WS206A	Civil servant codes
WS206B	Community Security
WS206C	Ethics
WS206D	Freedom of Judges and Lawyers
WS206E	Human Trafficking Protection
WS206F	Humanity Works Protection of Violence
WS3006A	Legal Defence
WS3006B	Police Task
WS3006C	Safety in Educational Establishment
WS3006D	Safety Protection Training
WS3006E	School Security
WS3006F	Urban Safety
WS3006G	Working at Company

Diploma Advanced Diploma and Bachelor of Work Studies-Transport and Logistics

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC20	CERTIFICATE IN LOGISTICS
WS207A	Driver Hand Book and Rules
WS207B	Driving Laws
WS207C	Truck Driving System
WS3001A	Management Theory
WS3001B	Project Planning (Cargo Movement)
WS3001C	Work Experience

**Diploma Advanced Diploma and Bachelor of Work Studies—Agri Foods
Production and Bachelor of Agriculture**

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC20	CERTIFICATE IN AGRICULTURE FOOD PRODUCTION
Y1112S	Science (Optional)
Y1112Ch	Chemistry (Optional)
WS2008A	Agricultural Law
WS2008B	Agricultural Technology
WS2008C	Coffee and Seasonal Crops
WS2008D	Cotton Production
WS2008E	Crops
WS2008F	Garden Plantation
WS3008A	Long term crops
WS3008B	Pest Protection
WS3008C	Properties of Crops
WS3008D	Rice Production
WS3008E	Seeds Storage and Usage
WS3001A	Management Theory
WS3001B	Project
WS3001C	Work Experience

Diploma Advanced Diploma and Bachelor of Work Studies-Animal Handling and Live Stock

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC20	CERTIFICATE IN ANIMALS HANDLING
Y1112S	Science (Optional)
Y1112Ch	Chemistry (Optional)
WS200A	Animal Diseases
WS200B	Animal Foods
WS200C	Community Cooperation
WS200D	Fish Farming
WS200E	Live Stock Techniques
WS3009A	Scientific Terminology
WS3009B	Township Disaster Management
WS3009C	Live Stock Knowledge
WS3001A	Management Theory
WS3001B	Project

Diploma Advanced Diploma and Bachelor of Work Studies-Sales and Marketing

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC20	CERTIFICATE IN BUSINESS
WS200A	Anti Corruption Studies
WS200B	Company Business Ethics
WS200C	Employing Person with Disability
WS3010A	Money Management for shopkeepers
WS3010B	Anti Human Trafficking in Small Businesses
WS3010C	Right and Responsibility in Business Operation

WS3001A	Management Theory
WS3001C	Work Experience

Diploma Advanced Diploma and Bachelor of Work Studies-Handyman Properties Services

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC20	CERTIFICATE IN PROPERTIES SERVICES
Y1112S	Science
Y1112Ph	Physics
Y1112Ch	Chemistry
Y1112M	Mathematics
WS200A	Concrete Structure
WS200B	Safety Control
WS200C	Bridge Maintenance
WS3011A	Bitumen
WS3011B	Cement
WS3011C	Deformed Bars
WS3001B	Project
WS3001C	Work Experience

Diploma Advanced Diploma and Bachelor of Work Studies-Performing

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC20	CERTIFICATE IN PERFORMING
WS202A	Dancing
WS202B	Zumba
WS202C	Multilingual Education
WS3001A	Management Theory
WS3001B	Project

WS3001C	Work Experience
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**Diploma Advanced Diploma and Bachelor of Work Studies-Rural
Development and Water Operations**

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC20	CERTIFICATE IN LABORATORY WATER OPERATIONS
Y1112S	Science
Y1112Ph	Physics
Y1112Ch	Chemistry
Y1112M	Mathematics
WS203A	Mine Environmental safety
WS203B	Water Sanitation
WS203C	Rural Development
WS3001A	Management Theory
WS3001B	Project
WS3013C	Land Management

**Diploma Advanced Diploma and Bachelor of Work Studies-Laundry
Operations and Textile Care**

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC20	CERTIFICATE IN PROPERTIES SERVICES
Y1112S	Science
Y1112Ch	Chemistry
WS204A	Laundry Work
WS204B	Heat Illness

WS2014C	Human Rights and Tourism
WS3001A	Management Theory
WS3014B	Project (Establishing New Laundry)
WS3014C	Work Experience Laundry

Diploma Advanced Diploma and Bachelor of Work Studies-Hair Dressing and Personal Services

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC20	CERTIFICATE IN COMMUNITY SERVICE
WS2015A	Hair Dressing Theory at IQY
WS2015B	Hair Dressing Experience
WS2015C	Hair Dressing Training at Workplace
WS3001A	Management Theory
WS3015A	Project (Establishing hair Dressing Business)
WS3015B	Work Experience (Managing Hair dressing Business)

Diploma Advanced Diploma and Bachelor of Work Studies-Store Materials Handling and Assessment Management

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC20	CERTIFICATE IN PROPERTIES SERVICES
WS2016A	Farm Storage
WS2016B	Chemical Storage Law
WS2016C	Fishing Storage
WS3001A	Management Theory
WS3016A	Store Operation
WS3015B	Agricultural Reform and Supply Chain Systems

**Diploma Advanced Diploma and Bachelor of Work Studies-Cleaning
Properties Maintenance and Community Health**

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC20	CERTIFICATE IN PROPERTIES SERVICES
WS207A	Cleaning
WS207B	Community Health
WS207C	Protection mainstreaming
WS207D	Nutrition
WS207E	Gender Responsive Programming
WS3001A	Management Theory
WS3017A	National Investment Plan for Rural Water Supply Sanitation Hygiene
WS3015B	National Strategy for Rural Water Supply Sanitation Hygiene

**Diploma Advanced Diploma and Bachelor of Work Studies-Manufacturing
and Industry**

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC21	CERTIFICATE IN ENGINEERING PRODUCTION & MANUFACTURING THEORY
Y1112S	Science
Y1112Ph	Physics
Y1112Ch	Chemistry
Y1112M	Mathematics
WS208A	Amended Law for Leave and Holiday Law
WS208B	Employment Contract
WS208C	Equal Employment Right
WS208D	Factory Work
WS208E	Factory Act Amended
WS208F	Code of Conduct

WS2018G	Human Right
WS3001A	Management Theory
WS3018A	Environmental Assessment
WS3018B	Payment Laws
WS3018BC	Second Dispute Settlement Law
WS3018D	Worker Compensation
WS3018E	Shop and Office Place Law
WS3018F	Social Security Rule

Diploma Advanced Diploma and Bachelor of Work Studies-Clerk of Work

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC21	CERTIFICATE IN ENGINEERING PRODUCTION & MANUFACTURE
MVTC206	CERTIFICATE IN PROPERTIES SERVICE
Y1112S	Science
Y1112Ph	Physics
Y1112Ch	Chemistry
Y1112M	Mathematics
WS2018A	Amended Law for Leave and Holiday Law
WS2018B	Employment Contract
WS2018C	Equal Employment Right
WS2018D	Factory Work
WS2018E	Factory Act Amended
WS2018F	Code of Conduct
WS2018G	Human Right
WS3001A	Management Theory
WS3018A	Environmental Assessment

WS3018B	PaymentLaws
WS3018BC	SecondDisputeSettlementLaw
WS3018D	Worker Compensation
WS3018E	ShopandOfficePlaceLaw
WS3018F	Social Security Rule

Diploma Advanced Diploma and Bachelor of Work Studies- Printing and Manufacturing

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC20	CERTIFICATE IN INFORMATION TECHNOLOGY
ADMEC203	Design and Technology
Y1112S	Science
Y1112Ph	Physics
Y1112Ch	Chemistry
Y1112M	Mathematics
WS2018A	AmendedLawforLeaveandHolidayLaw
WS2018B	EmploymentContract
WS2018C	Equal Employment Right
WS2018D	Factory Work
WS2018E	FactoryActAmended
WS2018F	CodeofConduct
WS2018G	Human Right
WS3001A	Management Theory
WS3018A	EnvironmentalAssessment
WS3018B	PaymentLaws
WS3018BC	SecondDisputeSettlementLaw
WS3018D	Worker Compensation

WS3018E	Shop and Office Place Law
WS3018F	Social Security Rule

Diploma Advanced Diploma and Bachelor of Work Studies-Postal and Library Services

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC20	CERTIFICATE IN BUSINESS
MVTC210	CERTIFICATE IN INFORMATION TECHNOLOGY
WS201A	Ancient and Modern libraries in Myanmar
WS201B	Postal and Library Service
WS201C	Postal Service
WS3001A	Management Theory
WS3001B	Project
WS3001C	Work Experience
WS3021A	Procedural Safeguard

Diploma Advanced Diploma and Bachelor of Work Studies-Teacher Aides and Education Support

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC20	CERTIFICATE IN BUSINESS
MVTC210	CERTIFICATE IN INFORMATION TECHNOLOGY
WS202A	Procedural Safeguard
WS202B	Continuing Education
WS202C	Minimum Standard
WS202D	Teacher Aides and Health Development

WS202E	Rural Development
WS302A	Teacher Aides School Safety
WS302B	Teacher Aides School Students Support
WS302C	Water Sanitation
WS302AD	Minimum standard Part 2
WS300A	Management Theory

Diploma Advanced Diploma and Bachelor of Work Studies-Production and Industry

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC21	CERTIFICATE IN ENGINEERING PRODUCTION & MANUFACTURING THEORY
MVTC206	CERTIFICATE IN PROPERTIES SERVICE
Y1112S	Science
Y1112Ph	Physics
Y1112Ch	Chemistry
Y1112M	Mathematics
WS208A	Amended Law for Leave and Holiday Law
WS208B	Employment Contract
WS208C	Equal Employment Right
WS208D	Factory Work
WS208E	Factory Act Amended
WS208F	Code of Conduct
WS208G	Human Right
WS3001A	Management Theory
WS3018A	Environmental Assessment

WS3018B	PaymentLaws
WS3018BC	SecondDisputeSettlementLaw
WS3018D	Worker Compensation
WS3018E	ShopandOfficePlaceLaw
WS3018F	Social Security Rule

Diploma Advanced Diploma and Bachelor of Work Studies-Visual Arts and Crafts

WS101	Vocational Studies
WS102	Safety Training
WS103	English
ADMEC203	Design and Technology
WS204A	Works of Painters
WS204B	Photography
WS204C	Kinds of Crafts
WS3001A	Management Theory
WS3001B	Project
WS3001C	Work Experience

Diploma Advanced Diploma and Bachelor of Work Studies -Screen Media

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC205	CERTIFICATE IN COMMUNITY SERVICE
WS205A	News Paper , Film and Video Part 1
WS205B	Film and video Part 2

WS2025C	Organizing Technique and Radio Broadcasting
WS3001A	Management Theory
WS3001B	Project
WS3001C	WorkExperience
WS3025A	Right and Responsibility
WS3025B	Responsibility of Media in Civil Defence

ENGINEERING FUNDAMENTAL EXAMINATION SUPPORT SITE

www.highlightcomputer.com/ef.htm

PROFESSIONAL ENGINEER EXAMINATION SUPPORT SITE

www.highlightcomputer.com/pesupport.htm

Fundamental of Engineering Overseas Test System General Information

Fundamental of Engineering Study Areas (Reference to Professional Engineers Board of Singapore)

Fundamental of Engineering Study Resources

(Reference to Professional Engineers Board of Singapore) (Civil)

Electrical

Mechanical

Marine Engineers & Naval Architect Professional Engineers Test References

Engineering Calculations

(Electrical+ Civil+ Structural+ Architectural+ Mechanical + Building Services+ Chemical+ Environmental)

Chemical Engineers Reference

Petroleum Engineers Reference

Materials, Metallurgy & Mining Engineers Reference

Part 1

No password is set

Fundamental of Engineering Overseas Test System General Information

SYSTEMS ENGINEERING FUNDAMENTALS

sefguide_01_01.pdf (1.23MB)

http://www.filefactory.com/file/5mp9qwrksw01/n/sefguide_01_01.pdf

Using Engineering Economics to Pass the FE Exam.ppt (0.07MB)

http://www.filefactory.com/file/69ylwwm73ozb/n/Using_Engineering_Economics_to_Pass_the_FE_Exam.ppt

Engineering Fundamental

public fe reference handbook.pdf (4.4MB)

http://www.filefactory.com/file/2bh104fbcbg1/n/public_fe_reference_handbook.pdf

PS-Ref-Web.v3.pdf (4.21MB)

<http://www.filefactory.com/file/4y2wbk4rp8i1/n/PS-Ref-Web.v3.pdf>

Presentation1.pdf (0.66MB)

<http://www.filefactory.com/file/3o1cjzwrsgyp/n/Presentation1.pdf>

mathematics probability review notes.pdf (1.37MB)

http://www.filefactory.com/file/1afbisi9eqf5/n/mathematics_probability_review_notes.pdf

PE SPEC Exam.pdf (0.04MB)

http://www.filefactory.com/file/dvelf38kr2r/n/PE_SPEC_Exam.pdf

introduction-to-matlab.pdf (0.31MB)

<http://www.filefactory.com/file/355n7sf4file/n/introduction-to-matlab.pdf>

HOW-TO-PASS.doc (0.05MB)

<http://www.filefactory.com/file/6me7vvtugsfh/n/HOW-TO-PASS.doc>

ieeep1.ppt (0.06MB)

<http://www.filefactory.com/file/582ocia160o1/n/ieeep1.ppt>

FE-Ref-9.0 Web.v2.pdf (11.67MB)

http://www.filefactory.com/file/fhzjuoxki1j/n/FE-Ref-9.0_Web.v2.pdf

Fundamentals of Engineering Exam.pdf (0.41MB)

http://www.filefactory.com/file/1w9r57e35jxv/n/Fundamentals_of_Engineering_Exam.pdf

Fundamental of Engineering .doc (0.27MB)

http://www.filefactory.com/file/4eikmi5rwo2f/n/Fundamental_of_Engineering_.doc

Surveyor Exam

fs references 1013.pdf (1.56MB)

http://www.filefactory.com/file/1pfed8pn3rtd/n/fs_references_1013.pdf

Fundamental of Engineering Fluid Mechanics

FE-Fluids Spring2011-Imprimir-Super.pdf (8.66MB)

http://www.filefactory.com/file/5h24itruwu4d/n/FE-Fluids_Spring2011-Imprimir-Super.pdf

fe reference handbook.pdf (6.29MB)

http://www.filefactory.com/file/1wn8lcucwvx1/n/fe_reference_handbook.pdf

FE-Exam-Info-Handout.doc (0.04MB)

<http://www.filefactory.com/file/5ijl1rbj3o2b/n/FE-Exam-Info-Handout.doc>

Singapore PE Exam Information

FEE2014.pdf (2.01MB)

<http://www.filefactory.com/file/2dv2ald5pwgv/n/FEE2014.pdf>

Engineering Fundamental FE Exam Supplied Handbook.pdf (4.58MB)

http://www.filefactory.com/file/4qmke8erunmb/n/Engineering_Fundamental_FE_Exam_Supplied_Handbook.pdf

FE Exam.pdf (0.82MB)

http://www.filefactory.com/file/5vvecxzpnz4d/n/FE_Exam.pdf

FE.pdf (0.21MB)

<http://www.filefactory.com/file/4na4z3aqa4kh/n/FE.pdf>

Engineering Fundamental Examination Reference Website.doc (0.02MB)

http://www.filefactory.com/file/7dpgptuvpfdl/n/Engineering_Fundamental_Examination_Reference_Website.doc

col10040.pdf (2.49MB)

<http://www.filefactory.com/file/6ltj7qzikhx9/n/col10040.pdf>

Engineering Calculation Download link.doc (0.03MB)

http://www.filefactory.com/file/504mnwvyj0ct/n/Engineering_Calculation_Download_link.doc

ElevenLessons Design Council (2).pdf (2.45MB)

[http://www.filefactory.com/file/6vyj97acsk2d/n/ElevenLessons_Design_Council_\(2\).pdf](http://www.filefactory.com/file/6vyj97acsk2d/n/ElevenLessons_Design_Council_(2).pdf)

Dynamics.pdf (0.22MB)

<http://www.filefactory.com/file/1qqxxd65b467/n/Dynamics.pdf>

Computer Engineering Syllabus

COE200 syllabus.pdf (0.08MB)

http://www.filefactory.com/file/5blag3ubg0nz/n/COE200_syllabus.pdf

Introduction to the Mathematical Theory of Systems and Control

book.pdf (2.87MB)

<http://www.filefactory.com/file/61tgm59fi6yp/n/book.pdf>

ce 466 - introduction.pdf (0.13MB)

http://www.filefactory.com/file/3maf4vxxfk19/n/ce_466_-_introduction.pdf

April2013FE Exam Guide.pdf (1.08MB)

http://www.filefactory.com/file/498mn331ityh/n/April2013FE_Exam_Guide.pdf

12200 2006.pdf (9.16MB)

http://www.filefactory.com/file/4bxbm15733vz/n/12200_2006.pdf

261839.pdf (0.08MB)

<http://www.filefactory.com/file/49pv00cd8wq1/n/261839.pdf>

12200 first edition revision 1.pdf (1.02MB)

http://www.filefactory.com/file/3bjqu2sgq6ep/n/12200_first_edition_revision_1.pdf

2011 NCEES FE Reference Handbook.pdf (7.54MB)

http://www.filefactory.com/file/20h6as40ggyx/n/2011_NCEES_FE_Reference_Handbook.pdf

96-37768.pdf (8.18MB)

<http://www.filefactory.com/file/3e6cz3nmvpgb/n/96-37768.pdf>

2006 RM Guide 4 Aug 06Final.doc (0.45MB)

http://www.filefactory.com/file/5exia7rbmawh/n/2006_RM_Guide_4_Aug_06Final.doc

200 questions answers.pdf (0.55MB)

http://www.filefactory.com/file/246e8v66pe3h/n/200_questions_answers.pdf

01 fe presentation 2010.pdf (3.04MB)

http://www.filefactory.com/file/7biaicb8g3ph/n/01_fe_presentation_2010.pdfhttp://www.filefactory.com/file/5143mgzx34ob/n/01_fe_presentation_2010.pdf

Part 2

Fundamental of Engineering Study Areas (Reference to Professional

Engineers Board of Singapore)

No password is set

Fundamental of Engineering-Civil (FEC)

FEC 101 (☐ CE 101) Mechanics of Materials)

FEC 102 (☐ CE 102 Structural Mechanics)

FEC 103 (☐ CE 103 Structural Analysis)

FEC 104 (☐ CE 104 Soil Mechanics)

FEC 105 (☐ CE 105 Fluid Mechanics)

FEC 201 (CE 201 Reinforced and Prestressed Concrete Structures)

FEC 202 (☐ CE 202 Steel and Composite Structures)

FEC 203 (☐ CE 203 Geotechnical Engineering)

FEC 204 (☐ CE 204 Transportation)

FEC 205 (☐ CE 205 Hydraulics and Hydrology)

FEC 206 (☐ CE 206 Environmental Engineering)

See FEE2014

FEE2014.pdf (2.01MB)

<http://www.filefactory.com/file/3vnl52j9mz01/n/FEE2014.pdf>

Fundamental of Engineering-Electrical (FEE)

FEE 101 (EE 101 Principles of Power Engineering)

FEE 201 (EE 201 Power System Analysis and Utilization)

See FEE2014

FEE2014.pdf (2.01MB)

<http://www.filefactory.com/file/3vnl52j9mz01/n/FEE2014.pdf>

Fundamental of Engineering-Mechanical (FEM)

FEM 101 (☐ ME 101 Control and Instrumentations)

FEM 102 (☐ ME 102 Dynamics and Vibrations)

FEM 103 (☐ ME 103 Fluid Mechanics)

FEM 104 (☐ ME 104 Mechanics and Materials)

FEM 105 (☐ ME 105 Manufacturing Technology)

FEM 106 (☐ ME 106 Thermodynamics and Heat Transfer)

FEM 201 (☐ ME 201 Control and Instrumentations)

FEM 202 (☐ ME 202 Dynamics and Vibrations)

FEM 203 (☐ ME 203 Fluid Mechanics)

FEM 204 (☐ ME 204 Mechanics and Materials)

FEM 205 (☐ ME 205 Manufacturing Technology)

FEM 206 (☐ ME 206 Thermodynamics and Heat Transfer)

See FEE2014

FEE2014.pdf (2.01MB)

<http://www.filefactory.com/file/3vnl52j9mz01/n/FEE2014.pdf>

Part 3

Fundamental of Engineering Study Resources

(Reference to Professional Engineers Board of Singapore)

No password is set

Fundamental of Engineering-Civil (FEC)

upt39 an-introduction-to-transportation-engineering.pdf (0.03MB)

http://www.filefactory.com/file/294pxa8dzp57/n/upt39_an-introduction-to-transportation-engineering.pdf

finnmore-franzini 15cl2.pdf (0.02MB)

http://www.filefactory.com/file/4g6mh0drtdf/n/finnmore-franzini_15cl2.pdf

CE206-watpolcontrol.pdf (4MB)

<http://www.filefactory.com/file/5225aqsfkmbf/n/CE206-watpolcontrol.pdf>

ceg wang 20060524.pdf (3.16MB)

http://www.filefactory.com/file/1xn6b4cx07ub/n/ceg_wang_20060524.pdf

CE206-water-supply-and-pollution-control 1n5gvp.pdf (0.03MB)

http://www.filefactory.com/file/6pmox41vtl9/n/CE206-water-supply-and-pollution-control_1n5gvp.pdf

CE206-water-supply-and-pollution-control vnu8w.pdf (0.03MB)

http://www.filefactory.com/file/1b63ianvww81/n/CE206-water-supply-and-pollution-control_vnu8w.pdf

CE206-Water Resource Engineering.pdf (0.95MB)

http://www.filefactory.com/file/3ihjxf1p60xv/n/CE206-Water_Resource_Engineering.pdf

CE206-Water Pollution Control.pdf (4MB)

http://www.filefactory.com/file/ec4rxw3wcg1/n/CE206-Water_Pollution_Control.pdf

CE206-handbook-of-water-engineering-problems.pdf (3.62MB)

<http://www.filefactory.com/file/6uao5c1svesh/n/CE206-handbook-of-water-engineering-problems.pdf>

CE204-Transport Planning & Traffic Engineering.pdf (35.28MB)

http://www.filefactory.com/file/6lhhbv8nywd/n/CE204-Transport_Planning_&_Traffic_Engineering.pdf

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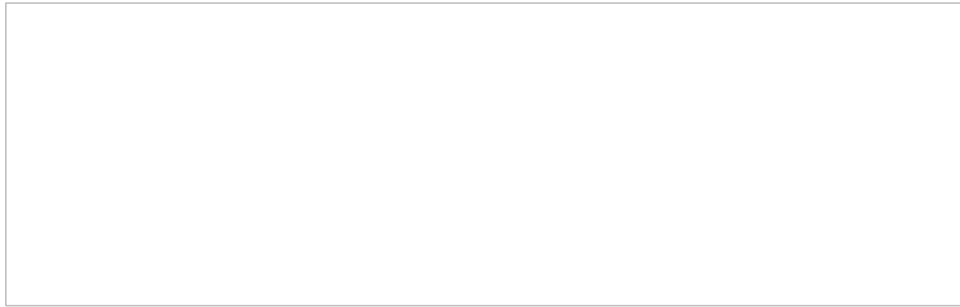
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Completion of the compulsory 6 subjects will earn Graduate Diploma in Engineering (60 credits at Masters level +120 Credits for Bachelors degree level total 180credits. Completion of two or more units can earn Graduate Certificate in Engineering.

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- (4)BAE6014 High Rise Building Structure
- (5)BAE6015 Scheduling Building Construction
- (6)BAE6016 Fire Safety in High Rise Building

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- (7) BAE650 Steel Design
- (8) BAE 643-Earthquake Resistant Structure
- (9) BAE 634-Building Construction
- (10) BAE 637-Composite Structure of Steel& Concrete
- (11) BAE 636-Building Technology Electrical Mechanical System
- (12) BAE 644-Estimating

Assessment

The candidates will need to submit the study report

Read the e Book , view the lecture videos and write 20 pages study report for each of the subjects outlined below.

- The report needs to include
- Book review- Review on each chapter of the book highlighting the key concepts, key formula, key theory & practical application concepts
- Own idea on how to apply those concepts in real practical applications.
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Pre-requisite

Any Bachelors degree

Mode of Learning

Online/ English/ Video Lessons/ Readers/ Submission of study report

Subjects (Total 80 credits) (Each 8 credits)

- GIS601-PrinciplesGIS
- GIS602-Principle of GPS
- GIS603-Relational databases
- GIS604-Smartcard-Ticketing-
- GIS605 Spatial data system
- GIS606 Spatial queries and analysis
- GIS607 SpatialDecisionMaking0
- GIS608 Building Block of GIS
- GIS609 integrating data source within a GIS environment
- GIS610 Large spatial datasets analysis
- GIS Software

Graduate Diploma of Engineering Practice (Civil)

STAGE (3) ADVANCED GENERAL CIVIL ENGINEERING (18 Pt)

BAE421 Building Construction Engineering (4 pt)

BAE422 Estimating (2 pt)

BAE423 Fluid Mechanics (2 pt)

BAE424 Reinforced Concrete (2 pt)

BAE425 Timber Engineering (2 pt)

BAE521 Road & Bridge (2 pt)

BAE522 Rock Mechanics (2 pt)

BAE523 Soil Mechanics (2 pt)

STAGE (4 A) ADVANCED SPECIALIZED CIVIL ENGINEERING STUDY (6Pt)

BAE621 Structural Engineering (3 pt)

BAE622 Architecture (3 pt)

STAGE (4B) ADVANCED SPECIALIZED CIVIL ENGINEERING STUDY (4Pt)

BAE623 Surveying & Traffic Engineering (2 pt)

BAE624 Water Supply , Sanitation & Finishing (2 pt)

Graduate Diploma of Engineering Practice (Civil)

STAGE (3) ADVANCED GENERAL CIVIL ENGINEERING (18 Pt)

BAE421 Building Construction Engineering (4 pt)

BAE422 Estimating (2 pt)

BAE423 Fluid Mechanics (2 pt)

BAE424 Reinforced Concrete (2 pt)

BAE425 Timber Engineering (2 pt)

BAE521 Road & Bridge (2 pt)

BAE522 Rock Mechanics (2 pt)

BAE523 Soil Mechanics (2 pt)

STAGE (4 A) ADVANCED SPECIALIZED CIVIL ENGINEERING STUDY (6Pt)

BAE621 Structural Engineering (3 pt)

BAE622 Architecture (3 pt)

STAGE (4B) ADVANCED SPECIALIZED CIVIL ENGINEERING STUDY (4Pt)

BAE623 Surveying & Traffic Engineering (2 pt)

BAE624 Water Supply , Sanitation & Finishing (2 pt)

Graduate Diploma of Engineering Practice (Civil)

STAGE (3) ADVANCED GENERAL CIVIL ENGINEERING (18 Pt)

BAE421 Building Construction Engineering (4 pt)

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BAE522 Rock Mechanics (2 pt)

BAE523 Soil Mechanics (2 pt)

STAGE (4 A) ADVANCED SPECIALIZED CIVIL ENGINEERING STUDY (6Pt)

BAE621 Structural Engineering (3 pt)

BAE622 Architecture (3 pt)

STAGE (4B) ADVANCED SPECIALIZED CIVIL ENGINEERING STUDY (4Pt)

BAE623 Surveying & Traffic Engineering (2 pt)

BAE624 Water Supply , Sanitation & Finishing (2 pt)

Graduate Diploma of Engineering Practice (Computer Control Engineering)

This one year course with 30 credit points trains the BSc & BCTech graduates and final year students to work as computer control system technicians and engineers in various industries. It consists of electrical engineering units, electronic engineering units, analogue and digital principles, process control system, programmable control, computer aided control and instrumentation, linear system and modern control system units.

Pre-requisites

BSc or BC Tech , Final years

Contents

Group (1)	Group (2)
EE101 DC Circuit Problems EE103 Basic Electrical Drafting EE107 Electrical Equipments EE109 Electrical Control Circuits EE112 Alternating Current Principle EE113 Electrical Fundamental EE206 AC Machines EE207 DC Machines EE202 Electrical Circuits	EE115 Basic Analogue and Digital Electronics EE121 Electronic Power Control Devices EE208 Operational Amplifier EE209 Analogue Electronics EE301 Advanced Electrical Drafting EE117 Solar Electrical System
The students study the power points containing the explanations in English + Myanmar Languages, do & submit theoretical & simulated practicals. Tutoring support by electronics teachers.	The students study the power points containing the explanations in English + Myanmar Languages, do & submit theoretical & simulated practicals. Tutoring support by electronics teachers.

The students who successfully complete Group 1 & 2 will receive Graduate Certificate in Engineering Practice (Electrical & Electronic)

Group (3)	Group (4) University post graduate level
ME203 Control Engineering ME534 Numerical Control ME434 Mechatronics and Robotics EE624 Process Control ME302 Automation & Robotics	BAE408 Analogue and Digital Electronics BAE502 Linear System BAE503 Control System
The students study the power points containing the explanations in English + Myanmar Languages, Study the text books in Myanmar language & enrich the knowledge by reading the references in English Do & submit theoretical & simulated practicals. Tutoring support by electronics teachers.	The students study the power points containing the explanations in English + Myanmar Languages, do & submit theoretical & simulated practicals. Tutoring support by electronics teachers.

The students who successfully complete Group 3 & 4 will receive Graduate Diploma of Engineering Practice (Computer Control Engineering)

GRADUATE DIPLOMA OF ENGINEERING PRACTICE (MECHANICAL)

STUDY GUIDE

BAE311 Plant Engineering (2 pt)

BAE312 Design Engineering (2 pt)

BAE313 Environmental Control (2 pt)

BAE314 Mechanical Power Generation (2 pt)

BAE315 Materials Engineering (2 pt) Part 1 Part 2

BAE511 Air-conditioning & Refrigeration	3	ME511 Air-conditioning & Refrigeration
BAE512 Building Service Water Supply System	3	ME512 Building Service Water Supply System
BAE513 Production Technology	3	ME513 Production Technology
BAE611 Maintenance Engineering	3	ME 611 Maintenance Engineering
BAE612 Engineering Metallurgy	1	ME 612 Metallurgy
BAE613 Mechanical Instrumentation Process	3	ME 613 Mechanical Instrumentation & Process
BAE614 Machine Design	2	ME 614 Machine Design Part 1 Part 2 Part 3

GRADUATE DIPLOMA OF ENGINEERING PRACTICE (MECHANICAL)

STUDY GUIDE

BAE311 Plant Engineering (2 pt)

BAE312 Design Engineering (2 pt)

BAE313 Environmental Control (2 pt)

BAE314 Mechanical Power Generation (2 pt)

BAE315 Materials Engineering (2 pt) Part 1 Part 2

BAE511 Air-conditioning & Refrigeration	3	ME511 Air-conditioning & Refrigeration
BAE512 Building Service Water Supply System	3	ME512 Building Service Water Supply System
BAE513 Production Technology	3	ME513 Production Technology
BAE611 Maintenance Engineering	3	ME 611 Maintenance Engineering
BAE612 Engineering Metallurgy	1	ME 612 Metallurgy
BAE613 Mechanical Instrumentation Process	3	ME 613 Mechanical Instrumentation & Process
BAE614 Machine Design	2	ME 614 Machine Design Part 1 Part 2 Part 3

GRADUATE DIPLOMA OF ENGINEERING PRACTICE (MECHANICAL)

STUDY GUIDE

BAE311 Plant Engineering (2 pt)

BAE312 Design Engineering (2 pt)

BAE313 Environmental Control (2 pt)

BAE314 Mechanical Power Generation (2 pt)

BAE315 Materials Engineering (2 pt) Part 1 Part 2

BAE511 Air-conditioning & Refrigeration	3	ME511 Air-conditioning & Refrigeration
BAE512 Building Service Water Supply System	3	ME512 Building Service Water Supply System
BAE513 Production Technology	3	ME513 Production Technology
BAE611 Maintenance Engineering	3	ME 611 Maintenance Engineering
BAE612 Engineering Metallurgy	1	ME 612 Metallurgy
BAE613 Mechanical Instrumentation Process	3	ME 613 Mechanical Instrumentation & Process
BAE614 Machine Design	2	ME 614 Machine Design Part 1 Part 2 Part 3

[IQY Technical College/ St Clements University Humanities Study Programs](#)

www.highlightcomputer.com/HumanitiesCoursesOutline.pdf

The objective of Humanities Studies program is to provide formal academic study and recognition for community workers, social service workers and volunteers who are performing the humanitarian works.

Entry Requirement

No formal requirement but working in humanitarian service is needed. But those without university entrance qualifications may need to attend our basic education studies.

Course Structure

- Diploma in Humanities Studies (Dip HS) (30 Credit Points) (IQY Course 37001)
- Advanced Diploma in Humanities Studies (Adv Dip HS) (60 Credit Points) (IQY Course 47001)
- Professional Diploma in Humanities Studies (Prof Dip HS) (120 Credit Points) (IQY Course 67001) which can be convertible to St Clements University's Bachelor of Humanities Studies (BHS)
- Master of Humanities Studies (MHS) (St Clements University) (240 Credits)
- Professional Doctorate of Humanities Studies (DHS) (St Clements University) (360 Credits)

[Diploma in Humanities Studies \(Dip HS\) \(30 Credit Points\)](#)

Outcome-

On completion of this course, the candidates will be able to effectively provide humanities services needed by the community.

Course Structure

It consists of compulsory work-based unit and elective units

Compulsory

HS101- Humanitarian Work Record (15Points)

Presenting own diary of humanities work for minimum of three months or work reference

ELECTIVES

The following streams can be selected to complete Diploma in Humanities Studies

[STREAM \(1\) -PEOPLE SERVICE STREAM \(Select any one\)](#)

[CERTIFICATE IN COMMUNITY SERVICE \(MVTC205\)](#)

[\(FOODS SERVICE/HEALTH SERVICES/LIBRARY SERVICES/AGE CARE/CHILD CARE\)](#)
(15 points)

CERTIFICATE IN PUBLIC SAFETY (MVTC208) (15 points)

CERTIFICATE IN AGRICULTURE FOOD PRODUCTION (MVTC201) (15 points)

STREAM (2)-COMMUNITY CONSTRUCTION STREAM

Select any one (15 points)

PC 1-Certificate in Bricklaying & Masonry

PC 2-Certificate in Plumbing

PC 3-Certificate in Building Construction

PC 4-Certificate in Gutter Construction

PC 5-Certificate in Fitting & Machining

PC 6-Certificate in Welding

PC 7-Certificate in Engine Operation & Basic Servicing

PC 8-Certificate in Air-conditioning & Refrigeration Basic Servicing

PC 9-Certificate in Electrical Wiring

PC 10-Certificate in Electrical Machine Winding

STREAM (3)- VOLUNTARY TEACHING STREAM

ED107 Theory of Education, Educational Technology & Teaching Practice

(15 Credits)

Advanced Diploma in Humanities Studies (Dip HS) (60 Credit Points)

Outcome

On completion of this course, the candidates will be able to effectively organize and manage the humanities services needed by the community.

Course Structure

It consists of credit transfer from Diploma in Humanities Studies, compulsory work-based unit and compulsory theory studies units.

Credit Transfer

Completion of Diploma in Humanities Studies (30 Credit Points)

Compulsory Work-based Unit

HS201-Humanitarian Organizing Work Record (5 points)

Presenting own diary of organizing humanities work or work reference in additional to minimum of 3 months humanitarian work experience.

Compulsory theory studies units.

The following management units need to be studied

Mgt 101 Management (5 points)

Mgt 201 Customer Service Management (Humanitarian Customer Service) (5 points)

Mgt 203 Inventory & Budget Management (Humanitarian Service Organization Budget Control) (5 points)

Mgt 208 Safety Management in Humanitarian Works-(5 Points)

Mgt 211 Leadership in Humanitarian Works (5 Points)

Professional Diploma in Humanities Studies (Dip HS) (120 Credit Points)

Outcome

On completion of this course, the candidates will be able to effectively set up the strategic tasks and judge the nature of humanities services needed by the community.

Course Structure

It consists of credit transfer from Advanced Diploma in Humanities Studies, compulsory self study unit compulsory theory studies units and a humanities project

Credit transfer

Completion of Diploma in Humanities Studies (60 Credit Points)

Compulsory self study unit

HS301-Professional Studies of Humanities (20 Credits)

It is an open unit. The student will need to study the literatures in Human Right, Democracy. History, Political Science, Philosophy, . They can read the books, online publications , attend the public talk, take part in online discussions etc and prepare a report on what they read, believe, accept on humanitarian issues.

They can freely present their views , comments and judgement.

The assessment will not be based on same or different views between student and assessor. It will only be based on how the student can do the study, what is accepted and believed and how well the arguments can be presented.

The report needs to include references sources as well and it can be written in any language. (For Myanmar, it can be written in Myanmar or English)

Compulsory theory studies

ED431-Critical Thinking (10 Credits)

Mgt 305 Quantitative Methods for Managers (10 Credits)

Mgt 306 Human Resources Management (10 Credits)

HS302- Humanities Work Project (10 Credits)

Humanities Project is to be written

The candidate needs to investigate the needs of the community and prepare the work plan to do the humanities project work such as building a school, digging the water well, disaster relief work.

They need to answer the questions regarding

- Why this task is important for the community
- Who will get the benefit
- What kinds of tasks need to be provided
- Who will do the job
- What materials , resources will be required
- How to provide the safety
- Time plan to complete the task
- Materials requirement and budgetary issues and how to raise the funding
- How to collaborate with local and other people / organizations
- How to assess the project completion
- How to determine the effectiveness and quality of the project outcome
- What lesson that you learnt from the project and conclusion

The project report needs to answer the above questions, record of project works, data, photos and references will need to be attached.

It should be 5 to 10 pages . Without community project but presentation of intensive portfolio 57001 Professional Diploma in Humanities Studies can be issued but to proceed to Masters , such project must be submitted for qualifying.

Bachelor of Humanities Studies (BHS) (St Clements University)

(Credit Transfer)

The graduates of Professional Diploma in Humanities Studies can pay degree registration fees and present the Professional Diploma in Humanities Studies to St Clements University's academic board to issue Bachelor of Humanities Studies (BHS)

Master of Humanities Studies (MHS) (St Clements University) (240 Credits)

Professional Doctorate of Humanities Studies (DHS) (St Clements University)
(360 Credits)

The graduates of Bachelor of Humanities Studies (BHS) can continue the studies on research method and prepare a thesis to complete Master of Humanities Studies (MHS)

St Clements University will also guide the additional studies as required.

They can contribute the literatures in St Clements University's Academic Journal, present the seminars, write the dissertation, defend the dissertation to complete Professional Doctorate of Humanities Studies

Final Thesis for Master and Dissertation for Doctorate

HUM 601 Research Method

HUM 602 Thesis

HUM 601 Research Method

This course guides the student, step by step, through the research process, from problem selection through writing up results. It provides all of the basics necessary to complete a research project in any discipline.

Outline. The following aspects are reflected in this course:

What is research?

Tools of research

The problem: the heart of the research process

Review of the related literature

Planning your research design

Writing the research proposal

Qualitative research

Historical research

Descriptive research

Experimental and causal - comparative designs

Statistical techniques for analyzing quantitative data

Technical details: style, format, and organization of the research report

Masters Research Proposal

Synopsis: Research students are expected to present a written research proposal within three months after commencement. The proposal is handed in to the study leader.

Assessors of this proposal are selected by the faculty for their understanding of the field and the research involved. The purpose of a research is to set out a plan for conducting the research and writing the dissertation within the available time. It should take account of the availability and guidance of the study leader.

The starting point for a research proposal is the topic, which is the field of interest in which the research is to be carried out. In introducing the topic, the proposal should clarify the field that it falls into and the specific part of that field which the research will explore.

It should clarify why the topic is of interest and importance, and how the proposed research will contribute to the field of knowledge or profession. The proposal should clarify the research questions, ensuring that these are specific and answerable.

It is important to show how these questions relate to the topic, and how they will advance the student's contribution. The proposal should detail the research to be carried out, and clarify the research methods, the timeframe and the reasons for selecting particular methods.

Where a period of literature review or research should precede any empirical research, this should be factored in as part of the research. It is important to estimate any periods of field research and to flag their duration and cost in your research proposal.

HUM 602 Thesis

Humanities Studies Thesis for Masters and Dissertation for Doctorate

Candidates need to complete a 60000-words dissertation (in Myanmar or English) and a 3000-words executive portfolio (in English).

This program requires the candidates to complete a thesis as part of the assessment for the Master of Humanities Studies degree and a dissertation for Doctor of Humanities Studies.

Doing a thesis / dissertation means that instead of knowledge and information being presented and following a prescribed route for answering questions, candidates are thrust into an active role of managing an investigation into a topic area. This means researching and discovering things for themselves.

They will have to set their own targets and parameters, pose their own central research questions and decide on the appropriate sources of information to support the research. It therefore requires the use of the higher-level cognitive skills of analysis, synthesis and evaluation. Candidates may choose an area of particular interest to them within the scope of course title.

Doctoral dissertation

A dissertation is an individual effort and the candidate, academic tutor and the course professor will work together on constructing an approved topic (research question) and methodologies.

Humanities Dissertation Defence for doctorate

It is expected of Doctoral candidates to defend their thesis by means of a colloquium (academic discussion). The purpose of the meeting is for the candidates to convince a panel of experts in the

field of the dissertation how well they have done in the conducting of their research study and the preparation of their dissertation

Candidates need to complete all course assessments with the results of Grade B+ or above.

မြန်မာနိုင်ငံပညာရှင်အင်ဂျင်နီယာအဖွဲ့ ချုပ်

The Institution of Professional Engineers Myanmar (IPEM)

Member of International Federation of Engineering Education Societies (IFEES)

AGTI to BE Conversion Program

AGTI အောင်မြင်ကာအင်ဂျင်နီယာလုပ်ငန်းအတွေ့ အကြုံ (၇)နှစ်ရှိပြီး BE နှင့်အဆင့်တူအင်ဂျင်နီယာပညာကိုသင်တန်းတက်၍ဖြစ်စေ၊ကိုယ်တိုင်လေ့လာမှ၊ လုပ်ငန်းခွင်လက်တွေ့ လုပ်ဆောင်မှုအထောက်အထားတို့ ကိုစိစစ်ကာ BE ဘွဲ့ နှင့်တူ ညီသော ပညာအဆင့်ရှိသည်ဟုသတ်မှတ်ကာ မြန်မာနိုင်ငံအင်ဂျင်နီယာအဖွဲ့ ချုပ်နှင့်ပူးပေါင်းဆောင်ရွက်နေသောတက္ကသိုလ်များ၏ BE ဘွဲ့ ပေါင်းကူးအစီအစဉ်များပြုလုပ်မည့်အစီအစဉ်ကို မြန်မာနိုင်ငံပညာရှင်အင်ဂျင်နီယာအဖွဲ့ ချုပ်ကပြုလုပ်ပါမည်။

AGTI ကို ဂုဏ်တက်ရောက်ပြီးစီးသူများသည် ဘွဲ့ အဆင့်ညီ Singapore Institute of Engineering Technologists အသိအမှတ်ပြု Professional Diploma in Engineering ကို IQY Technical College တွင်ကိုယ်တိုင်သို့ မဟုတ် Online မှတက်ရောက်ပြီးစီးကာ STC Technological University (International Engineering) သို့ မဟုတ် St Clements University သို့ မဟုတ် အဆိုပါတက္ကသိုလ် ၂ခုနှင့် IQY Technical College ပူးပေါင်းအစီအစဉ်မှ BE ဘွဲ့ ကိုရယူရမည်ဖြစ်သည်။

AGTI ကို ဂုဏ်တက်ရောက်ပြီးစီးသူများသည် ယခင်ခေတ် AGTI ကို Columbo Plan Curriculum ဖြင့်သင်ကြားပြီးစီးခဲ့ပြီး ယခင် AGTI အင်ဂျင်နီယာများသည် စာတွေ့ လက်တွေ့ ဌာနမြန်မာနိုင်ငံတွင်သာ မကနိုင်ငံတကာတွင်အင်ဂျင်နီယာလုပ်ငန်းတို့ ကိုတာဝန်ယူလုပ်ဆောင်နေသည့်အပြင်အင်ဂျင်နီယာပညာကိုလက်တွေ့ အသုံးပြုမှုတွင်နောင်လာနောက်သား BE အင်ဂျင်နီယာတို့ ကိုသင်ကြားနိုင်သောကြောင့်ထိုသူတို့ ၏ပညာအတွေ့ အကြုံနှင့်ကျွမ်းကျင်မှုတို့ ကိုစံနှစ်ထကျမှတ်တမ်းပြု Academic Credit ပေးကာ BE အဆင့်ပညာကို Seminar Workshop များစီစဉ်ပို့ ချပြီး Online Resources များ Lesson Video များကိုဖြန့်ဝေကာ BE အဆင့်ညီ Singapore Institute of Engineering Technologists အသိအမှတ်ပြု Professional Diploma in Engineering ကို IQY Technical College

မှပေးပြီး STC Technological University (International Engineering) သို့ မဟုတ် St Clements University သို့ မဟုတ် အဆိုပါတက္ကသိုလ်၂ခုနှင့် IQY Technical College ပူးပေါင်းအစီအစဉ်မှ BE ဘွဲ့ ကိုရယူရမည်ဖြစ်သည်။

အစီအစဉ်တွင်ပါဝင်သောဘာသာများ

BE ဘွဲ့ အတွက်လိုအပ်သော(၁၂၀) Credit Point အတွက်အောက်ပါအတိုင်းစီစဉ်မည်။

ENG601- Engineering Studies

AGTI Certificate (60 Credits)

AGTI လက်မှတ် (ပုံပါအတိုင်းကိုတင်ပြရန်) Notary Certified Copy

ENG602-Engineering Applications

Work Experience Curriculum Vitae (10 Credits)

ကိုယ်ရေးရာဇဝင်တင်ပြရန်

ENG603-Engineering Practicals

Engineering Practice Report or Experience Portfolio (10 Credits)

အောက်ပါအတိုင်းအင်ဂျင်နီယာကျွမ်းကျင်မှုအစီရင်ခံစာရေးသားတင်ပြရန်

(သို့ မဟုတ်)

RSE အတွက်ရေးထားသောအစီရင်ခံစာတင်ရန်

(သို့ မဟုတ်)

RSE လက်မှတ် (Current or Expired) တင်ပြရန်

(သို့ မဟုတ်)

စည်ပင်သာယာမှုထုတ်ပေးခဲ့သောလိုင်စင်များ(မည်သည့်တိုင်းဒေသမှမဆို) (Current or Expired)

တင်ပြရန်

(သို့ မဟုတ်)

မိမိလုပ်ခဲ့သောအလုပ်များမှ Project တစ်ခုအတွက် Drawing/ Estimate/ Quantity/ Survey/Workplan/ Photo တို့ ကိုတင်ပြရန်။

BAE705 Engineering Competency Development (10 Credits)

အခြားဘွဲ့ များအပါအဝင်ပြည်တွင်း(သို့မဟုတ်)ပြည်ပတွင်တက်ခဲ့သောအင်ဂျင်နီ

ယာသင်တန်းလက်မှတ်များတင်ပြရန် (သို့မဟုတ်) မိမိဖတ်ရှုခဲ့သောအင်ဂျင်နီယာစာအုပ်များ၏

လေ့လာမှုမှတ်တမ်းတင်ပြရန်(သို့မဟုတ်) ပြည်တွင်း(သို့မဟုတ်)ပြည်ပတွင်တက်ခဲ့သောအင်ဂျင်နီယာသင်တန်းစာရင်းတင်ပြရန်။

Degree Level Study -Engineering Mathematics+Materials+Mechanic Seminars (4 days)

အောက်ပါဘာသာရပ်များပါဝင်သောလေးရက် **Seminar/Workshop** တက်ရန် Online

Resources များLesson Video များကိုရယူရန်။

- BAE401 Engineering Mathematics
- BAE402 Calculus
- RE010 Engineering Materials
- BAE403 Engineering Mechanics (10 Credits)

Degree Level Study -Engineering Management Seminars (2 days)

အောက်ပါဘာသာရပ်များပါဝင်သောလေးရက် **Seminar/Workshop** တက်ရန် Online

Resources များLesson Video များကိုရယူရန်။

- BAE508 Management
- BAE605 Engineering Management (10 Credits)

Degree Level Study -Engineering Subjects Seminars (4 days)

အောက်ပါဘာသာရပ်များပါဝင်သောလေးရက် **Seminar/Workshop** တက်ရန် Online

Resources များLesson Video များကိုရယူရန်။

3 or 4 subjects at BE Final Level (10 Credits)

Electrical Power

BAE 501 Advanced Power Systems & Power Transmission Networks

BAE 506 Power System Stability & Protection

RE013-Electrical Machines

Electronics

RE014-Electronics Control

BAE 604 Telecommunication Engineering

BAE 601 Computer Programming

Or other subjects by discussing with trainer

Civil

BAE621 Structural Engineering

BAE421 Building Construction Engineering

BAE623 Surveying & Traffic Engineering

Or other subjects by discussing with trainer

Mechanical

BAE613 Mechanical Instrumentation Process

BAE311 Plant Engineering

BAE614 Machine Design

Or other subjects by discussing with trainer

ICT

ICT 403 Professional Programming

ICT 405 Professional Practice (1) Network

BAE408 Analog & Digital Electronics

Or other subjects by discussing with trainer

အားလုံးပြီးစီးပါက **120 Credit Points** ရရှိကာ Professional Diploma/ BE ပြီးစီးမည်။

သင်တန်းကြေး

သင်တန်းကြေးကို IPEM/ IQY/GGO Group တို့ ကတိုင်ပင်သတ်မှတ်မည်။

သင်တန်းနေရာ

IPEM ဌာနချုပ်-

IQY Technical College အမှတ်၃၀၇(ခ)သူရ(၂)လမ်း၊ ငြိမ်းကွက်၊ တောင်ဥက္ကလာပမြို့ နယ်၊
ရန်ကုန်မြို့ ။

IPEMအဖွဲ့ ဝင်များ၌နွဲ့-

GGO Group Training အမှတ်၇၆(က)၄လွှာ၊ သြဘာလမ်း၊ သီတာလမ်းမှတ်တိုင်၊ ကျောက်မြောင်း
တာမွေမြို့ နယ်၊ ရန်ကုန်မြို့ ။

စုံစမ်းစာရင်းသွင်းရန်

Training Officer (Academic)-Dr Thwin Thu Lynn (IQY)- Ph-09785048872

Training Officer (Industrial Practice)- U Khin Nyo (GGO)-Ph- 095053934

Membership Officer- Daw Myat Thiri Htun-(GGO Training Group)

Ph (09) 953212652 / (09) 448000359/(09) 794297704/(09) 264038762

EC Member- U Myint Kyaw 095004627

AGTI

3 Years Attendance

ENG601- Engineering Studies

AGTI Certificate (60 Credits)

ENG602-Engineering Applications

Work Experience Curriculum Vitae (10 Credits)

ENG603-Engineering Practicals

Engineering Practice Report or Experience Portfolio (10 Credits)

BAE705 Engineering Competency Development

Other degree OR Appropriate Self Study Record

Continuing Professional Development

(10 Credits)

Degree Level Study -Engineering Mathematics+Materials+Mechanic Seminars (4 days)

BAE401 Engineering Mathematics

BAE402 Calculus

RE010 Engineering Materials

BAE403 Engineering Mechanics (10 Credits)

Degree Level Study -Engineering Management Seminars (2 days)

BAE508 Management

BAE605 Engineering Management (10 Credits)

Degree Level Study -Engineering Subjects Seminars (4 days)

3 or 4 subjects at BE Final Level (10 Credits)

Total 120 Credits

Degree Level Study -Engineering Subjects Seminars (4 days)

Electrical Power

BAE 501 Advanced Power Systems & Power Transmission Networks

BAE 506 Power System Stability & Protection

RE013-Electrical Machines

Electronics

RE014-Electronics Control

BAE 604 Telecommunication Engineering

BAE 601 Computer Programming

Or other subjects by discussing with trainer

Civil

BAE621 Structural Engineering

BAE421 Building Construction Engineering

BAE623 Surveying & Traffic Engineering

Or other subjects by discussing with trainer

Mechanical

BAE613 Mechanical Instrumentation Process

BAE311 Plant Engineering

BAE614 Machine Design

Or other subjects by discussing with trainer

ICT

ICT 403 Professional Programming

ICT 405 Professional Practice (1) Network

BAE408 Analog & Digital Electronics

Or other subjects by discussing with trainer

Contact

Secretary + Training Officer (Academic)-Dr Thwin Thu Lynn (IQY)- Ph-09785048872

2 Years Attendance

Enrol IQY Professional Diploma in Engineering
Final Stage

<http://www.iqytechnicalcollege.com/enrolment.htm>

THS/GTI-Equivalent /BE Bridging Program Enrolment

IQY Technical College

International Engineering

Professional Diploma in Structural Engineering/ MSc (Structure)

Course Code 67553/7776654)

Recognised by Singapore Institute of Engineering Technologists/ The Society of Professional Engineers (UK and International) St Clements University/ STC Technological University/

The Institution of Professional Engineers Myanmar, a Member of International Federation of Engineering Education Societies –IFEES-USA)

Total Training Fees

To be advised

Training Period – 6 Months

Main Office

No 704 Myitta Street, 12 Ward , South Okkalapa, Yangon

Phone – Australia 61-424533344

Myanmar 09795579609 , 09420208590, 09893974117

Email – iqytechnicalcollege@gmail.com

Subjects

CE113+CE114 Theory of Structure

BAE404 Engineering Materials& Strength of Materials

BAE 403 Engineering Mechanics

RE010-Engineering Materials

BAE621A Structural Engineering

BAE621SB Structural Engineering (Civil) (Part 2-Structural Analysis)

BAE424 Reinforced Concrete

How to apply?

Call us – **09795579609 , 09420208590, 09893974117**

IQY Technical College

International Engineering

Professional Diploma in Civil Engineering with Quantity Surveying

(67110A/Q)

Recognised by Singapore Institute of Engineering Technologists/ The Society of Professional Engineers (UK and International) St Clements University/ STC Technological University/

The Institution of Professional Engineers Myanmar, a Member of International Federation of Engineering Education Societies –IFEES-USA)

Total Training Fees

To be advised

Training Period – 6 Months

Main Office

No 704 Myitta Street, 12 Ward , South Okkalapa, Yangon

Phone – Australia 61-424533344

Myanmar 09795579609 , 09420208590, 09893974117

Email – iqytechnicalcollege@gmail.com

Subjects

BAE422 Estimating

CE115 Construction Estimating

ADEMC202-Engineering Practice

BAE644 Advanced Estimating

BAE 690 Mechanical Estimating

How to apply?

Call us – **09795579609 , 09420208590, 09893974117**

IQY Technical College

International Engineering

Professional Diploma in Engineering and Management/ Bachelor of Engineering Management (66213)

Recognised by Singapore Institute of Engineering Technologists/ The Society of Professional Engineers (UK and International) St Clements University/ STC Technological University/

The Institution of Professional Engineers Myanmar, a Member of International Federation of Engineering Education Societies –IFEES-USA)

<http://www.iqytechnicalcollege.com/ProfDipMechEnggMgtOutline.pdf>

Total Training Fees

To be advised

Training Period – 6 Months

Main Office

No 704 Myitta Street, 12 Ward , South Okkalapa, Yangon

Phone – Australia 61-424533344

Myanmar 09795579609 , 09420208590, 09893974117

Email – iqytechnicalcollege@gmail.com

Subjects

BAE421 Building Construction Engineering

BAE422 Estimating

BAE424 Reinforced Concrete

BAE522 Rock Mechanics

BAE621 Structural Engineering

BAE624 Water Supply , Sanitation & Finishin

Mgt 101 Management

Mgt 102 Performance Management

Mgt 103 Operation Management +Mgt 107 Industrial Risk Assessment

ICT 104 Mgt 104 Program Project +BAE 508 Project Management

Mgt 208 Safety Management

Mgt 209 Risk Management

The following study link is to be added

www.iqytechnicalcollege.com/safety.htm

How to apply?

Call us – **09795579609 , 09420208590, 09893974117**

IQY Technical College Masters Degree Programs

Myanmar Version _____ English Version List of EE/CE/ME/RE/ICT Subjects

IQY Technical College သည် STC Technological University/ St Clements University/ IPTEM Technological University များ၏ Masters Degree များကို Engineering, Information Technology, Management, Humanities, Education လေ့လာမှုများအတွက်လည်းသင်ပါသည်။

Masters Degree in Engineering ကိုအောက်ပါအစီအစဉ်၌ခွဲထားပါသည်။

1. Master of Engineering Practice
2. Master of Engineering Science
3. Master of Engineering

Master of Engineering Practice သည်အလုပ်အတွေ့ အကြုံရှိအင်ဂျင်နီယာများအတွက်ဖြစ်သည်။

IQY Year 4 Professional Diploma/BE ပြီးသူများအတွက်ဘွဲ့ ရအင်ဂျင်နီယာလေ့ကျင့်ရေး (Year 5/6

Graduate Engineer Training) တွင်ပါဝင်သောဘာသာများကိုလည်းထဲသွင်းထားသည်။

Electrical/Civil/Mechanical /Renewable Energy သာမကအခြားလိုင်းများအတွက်လည်းသင်သည်။

Course Work 8 Subjects (Graduate Diploma in Engineering Practice) + Project (BAE709) (For Master of Engineering Practice) ပြီးရန်လိုသည်။

Self study online program ဖြစ်ပြီး Assignment/ Project /Study Report/ Analysis/ Experience Presentation/ Design Works /Job Record Presentation စသည်တို့ ကိုအဓိကထားသည်။

Master of Engineering Practice ပြီးသူတို့သည် 5 Years Experience ရှိပါက The Society of Professional Engineers (UK and International) ၏ Member (MSPE-UK & International) နှင့်

Professional Engineer (UK and International) (PEng(UK and International)) လျှောက်နိုင်သည်။

Master of Engineering Practice is for experienced engineers . It will include the following subjects of 10 credits each

- BAE 701 Engineering Fundamental
- BAE 702 Engineering Management
- BAE 703 Leadership & Human Resources Management
- BAE 704 Risk Management & Industrial Safety

- BAE 705 Engineering Competency Development
- BAE 706 Engineering Report Writing
- BAE 707 Engineering Ethics
- BAE 708 Engineering Knowledge

Completion of the above subjects will earn Graduate Diploma in Engineering Practice (80 credits at Masters level +120 Credits for Bachelors degree level total 200 credits. Completion of two or more units can earn Graduate Certificate in Engineering.

The candidate will need to do BAE 709 Engineering Design Project of 40 credits to complete Master of Engineering Practice of 240 credits.

Master of Engineering Science/Master of Engineering

သည် ကျောင်းဆင်းစ BE များ၊အလုပ်အတွေ့ အကြုံမရှိသေးသောအင်ဂျင်နီယာများ အတွက် ဖြစ်သည်။ Electrical, Civil. Mechanical အတွက် 24 Subjects အခြားလိုင်းများအတွက်သင် ရိုးပါအတိုင်းပြီးစီးက Master of Engineering Science ရမည်။ထို့ နောက် Thesis (BAE709A) ပြီးစီးက Master of Engineering ရမည်။

Self study online program ဖြစ်ပြီးပျမ်းမျှတစ်လလျှင်တစ်ဘာသာနည်းဖြင့် 20 pages လေ့လာမှု၊ အစီရင်ခံစာကိုဘာသာတိုင်းအတွက်ရေးသားတင်ပြရမည်။

လေ့လာမှုအစီရင်ခံစာတွင်အောက်ပါတို့ ပါဝင်ရမည်။

- နေ့စွဲ၊လေ့လာသောအခန်းများ၊
- အဓိကအချက်များ၊အခြေခံသဘောတရား၊ဆက်စပ်မှုများ၊ညီမျှခြင်း၊ဖော်မြူလာ၊ပုံများ၊
- လက်တွေ့ သုံးခြင်းများ၊
- Powerpoint ပုံစံတင်ပြသောအနှစ်ချုပ်မှတ်စုများ။
- ကိုယ်ပိုင်ထင်မြင်ယူဆသုံးသပ်ချက်များ။

There are 24 units in Masters Program, the candidate will need to complete one unit per month so that the whole program will be completed within 24 months. (120 credits at Masters level and 120 Credits for Bachelors degree total 240 credits) to complete Master of Engineering Science, then submit the thesis to complete Master of Engineering.

Completion of the 12 subjects will earn Graduate Diploma in Engineering Practice (60 credits at Masters level +120 Credits for Bachelors degree level total 180 credits. Completion of two or more units can earn Graduate Certificate in Engineering.

ELECTRICAL

Part 1 Course Work

Any 24 subjects can be selected .

- (1) BAE 658-Real-time Systems
- (2) BAE 665-Fabrication Engineering at the Micro and Nanoscale
- (3) BAE 655-Wireless Communications.
- (3A) BAE 671-Satellite Communications and Navigation Systems
- (4) BAE 665-Embedded Digital Signal Processing Systems
- (5)BAE 657-Advanced Electromagnetics Applications
- (6)BAE 676-Failure Analysis
- (7)BAE 673-Frequency Stability
- (8) MEE11-High Speed A-D Converters
- (9) MEE2-Advanced Electric Power Engineering
- MEE9-Handbook of Power System Engineering-.pdf (11.57MB)
- (10)MEE12-Iterative Learning Control
- (11) BAE 664-Distributed Generation in Power System
- (12) BAE 675-Nanoelectronics
- (13) MEE1-Electric Distribution Systems
- (14) BAE 674-Intelligent Systems
- (15) MEE13-Non linear control

- (16) BAE 656-Advanced Digital Signal Processing and Noise Reduction**
- (17) BAE 677-Photovoltaic Systems**
- (18) BAE 660-Control Engineering**
- (19) BAE 659-Computer-aided Control Systems**
- (20) MEE7-EMI Filter Design**
- (21) BAE 661-Design of Electrical Services for Buildings**
- (22) BAE 670-Power System Engineering**
- (23) MEE10-High Performance Control of AC Drives**
- (24) BAE 667-Industrial Control System**
- (25) MEE14-System Engineering Concepts**
- (26) MEE6-Electronics+Power Electronics+Opto Electronics+Microwave+Radar**
- (27) BAE 666-Generating Electricity in a Carbon Constrained World**
- (28) BAE 669-Power Electronics and Instrumentation Engineering**
- (29) BAE 663-Advanced Digital Electronics**
- (30) MEE8-Flexible Power Transmission**
- (31) BAE 668-Photonics**
- (32) MEE3-Electric Power Transmission System Engineering**
- (33) BAE 672-Industrial& System Engineering**
- (34) MEE5-Electro Optics**
- (35) MEE4-Electricity Power Generation**
- (36) BAE 662-Design of Rotating Electrical Machines**

Part 2 Thesis

BAE709A Master of Engineering Thesis

CIVIL

Part 1 Course Work

All 24 subjects must be completed.

- (1) BAE 654-Theory & Design of Bridges
- (2)BAE 653-Surveying
- (3) BAE 652-Structural Analysis
- (4) BAE 649-Soil & Rock Mechanic
- (5)BAE 651-Strom & Waste Water
- (6) BAE 650-Steel Design.pdf
- (7) BAE 648-Railways Bridges
- (8)BAE 646 Highway Engineering
- (9) BAE 647-Piling Engineering
- (10) BAE 645-Geotechnics
- (11) BAE 642-Design of Reinforce Concrete
- (12) BAE 644-Estimating
- (13) BAE 643-Earthquake Resistant Structure
- (14) BAE 638-Construction Drawing
- (15)BAE 641-Construction Site Planning
- (16) BAE 640-Construction Mathematics.
- (17) BAE 639-Construction Materials
- (18) BAE 634-Building Construction
- (19) BAE 637-Composite Structure of Steel & Concrete
- (20) BAE 636-Building Technology Electrical Mechanical System
- (21) BAE 635-Building Survey
- (22) BAE 633-Bridge Construction
- (23) BAE 632-Architectural Design
- (24) BAE 631-Advanced Concrete Technology

Part 2 Thesis

BAE709A Master of Engineering Thesis

MECHANICAL

Part 1 Course Work

Any 24 subjects to be completed.

- (1) BAE 694-Control Engineering
- (2) BAE 682-Assembly Automation & Product Design
- (3) BAE 688-Manufacturing & Management.
- (4) BAE 692-Metallurgy
- (5) BAE 689A-Mechanical Design
- (6) BAE 686-Electro-Mechanical Manufacturing Process
- (7) BAE 683-Material engineering
- (8) BAE 693-Piping System
- (9) BAE 689B-Mechanical Design
- (10) BAE 625- Structural Engineering Mechanics
- (11) BAE 696-Specification Development
- (12) BAE 698-Thermal Engineering
- (13) BAE 699-Rotating Machinery Vibration
- (14) BAE 678A-Machine Design
- (15) BAE 684-Computerised Engine Control
- (16) BAE 678B-Machine Design
- (17) BAE 685-Electric Vehicle Technology
- (18) BAE 695-Random Vibration
- (19) BAE 691-Mechatronics
- (20) BAE 680-Quality Control
- (21) BAE 690-Mechanical Estimating
- (22) BAE 679- Materials Science
- (23) BAE 681- Welding Engineering.
- (24) BAE 679-Composite Materials & Joining Technology
- (25) BAE 687-Lasers in Manufacturing
- (26) BAE 697-Structural Foundation Design

Part 2 Thesis

BAE709A Master of Engineering Thesis

RENEWABLE ENERGY

Part 1 Course Work

The following 10 subjects to be completed.

Each 10 credits and total 100 credits to get Graduate Diploma

(1) RE511- Sustaining Earth Energy resources

(2) RE510- Water Conservation

(3) RE509- Applied Photovoltaics

(4) RE508- Solar Hydrogen Energy System

(5) RE507- Offshore Wind Turbines Part 1

RE507- Offshore Wind Turbines Part 2

(6) RE505- Green Building Design

(7) RE504- Engineering Solution for Sustainability

(8) RE503- Energy Management in Industrial and Commercial Facilities

(9) RE502- Biomass Gasification

(10) RE 501-Control of Solar Energy System

INFORMATION TECHNOLOGY

Part 1 Course Work

The following 8 subjects to be completed

Each 10 credits, total 80 credits to complete Graduate Diploma

(1) Programming (ICT 601)

(2) E-Commerce (ICT 602)

(3) Multimedia Systems (ICT 604)

(4) Database Systems (ICT 502)

(5) Applied Computing I (ICT 505)

(6) Applied Computing (ICT 506)

(7) Software Engineering (ICT 603).zip (90.71MB)

The following two Electrical (Computer) subjects must be completed

Each 5 credits. Two combined units 10 credits

(8) BAE658 Real Time Systems + BAE 674 Intelligent Systems

BAE 658-Real-time Systems

BAE 674-Intelligent Systems

Part 2 Thesis

BAE709B Master of Applied Science (Information Technology) Thesis

ENGLISH VERSION

(1) Master of Engineering Practice (240 credits, 120 credits for BE degree)

Master of Engineering Practice is for experienced engineers . It will include the following subjects of 10 credits each

- BAE 701 Engineering Fundamental
- BAE 702 Engineering Management
- BAE 703 Leadership & Human Resources Management
- BAE 704 Risk Management & Industrial Safety
- BAE 705 Engineering Competency Development
- BAE 706 Engineering Report Writing
- BAE 707 Engineering Ethics
- BAE 708 Engineering Knowledge

Completion of the above subjects will earn Graduate Diploma in Engineering Practice (80 credits at Masters level +120 Credits for Bachelors degree level total 200 credits. Completion of two or more units can earn Graduate Certificate in Engineering.

The candidate will need to do Engineering Design Project of 40 credits to complete Master of Engineering Practice of 240 credits

(2) Master of Engineering (240 credits, 120 credits for BE degree)

Masters of Engineering program is for recent graduates who have completed their BE degrees.

It will include the following 24 subjects of 5 credits each

The students will have to write 20 pages study progress report for each of the subjects outlined below.

The report needs to include

- Date and chapters that the candidate reads (The student will need to read the book
- at least 4 days per week)

- Highlight the key concepts, key formula, key theory & practical application concepts .
- Notes of the topic that you read.
- Key diagrams, formula, problem solutions
- Powerpoint slides to express the key topics

There are 24 units in Masters Program, the candidate will need to complete one unit per month so that the whole program will be completed within 24 months. (120 credits at Masters level and 120 Credits for Bachelors degree total 240 credits) to complete Master of Engineering Science, then submit the thesis to complete Master of Engineering.

Completion of the 12 subjects will earn Graduate Diploma in Engineering Practice (60 credits at Masters level +120 Credits for Bachelors degree level total 180 credits. Completion of two or more units can earn Graduate Certificate in Engineering.

LIST OF SUBJECTS

Please see above

Diploma in Doctorate Studies (DDS)

IQY Diploma in Doctorate Studies is an academic award consisting of Research Studies and Writing Thesis Dissertation at 360 Credit points in which 240 Credit points are allocated for Masters Degree level academic qualifications and / or comparable professional experiences.

The candidates who have completed MAE 601 Research Method (30 Points) and their thesis proposal are accepted will be awarded IQY Master Diploma in Research Studies (270 Credit Points).

The candidates who have completed MAE602 Thesis (30 Points) but have not submitted it to St Clements University will be awarded IQY Diploma in Doctorate Studies (300 Credit Points)

Only St Clements University will confer the Doctoral Degree while IQY Technical College will provide the facilitation and successful candidates will be issued with BAE801 Thesis Dissertation Assessment and Defence (60 Points) when the success is notified by St Clements University. In the case of failure to meet the quality of dissertation, St Clements University's Diploma in Doctorate Studies or other relevant award can be issued and Doctorate degree award fees will not be charged.

IQY Technical College will issue Letter of Congratulation for having been successful in PhD.

Doctoral Research Studies

IQY Master Diploma in Research Studies

<http://www.highlightcomputer.com/iQYDDS.pdf>

Dissertation for Doctorate

MAE 601 Research Method (30 Points)

MAE602 Thesis (30 Points)

[http://www.filefactory.com/file/111r1k0ftawt/n/11.Research+Thesis_\(ICT_605\).zip](http://www.filefactory.com/file/111r1k0ftawt/n/11.Research+Thesis_(ICT_605).zip)

BAE801 Thesis Dissertation Assessment and Defence (60 Points)

MAE601 Research Method

This course guides the student, step by step, through the research process, from problem selection through writing up results. It provides all of the basics necessary to complete a research project in any discipline.

Outline. The following aspects are reflected in this course:

What is research?

Tools of research

The problem: the heart of the research process

Review of the related literature

Planning your research design

Writing the research proposal

Qualitative research

Historical research

Descriptive research

Experimental and causal - comparative designs

Statistical techniques for analyzing quantitative data

Technical details: style, format, and organization of the research report

Doctoral Research Proposal

Synopsis: Research students are expected to present a written research proposal within three months after commencement. The proposal is handed in to the study leader.

Assessors of this proposal are selected by the faculty for their understanding of the field and the research involved. The purpose of a research is to set out a plan for conducting the research and writing the dissertation within the available time. It should take account of the availability and guidance of the study leader.

The starting point for a research proposal is the topic, which is the field of interest in which the research is to be carried out. In introducing the topic, the proposal should clarify the field that it falls into and the specific part that field which the research will explore.

It should clarify why the topic is of interest and importance, and how the proposed research will contribute to the field of knowledge or profession. The proposal should clarify the research questions, ensuring that these are specific and answerable.

It is important to show how these questions relate to the topic are, and how they will advance the student's contribution. The proposal should detail the research to be carried out, and clarify the research methods, the timeframe and the reasons for selecting particular methods.

Where a period of literature review or research should precede any empirical research, this should be factored in as part of the research. It is important to estimate any periods of field research and to flag their duration and cost in your research proposal.

MAE 602 Thesis

Thesis Dissertation for Doctorate

Candidates need to complete a 60000-words dissertation (in Myanmar or English) and a 3000-words executive portfolio (in English).

This program requires the candidates to complete a thesis as part of the assessment for the Doctorate

Doing a thesis / dissertation means that instead of knowledge and information being presented and following a prescribed route for answering questions, candidates are thrust into an active role of managing an investigation into a topic area. This means researching and

discovering things for themselves.

They will have to set their own targets and parameters, pose their own central research questions and decide on the appropriate sources of information to support the research. It therefore requires the use of the higher-level cognitive skills of analysis, synthesis and evaluation. Candidates may choose an area of particular interest to them within the scope of course title.

BAE801 Thesis Dissertation Assessment and Defence (60 Points)

Doctoral dissertation

A dissertation is an individual effort and the candidate, academic tutor and the course professor will work together on constructing an approved topic (research question) and methodologies.

Dissertation Defence for doctorate

It is expected of Doctoral candidates to defend their thesis by means of a colloquium (academic discussion). The purpose of the meeting is for the candidates to convince a panel of experts in the field of the dissertation how well they have done in the conducting of their research study and the preparation of their dissertation

Candidates need to complete all course assessments with the results of Grade B+ or above.

IQY-GGO Group Practical Training Advertisement

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BAE423 Fluid Mechanics .pptx (24.81MB)

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BAE 423 Fluid Mechanics Audio.zip (24.24MB)

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BAE621 Structural Engineering (Foundation).pptx (82.91MB)

[http://www.filefactory.com/file/14lsnnqutskn/n/BAE621_Structural_Engineering_\(Foundation\).pptx](http://www.filefactory.com/file/14lsnnqutskn/n/BAE621_Structural_Engineering_(Foundation).pptx)

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BAE621 Structural Engineering (Foundation)Audio.zip (69.13MB)

[http://www.filefactory.com/file/5y67bvrjz4ox/n/BAE621_Structural_Engineering_\(Foundation\)Audio.zip](http://www.filefactory.com/file/5y67bvrjz4ox/n/BAE621_Structural_Engineering_(Foundation)Audio.zip)

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Bachelor of Engineering (Mechanical)/ Graduate Diploma in Engineering Practice (Mechanical) E-Learning Lectures

BAE315 Materials Engineering .pptx (17.04MB)

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BAE613 Mechanical Instrumentation Process (1).pptx (33.72MB)

[http://www.filefactory.com/file/6rchz8pu768f/n/BAE613_Mechanical_Instrumentation_Process_\(1\).ppt](http://www.filefactory.com/file/6rchz8pu768f/n/BAE613_Mechanical_Instrumentation_Process_(1).ppt)

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BAE315 Materials Engineering Audio.zip (89.85MB)

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BAE613 Mechanical Instrumentation Process (1)Audio.zip (33.04MB)

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BAE511 Air-conditioning & Refrigeration-Heat Transfer .pptx (22.46MB)

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BAE621 Structural Engineering (Foundation).pptx (82.91MB)

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BAE621 Structural Engineering (Foundation)Audio.zip (69.13MB)

[http://www.filefactory.com/file/5y67bvrjz4ox/n/BAE621_Structural_Engineering_\(Foundation\)Audio.zip](http://www.filefactory.com/file/5y67bvrjz4ox/n/BAE621_Structural_Engineering_(Foundation)Audio.zip)

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BAE512 Building Service Water+Fluid Supply System .pdf (0.31MB)

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BAE511 Heat Transfer Audio.zip (64.18MB)

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BAE614 Machine Design .pptx (41.64MB)

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BAE311 Plant Engineering +Vibration Control Audio.zip (114.22MB)

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BAE314 Mechanical Power Generation (Machine Control) Audio.zip (73.81MB)

[http://www.filefactory.com/file/11ybspy3xdml/n/BAE314_Mechanical_Power_Generation_\(Machine_Control\)_Audio.zip](http://www.filefactory.com/file/11ybspy3xdml/n/BAE314_Mechanical_Power_Generation_(Machine_Control)_Audio.zip)

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BAE314 Mechanical Power Generation (Machine Control).ppt (2.07MB)

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MASTER OF SCIENCE (RENEWABLE ENERGY) LEARNING SUPPORT WEBSITE

Part (1) Preliminary Course

ENERGY101A FOUNDATION STUDIES IN RENEWABLE ENERGY AND SUSTAINABILITY

Course Outline

In this subject you will learn about the areas of renewable energy technologies and sustainability. You will develop foundation knowledge relating to:

- Defining sustainability and renewable energy
- Non-technical issues in sustainability and renewable energy
- Energy basics efficiency and calculations
- Solar energy systems
- Wind energy systems
- Hydro energy systems
- Biomass energy systems
- Ocean energy systems
- Principles of sustainable living
- Moving to a sustainable economy.

Prescribed Texts:

Mackay, D.J.C. 2008, *Sustainable Energy without the Hot Air*, UIT, Cambridge, England

Study Guide

WEEK NO:	TOPICS AND ACTIVITIES
Orientation Week	Orientation activities Review of syllabus and assessment activities.
Week 1	<ul style="list-style-type: none"> • Introduction to the Subject. • The cause of Climate Change. • Global and Australian Figures. • Climate Change - The Impacts and the imperative for change. Reading List: <ul style="list-style-type: none"> • <i>Sustainable Energy Without the Hot air</i>, pp. 5-18 • <i>ZCA Stationary Energy Plan</i>, pp. 2-3
Week 2	<ul style="list-style-type: none"> • Energy use in Australia. • Energy conversion and efficiency. • Primary, Secondary and End Use energy. Reading List: <ul style="list-style-type: none"> • Dept. of Energy Resources and Tourism, <i>Energy in Australia 2012</i>, pp. 15-28
Week 3	<ul style="list-style-type: none"> • Coal, Oil, Gas and Nuclear Energy Systems. Reading List: <ul style="list-style-type: none"> • Course notes
Week 4	<ul style="list-style-type: none"> • Solar Energy Systems – The Solar Resource – Photovoltaics. Reading List: <ul style="list-style-type: none"> • <i>Sustainable Energy Without the Hot air</i>, pp. 38-49
Week 5	Field Trip <ul style="list-style-type: none"> • Solar Energy Systems - Solar Hot Water, Solar Air conditioning and Solar Thermal Electricity. Reading List: <ul style="list-style-type: none"> • <i>Sustainable Energy Without the Hot air</i>, pp. 38-49 • <i>ZCA Solar Thermal Power Basics and Solar Thermal Power fact sheets</i>
Week 6	<ul style="list-style-type: none"> • Wind Energy Systems – size of the resource, principles of operation, World and Australian wind energy. Reading List: <ul style="list-style-type: none"> • <i>Sustainable Energy Without the Hot air</i>, pp. 32-34, 186-189 • <i>Clean Energy Council Fact sheet on Wind Energy</i> Assessment 1 due: Individual written report - 10%
Week 7	
Week 8	<ul style="list-style-type: none"> • Hydro Energy Systems – size of the resource, principles of operation, World and Australian Hydro energy. Reading List:

WEEK NO:	TOPICS AND ACTIVITIES
	<ul style="list-style-type: none"> • <i>Sustainable Energy Without the Hot air</i>, pp. 55-56 and pp. 190-194 • <i>Clean Energy Council Fact sheet on Hydro Electricity</i> <p>Assessment 2 due: Written report on field trip - 5%</p>
Week 9	<ul style="list-style-type: none"> • Biomass • Geothermal <p>Reading List</p> <ul style="list-style-type: none"> • <i>Clean Energy Council Fact sheet on Geothermal Energy</i> • <i>Clean Energy Council Fact sheet on Bio Energy</i> • <i>Sustainable Energy Without the Hot air</i>, pp. 96-99
Week 10	<ul style="list-style-type: none"> • Ocean Energy – Wave and tidal <p>Reading List:</p> <ul style="list-style-type: none"> • <i>Sustainable Energy Without the Hot air</i>, pp. 73-75; pp. 81-87; pp. 307-321 • <i>Clean Energy Council Fact sheet on Marine Energy</i>
Week 11	<ul style="list-style-type: none"> • The imperative for Sustainability • Moving to Renewable Energy <p>Reading List:</p> <ul style="list-style-type: none"> • <i>Less is More</i>, pp. 205-235
Week 12	<ul style="list-style-type: none"> • Sustainable Building Design • Sustainable Food and Farming <p>Reading List:</p> <ul style="list-style-type: none"> • <i>Sustainable Energy Without the Hot air</i>, pp. 76-80 • www.yourhome.gov.au <i>Technical Manual</i>, pp. 69-127
Week 13	<ul style="list-style-type: none"> • Sustainable Transport • Sustainable Mining and Manufacturing <p>Reading List:</p> <ul style="list-style-type: none"> • <i>Sustainable Energy Without the Hot air</i>, pp. 29-31; 35-37; 118-139; 88-95 and 322-326 • <i>ZCA Stationary Energy Plan</i>, pp. 16-19 <p>Assessment 3 due: Collaborative written report – 30%</p> <p>Assessment 4: Presentation based on collaborative written report – 10%</p>
Week 14	Study Week
Week 15	<p>Examination Week B:</p> <p>Assessment 5: Written examination - 45%</p>

Lesson Power Points

<http://www.filefactory.com/file/29b5cjd28f4p/RE001%2BENERGY%20101A.pdf>

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Textbook

Prescribed Texts:

Mackay, D.J.C. 2008, *Sustainable Energy without the Hot Air*, UIT, Cambridge, England

http://www.filefactory.com/file/1ptdekissa69/Sustainable_energy_without_hot_air_pdf

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Tutorial Exercises

Further Readings

[K131](#)

http://www.filefactory.com/file/7hvv22gtz2lx/n/K131_zip

http://www.filefactory.com/file/1mr75xfm92ux/n/K032_zip

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AEEGY 101A Grid Connected Photovoltaics Power System

Course

Outline

In this subject you will learn the basics about photovoltaics and grid design. You will develop knowledge and applied skills relating to:

- Solar geometry
- Solar radiation terms and measurements
- Photovoltaic cell and module characteristics
- Manufacture of photovoltaic modules
- Photovoltaic array design and characteristics
- Effects of tilt, orientation, temperature and shading
- Workplace health and safety standards, Australian and industry standards
- Inverter principles and requirements for grid-connected inverters in Australia
- Inverter and Array matching
- Wiring, Protection and Earthing
- Metering and Tariff arrangements
- Installation and Commissioning
- Maintenance.

Study Guide

Lesson Power Points

<http://www.filefactory.com/file/5u2urjc3d0hx/AEEGY101A%20Grid%20Connected%20Inverter-RE001%20Part%201.pdf>

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Textbook

Prescribed Texts:

Stapleton G & Neill S 2012, *Grid-Connected Solar Electric Systems*, Earthscan, Abingdon, Oxon

http://www.filefactory.com/file/14nwysld3g7t/Grid_Connected_Electrical_System_Textbook_pdf

http://www.filefactory.com/file/4lmp1tse2xmp1/Applied_Photovoltaics_pdf

http://www.filefactory.com/file/55cxpfou1kwt/Control_of_Power_Inverters_in_Renewable_Energy_and_Smart_Grid_Integration_pdf

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Tutorial Exercises

http://www.filefactory.com/file/59rpcqog18ux/n/K035_Answer_sheet_doc

http://www.filefactory.com/file/6uye10nst3ad/n/K035_Test_pdf

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Further Readings

K035Inverter K035PV_Inverter

Stage 4 Part 17.zip

http://www.filefactory.com/file/c0cc76b/n/Stage_4_Part_17.zip

K035_Tutorials.zip

Stage 4 Part 16.zip

http://www.filefactory.com/file/c0cc703/n/Stage_4_Part_16.zip

Renewable Energy-K025+K035.zip

http://www.filefactory.com/file/c0b7c5e/n/Renewable_Energy-K025_K035.zip

Video Lessons

[K035 Lesson 1-Inverter principle.zip](#)

http://www.filefactory.com/file/c0b6a01/n/K035_Lesson_1-Inverter_principle.zip

[K035 Lesson 2-Modified sine wave inverter.zip](#)

http://www.filefactory.com/file/c0b6a26/n/K035_Lesson_2-Modified_sine_wave_inverter.zip

[K035 Lesson 3-Pulse width modulation.zip](#)

http://www.filefactory.com/file/c0b6a33/n/K035_Lesson_3-Pulse_width_modulation.zip

[K035 Lesson 4-PV Inverter.zip](#)

http://www.filefactory.com/file/c0b6a6c/n/K035_Lesson_4-PV_Inverter.zip

[K035 Lesson-5 MOSFET Driver.zip](#)

http://www.filefactory.com/file/c0b5978/n/K035_Lesson-5_MOSFET_Driver.zip

[K035 Lesson-6 PWM Inverter.zip](#)

http://www.filefactory.com/file/c0b6ac2/n/K035_Lesson-6_PWM_Inverter.zip

[K035 Lesson-7 Grid Connected Inverter.zip](#)

http://www.filefactory.com/file/c108253/n/K035_Lesson-7_Grid_Connected_Inverter.zip

[K035 Lesson-8 Inverter Power Flow Model.zip](#)

http://www.filefactory.com/file/c0b6aff/n/K035_Lesson-8_Inverter_Power_Flow_Model.zip

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K025 Resources

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Protection_1

Protection_2

PV_System_installation_Overview_-_PV_Power_Systems

PVSoftware

Regulatory_Requirement

SPS_Components

[Stage 2 Part 2A.zip](#)

http://www.filefactory.com/file/c0cca4a/n/Stage_2_Part_2A.zip

Electrical_safe_working

Electrical_trade_review_questions_and_answers

ELV_Accessories_-_SPS_Components

ELV_Cable_termination

[Stage 3 Part 1B.zip](#)

http://www.filefactory.com/file/c0ccc42/n/Stage_3_Part_1B.zip

Cable_CktProt_E_Accessories

Cable_Conduit_E_Accessories

AEEGY 102A Solar and Thermal Energy Systems

Course Outline

In this subject you will learn about solar and thermal energy systems. You will develop specialised knowledge and applied skills relating to:

- Solar energy utilisation - introduction and overview
- Heating load calculations
- Thermal environment – solar radiation, shading and energy conservation
- Solar collectors
- Collector requirements for some specific applications
- Thermal energy storage
- Solar cooling
- Mechanical Power generation
- Sizing of heating, cooling and mechanical power generation components
- Ancillary equipment
- Equipment specification and installation
- Performance analysis.

Study Guide

Lesson Power Points

Part 1

<http://www.filefactory.com/file/c9acnzqhs13/AEEGY102A%2BRE003%20Part%202-ME108.pdf>

Part 2

http://www.filefactory.com/file/2i3h1v6qqkuv/AEEGY102A%2BRE003%20Part%203-Fact_sheet_-_Geothermal_Energy.pdf

Part 3

<http://www.filefactory.com/file/57k90jem46f/AEEGY102A-Solar%20%26amp%3B%20Thermal%20Energy%20System-RE003%20Part%201.pdf>

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Textbook

Prescribed Texts

The German Solar Energy Society, 2009 *Planning and Installing Solar Thermal Systems*, Earthscan (UK) All Chapters

http://www.filefactory.com/file/39q0d0rb9t7h/185936187-Planning-and-Installing-Solar-Thermal-Systems_pdf

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Further Readings

K025_Note_1

K025_Note_2

Stage 2 Part 4.zip

http://www.filefactory.com/file/c0ccb53/n/Stage_2_Part_4.zip

K025 Resources

ELV_Accessories_-_SPS_Components

ELV_Cable_termination

Stage 2 Part 2A.zip

http://www.filefactory.com/file/c0cca4a/n/Stage_2_Part_2A.zip

PV_System_installation_Overview_-_PV_Power_Systems

SPS_Components

PVSoftware

Stage 2 Part 5.zip

http://www.filefactory.com/file/c0cc187/n/Stage_2_Part_5.zip

System_Installation_Examples_-_NUER02_version

Stage 2 Part 6.zip

http://www.filefactory.com/file/c0cccc0/n/Stage_2_Part_6.zip

[Renewable Energy-K025+K035.zip](#)

http://www.filefactory.com/file/c0b7c5e/n/Renewable_Energy-K025_K035.zip

Lesson 1 Lesson 2 Lesson 3 Lesson 4 Lesson 5 Lesson 6

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Online Practicals

Practicals Work performance and practical instruction

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AEEGY 201A Energy Storage System

Course Outline

In this subject you will learn about energy storage systems. You will develop specialised knowledge and skills relating to:

- The need for and benefits of energy storage technologies
 - Current energy storage technologies and their application
 - Environmental impacts and benefits of energy storage systems
 - Designing an energy storage system for specific engineering applications
 - Costing and payback of energy storage systems
 - Designing and building a small scale energy storage system.
-

Study Guide

Lesson Power Points

Part 1

<http://www.filefactory.com/file/68whdsdbwtfh/AEEGY201A-RE004%20Part%201.pdf>

Part 2

<http://www.filefactory.com/file/gh1dls7edlp/AEEGY201A-RE004%20Part%202.pdf>

Part 3

<http://www.filefactory.com/file/48jt93opz4b5/AEEGY201A-RE004%20Part%203.pdf>

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Textbook

Prescribed Texts:

Brunet, Y, 2010, *Energy Storage*, John Wiley & Sons UK.

<http://www.filefactory.com/file/56ymtb4pptz1/Energy%20Storage.pdf>

Other Related book

http://www.filefactory.com/file/2wpc2idmobv9/Energy_Stroage_pdf

http://www.filefactory.com/file/3poecuxu7yxb/energy-in-australia-2012_pdf

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Tutorial Exercises

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Online Practicals

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AEEGY202A Renewable Energy Resources Analysis

Course Outline

In this subject you will learn about renewable energy resource analysis. You will develop specialised knowledge and skills relating to:

- National and international trends in renewable energy resource analysis
- Energy history
- Australian Renewable Energy reserves
- Energy and power conversion
- Behavioural trends and misconceptions
- Power Cycles
- Oil, coal and natural gas
- Solar photovoltaics
- Solar thermal
- Wind Energy
- Hydro-power
- Bio-mass
- Geo-thermal
- Ocean energy
- Hydrogen Economy
- Limitations in existing infrastructure.

Study Guide

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Part 1

<http://www.filefactory.com/file/2248bo0gcbor/AEEGY202A%2BRE005%20Part%201.pdf>

Part 2

<http://www.filefactory.com/file/5us491ooh1cl/AEEGY202A%2BRE005%20Part%201.pdf>

Part 3

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Part 4

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Part 5

<http://www.filefactory.com/file/47m4fhje9k73/AEEGY202A%2BRE005%20Part%203.pdf>

Part 6

<http://www.filefactory.com/file/5mfsxsln72ll/AEEGY202A%2BRE005%20Part%203.pdf>

Part 7

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Part 8

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Part 9

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Part 12

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Part 13

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Part 14

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Part 15

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Part 16

<http://www.filefactory.com/file/33va2juvew5b/AEEGY202A%2BRE005%20Part%207.pdf>

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Textbook

Prescribed Text:

Boyle, G 2004, *Renewable Energy: Power for a sustainable future* 2nd or latest edition Oxford University Press

<http://www.filefactory.com/file/11jwo86pxn0j/Renewable%20Energy-Power%20for%20sustainable%20Future.pdf>

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Tutorial Exercises

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Further Readings

[K131](#) + EE 308

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Additional 3.zip

http://www.filefactory.com/file/c0cb6a8/n/Additional_3.zip

Additional 1.zip

http://www.filefactory.com/file/c0cc0f7/n/Additional_1.zip

http://www.filefactory.com/file/1mr75xfm92ux/n/K032_zip

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Online Practicals

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AEEGY 203A Wind Energy Conversion System

Course Outline

In this subject you will learn about wind energy conversion systems. You will develop specialised knowledge and skills relating to:

- Introduction to wind as a natural resource
- Energy, power and wind
- Wind characteristics
- Data acquisition methods
- Site characteristics
- Correlation, wind and site
- Predicting energy output
- Turbines, types and construction
- Wind Energy Conversion Systems (WECS) sizing
- Retrospective performance.

Study Guide

Lesson Power Points

<http://www.filefactory.com/file/3hyoby6eqe3p/AEEGY%20203A%20%20Wind%20Energy-RE006.pdf>

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Textbook

Prescribed Texts:

Boyle, G, 2004, *Renewable Energy: Power for a sustainable future*. 2nd edition, Oxford University Press

<http://www.filefactory.com/file/11jwo86pxn0j/Renewable%20Energy-Power%20for%20sustainable%20Future.pdf>

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Tutorial Exercises

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Further Readings

ME 202 Introduction to Aero Dynamics

http://www.filefactory.com/file/401s96o982uf/n/ME_202_Introduction_to_Aero_Dynamics_.pdf

ME 234 Wind Turbines

http://www.filefactory.com/file/30w0u2u36a19/n/ME_234_wind-turbines_.pdf

[Aerodynamics Part 1](#)

http://www.filefactory.com/file/7axzc9j37g91/n/ME202_Part_1_zip

[Aerodynamics Part 2](#)

http://www.filefactory.com/file/2tlei8t6e4xn/n/ME202_Part_2_zip

[Aerodynamics Part 3](#)

http://www.filefactory.com/file/6mt5m5wi6dfn/n/ME202_Part_3_zip

[Wind Turbine Part 1](#)

http://www.filefactory.com/file/1f2dio8ik4zd/n/ME_234_Part_1_zip

[Wind Turbine Part 2](#)

http://www.filefactory.com/file/olr2lwjdpc5/n/ME_234_Part_2_zip

[Wind Turbine Part 3](#)

http://www.filefactory.com/file/117k3a3shh4f/n/ME_234_Part_3_zip

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[Online Practicals](#)

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AEEGY 204 A Energy Efficiency

[Course Outline](#)

In this subject you will learn about the efficiency of energy systems. You will develop specific knowledge and skills relating to:

- Energy conversion efficiencies of conventional and renewable energy systems
- Energy auditing
- Economic and environmental benefits of energy efficiency
- Energy efficiency of various energy loads
- Cogeneration (CHP)
- Pros and cons of distributed generation in terms of energy efficiency
- Ways to improve energy efficiency at the generation point and in the distribution system
- Ways to improve energy efficiency at the load points.

Study Guide

Lesson Power Points

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Textbook

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Tutorial Exercises

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Further Readings

1	Building Design+Material Science-K041+E047.zip http://www.filefactory.com/file/c0b645d/n/Building_Design_Material_Science-K041_E047.zip
2	Stage 3 Part 7.zip http://www.filefactory.com/file/c0ccfc7/n/Stage_3_Part_7.zip HazardLightingPanel K041 Building Design 1 K041 Building Design 2 K041Airconditioning K041Energy Management Textbook Stage 3 Part 3.zip http://www.filefactory.com/file/c0ccd44/n/Stage_3_Part_3.zip E047 Mech
3	As 1

4	As 2
5	<p><u>Renewable Energy+ Energy Efficiency</u></p> <p><u>K041 Lesson 1-Solar Design.zip</u></p> <p>http://www.filefactory.com/file/c0b6a9f/n/K041_Lesson_1-Solar_Design.zip</p> <p><u>K041 Lesson 2-Basic psychrometric chart.zip</u></p> <p>http://www.filefactory.com/file/c0b6bc9/n/K041_Lesson_2-Basic_psychrometric_chart.zip</p> <p><u>K041 Lesson 3-Total heat resistance.zip</u></p> <p>http://www.filefactory.com/file/c0b6b18/n/K041_Lesson_3-Total_heat_resistance.zip</p> <p><u>K041 Lesson 4-U value Heat conductance calculation.zip</u></p> <p>http://www.filefactory.com/file/c0b6b57/n/K041_Lesson_4-U_value_Heat_conductance_calculation.zip</p> <p><u>K041 Lesson 5-Glazing+Net Heat gain heat loss.zip</u></p> <p>http://www.filefactory.com/file/c0b6cc2/n/K041_Lesson_5-Glazing_Net_Heat_gain_heat_loss.zip</p> <p><u>K041 Lesson 6-Shading.zip</u></p> <p>http://www.filefactory.com/file/c0b6cd7/n/K041_Lesson_6-Shading.zip</p> <p><u>K041 Lesson 7-Insulation+ Thermal mass.zip</u></p> <p>http://www.filefactory.com/file/c0b6c06/n/K041_Lesson_7-Insulation_Thermal_mass.zip</p>

[K041 Lesson 8-Thermal mass insulation.zip](#)

http://www.filefactory.com/file/c0b6c30/n/K041_Lesson_8-Thermal_mass_insulation.zip

[K041 Lesson 9-Airconditioning load calculation.zip](#)

http://www.filefactory.com/file/c0b6dc8/n/K041_Lesson_9-Airconditioning_load_calculation.zip

[K041 Lesson 10-Heat gain per day.zip](#)

http://www.filefactory.com/file/c0b6dfe/n/K041_Lesson_10-Heat_gain_per_day.zip

[K041 Lesson 11-Ventilation.zip](#)

http://www.filefactory.com/file/c0b6d13/n/K041_Lesson_11-Ventilation.zip

[K041 Lesson 12-Building heating load](#)

http://www.filefactory.com/file/c0b6d47/n/K041_Lesson_12-Building_heating_load_calculation.zip

[K041 Lesson 14-Design for Australian climate.zip](#)

http://www.filefactory.com/file/c0b6d76/n/K041_Lesson_14-Design_for_Australian_climate.zip

[K041 Lesson 15-Domestic solar hot water system.zip](#)

http://www.filefactory.com/file/c0b6eaf/n/K041_Lesson_15-Domestic_solar_hot_water_system.zip

[K041 Lesson 16-Energy efficiency+Lighting.zip](#)

http://www.filefactory.com/file/c0b6e0f/n/K041_Lesson_16-Energy_efficiency_Lighting.zip

[K041 Lesson 17-Illumination+Smoke alarm.zip](#)

http://www.filefactory.com/file/c0b6fc5/n/K041_Lesson_17-Illumination_Smoke_alarm.zip

[K041 Lesson 18-Water supply.zip](#)

http://www.filefactory.com/file/c0b61ec/n/K041_Lesson_18-Water_supply.zip

[K041 Lesson 19-Ventilation+Lighting control.zip](#)

http://www.filefactory.com/file/c0b6058/n/K041_Lesson_19-Ventilation+Lighting_control.zip

[K041 Lesson 20-Electrical system design.zip](#)

http://www.filefactory.com/file/c0b6085/n/K041_Lesson_20-Electrical_system_design.zip

[K041 Lesson 21-Building materials.zip](#)

http://www.filefactory.com/file/c0b61b8/n/K041_Lesson_21-Building_materials.zip

6 Click [HERE](#) to download other Exercises

7 **EE07 & EE011 units mapping for Theory study & Exercises**

	UEENEEK041B_E047B_Tutorials Energy_survey_assignment in Stage 3 Part 8.zip http://www.filefactory.com/file/c0ccf09/n/Stage_3_Part_8.zip
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf
9	E07 & EE011 units mapping for Theory study & Exercises Assignment + Project work
10	K041 Text book http://www.filefactory.com/file/61dmv976e7tl/n/K041Textbook1_zip http://www.filefactory.com/file/4lsx0pk00guj/n/K041Textbook2_zip http://www.filefactory.com/file/2kwcxkrnasyf/n/K041Textbook3_zip

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Online Practicals

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Part (2) Qualified (1) Course

ENMAT 101A Engineering Materials & Processes

Course Outline

In this subject you will learn about the structure, properties and usage of a variety of materials used in engineering applications. You will develop specialised knowledge relating to:

- Material structure and properties
- Mechanical properties
- Metals - ferrous and non-ferrous
- Polymers
- Ceramics
- Composites, concrete, other
- Basic destructive testing
- Steel – FeC (Iron/Carbon), heat treatment
- Casting - perm/non-perm
- Forming - hot, cold
- Processes - PowderM, welding, Rapid Proto
- Polymer processes - IM, BM, extrus, thermoset, composites
- Joining - fasteners, weld, non-fusion
- Corrosion
- Surface treatments - plating, coatings, peening, anodising
- Non-destructive testing
- Quality assurance and control, certified testing, safety, materials safety data sheets (MSDS)
- Economic and environmental issues - production/recycling.

Study Guide

WEEK	LECTURES / EXAMINATIONS	LABORATORY	QUIZ
Orientation Week	Orientation activities Review of syllabus and assessment activities. Laboratory orientation. Academic Foundations: Note taking; study skills; introduction to conducting research.		
Week 1	Lecture (2 hrs): Readings: Ch 1: Engineering materials; Ch 2: Properties of materials.	Laboratory 1 (2 hrs): Hardness test	
Week 2	Lecture (2 hrs): Readings: Ch 3: Mechanical testing; Ch 4: The crystal structure of metals.	Laboratory 2 (2 hrs): Tensile Test	
Week 3	Lecture (2 hrs): Readings: Ch 5: Casting process; Ch 6: Mechanical deformation of metals; Ch 7: The mechanical shaping of metals.	Laboratory 3 (2 hrs): Metal Casting	10101
Week 4	Lecture (2 hrs): Readings: Ch 8: Alloys; Ch 9: Equilibrium diagrams; Ch 10: Practical microscopy	Laboratory 4 (2 hrs): Microscopy, Weld samples	10102
Week 5	Lecture (2hrs): Readings: Ch 11: Iron and steel; Ch 12: The heat-treatment of plain-carbon steels	Laboratory 5 (2 hrs): Torsion, Bending Tests	10103
Week 6	Lecture (2hrs): Readings: Ch 13: Alloy steels; Ch 14: The surface hardening of steels; Ch 15: Cast iron.	Laboratory 6 (2 hrs): Heat Treatment	
Week 7	Examination Week A: Assessment 2: Short answer test on content from weeks 1 to 5 (Ch 1 to Ch 15) 15%	Assessment 3 due: Portfolio of Laboratory Reports 1, 2, 3 & 4 - 15%	
Week 8	Lecture (2hrs): Readings: Ch 16: Copper and its alloys; Ch 17: Aluminium and its alloys; Ch 18: Other non-ferrous metals and their alloys.	Laboratory 7 (2 hrs): Polymer tensile test,	10105

WEEK	LECTURES / EXAMINATIONS	LABORATORY	QUIZ
Week 9	Lecture (2hrs): Readings: Ch 19: Plastics materials and rubbers; Ch 20: Properties of plastics.	Site Visit: e.g. Rolling Mill, Materials process/testing	
Week 10	Lecture (2hrs): Readings: Ch 21: Ceramics; Ch 22: Glasses; Ch 23: Composite materials.	Demo: Epoxy FRC, thermoforming	10106
Week 11	Lecture (2hrs): Readings: Ch 24: Fibre-reinforced composite materials; Ch 25: Methods of joining materials.	Laboratory 8 (2 hrs): Dye, Mag, Ultrasound	10104
Week 12	Lecture (2hrs): Readings: Ch 26: Causes of failure; NDT; Material Standards.	Laboratory 9 (2 hrs): Product Study	10107
Week 13	Lecture (2 hrs): Readings: Ch 27 Choice of Materials and Processes; Design. Economic, Environmental, Social Issues.	Assessment 4 due: Collaborative Report (Product Study) 15%	10108
Week 14	Study Week		
Week 15	Examination Week B: Assessment 5: Written examination: 30%	Assessment 3 due: Portfolio of Laboratory Reports 5, 6, 7, 8 & 9 - 15%	

Lesson Power Points

E081 Material Science

http://www.filefactory.com/file/pq2r36bvgnv/n/E081_Material_Science1_pdf

Non Metallic Materials

http://www.filefactory.com/file/2czhyovkn32x/n/Materials_ppt

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Textbook

Prescribed Text:

Higgins, R. & Bolton, W., 2010, *Materials for Engineers and Technicians*, 5th Edition, Butterworth Heinemann, Oxford UK. ISBN 9781856177696.

http://www.filefactory.com/file/724kx95f2ayf/27767685-Materials-Engineers-Technicians_pdf

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Tutorial Exercises

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Further Readings

Engineering Mechanics

http://www.filefactory.com/file/63sqtnrqf55/n/ME_103_Engineering_Mechanics_zip

Chemical Thermodynamics

http://www.filefactory.com/file/5ussq0pnpi4t/n/ME_207_Chemical_thermodynamics_pdf

Introduction-to-polymer-science-and-technology

http://www.filefactory.com/file/6epib0ijvbjt/n/ME_209_Introduction-to-polymer-science-and-technology_pdf

http://www.filefactory.com/file/7dhamrs5c3z7/n/ME207_zip

[ME 305+ ME 209](#)

http://www.filefactory.com/file/76fbf48z2h7j/n/ME305_ME209_zip

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Online Practicals

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ENELE 101A Principle of Electrical Engineering

Course Outline

In this subject you will learn about basic principles of electrical engineering. You will develop a range of foundation knowledge and skills relating to:

- Notation and units
- Circuit topologies

Direct current (DC) circuit principles:

- Voltage, current, power, resistance, conductance
- Ohm's Law; Kirchhoff voltage and current laws
- Series and parallel configurations
- Linearity and Superposition
- Thévenin and Norton equivalent circuits (simple cases)
- Nodal and mesh analysis (simple cases)
- Maximum power transfer
- Capacitors
- Passive and switched resistor-capacitor (RC) circuits
- Inductors
- Passive and switched resistor-inductor (RL) circuits
- Diodes

Alternating current (AC) circuit principles:

- Amplitude, frequency and phase
- Voltage
- Current and power in resistors, inductors & capacitors
- Time domain analysis of ac circuits
- Review of complex numbers
- Phasors and phasor notation
- Complex impedance and admittance
- Thévenin and Norton equivalents (simple cases)
- AC power (real, reactive, complex)
- Root-mean-square (RMS) values
- Maximum power transfer.

Study Guide

WEEK NO:	TOPICS AND ACTIVITIES
Orientation Week	Orientation activities Review of syllabus and assessment activities.
Week 1	Introduction to DC Circuits Reading List: Chapter 1 Sections: 1.1 – 1.5 Chapter 2 Sections: 2.1 – 2.6 & 2.9 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 2	Kirchhoff Voltage & Current Laws Reading List: Chapter 3 Sections: 3.1 – 3.6 & 3.10 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 3	Node & Mesh Analysis Reading List: Chapter 4 Sections: 4.1 – 4.3, 4.5, 4.6, 4.8, 4.13 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 4	Superposition Principle & Source Transformation Thévenin & Norton Equivalent DC Circuits Reading List: Chapter 5 Sections: 5.1 – 5.6 & 5.11 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 5	Capacitors & Inductors Reading List: Chapter 7 Sections: 7.1 – 7.8 & 7.13 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 6	Passive & Switched RL & RC Circuits Reading List: Chapter 8 Sections: 8.1 – 8.4, 8.6 & 8.12 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 7	Examination Week A: Assessment 1: Written examination - 25%

WEEK NO:	TOPICS AND ACTIVITIES
Week 8	Diodes in DC Circuits Introduction to AC Circuits Reading List: Chapter 10 Sections: 10.1 & 10.2 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 9	AC Steady-State Analysis Reading List: Chapter 10 Sections: 10.3 & 10.4 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 10	Complex Numbers & Phasor Notation Reading List: Chapter 10 Sections: 10.5 – 10.6 & 10.11 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 11	Impedance & Admittance Thevenin & Norton Equivalent AC Circuits Reading List: Chapter 10 Section: 10.7 & 10.10 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ. Assessment 2 Due: Portfolio and/or written report on practicum work and experiments (Laboratory Workbook) – 25%
Week 12	AC Power Reading List: Chapter 11 Sections: 11.1 – 11.6 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 13	Power Superposition & Maximum Power Reading List: Chapter 11 Sections: 11.7 – 11.8 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 14	Study Week
Week 15	Examination Week B: Assessment 3: Written examination – 50%

[Lesson Power Points](#)

[Week 1 Lesson](#)

[Week 2 Lesson](#)

[Week 3 Lesson](#)

Week 3A Lesson

Video- <http://www.filefactory.com/file/cf8739b/n/E003+E004.zip>

Circuit Analysis

Advanced Circuit Analysis

Electro-magnetics+Electronics

Advanced Circuits+Electromagnetics+Electronics

Electrical Circuits 1

Engineering Circuit Analysis

Electrical Measurement

Folder				Electrical Circuit
				<u>Instruction</u> Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	27	to	52	Circuit theorem
	54	to	71	Sinusoids & phasors
	73	to	81	Frequency response

Folder				Engineering Circuit Analysis
				<u>Instruction</u> Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
2/ 3				Basic circuits Examples 2.2, 2.3, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9, 3.10, 3.11, 3.12
4				Basic Nodal and Mesh analysis Example 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 4.9, 4.10, 4.11, 4.12
5				Linear and Superposition/ Source Transformation Example 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7, 5.8, 5.9, 5.10, 5.11
8				RL/ RC Circuits

				Example 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, 8.8, 8.9, 8.10, 8.11
9				RLC Circuits Example 9.1, 9.2, 9.3, 9.4, 9.5, 9.6, 9.7, 9.8, 9.9
10				Sinusoidal steady state analysis Example 10.1, 10.2, 10.3, 10.4, 10.5, 10.6, 10.7, 10.8
11				AC Power Circuit Analysis Example 11.1, 11.2, 11.3, 11.4, 11.5
12				Polyphase Circuits Example 12.1, 12.2, 12.3, 12.4, 12.5, 12.6
13				Magnetically coupled circuits Example 13.1, 13.2, 13.3, 13.4, 13.5, 13.6, 13.7, 13.8
14				Complex Frequency / Laplace Transform Example 14.1, 14.2, 14.3, 14.4, 14.5, 14.6, 14.7, 14.8, 14.11
				Laplace Transform Table 14.1, 14.2
15				Circuit analysis in “ S “ domain Example 15.1, 15.2, 15.3, 15.4, 15.5, 15.6, 15.7 Pole/ Zero constellation Example 15.12, 15.13
16				Frequency Response Example 16.1, 16.2
17				Two ports network Example 17.1, 17.2, 17.3, 17.4, 17.5
18				Fourier Circuit Analysis Example 18.1 Use of symmetry theory Table 18.1 Example 18.2, 18.3
Exercise	Q328	to	Q367	of Assignment Number (23)

Folder				EE404 Electrical Measurement
				<u>Instruction</u> Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
6	197			Measurement of inductance and capacitance
7	270			Measurement of resistance
9	352			Magnetic measurement
11	437			High voltage measurement and tesating
12	480			Location of cable fault
20	730			Measurement of power
21	771			Measurement of energy

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Textbook

Prescribed Text:

Dorf, R & Svoboda, J 2010, *Introduction to Electric Circuits*, 8th or latest edition, John Wiley & Sons, Hoboken, NJ.

http://www.filefactory.com/file/626gk4lkg37z/Introduction_to_Electric_Circuits_8th_Edition_by_Richard_C_Dorf_amp_James_A_Svoboda_pdf

http://www.filefactory.com/file/7kaiz26cy6vf/LabView_pdf

http://www.filefactory.com/file/2rrdma1udpkv/Principles_and_Applications_of_Electrical_Engineering_pdf

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Tutorial Exercises

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Further Readings

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Online Practicals

Practicals [Work performance and practical instruction](#)

Click [HERE](#) to download practicals

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ENELE201A Advanced Electrical Engineering

Course Outline

In this subject you will build on basic engineering knowledge gained in previous sub and develop further knowledge and skills relating to electrical engineering:

Circuit analysis:

- DC and AC Network theorems (Kirchhoff's, Superposition)
- Resonance
- Magnetically coupled circuits

Communications and signalling processing and applications:

- Analogue and digital communications principles
- Filters
- Amplifiers and attenuators
- Communication protocols

Analogue and digital communication systems and control circuits:

- Telemetry and monitoring systems
- Control systems and applications.

Study Guide

Lesson Power Points

Electromagnetics

Electromagnetics 1

http://www.filefactory.com/file/f8hx3kz5gd1/n/BAE407_Wk_1_zip

Electromagnetics 2

http://www.filefactory.com/file/40r0fd3sta2p/n/BAE407_Wk_2_zip

Electromagnetics 3

http://www.filefactory.com/file/snre8qvw3j5/n/BAE407_Wk_3_zip

Circuits

Circuit 1

http://www.filefactory.com/file/65j9pisrtg0j/n/BAE405_Wk_1_zip

Circuit 2

http://www.filefactory.com/file/1o71eepje7up/n/BAE405_Wk_2_zip

Circuit 3

http://www.filefactory.com/file/1mm2f82zqhix/n/BAE405_Wk_3_zip

http://www.filefactory.com/file/3spcgz270krb/BAE405_Wk_3a.zip

Password- Joe2013

Textbook

Prescribed Texts:

Rizzoni, G & Hartley, T 2007, *Principles and Applications of Electrical Engineering*, 5th or latest edition, McGraw-Hill Companies Inc. USA

Recommended Readings:

Nahvi, M (Ed) & Edminister, J (Ed) 2011, *Schaum's Outline of Electric Circuits*, McGraw-Hill Companies Inc. USA

All About Circuits 2012, viewed 8 May 2012, <http://www.allaboutcircuits.com/>

http://www.filefactory.com/file/70zpg419d9mf/_Rizzoni_G_Principles_and_Applications_of_Electr_Bookos_org_pdf

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Tutorial Exercises

Password- joe2013

Further Readings

Stage 2 Part 3.zip

http://www.filefactory.com/file/c0ccb1f/n/Stage_2_Part_3.zip

E025_Circuits_1 E025_Circuits_2

Stage 3 Part 2.zip

http://www.filefactory.com/file/c0ccdbc/n/Stage_3_Part_2.zip

E025_Tutorial

Stage 2 Part 2A.zip

http://www.filefactory.com/file/c0cca4a/n/Stage_2_Part_2A.zip

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Online Practicals

Practicals [Work performance and practical instruction](#)

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ENELE202A Principle of Electrical Machines

Course Outline

In this subject you will learn basic principles of electrical machinery. You will develop specialised knowledge and skills relating to:

Transformers:

- Transformer Principles and Construction
- Efficiency
- Impedance
- Equivalent circuit
- Polarity
- Vector groups
- Parallel operations
- Special Transformers (Auto and Instrument etc)

Induction Motors:

- Principle of Induction Motor
- Construction and operation of Squirrel Cage Induction Motors (SCIM) and Wound Rotor Induction Motors (WRIM)
- Operation and characteristics
- Induction Generator
- Single Phase Induction Motor

Synchronous Machines:

- Principles of operation
- Characteristics
- Motors
- Alternators

DC Machines:

- Principles of operation
- Shunt Series Compound Machines
- Characteristics

Single Phase and Special Motors:

- Split Phase motor
- Capacitor Start/Run motor

- Shaded Pole motor
- Universal motor
- Hysteresis motor
- Stepper motors
- Brushless DC motors
- Permanent magnet motors
- Variable reluctance motors
- Stepper motors
- Brushless DC motors

Electronic Control of Motors

- DC Motors
- AC Motors.

Study Guide

Lesson Power Points

AC MACHINES

[Elect Machine-G043+G044+G045.zip](#)

http://www.filefactory.com/file/c0b6668/n/Elect_Machine-G043_G044_G045.zip

[G043 G045 7762AF Notes](#)

[G043 G045 Part 1 7762AF Notes](#)

Induction and synchronous machines & control

[G043+G045 Lesson 1 AC Machine Introduction.zip](#)

http://www.filefactory.com/file/c0bf660/n/G043_G045_Lesson_1_AC_Machine_Introduction.zip

[G043+G045 Lesson 2 Slip+Equivalent Ckt.zip](#)

http://www.filefactory.com/file/c0bf7b9/n/G043_G045_Lesson_2_Slip_Equivalent_Ckt.zip

[G043+G045 Lesson 3 Power Transfer.zip](#)

http://www.filefactory.com/file/c0bf773/n/G043_G045_Lesson_3_Power_Transfer.zip

[G043+G045 Lesson 4 Test for equivalent ckt.zip](#)

http://www.filefactory.com/file/c0b03f9/n/G043_G045_Lesson_4_Test_for_equivalent_ckt.zip

[G043+G045 Lesson 5 Equivalent Ckt Problems.zip](#)

http://www.filefactory.com/file/c0bf842/n/G043_G045_Lesson_5_Equivalent_Ckt_Problems.zip

[G043+G045 Lesson 6 Motor starting and control.zip](#)

http://www.filefactory.com/file/c0bf90e/n/G043_G045_Lesson_6_Motor_starting_and_control.zip

[G043+G045 Lesson 7 Synchronous machine introduction.zip](#)

http://www.filefactory.com/file/c0bf92d/n/G043_G045_Lesson_7_Synchronous_machine_introduction.zip

[G043+G045 Lesson 8 Synchronous machine ckt problems.zip](#)

http://www.filefactory.com/file/c0bf955/n/G043_G045_Lesson_8_Synchronous_machine_ckt_problems.zip

[G043+G045 Lesson 9 Synchronous machine starting.zip](#)

http://www.filefactory.com/file/c0b0342/n/G043_G045_Lesson_9_Synchronous_machine_starting.zip

[G043+G045 Lesson 10 Single phase motor.zip](#)

http://www.filefactory.com/file/c0b0362/n/G043_G045_Lesson_10_Single_phase_motor.zip

[G043+G045 Lesson 11 Factors affecting motor operation.zip](#)

http://www.filefactory.com/file/c0b037b/n/G043_G045_Lesson_11_Factors_affecting_motor_operation.zip

[Induction and synchronous machines & control](#)

DC MACHINES

1 [Elect Fundamental E029+G012+G001+G002+G060.zip](#)

http://www.filefactory.com/file/c0b6601/n/Elect_Fundamental_E029_G012_G001_G002_G060.zip

[Elect Machine-G043+G044+G045.zip](#)

	http://www.filefactory.com/file/c0b6668/n/Elect_Machine-G043_G044_G045.zip
2	E029 Motor Control 1 E029 Motor Control 2 E047Mech G044 7762AC1 G044 7762AC2

TRANSFORMERS

Power Transformer+Line-G040.zip http://www.filefactory.com/file/c0b7bd2/n/Power_Transformer_Line-G040.zip	
G040 7762AD Notes	
<u>As 1</u>	
<u>As 2</u>	
G040 Lesson 1 Power transformer rating 1.zip http://www.filefactory.com/file/c0bcff1/n/G040_Lesson_1_Power_transformer_rating_1.zip G040 Lesson 1 Power transformer rating 2.zip http://www.filefactory.com/file/c0bcf9b/n/G040_Lesson_1_Power_transformer_rating_2.zip G040 Lesson 2 Open circuit short circuit test.zip http://www.filefactory.com/file/c0bc0b9/n/G040_Lesson_2_Open_circuit_short_circuit_test.zip G040 Lesson 3 Transformer regulation.zip http://www.filefactory.com/file/c0bc0d1/n/G040_Lesson_3_Transformer_regulation.zip G040 Lesson 4 Power transformer connection.zip http://www.filefactory.com/file/c0bc09a/n/G040_Lesson_4_Power_transformer_connection.zip G040 Lesson 5 Maximum efficiency.zip http://www.filefactory.com/file/c0bc1db/n/G040_Lesson_5_Maximum_efficiency.zip G040 Lesson 6 Transformer parallel operation.zip http://www.filefactory.com/file/c0bc164/n/G040_Lesson_6_Transformer_parallel_operation.zip G040 Lesson 7 Harmonic in transformer.zip http://www.filefactory.com/file/c0bc2ab/n/G040_Lesson_7_Harmonic_in_transformer.zip G040 Lesson 8 Transformer problem + auto transformer.zip http://www.filefactory.com/file/c0bc2cb/n/G040_Lesson_8_Transformer_problem_auto_transformer.zip	

[G040 Lesson 9 Transformer rating cooling connection tap changing.zip](#)

http://www.filefactory.com/file/c0bc294/n/G040_Lesson_9_Transformer_rating_cooling_connection_tap_changing.zip

[G040 Lesson 10 Phase shift transformer.zip](#)

http://www.filefactory.com/file/c0bc2f5/n/G040_Lesson_10_Phase_shift_transformer.zip

Password- Joe2013

Textbook

Prescribed Texts:

Wildi, T 2006, *Electrical Machines, Drives and Power Systems* 6th or latest edition. Pearson Prentice Hall, Australia

http://www.filefactory.com/file/7hcvfk7cai6b/Electrical_Machines_drive_power_system.pdf

http://www.filefactory.com/file/2ua3qpynkv43/ENELE202A-Principle_of_Elect_Machine.pdf

Password- Joe2013

Tutorial Exercises

Password- joe2013

Further Readings

Subjects	Points	Competency Units
Advanced Electro-magnetics Field & Materials		Electromagnetism

[Advanced Electro-magnetics Field & Materials](#)

Readings

[Electro-magnetics Field](#)

[Electromagnetism](#)

[Electro-magnetism Examples](#)

Electro-mechanics (2 pt)

Part (1) Overview Knowledge of the subject

Folder					Advanced Engineering Mathematics
					Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
File name	Chapter			Page	Topics
					Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
Theory					
chap01_emd.pdf				All	Electro-mechanic -1.0.1 Scope of application <ul style="list-style-type: none"> Electro-magnetic theory 1.1.1a Magnetic field system, Table 1.1 1.1.1.b Electric field system Table 1.2
chap02_emd.pdf				All	Lumped electro-mechanical elements
chap03_sec_emd.pdf				All	Lumped parameter-electro-mechanic
chap04_sec_emd.pdf				All	Rotating machines
chap05_sec_emd.pdf				All	Lumped parameter-electro mechanical dynamics
Problems					
chap02_prb_emd.pdf				All	Example problems
chap03_prb_emd.pdf				All	Example problems
chap04_prb_emd.pdf				All	Example problems
chap05_prb_emd.pdf				All	Example problems
emdsoln_01.pdf				All	Solutions for all example problems

Electrical Machines Machine Principle

Folder				Electrical Machines
File				Electrical Machines
				Instruction Study the notes, calculate the example problems

				then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	45			DC Generator, Example problems
	58			DC Motors, Example problems
	121			Efficiency & heating of electrical machines, Example problems
	131			Three phase transformer, Example problems
	142			Three phase induction motors, Example problems
	177			Synchronous generators, Example problems
	194			Synchronous motors, Example problems
	229			Basic of industrial motor control, Example problems

Machine Principle

Folder				Machine Principle
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
2	114			Rotating machines
3	116			Machinery mounting
4	118			Balancing
6	124			Bearing
7	139			Power transmission

Advanced Electro-magnetics Field & Materials

Folder					Advanced Electro-magnetic Field & Materials
File					
					Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
File name	Chapter			Page	Topics
					Note- PDF File page number and the page number of the scanned

				document may be different. The student need to check both as necessary
Pre-readings				
em01.pdf	1		All	Electric field
em02.pdf	2		All	Electrostatic potential
em03.pdf	3		All	Dipole and quadrature pole movements
em04.pdf	4		All	Batteries, resistors, ohm laws
em05.pdf	5		All	Capacitors
em06.pdf	6		All	Magnetic effect of an electric current
em07.pdf	7		All	Force on current in a magnetic field
em08.pdf	8		All	Electro-dynamics of moving bodies
em09.pdf	9		All	Magnetic potential
em10.pdf	10		All	Electro-magnetic Induction
em11.pdf	11		All	Dimensions
em12.pdf	12		All	Properties of magnetic materials
em13.pdf	13		All	Alternating current
em14.pdf	14		All	Laplace transform
em15.pdf	15		All	Maxwell Equation
em16.pdf	16		All	CGS Electricity & Magnetism
em17.pdf	17		All	Magnetic dipole movement
Highlight Points				
Lecture1.pdf			All	Outlines
Lecture 2.pdf			All	Electric field
Lecture 3.pdf			All	Electrostatic Energy
Lecture 4.pdf			All	Laplace's equation (1)
Lecture 5.pdf			All	Laplace's equation (2)
Lecture 6.pdf			All	Remarks on units
Lecture 7.pdf			All	Green's functions
Lecture 8.pdf			All	Multipole expansion
Lecture 9.pdf			All	Electro-static in matter
Lecture 10.pdf			All	Boundary condition
Lecture 11.pdf			All	Magneto statics (1)
Lecture 12.pdf			All	Magneto statics (2)
Lecture 13.pdf			All	Macroscopic magneto statics
Lecture 14.pdf			All	Maxwell's equation
Lecture 15.pdf			All	DISC movement
Lecture 16.pdf			All	Electro-magnetic plane

				waves
Lecture 17.pdf		All		Reflection & refraction
Lecture 18.pdf		All		Casual relation between D & E
Lecture 19.pdf		All		Wave guides and load cavities
Lecture 20.pdf		All		Electromagnetic radiation and scattering (1)
Lecture 21.pdf		All		Electromagnetic radiation and scattering (2)
Lecture 22.pdf		All		Scattering by small di-electric sphere
Lecture 27.pdf		All		Electro-magnetism
Lecture 28.pdf		All		Electro magnetic fields and moving charges
Formulas				
CW950212_1.pdf		All		Multipole expansion
CW950320_1.pdf		All		Magnetic constants and materials
CW950329_1.pdf		All		Ampere law
CW950128_3.pdf		All		Brief history of electro magnetism
CW950219_2.pdf		All		Gauss's law
CW950313_2.pdf		All		Numerical solutions to Laplace's equation
CW960430_2.pdf		All		Small current loop
CW970129_3.pdf		All		Curvilinear co-ordinate system
CW970210_1.pdf		All		Problems
CW970303_1.pdf		All		Dielectric tensors and constants
CW970317_2.pdf		All		Analytic solution to Laplace equation
CW970606_1.pdf		All		Magnetostatic boundary condition
CW970606_1.pdf		All		Electrostatic boundary condition
Symbols				
CW970606_3.pdf		All		Electromagnetic field
CW980205_2.pdf		All		The gradient vector
Di-electric.pdf		All		Maxwell's equation
Propagation.pdf		All		Electro-magnetic wave propagation

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Online Practicals

Practicals [Work performance and practical instruction](#)

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ENELE 203A Electronics and Power Control

Course Outline

In this subject you will learn about electronics and power control. You will develop specialised knowledge and skills relating to:

Semiconductors, diodes, transistors and integrated circuits:

- Semiconductor materials and junctions
- Diode construction, operation, ratings and applications
- Transistor construction, operation, ratings and applications
- Integrated circuit construction, operation, ratings and applications especially as related to operational amplifiers

Linear regulated dc power supplies:

- Basic power supplies (ac to dc and dc to dc), circuits and applications
- Regulation requirements and applications

Switching power control circuits:

- Basic types, operation
- Critical issues, solutions and applications

Digital electronics

- Digital logic, circuits and power control applications

Power Inverters (DC to AC):

- Basic types, operation
 - Critical issues, solutions and applications.
-

Study Guide

Lesson Power Points

POWER ELECTRONICS

[Power Electronics -H025+H026.zip](#)

http://www.filefactory.com/file/c0b6857/n/Power_Electronics_-H025_H026.zip

H025_Operational_Amplifier
H026_3_Ph_Power_Control_Electronics_1
H026_3_Ph_Power_Control_Electronics_2
H026_3_Ph_Power_Control_Electronics_3
H026_3_Ph_Power_Control_Electronics_4
In

[Stage 3 Part 6.zip](#)

http://www.filefactory.com/file/c0cce63/n/Stage_3_Part_6.zip

[Operational amplifier+ single phase power control equipments](#)

[H025 Lesson 1-Differential Amplifier.zip](#)

http://www.filefactory.com/file/c20fef9/n/H025_Lesson_1-Differential_Amplifier.zip

[H025 Lesson 2-Comparator.zip](#)

http://www.filefactory.com/file/c0b072e/n/H025_Lesson_2-Comparator.zip

[H025 Lesson 3-Timer IC.zip](#)

http://www.filefactory.com/file/c0b077e/n/H025_Lesson_3-Timer_IC.zip

[H025 Lesson 4-Op Amp Circuit 1 & 2.zip](#)

http://www.filefactory.com/file/c0b08c8/n/H025_Lesson_4-Op_Amp_Circuit_1_2.zip

[H025 Lesson 5-Op amp characteristics+Band widthe compensation.zip](#)

http://www.filefactory.com/file/c0b09da/n/H025_Lesson_5-Op_amp_characteristics_Band_widthe_compensation.zip

[H025 Lesson 6-Op amp diode characteristics.zip](#)

http://www.filefactory.com/file/c0b09e1/n/H025_Lesson_6-Op_amp_diode_characteristics.zip

[H025 Lesson 7-Sine & square wave oscillators.zip](#)

http://www.filefactory.com/file/c0b090a/n/H025_Lesson_7-Sine_square_wave_oscillators.zip

[H025 Lesson 8-Op amp ckt-Integrator+Differentiator.zip](#)

http://www.filefactory.com/file/c0b0909/n/H025_Lesson_8-Op_amp_ckt-Integrator_Differentiator.zip

[H025 Lesson 9-Active filter.zip](#)

http://www.filefactory.com/file/c0b0916/n/H025_Lesson_9-Active_filter.zip

[H025 Lesson 10-Multistage Op amp ckt.zip](#)

http://www.filefactory.com/file/c0b0948/n/H025_Lesson_10-Multistage_Op_amp_ckt.zip

[H025 Lesson 11-Transducers.zip](#)

http://www.filefactory.com/file/c0b0978/n/H025_Lesson_11-Transducers.zip

[H025 Lesson 12-Introduction to control.zip](#)

http://www.filefactory.com/file/c0b0986/n/H025_Lesson_12-Introduction_to_control.zip

[Operational amplifier+ single phase power control equipments](#)

[**Power Electronics -H025+H026.zip**](#)

[**http://www.filefactory.com/file/c0b6857/n/Power_Electronics_-H025_H026.zip**](http://www.filefactory.com/file/c0b6857/n/Power_Electronics_-H025_H026.zip)

[**Three phase power control equipments**](#)

[**H026 Lesson 1-Single &Three phase power control.zip**](#)

[**http://www.filefactory.com/file/c0b1ac9/n/H026_Lesson_1-Single_Three_phase_power_control.zip**](http://www.filefactory.com/file/c0b1ac9/n/H026_Lesson_1-Single_Three_phase_power_control.zip)

[H026 Lesson 2-Solid state switching devices.zip](#)

http://www.filefactory.com/file/c0b1af2/n/H026_Lesson_2-Solid_state_switching_devices.zip

[H026 Lesson 3-Inverter Converter.zip](#)

http://www.filefactory.com/file/c0b1a59/n/H026_Lesson_3-Inverter_Converter.zip

[H026 Lesson 4-Power Diodes.zip](#)

http://www.filefactory.com/file/c0b1a8f/n/H026_Lesson_4-Power_Diodes.zip

[H026 Lesson 5-AC Motor speed control.zip](#)

http://www.filefactory.com/file/c0b1ba7/n/H026_Lesson_5-AC_Motor_speed_control.zip

[H026 Lesson 6-Current fed inverter.zip](#)

http://www.filefactory.com/file/c0b1b0d/n/H026_Lesson_6-Current_fed_inverter.zip

[Three phase power control equipments](#)

ANALOG ELECTRONICS

[H045 Lesson 1 Op-amp.zip](#)

http://www.filefactory.com/file/c0b1b3a/n/H045_Lesson_1_Op-amp.zip

[H045 Lesson 1 Op-amp](#)

[H045 Lesson 2 DC Non idealities.zip](#)

http://www.filefactory.com/file/c0b1b5b/n/H045_Lesson_2_DC_Non_idealities.zip

[H045 Lesson 3 Bias compensation.zip](#)

http://www.filefactory.com/file/c0b1b86/n/H045_Lesson_3_Bias_compensation.zip

[H045 Lesson 4 Slew rate.zip](#)

http://www.filefactory.com/file/c0b1ca0/n/H045_Lesson_4_Slew_rate.zip

[H045 Lesson 5 AC Noise.zip](#)

http://www.filefactory.com/file/c0b1cb2/n/H045_Lesson_5_AC_Noise.zip

[H045 Lesson 5 AC Noise](#)

<http://uploading.com/files/6dmm1ccf/H045%2BLesson%2B5%2BAC%2BNoise.zip/>

[H045 Lesson 6 Source noise resistance.zip](#)

http://www.filefactory.com/file/c268af2/n/H045_Lesson_6_Source_noise_resistance.zip

[H045 Lesson 7 Signal to noise ratio.zip](#)

http://www.filefactory.com/file/c0b1cff/n/H045_Lesson_7_Signal_to_noise_ratio.zip

[H045 Lesson 8 Frequency compensation.zip](#)

http://www.filefactory.com/file/c0b1c0e/n/H045_Lesson_8_Frequency_compensation.zip

[H045 Lesson 9 Stability analysis.zip](#)

http://www.filefactory.com/file/c0b1c95/n/H045_Lesson_9_Stability_analysis.zip

[H045 Lesson 10 Feedforward compensation.zip](#)

http://www.filefactory.com/file/c0b1c56/n/H045_Lesson_10_Feedforward_compensation.zip

[Analogue Electronics](#)

[H045 Lesson 1 Op-amp.zip](#)

http://www.filefactory.com/file/c0b1b3a/n/H045_Lesson_1_Op-amp.zip

[H045 Lesson 2 DC Non idealities.zip](#)

http://www.filefactory.com/file/c0b1b5b/n/H045_Lesson_2_DC_Non_idealities.zip

[H045 Lesson 3 Bias compensation.zip](#)

http://www.filefactory.com/file/c0b1b86/n/H045_Lesson_3_Bias_compensation.zip

[H045 Lesson 4 Slew rate.zip](#)

http://www.filefactory.com/file/c0b1ca0/n/H045_Lesson_4_Slew_rate.zip

[H045 Lesson 5 AC Noise.zip](#)

http://www.filefactory.com/file/c0b1cb2/n/H045_Lesson_5_AC_Noise.zip

[H045 Lesson 6 Source noise resistance.zip](#)

http://www.filefactory.com/file/c268af2/n/H045_Lesson_6_Source_noise_resistance.zip

[H045 Lesson 7 Signal to noise ratio.zip](#)

http://www.filefactory.com/file/c0b1cff/n/H045_Lesson_7_Signal_to_noise_ratio.zip

[H045 Lesson 8 Frequency compensation.zip](#)

http://www.filefactory.com/file/c0b1c0e/n/H045_Lesson_8_Frequency_compensation.zip

[H045 Lesson 9 Stability analysis.zip](#)

http://www.filefactory.com/file/c0b1c95/n/H045_Lesson_9_Stability_analysis.zip

[H045 Lesson 10 Feedforward compensation.zip](#)

http://www.filefactory.com/file/c0b1c56/n/H045_Lesson_10_Feedforward_compensation.zip

AMPLIFIER

http://www.filefactory.com/file/c0cb6a8/n/Additional_3.zip

DC Power Supply

<http://www.filefactory.com/file/4f92zgjjzg7j/DC%20Power%20Supply.pdf>

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Textbook

Prescribed Texts:

Meade, R, Diffenderfer, R 2006, *Foundations of Electronics: Circuits and Devices* (Conventional Flow), 5th or latest edition, Delmar Cengage Learning, USA

<http://www.filefactory.com/file/2yu0qvkoqppn/Electronic%20Devices.pdf>

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Tutorial Exercises

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Further Readings

Analog & Digital Electronics 1

<http://www.filefactory.com/file/27alnx6skg2x/BAE408Wk1.zip>

Analog & Digital Electronics 2

http://www.filefactory.com/file/3vpyub43h53p/n/BAE408Wk2_zip

Analog & Digital Electronics 3

http://www.filefactory.com/file/4c6snjh05cel/n/BAE408Wk3_zip

Control 1

http://www.filefactory.com/file/4lahmzh0qf3b/n/BAE502_Wk_1_zip

Control 2

http://www.filefactory.com/file/46t9zbh859rl/BAE502_Wk_2.zip

Control 3

http://www.filefactory.com/file/15qea45hhvxx/n/BAE502_Wk_3_zip

Control 4

http://www.filefactory.com/file/22cy88iyi78f/n/BAE503Wk1PPT_zip

Control 5

http://www.filefactory.com/file/2d82bvgvzgx3/n/BAE503Wk2PPT_zip

Control 6

http://www.filefactory.com/file/3v7x6hmksvnf/n/BAE503Wk3PPT_zip

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Online Practicals

Practicals [Work performance and practical instruction](#)

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ENPRA101A Engineering Practice

Course Outline

In this subject you will learn about the practices of an engineering professional within a multidisciplinary framework. You will develop basic knowledge and skills relating to electrical and other engineering specialisations, including:

Introduction to the Regulatory System:

- Electricity Act
- Electricity Regulation Australian
- Standards State Regulators
- Workplace Health and Safety
- Engineers Code of Ethics

Drawings And Specifications:

- Drawing Interpretation
- Overview of Computer Aided Design (CAD)
- Writing a Specification

Generation and Distribution:

- Generating Plant
- Transmission Grid
- Substations

Fasteners and Fastening Methods:

- Methods of securing electrical equipment to various surfaces

Wiring Systems:

- Load Calculations
- Max. Demand
- Cables and Systems
- AS3008

Control and Protection:

- Earthing
- Protection for safety
- Faults and overloads
- Protective devices and methods

Illumination:

Study Guide

Lesson Power Points

AUSTRALIAN ELECTRICIAN TRAINING

[G106 Cable Termination](#)

[G106+G033 Practical](#)

[G063 Wk 7+8](#)

http://www.filefactory.com/file/423vowj4o34b/G063_Wk_7_8_zip

[G033+G063+G107 Week 10 to 15](#)

Study Guide EE07 & EE011

Study Cards EE07 & EE011							
What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study	Main exercise		Additional exercises		
EE07 Unit	EE011 Unit	For EE07+EE011 +Video	Study Option (1) EE-07	Study Option (2) EE-07	for EE011		
UEENEE005B Fix and secure equipment	UEENEE0105A Fix and secure electrotechnology equipment	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1						
See 1 below	See 3 below		EE011	=	EE07 +	Additional	
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiri
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	ng_E001_2_3_4_5_7_8_33_G003_4_7.zip
2	
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
4	
5	<p>Video-- Electrical workshop Lesson 1 OHS.zip http://www.filefactory.com/file/c0adbfa/n/Electrical_workshop_Lesson_1_OHS.zip Electrical workshop Lesson 2 Workplace hazard+Fix & secure equipment.zip http://www.filefactory.com/file/c0adca2/n/Electrical_workshop_Lesson_2_Workplace_hazard_Fix_secure_equipment.zip Electrical workshop Lesson 3 Mechanical fixing.zip http://www.filefactory.com/file/c0adc1d/n/Electrical_workshop_Lesson_3_Mechanical_fixing.zip Electrical workshop Lesson 4 Basic electrical wiring.zip http://www.filefactory.com/file/c0add65/n/Electrical_workshop_Lesson_4_Basic_electrical_wiring.zip Electrical workshop Lesson 5 Wiring circuits.zip http://www.filefactory.com/file/c0ade9b/n/Electrical_workshop_Lesson_5_Wiring_circuits.zip Electrical workshop Lesson 6 Electrical safety testing.zip http://www.filefactory.com/file/c0adf90/n/Electrical_workshop_Lesson_6_Electrical_safety_testing.zip Electrical workshop Lesson 7 Testing insulation and polarity.zip http://www.filefactory.com/file/c0ad031/n/Electrical_workshop_Lesson_7_Testing_insulation_and_polarity.zip Electrical workshop Lesson 8 Testing lighting polarity.zip http://www.filefactory.com/file/c0ad1d8/n/Electrical_workshop_Lesson_8_Testing_lighting_polarity.zip</p>
6	(2) Click HERE to download other Exercises
7	EE07 & EE011 units mapping for Theory study & Exercises
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011.pdf
9	Stage_1_Electrical_workshop_practicals.pdf Wiring_Equipments_to_purchase IN THE LINK INDICATED IN ROLL 11
10	Fixing Equipments E002_E005.zip IN THE LINK INDICATED IN ROLL 11
11	<p>BACK UP FOR 9 & 10 Stage 1 Part 1.zip http://www.filefactory.com/file/c0cb8ab/n/Stage_1_Part_1.zip Stage 1 Part 5.zip</p>

Study Guide EE07 & EE011

What to study			Which exercises to do		What practical to do	Resources	
Main study		Additional study	Main exercise		Additional exercises		
EE07 Unit	EE011 Unit	For EE07+EE011 +Video	Study Option (1) EE-07	Study Option (2) EE-07	for EE011		
UEENEE E007B Use drawings, diagrams, schedules and manuals	UEENEE E107A <div>Use drawings, diagrams, schedules, standards, codes and specifications</div>	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1						
See 1 below	See 3 below		EE011	=	EE07 +	Additional	
Study Option 2	Study Option 2						
See 2 below	See 4 below						

2	<p>ElectricalDrawing1</p> <p>ElectricalDrawing2</p> <p>ElectricalDrawing3</p> <p>Stage 1 Part 3.zip http://www.filefactory.com/file/c0cb8f5/n/Stage_1_Part_3.zip GeneralDrawing1</p> <p>GeneralDrawing2</p> <p>Stage 1 Part 4.zip http://www.filefactory.com/file/c0cc1cd/n/Stage_1_Part_4.zip</p>
3	<p>http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip</p>
4	<p>ElectricalDrawing1</p> <p>ElectricalDrawing2</p> <p>ElectricalDrawing3</p> <p>Stage 1 Part 3.zip http://www.filefactory.com/file/c0cb8f5/n/Stage_1_Part_3.zip GeneralDrawing1</p> <p>GeneralDrawing2</p> <p>Stage 1 Part 4.zip http://www.filefactory.com/file/c0cc1cd/n/Stage_1_Part_4.zip</p>
5	<p>Video-- Electrical workshop Lesson 1 OHS.zip http://www.filefactory.com/file/c0adbfa/n/Electrical_workshop_Lesson_1_OHS.zip Electrical workshop Lesson 2 Workplace hazard+Fix & secure equipment.zip http://www.filefactory.com/file/c0adca2/n/Electrical_workshop_Lesson_2_Workplace_hazard_Fix_secure_equipment.zip Electrical workshop Lesson 3 Mechanical fixing.zip http://www.filefactory.com/file/c0adc1d/n/Electrical_workshop_Lesson_3_Mechanical_fixing.zip Electrical workshop Lesson 4 Basic electrical wiring.zip http://www.filefactory.com/file/c0add65/n/Electrical_workshop_Lesson_4_Basic_electrical_wiring.zip Electrical workshop Lesson 5 Wiring circuits.zip http://www.filefactory.com/file/c0ade9b/n/Electrical_workshop_Lesson_5_Wiring_circuits.zip Electrical workshop Lesson 6 Electrical safety testing.zip</p>

	http://www.filefactory.com/file/c0adf90/n/Electrical_workshop_Lesson_6_Electrical_safety_testing.zip Electrical workshop Lesson 7 Testing insulation and polarity.zip http://www.filefactory.com/file/c0ad031/n/Electrical_workshop_Lesson_7_Testing_insulation_and_polarity.zip Electrical workshop Lesson 8 Testing lighting polarity.zip http://www.filefactory.com/file/c0ad1d8/n/Electrical_workshop_Lesson_8_Testing_lighting_polarity.zip
6	(2) Click HERE to download other Exercises
7	Stage 1 Electrical workshop practicals.pdf
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011.pdf
9	EE07 & EE011 units mapping for Theory study & Exercises Attend the face to face session Stage_1_Electrical_workshop_practicals.pdf Wiring_Equipments_to_purchase in Stage 1 Part 3.zip http://www.filefactory.com/file/c0cb8f5/n/Stage_1_Part_3.zip
10	ElectricalDrawing1 ElectricalDrawing2 ElectricalDrawing3 Stage 1 Part 3.zip http://www.filefactory.com/file/c0cb8f5/n/Stage_1_Part_3.zip GeneralDrawing1 GeneralDrawing2 Stage 1 Part 4.zip http://www.filefactory.com/file/c0cc1cd/n/Stage_1_Part_4.zip
11	BACK UP FOR 9 & 10 Stage 1 Part 3.zip http://www.filefactory.com/file/c0cb8f5/n/Stage_1_Part_3.zip

Study Guide EE07 & EE011

What to study		Which exercises to do		What practical to do	Resources
Main study	Additional	Main		Additio	

		l study	exerc ise		nal exercise s		
EE07 Unit	EE011 Unit	For EE07+EE 011 +Video	Study Optio n (1) EE- 07	Study Optio n (2) EE-07	for EE011		
UEENEEEO08B Lay wiring/cabl ing and terminate accessorie s for extra- low voltage circuits	UEENEEEO08A Lay wiring/cabl ing and terminate accessorie s for extra- low voltage (ELV) circuits	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1						
See 1 below	See 3 below		EE01 1	=	EE07 +	Additio nal	
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
2	
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
4	
5	<p>Video-- Electrical workshop Lesson 1 OHS.zip</p> <p>http://www.filefactory.com/file/c0adbfa/n/Electrical_workshop_Lesson_1_OHS.zip Electrical workshop Lesson 2 Workplace hazard+Fix & secure equipment.zip</p> <p>http://www.filefactory.com/file/c0adca2/n/Electrical_workshop_Lesson_2_Workplace_hazard_Fix_secure_equipment.zip</p> <p>Electrical workshop Lesson 3 Mechanical fixing.zip</p> <p>http://www.filefactory.com/file/c0adc1d/n/Electrical_workshop_Lesson_3_Mechanical_fixing.zip</p> <p>Electrical workshop Lesson 4 Basic electrical wiring.zip</p> <p>http://www.filefactory.com/file/c0add65/n/Electrical_workshop_Lesson_4_Basic_electrical_wiring.zip</p> <p>Electrical workshop Lesson 5 Wiring circuits.zip</p>

	http://www.filefactory.com/file/c0ade9b/n/Electrical_workshop_Lesson_5_Wiring_circuits.zip Electrical workshop Lesson 6 Electrical safety testing.zip http://www.filefactory.com/file/c0adf90/n/Electrical_workshop_Lesson_6_Electrical_safety_testing.zip Electrical workshop Lesson 7 Testing insulation and polarity.zip http://www.filefactory.com/file/c0ad031/n/Electrical_workshop_Lesson_7_Testing_insulation_and_polarity.zip Electrical workshop Lesson 8 Testing lighting polarity.zip http://www.filefactory.com/file/c0ad1d8/n/Electrical_workshop_Lesson_8_Testing_lighting_polarity.zip
6	2) Click HERE to download other Exercises
7	EE07 & EE011 units mapping for Theory study & Exercises
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf
9	EE07 & EE011 units mapping for Theory study & Exercises Attend the face to face session Stage_1_Electrical_workshop_practicals.pdf Wiring_Equipments_to_purchase IN THE LINK INDICATED IN ROLL 11
10	Wiring_Notes_1. Wiring_Notes_2 Switchboard_Wiring 1Wiring_E033_E008 2Wiring_E033_E008 IN THE LINK INDICATED IN ROLL 11
11	<u>BACK UP for 9 & 10</u> Stage 1 Part 5.zip http://www.filefactory.com/file/c0cb9b3/n/Stage_1_Part_5.zip Stage 1 Part 1.zip http://www.filefactory.com/file/c0cb8ab/n/Stage_1_Part_1.zip

Study Guide EE07 & EE011

What to study			Which exercises to do		What practical to do	Resources	
Main study	Additional study	Main exercise		Additional exercises			
EE07 Unit	EE011 Unit	For EE07+EE011 +Video	Study Option (1) EE-07	Study Option (2) EE-07 for EE011			
UEENEEE033B Document occupation	UEENEEE137A Document and apply	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below

al hazards and risks in electrical work	measures to control OHS risks associated with electrotechnology work						
Study Option 1	Study Option 1						
See 1 below	See 3 below		EE01 1	=	EE07 +	Additi onal	
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
2	
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
4	
5	<p>Video-- Electrical workshop Lesson 1 OHS.zip http://www.filefactory.com/file/c0adbfa/n/Electrical_workshop_Lesson_1_OHS.zip Electrical workshop Lesson 2 Workplace hazard+Fix & secure equipment.zip http://www.filefactory.com/file/c0adca2/n/Electrical_workshop_Lesson_2_Workplace_hazard_Fix_secure_equipment.zip Electrical workshop Lesson 3 Mechanical fixing.zip http://www.filefactory.com/file/c0adc1d/n/Electrical_workshop_Lesson_3_Mechanical_fixing.zip Electrical workshop Lesson 4 Basic electrical wiring.zip http://www.filefactory.com/file/c0add65/n/Electrical_workshop_Lesson_4_Basic_electrical_wiring.zip Electrical workshop Lesson 5 Wiring circuits.zip http://www.filefactory.com/file/c0ade9b/n/Electrical_workshop_Lesson_5_Wiring_circuits.zip Electrical workshop Lesson 6 Electrical safety testing.zip http://www.filefactory.com/file/c0adf90/n/Electrical_workshop_Lesson_6_Electrical_safety_testing.zip Electrical workshop Lesson 7 Testing insulation and polarity.zip http://www.filefactory.com/file/c0ad031/n/Electrical_workshop_Lesson_7_Testing_insulation_and_polarity.zip</p>

	on_7_Testing_insulation_and_polarity.zip Electrical workshop Lesson 8 Testing lighting polarity.zip http://www.filefactory.com/file/c0ad1d8/n/Electrical_workshop_Lesson_8_Testing_lighting_polarity.zip
6	2) Click HERE to download other Exercises
7	EE07 & EE011 units mapping for Theory study & Exercises
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf
9	EE07 & EE011 units mapping for Theory study & Exercises Attend the face to face session Stage_1_Electrical_workshop_practicals.pdf Wiring_Equipments_to_purchase IN THE LINK INDICATED IN ROLL 11
10	Electrical_safe_working.zip NREL_Disconnect_Reconnect.zip IN THE LINK INDICATED IN ROLL 11
11	BACK UP for 9 & 10 Stage 1 Part 5.zip http://www.filefactory.com/file/c0cb9b3/n/Stage_1_Part_5.zip Stage 1 Part 1.zip http://www.filefactory.com/file/c0cb8ab/n/Stage_1_Part_1.zip

Study Guide EE07 & EE011

What to	study		Which	exercises to do		What practical to do	Resources
Main	study	Additional study	Main exercise		Additional exercises		
EE07 Unit	EE011 Unit	For EE07+EE011 +Video	Study Option (1) EE-07	Study Option (2) EE-07	for EE011		
	UEENEEG106A Terminate cables, cords and accessories for low voltage circuits	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1						
See 1 below	See 3 below		EE011	=	EE07 +	Additional	

Study Option 2	Study Option 2						
See 2 below	See 4 below						

4	<p>ELV_Cable_termination</p> <p>in Stage 2 Part 2A.zip</p> <p>http://www.filefactory.com/file/c0cca4a/n/Stage_2_Part_2A.zip</p>
5	<p>Video-- Electrical workshop Lesson 1 OHS.zip http://www.filefactory.com/file/c0adbfa/n/Electrical_workshop_Lesson_1_OHS.zip Electrical workshop Lesson 2 Workplace hazard+Fix & secure equipment.zip http://www.filefactory.com/file/c0adca2/n/Electrical_workshop_Lesson_2_Workplace_hazard_Fix_secure_equipment.zip Electrical workshop Lesson 3 Mechanical fixing.zip http://www.filefactory.com/file/c0adc1d/n/Electrical_workshop_Lesson_3_Mechanical_fixing.zip Electrical workshop Lesson 4 Basic electrical wiring.zip http://www.filefactory.com/file/c0add65/n/Electrical_workshop_Lesson_4_Basic_electrical_wiring.zip Electrical workshop Lesson 5 Wiring circuits.zip http://www.filefactory.com/file/c0ade9b/n/Electrical_workshop_Lesson_5_Wiring_circuits.zip Electrical workshop Lesson 6 Electrical safety testing.zip http://www.filefactory.com/file/c0adf90/n/Electrical_workshop_Lesson_6_Electrical_safety_testing.zip Electrical workshop Lesson 7 Testing insulation and polarity.zip http://www.filefactory.com/file/c0ad031/n/Electrical_workshop_Lesson_7_Testing_insulation_and_polarity.zip Electrical workshop Lesson 8 Testing lighting polarity.zip http://www.filefactory.com/file/c0ad1d8/n/Electrical_workshop_Lesson_8_Testing_lighting_polarity.zip</p>
6	
7	Only practical assessment in class

8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf
9	Attend face to face class http://www.filefactory.com/file/2f8e3fph9trr/n/G106_G033_Practical_zip
10	ELV_Cable_termination Wiring_Notes_1. Wiring_Notes_2 Switchboard_Wiring 1Wiring_E033_E008 2Wiring_E033_E008 ElectricalDrawing1.zip ElectricalDrawing2.zip ElectricalDrawing3.pdf IN THE LINK INDICATED IN ROLL 11
11	BACK UP Stage 2 Part 2A.zip http://www.filefactory.com/file/c0cca4a/n/Stage_2_Part_2A.zip

Study Guide EE07 & EE011

What to	study		Which	exercis es to do		What practica l to do	Resourc es
Main	study	Additional study	Main exerci se		Addition al exercises		
EE07 Unit	EE011 Unit	For EE07+EE0 11 +Video	Study Optio n (1) EE-07	Study Option (2) EE- 07	for EE011		
	UEENEEG06 3A Arrange circuits, control and protection for general electrical installations	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Optio n 1	Study Option 1						
See 1 belo w	See 3 below		EE011	=	EE07 +	Addition al	
Study Optio n 2	Study Option 2						
See 2 belo w	See 4 below						

1	
2	
3	
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5	<p><u>Electrical wiring + Electrical Installation requirement</u></p> <p><u>G003+G004+G007 Lesson 1 Electrical installation protection.zip</u></p> <p>http://www.filefactory.com/file/c35d2f2/n/G003_G004_G007_Lesson_1_Electrical_installation_protection.zip</p> <p><u>G003+G004+G007 Lesson 2 Electrical system safety.zip</u></p> <p>http://www.filefactory.com/file/cf937ac/n/G003_G004_G007_Lesson_2_Electrical_system_safety.zip</p> <p><u>G003+G004+G007 Lesson 3 Heating+Cable</u> ckt protection exercise.zip</p> <p>http://www.filefactory.com/file/c0abfe8/n/G003_G004_G007_Lesson_3_Heating_Cable_ckt_protection_exercise.zip</p> <p><u>G003+G004+G007 Lesson 4 Wiring system.zip</u></p> <p>http://www.filefactory.com/file/cf939f0/n/G003_G004_G007_Lesson_4_Wiring_system.zip</p> <p><u>G003+G004+G007 Lesson 5 Hazardous area electrical system.zip</u></p> <p>http://www.filefactory.com/file/cf94af8/n/G003_G004_G007_Lesson_5_Hazardous_area_electrical_system.zip</p> <p><u>G003+G004+G007 Lesson 6 Overload protection RCD.zip</u></p> <p>http://www.filefactory.com/file/cf94bcf/n/G003_G004_G007_Lesson_6_Overload_protection_RCD.zip</p>

	<p>G003+G004+G007 Lesson 7 RCD + Metering.zip http://www.filefactory.com/file/cf94cae/n/G003_G004_G007_Lesson_7_RCD_Metering.zip</p> <p>G003+G004+G007 Lesson 8 Switch board installation.zip http://www.filefactory.com/file/cf94c40/n/G003_G004_G007_Lesson_8_Switch_board_installation.zip</p> <p>G003+G004+G007 Lesson 9 Cable selection+Maximum demand.zip http://www.filefactory.com/file/cf94dbb/n/G003_G004_G007_Lesson_9_Cable_selection_Maximum_demand.zip</p> <p>G003+G004+G007 Lesson 10 Electrical installation safety testing.zip http://www.filefactory.com/file/cf94123/n/G003_G004_G007_Lesson_10_Electrical_installation_safety_testing.zip</p>
6	
7	<p>EE07 & EE011 units mapping for Theory study & Exercises Only face to face class assessment</p>
8	Only face to face class assessment
9	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p>Attend face to face class</p> <p>PRACTICAL</p> <p>Workshop 2+3</p> <p>WorkShop_Part_2_Practical_1_to_6_.zip</p> <p>WorkShop_Part_2_Practical_7_to_12_.zip</p> <p>WorkShop_Part_2_Practical_13_to_17_.zip</p> <p>WorkShop_Part_2_Practical_18_to_21_.zip</p> <p>ElectricalWorkshopPart3_G008_Group1Machine_.zip</p> <p>ElectricalWorkshopPart3_G008_Group2LineProtection_.zip</p> <p>ElectricalWorkshopPart3_G008_Group3InstrumentsDevices_.zip</p> <p>OTHER PRACTICALS</p> <p>ELECTRICAL_WORKSHOP_PART_2_G003_G004_G009_.zip</p> <p>Electrical_Workshop_Part_2_Practical_1_to_18.zip</p>

	Electrical_Workshop_Part_2_Practical_19_to_21.zip G003_G004_G009Practicals.pdf IN THE LINK INDICATED IN ROLL 11
1 0	Construction ElectricalSafety.zip InserviceTesting.zip Wiring_Notes_1. Wiring_Notes_2 Switchboard_Wiring 1Wiring_E033_E008 2Wiring_E033_E008 IN THE LINK INDICATED IN ROLL 11
1 1	<u>BACK UP FOR 9 & 10</u> Stage 2 Part 1B.zip http://www.filefactory.com/file/c0ccac0/n/Stage_2_Part_1B.zip Stage 2 Part 3.zip http://www.filefactory.com/file/c0ccb1f/n/Stage_2_Part_3.zip Stage 2 Part 6.zip http://www.filefactory.com/file/c0cccc0/n/Stage_2_Part_6.zip Stage 3 Part 3.zip http://www.filefactory.com/file/c0ccd44/n/Stage_3_Part_3.zip Stage 3 Part 4.zip http://www.filefactory.com/file/c0ccd9a/n/Stage_3_Part_4.zip Stage 4 Part 8.zip http://www.filefactory.com/file/c0cc5a1/n/Stage_4_Part_8.zip Stage 4 Part 9.zip http://www.filefactory.com/file/c0cc5db/n/Stage_4_Part_9.zip Stage 4 Part 10.zip http://www.filefactory.com/file/c0cc5f8/n/Stage_4_Part_10.zip Stage 3 Part 5.zip http://www.filefactory.com/file/c0ccefd/n/Stage_3_Part_5.zip Stage 3 Part 8.zip http://www.filefactory.com/file/c0ccf09/n/Stage_3_Part_8.zip Stage 3 Part 9.zip http://www.filefactory.com/file/c0ccf48/n/Stage_3_Part_9.zip

Study Guide EE07 & EE011

What to study		Which exercises to do		What practical to do	Resources
Main study	Additional study	Main exercise		Additional exercises	
EE07 Unit	EE011 Unit	For EE07+EE011 +Video	Study Option (1) EE-07	Study Option (2) EE-07	for EE011

UEENEEG007A Select wiring systems and cables for low voltage general electrical installations	UEENEEG107A Select wiring systems and cables for low voltage general electrical installations	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1						
See 1 below	See 3 below		EE011	=	EE07 +	Additional	
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
2	AS3000-2007Overview.zip AS3000_AS3008TablesExtract.zip WiringRules.zip Part (1) Study the following notes Installation_Requirement_1-A.zip Installation_Requirement_1-B.zip Installation_Requirement_2-A.zip Installation_Requirement_2-B.zip Stage_2_Wiring.zip In Stage 2 Part 3.zip http://www.filefactory.com/file/c0ccb1f/n/Stage_2_Part_3.zip Stage 2 Part 6.zip http://www.filefactory.com/file/c0cccc0/n/Stage_2_Part_6.zip Stage 3 Part 1B.zip http://www.filefactory.com/file/c0ccc42/n/Stage_3_Part_1B.zip Stage 3 Part 3.zip http://www.filefactory.com/file/c0ccd44/n/Stage_3_Part_3.zip Stage 3 Part 4.zip http://www.filefactory.com/file/c0ccd9a/n/Stage_3_Part_4.zip

	Stage 3 Part 5.zip Stage 3 Part 6.zip Stage 3 Part 9.zip Stage 4 Part 7.zip Stage 4 Part 8.zip Stage 4 Part 9.zip Stage 4 Part 14.zip
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
4	AS3000-2007Overview.zip AS3000_AS3008TablesExtract.zip WiringRules.zip Part (1) Study the following notes Installation_Requirement_1-A.zip Installation_Requirement_1-B.zip Installation_Requirement_2-A.zip Installation_Requirement_2-B.zip Stage_2_Wiring.zip in www.electricaldiploma2013.zoomshare.com AUSTRALIAN ELECTRICIAN TRAINING
5	<u>G007</u> G007 Lesson 1 AS3000 Wiring rule overview.zip http://www.filefactory.com/file/cf94220/n/G007_Lesson_1_AS3000_Wiring_rule_overview.zip G007 Lesson 2 Maximum Demand calculation.zip

	<p>http://www.filefactory.com/file/cf9456f/n/G007_Lesson_2_Maximum_Demand_calculation.zip</p> <p>G007 Lesson 3 Cable selection.zip</p> <p>http://www.filefactory.com/file/cf9465c/n/G007_Lesson_3_Cable_selection.zip</p> <p>G007 Lesson 4 Cable voltage drop calculation.zip</p> <p>http://www.filefactory.com/file/cf9479e/n/G007_Lesson_4_Cable_voltage_drop_calculation.zip</p> <p>G007 Lesson 5 Derating of cable part 1.zip</p> <p>http://www.filefactory.com/file/cf95acb/n/G007_Lesson_5_Derating_of_cable_part_1.zip</p> <p>G007 Lesson 6 Derating of cable part 2.zip</p> <p>http://www.filefactory.com/file/cf95a6b/n/G007_Lesson_6_Derating_of_cable_part_2.zip</p> <p>G007 Lesson 7 Derating of cable for HRC fuse protection.zip</p> <p>http://www.filefactory.com/file/cf95cd7/n/G007_Lesson_7_Derating_of_cable_for_HRC_fuse_protection.zip</p> <p>G007 Lesson 8 Final subcircuit fault loop impedance.zip</p> <p>http://www.filefactory.com/file/cf95dd1/n/G007_Lesson_8_Final_subcircuit_fault_loop_impedance.zip</p> <p>Electrical Installation requirement</p>
6	Click HERE to download the other exercises
7	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p>Do the assignments from the following book & submit the assignment (1) Cable Installation.zip</p> <p>Do the assignments from the following book & submit the assignment (2) Regulatory Requirement.zip</p>
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011.pdf
9	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p>PRACTICAL</p> <p>Workshop 2+3</p> <p>WorkShop_Part_2_Practical_1_to_6_.zip</p> <p>WorkShop_Part_2_Practical_7_to_12_.zip</p> <p>WorkShop_Part_2_Practical_13_to_17_.zip</p>

	<p>WorkShop_Part_2_Practical_18_to_21_.zip</p> <p>ElectricalWorkshopPart3_G008_Group1Machine_.zip</p> <p>ElectricalWorkshopPart3_G008_Group2LineProtection_.zip</p> <p>ElectricalWorkshopPart3_G008_Group3InstrumentsDevices_.zip</p> <p>OTHER PRACTICALS</p> <p>ELECTRICAL_WORKSHOP_PART_2_G003_G004_G009_.zip</p> <p>Electrical_Workshop_Part_2_Practical_1_to_18.zip</p> <p>Electrical_Workshop_Part_2_Practical_19_to_21.zip</p> <p>G003_G004_G009Practicals.pdf</p> <p>In</p> <p>www.electricaldiploma2013.zoomshare.com</p> <p>AUSTRALIAN ELECTRICIAN TRAINING</p>
1 0	
1 1	<p><u>BACK UP FOR 9 & 10</u></p> <p>Stage 2 Part 1B.zip http://www.filefactory.com/file/c0ccac0/n/Stage_2_Part_1B.zip</p> <p>Stage 2 Part 3.zip http://www.filefactory.com/file/c0ccb1f/n/Stage_2_Part_3.zip</p> <p>Stage 2 Part 6.zip http://www.filefactory.com/file/c0cccc0/n/Stage_2_Part_6.zip</p> <p>Stage 3 Part 3.zip http://www.filefactory.com/file/c0ccd44/n/Stage_3_Part_3.zip</p> <p>Stage 3 Part 4.zip http://www.filefactory.com/file/c0ccd9a/n/Stage_3_Part_4.zip</p> <p>Stage 3 Part 5.ziphttp://www.filefactory.com/file/c0ccefd/n/Stage_3_Part_5.zip</p> <p>Stage 3 Part 8.zip http://www.filefactory.com/file/c0ccf09/n/Stage_3_Part_8.zip</p> <p>Stage 3 Part 9.zip http://www.filefactory.com/file/c0ccf48/n/Stage_3_Part_9.zip</p> <p>Stage 4 Part 7.ziphttp://www.filefactory.com/file/c0cc479/n/Stage_4_Part_7.zip</p> <p>Stage 4 Part 8.zip http://www.filefactory.com/file/c0cc5a1/n/Stage_4_Part_8.zip</p> <p>Stage 4 Part 9.zip http://www.filefactory.com/file/c0cc5db/n/Stage_4_Part_9.zip</p> <p>Stage 4 Part 10.zip http://www.filefactory.com/file/c0cc5f8/n/Stage_4_Part_10.zip</p>

Study Guide EE07 & EE011

What to study	study		Which exercises to do		What practical to do	Resources
Main	study	Additional study	Main exercise		Additional exercises	
EE07 Unit	EE011 Unit	For EE07+EE011 +Video	Study Option (1) EE-07	Study Option (2) EE-07	for EE011	
UEENEEG03A Install low voltage wiring and accessories	UEENEEG103A Install low voltage wiring and accessories	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below
Study Option 1	Study Option 1					
See 1 below	See 3 below		EE011	=	EE07 +	Additional
Study Option 2	Study Option 2					
See 2 below	See 4 below					

1	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
2	
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip <u>G103+104 Notes+Lessons</u> http://www.filefactory.com/file/2bg8qift6nzh/n/G103_G104_zip
4	Wiring_Notes_1. Wiring_Notes_2 Switchboard_Wiring 1Wiring_E033_E008 2Wiring_E033_E008 Fixing Equipments

	<p>E002_E005.zip Lighting.zip</p> <p>E_trade_1.zip</p> <p>E_trade_2.zip</p> <p>E_trade_3.zip</p> <p>E_trade_4.zip</p> <p>G008_General_Notes_1.zip</p> <p>G008_General_Notes_2.zip</p> <p>Hazard_Identification.zip</p> <p>G003_G004_Wiring_2_Part_1.zip</p> <p>G003_G004_Wiring_2_Part_2.zip</p> <p>Cable_CktProt_E_Accessories.zip</p> <p>Cable_Conduit_E_Accessories.zip</p> <p>Elect_Installation_Protection_Method_Devices.zip</p> <p>Elect_Installation_Requirement_1.zip</p> <p>Elect_Installation_Requirement_1.zip</p> <p>Elect_Installation_Requirement_2.zip</p> <p>ElectricInstallationDesign.zip</p> <p>ElectSystSafety1.zip</p> <p>ElectSystSafety2.zip</p> <p>FireProtHeatingTestingEarthing.zip</p> <p>GeneralWiring.zip</p> <p>HazardLightingPanel.zip</p> <p>PanelRCDWireSpecial_Installation.zip</p> <p>ProtectionMethods.zip</p> <p>in</p> <p>www.electricaldiploma2013.zoomshare.com</p> <p>AUSTRALIAN ELECTRICIAN TRAINING</p>
5	<p><u>Electrical wiring + Electrical Installation requirement</u></p> <p><u>G003+G004+G007 Lesson 1 Electrical installation protection.zip</u></p> <p>http://www.filefactory.com/file/c35d2f2/n/G003_G004_G007_Lesson_1_Electrical_installation_protection.zip</p> <p><u>G003+G004+G007 Lesson 2 Electrical system safety.zip</u></p> <p>http://www.filefactory.com/file/cf937ac/n/G003_G004_G007_Lesson_2_Electrical_system_safety.zip</p> <p><u>G003+G004+G007 Lesson 3 Heating+Cable</u> ckt protection exercise.zip</p> <p>http://www.filefactory.com/file/c0abfe8/n/G003_G004_G007_Lesson_3_Heating_Cable_ckt_protection_exercise.zip</p>

	<p>G003+G004+G007 Lesson 4 Wiring system.zip http://www.filefactory.com/file/cf939f0/n/G003_G004_G007_Lesson_4_Wiring_system.zip</p> <p>G003+G004+G007 Lesson 5 Hazardous area electrical system.zip http://www.filefactory.com/file/cf94af8/n/G003_G004_G007_Lesson_5_Hazardous_area_electrical_system.zip</p> <p>G003+G004+G007 Lesson 6 Overload protection RCD.zip http://www.filefactory.com/file/cf94bcf/n/G003_G004_G007_Lesson_6_Overload_protection_RCD.zip</p> <p>G003+G004+G007 Lesson 7 RCD + Metering.zip http://www.filefactory.com/file/cf94cae/n/G003_G004_G007_Lesson_7_RCD_Metering.zip</p> <p>G003+G004+G007 Lesson 8 Switch board installation.zip http://www.filefactory.com/file/cf94c40/n/G003_G004_G007_Lesson_8_Switch_board_installation.zip</p> <p>G003+G004+G007 Lesson 9 Cable selection+Maximum demand.zip http://www.filefactory.com/file/cf94dbb/n/G003_G004_G007_Lesson_9_Cable_selection_Maximum_demand.zip</p> <p>G003+G004+G007 Lesson 10 Electrical installation safety testing.zip http://www.filefactory.com/file/cf94123/n/G003_G004_G007_Lesson_10_Electrical_installation_safety_testing.zip</p>
6	<p>Click HERE to download the other exercises</p>
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8	<p>http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf</p>
9	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p>Attend the face to face class</p> <p>PRACTICAL</p> <p>http://www.filefactory.com/file/54l4d5rif1z3/n/Advanced_Wiring_Part_1_zip</p> <p>Advanced Wiring Part 1+2—G103</p> <p>http://www.filefactory.com/file/1xb18xg1gaz1/n/Advanced_Wiring_Part_1_and_2_zip</p> <p>Electrical Installation Safety Testing</p> <p>http://www.filefactory.com/file/5mv9s6dx174h/n/Electrical_Installation_Safety_Testing_zip</p> <p>Workshop 2+3 WorkShop_Part_2_Practical_1_to_6_.zip</p>

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10	Stage 3 Part 8.zip http://www.filefactory.com/file/c0ccf09/n/Stage_3_Part_8.zip Power Distribution Trade Power_Distribution_Trade.zip Metering Metering.zip
11	<u>BACK UP FOR 9 & 10</u> Stage 2 Part 1B.zip http://www.filefactory.com/file/c0ccac0/n/Stage_2_Part_1B.zip Stage 2 Part 3.zip http://www.filefactory.com/file/c0ccb1f/n/Stage_2_Part_3.zip Stage 2 Part 6.zip http://www.filefactory.com/file/c0cccc0/n/Stage_2_Part_6.zip Stage 3 Part 3.zip http://www.filefactory.com/file/c0ccd44/n/Stage_3_Part_3.zip Stage 3 Part 4.zip http://www.filefactory.com/file/c0ccd9a/n/Stage_3_Part_4.zip Stage 3 Part 5.zip http://www.filefactory.com/file/c0ccefd/n/Stage_3_Part_5.zip Stage 3 Part 8.zip http://www.filefactory.com/file/c0ccf09/n/Stage_3_Part_8.zip Stage 3 Part 9.zip http://www.filefactory.com/file/c0ccf48/n/Stage_3_Part_9.zip Stage 4 Part 7.zip http://www.filefactory.com/file/c0cc479/n/Stage_4_Part_7.zip Stage 4 Part 8.zip http://www.filefactory.com/file/c0cc5a1/n/Stage_4_Part_8.zip Stage 4 Part 9.zip http://www.filefactory.com/file/c0cc5db/n/Stage_4_Part_9.zip Stage 4 Part 10.zip http://www.filefactory.com/file/c0cc5f8/n/Stage_4_Part_10.zip

Study Guide EE07 & EE011

What to	study		Which	exercis es to do		What practica l to do	Resourc es
Main	study	Additional study	Main exerci se		Addition al exercises		
EE07	EE011 Unit	For	Study	Study	for		

Unit		EE07+EE011 +Video	Option (1) EE-07	Option (2) EE-07	EE011		
	UEENEEG033A Solve problems in single and three phase low voltage electrical apparatus and circuits	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1						
See 1 below	See 3 below		EE011	=	EE07 +	Additional	
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1		
2		
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip <u>G033</u> http://www.filefactory.com/file/1b2utxydvcx7/n/G033_zip	
4	Wiring_Notes_1. Wiring_Notes_2 Switchboard_Wiring 1Wiring_E033_E008 2Wiring_E033_E008 Fixing Equipments E002_E005.zip Lighting.zip E_trade_1.zip E_trade_2.zip E_trade_3.zip E_trade_4.zip G008_General_Notes_1.zip G008_General_Notes_2.zip Hazard_Identification.zip	

	<p> G003_G004_Wiring_2_Part_1.zip G003_G004_Wiring_2_Part_2.zip Cable_CktProt_E_Accessories.zip Cable_Conduit_E_Accessories.zip Elect_Installation_Protection_Method_Devices.zip Elect_Installation_Requirement_1.zip Elect_Installation_Requirement_1.zip Elect_Installation_Requirement_2.zip ElectricInstallationDesign.zip ElectSystSafety1.zip ElectSystSafety2.zip FireProtHeatingTestingEarthing.zip GeneralWiring.zip HazardLightingPanel.zip PanelRCDWireSpecial_Installation.zip ProtectionMethods.zip In www.electricaldiploma2013.zoomshare.com AUSTRALIAN ELECTRICIAN TRAINING </p>	
5	<p> <u>Electrical wiring + Electrical Installation requirement</u> </p> <p> <u>G003+G004+G007 Lesson 1 Electrical installation protection.zip</u> </p> <p> http://www.filefactory.com/file/c35d2f2/n/G003_G004_G007_Lesson_1_Electrical_installation_protection.zip </p> <p> <u>G003+G004+G007 Lesson 2 Electrical system safety.zip</u> </p> <p> http://www.filefactory.com/file/cf937ac/n/G003_G004_G007_Lesson_2_Electrical_system_safety.zip </p> <p> <u>G003+G004+G007 Lesson 3 Heating+Cable</u> ckt protection exercise.zip </p> <p> http://www.filefactory.com/file/c0abfe8/n/G003_G004_G007_Lesson_3_Heating_Cable_ckt_protection_exercise.zip </p> <p> <u>G003+G004+G007 Lesson 4 Wiring system.zip</u> </p> <p> http://www.filefactory.com/file/cf939f0/n/G003_G004_G007_Lesson_4_Wiring_system.zip </p>	

	<p>G003+G004+G007 Lesson 5 Hazardous area electrical system.zip http://www.filefactory.com/file/cf94af8/n/G003_G004_G007_Lesson_5_Hazardous_area_electrical_system.zip</p> <p>G003+G004+G007 Lesson 6 Overload protection RCD.zip http://www.filefactory.com/file/cf94bcf/n/G003_G004_G007_Lesson_6_Overload_protection_RCD.zip</p> <p>G003+G004+G007 Lesson 7 RCD + Metering.zip http://www.filefactory.com/file/cf94cae/n/G003_G004_G007_Lesson_7_RCD_Metering.zip</p> <p>G003+G004+G007 Lesson 8 Switch board installation.zip http://www.filefactory.com/file/cf94c40/n/G003_G004_G007_Lesson_8_Switch_board_installation.zip</p> <p>G003+G004+G007 Lesson 9 Cable selection+Maximum demand.zip http://www.filefactory.com/file/cf94dbb/n/G003_G004_G007_Lesson_9_Cable_selection_Maximum_demand.zip</p> <p>G003+G004+G007 Lesson 10 Electrical installation safety testing.zip http://www.filefactory.com/file/cf94123/n/G003_G004_G007_Lesson_10_Electrical_installation_safety_testing.zip</p> <p>Electrical wiring + Electrical Installation requirement</p>	
6	Click HERE to download the other exercises	
7	<p>EE07 & EE011 units mapping for Theory study & Exercises Assessment</p> <p>Read the above notes files and do the assignments for the following tutorial file.</p> <p>WiringPracticals.zip</p> <p>G003G004Tutorial.zip</p> <p>www.electricaldiploma2013.zoomshare.com</p> <p>AUSTRALIAN ELECTRICIAN TRAINING</p>	
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf	
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1 0	<p>Power Distribution Trade Power_Distribution_Trade.zip</p> <p>Metering Metering.zip</p> <p>PRACTICAL</p> <p>Workshop 2+3</p> <p>WorkShop_Part_2_Practical_1_to_6_.zip</p> <p>WorkShop_Part_2_Practical_7_to_12_.zip</p> <p>WorkShop_Part_2_Practical_13_to_17_.zip</p> <p>WorkShop_Part_2_Practical_18_to_21_.zip</p> <p>ElectricalWorkshopPart3_G008_Group1Machine_.zip</p> <p>ElectricalWorkshopPart3_G008_Group2LineProtection_.zip</p> <p>ElectricalWorkshopPart3_G008_Group3InstrumentsDevices_.zip</p> <p>OTHER PRACTICALS</p> <p>ELECTRICAL_WORKSHOP_PART_2_G003_G004_G009_.zip</p> <p>Electrical_Workshop_Part_2_Practical_1_to_18.zip</p> <p>Electrical_Workshop_Part_2_Practical_19_to_21.zip</p> <p>G003_G004_G009Practicals.pdf</p> <p>In</p> <p>www.electricaldiploma2013.zoomshare.com</p> <p>AUSTRALIAN ELECTRICIAN TRAINING</p>	
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Textbook

Prescribed Texts:

TAFE NSW Higher Education 2012, *Engineering Practices (ENPRA101A) Lecture Notes and Workbook*, lecture notes distributed in Engineering Practices

Recommended Readings:

Hampson, J 2006, *Electrical Trade Principles*, Pearson Education Australia (Chapter 6)

Pethebridge, K & Neeson I 2009, *Electrical Wiring Practice Vol 1*, 7th or latest edition, McGraw Hill, Australia (Chapters 1, 4 and 7)

Pethebridge, K & Neeson I 2002, *Electrical Wiring Practice Vol 2*, 6th or latest edition, McGraw Hill, Australia (Section 22.6)

Standards Australia AS/NZS 3000:Electrical installations (Wiring Rules)

Standards Australia AS/NZS 3008 Electrical installations—Selection of cables

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Tutorial Exercises

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Further Readings

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Online Practicals

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Text Books for

ENEMP101A Introduction to Engineering Mathematics and Physics

ENEMP102A Foundation Engineering Mathematics and Physics

ENEMP201A Intermediate Engineering Mathematics and Physics

ENEMP202A Advanced Engineering Mathematics and Physics

Giancoli, DC, 2000, Physics For Scientists And Engineers, 4th or latest edition, Volumes 1,2,3, ISBN: 9780132273596.

http://www.filefactory.com/file/7c514m4yw0ov/Giancoli_-_Physics_6th_Solutions_pdf

http://www.filefactory.com/file/1588szswdljx/Giancoli_-_Physics_6th_pdf

Bird, J, 2007, Engineering Mathematics, 4th or latest edition, Newnes Publishing, ISBN: 0-7506-5776-6,

http://www.filefactory.com/file/2z1jzorebdwx/2-john-bird-higher-engineering-mathematics_pdf

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http://www.filefactory.com/file/6oh03k3msqv1/Basics_of_MATLAB_and_Beyond_pdf

http://www.filefactory.com/file/28cbwzhk6ral/Engineering_Mathematics_4E_pdf

http://www.filefactory.com/file/6uizsgnh2snp/Essentials_of_MATLAB_Programming_pdf

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http://www.filefactory.com/file/4ljoibd9h6dv/Learning_MATLAB_pdf

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http://www.filefactory.com/file/729l3my8kcsp/matlab_quickref_pdf

http://www.filefactory.com/file/2179ehdpx9g5/MatlabNotes_pdf

Text Books for

ENMCC 101A Foundation Mechanical & Civil Engineering Principle
ENMCC 201A Advanced Mechanical & Civil Engineering Principle

http://www.filefactory.com/file/724kx95f2ayf/27767685-Materials-Engineers-Technicians_pdf

http://www.filefactory.com/file/7analtqujo7z/59446893-A-Textbook-of-Engineering-Mechanics-by-R-K-Bansal_pdf

http://www.filefactory.com/file/4k7yvsvt47jr/123974244-strength-of-material-by-r-k-bansal_pdf

http://www.filefactory.com/file/3h4q2snf4kgd/Fluid_Mechanics_and_Thermodynamics_of_Turbomachinery_4E_pdf

<http://www.filefactory.com/file/4can70505quj/RE001%20BENERGY%20101A.pdf>

<http://www.filefactory.com/file/4f92zgjzgj/DC%20Power%20Supply.pdf>

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RE502- Biomass Gasification
RE503- Energy Management in Industrial and Commercial Facilities
RE504- Engineering Solution for Sustainability
RE505- Green Building Design
RE506- Low Emission Power Generation Technologies
RE507- Offshore Wind Turbines
RE508- Solar Hydrogen Energy System
RE509- Applied Photovoltaics
RE510- Water Conservation
RE511- Sustaining Earth Energy resources

A written report between 10,000 – 12,000 words that covers both theory & practical knowledges of the above units.

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RE506- Low Emission Power Generation Technologies.pdf (22.75MB)

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Part (4) Final Thesis

Res 601 Research Method

MAE 602 Thesis

[http://www.filefactory.com/file/1l1r1k0ftawt/n/11.Research+Thesis_\(ICT_605\).zip](http://www.filefactory.com/file/1l1r1k0ftawt/n/11.Research+Thesis_(ICT_605).zip)

This course guides the student, step by step, through the research process, from problem selection through writing up results. It provides all of the basics necessary to complete a research project in any discipline.

Outline. The following aspects are reflected in this course:

- What is research?

- Tools of research

- The problem: the heart of the research process

- Review of the related literature

- Planning your research design

- Writing the research proposal

- Qualitative research

- Historical research

- Descriptive research

- Experimental and causal - comparative designs

- Statistical techniques for analyzing quantitative data

- Technical details: style, format, and organization of the research report

Masters Research Proposal

Synopsis: Research students are expected to present a written research proposal within three months after commencement. The proposal is handed in to the study leader. Assessors of this proposal are selected by the faculty for their understanding of the field and the research involved. The purpose of a research is to set out a plan for conducting the research and writing the dissertation within the available time. It should take account of the availability and guidance of the study leader. The starting point for a research proposal is the topic, which is the field of interest in which the research is to be carried out. In introducing the topic, the proposal should clarify the field that it falls into and the specific part of that field which the research will explore. It should clarify why the topic is of interest and importance, and how the proposed research will contribute to the field of knowledge or profession. The proposal should clarify the research questions, ensuring that these are specific and answerable. It is important to show how these questions relate to the topic, and how they will advance the student's contribution. The proposal should detail the research to be carried out, and clarify the research methods, the timeframe and the reasons for selecting particular methods. Where a period of literature review or research should precede any empirical research, this should be factored in as part of the research. It is important to estimate any periods of field research and to flag their duration and cost in your research proposal.

MAE 601 Professional Engineering Practice

MENG6003 Selective I: management subject (45 hrs) 3 credits

MENG6004 Selective II: management subject (45 hrs) 3 credits

Res 601 Research Method

MENG6005 Quantitative Methods and Statistics (45 hrs) 3 credits

MAE 602 Thesis

Engineering Project/Thesis 24 credits

Candidates need to complete a 6000-words engineering dissertation (in Myanmar or English) and a 3000-words executive portfolio (in English).

This program requires the candidates to complete a dissertation as part of the assessment for the MSc (RE) degree. Doing a thesis means that instead of knowledge and information being presented and following a prescribed route for answering questions, candidates are thrust into an active role of managing an investigation into a topic area. This means researching and discovering things for themselves. They will have to set their own targets and parameters, pose their own central research questions and decide on the appropriate sources of information to support the research. It therefore requires the use of the higher-level cognitive skills of analysis, synthesis and evaluation. Candidates may choose an area of particular interest to them within the scope of course title. A dissertation is an individual effort and the candidate, academic tutor and the course professor will work together on constructing an approved topic (research question) and methodologies.

Engineering Dissertation Defense 9 credits

It is expected of Master's candidates to defend their thesis by means of a colloquium doctum (academic discussion). The purpose of the meeting is for the candidates to convince a panel of experts in the field of the dissertation how well they have done in the conducting of their research study and the preparation of their dissertation

Program Total Credits 48 credits

Candidates need to complete all course assessments with the results of Grade B+ or above.

IQY Master Diploma in Engineering Study Program

(240 credits including 120 Credits for Professional Diploma/ BE degree/ City & Guild Level 6 Diploma)

(St Clements University -Master of Applied Engineering)

PART (A) IQY Master Diploma in Engineering Part 1- 80 credits

(St Clements University's Graduate Diploma in Applied Engineering)

(STC Technological University Graduate Diploma in Engineering)

<http://www.highlightcomputer.com/GraduateDiplomaEngineeringPractice.htm>

BAE 701 Engineering Fundamental 10 Credits

The candidates need to down load the textbooks from given link

For every topic, you need to write the short note on what you understand, formula, summary, outlines and at least 2 problems solution (Please note, each problem is solved in short form, you need to clearly reproduce them by step by step)

After having done all above tasks, BAE 701 Engineering Fundamental will be completed.

BAE 702 Engineering Management 10 Credits

See the given site

View the videos, down load the lessons, study and then do the exercises.

BAE 703 Leadership & Human Resources Management 10 Credits

See the given site

View the videos, down load the lessons, study and then do the exercises,

BAE 704 Risk Management & Industrial Safety 10 Credits

See the given site

View the videos, down load the lessons, study and then do the exercises,

BAE 705 Engineering Competency Development 10 Credits

See the given site

View the videos, down load the lessons, study and then do the exercises,

Assignment

During your study

- List the subjects that you have learnt in your study at college/ university
- List the subjects that you have achieved the good mark and explain why and how you got it
- List the subjects that you just marginally passed and explain why it happened
- List the practical tasks that you have done at college/ university
- List any reference books, tuition classes, practical books that you have read at college/ university

After Graduation

- If you are working, provide your CV that shows the detailed of your employment
- If you have not worked, list any training, engineering books , online websites, online videos etc that you study

Your future plan

- Provide an outline what you want to be, what training you will attend, what practical tasks you will do. If you have already attended the trainings and courses, provide the certificates

BAE705 will be completed when you have done the above tasks

BAE 706 Engineering Report Writing 10 Credits

Study the given report format.

You need to read one news paper article or web information or if you can , visit a practical work site and then write a report by following steps

- Title
- Brief description of topics
- Contents
- Detailed information
- Reference data, photos, tables, diagrams to be inserted
- Conclusion
- Reference list

BAE706 will be completed when you have done the above tasks

BAE 707 Engineering Ethics 10 Credits

Society of Professional Engineers-UK

<http://www.professionalengineers-uk.org/index.php/the-society/code-of-professional-conduct>

Code of Professional Conduct

All individuals registered as Professional Engineers and those aspiring to become registered Professional Engineers shall deliver services in accordance with the Society's Code of Professional Conduct and shall:

1. Competence

a) only undertake professional tasks for which they are competent and will at all times exercise all reasonable professional skill and care to prevent avoidable danger to health or safety and the creation of adverse impacts on the environment.

b) maintain and broaden their knowledge, experience and competence and encourage others to do so.

2. Integrity

a) treat all persons fairly with respect and without bias

b) avoid where possible real or perceived conflict of interest and advise affected parties should such conflicts arise.

c) observe the proper duties of confidentiality owed to appropriate parties.

d) discharge their professional duties with integrity, impartiality and objectivity and have no involvement with any form of bribery.

3. Responsibility

a) accept appropriate responsibility for work carried out under their supervision.

b) assess relevant risks and liability and, if appropriate, have in force appropriate liability insurances.

c) notify the Society within 28 days:

- if convicted of a criminal offence other than parking fines or convictions for exceeding the speed limit:
- upon becoming bankrupt or disqualified as a Company Director:
- if they are removed from the membership of another professional body as the result of a matter relating to conduct.

d) notify the Society of any significant violation of the Code of Conduct by any Professional Engineer on the register or any aspiring member seeking to gain access to the register.

4. Information

a) co-operate with the Society and provide such information as may be requested to facilitate any investigation into the conduct of any Professional Engineer on the register or any aspiring member seeking to gain access to the register.

5. Relationships

a) have due regard to their duty of care to clients and not take advantage of any client or potential client for whatever cause or reason in obtaining and carrying out instructions.

b) put all terms of engagement in writing and state the fees to be charged; whenever practicable, these should be issued to the client before a project is begun.

c) inform his/her client immediately if it appears that his/her estimate as to the total fees to be charged is likely to be or will be exceeded.

d) take care not to mislead a client as to the range of services that a quoted fee is intended to cover and the amount of future fees which may be involved.

Note in respect of relationships: Any Professional Engineer on the register or any aspiring member seeking to gain access to the register shall not:

- accept a professional assignment if he/she is aware or has reasonable cause to suspect that another member is acting for the client in respect of the same assignment, until either the first contract has been determined by the client, or the other member has consented to him acting.
- induce a client to agree to pay sums of money which are not justified by reference to the work which the member has carried out or has been instructed to carry out.
- offer or give any fee, commission, discount or other inducement (financial or otherwise) to a third party in return for the introduction of clients or particular professional assignments unless, before entering into a legally binding agreement

with that client he/she makes full disclosure to the relevant client of the nature or amount of such fee, commission, discount or inducement and the name of the person or persons to whom such fee, commission, discount or inducement was offered or given.

6. Practice

a) Ensure that in respect of any firm in which he/she is or is held out to be a sole proprietor, partner or a director or through which he/she practises or conducts business:

- the composition (list of partners or directors) is clearly stated on all appropriate documentation and that where there has been a material alteration to the composition, all clients of the firm or company are notified of the change promptly;
- the style or title does not adversely reflect upon his/her professional status as a Professional Engineer and the dignity and reputation of the engineering profession;
- the name is not misleading or liable to cause confusion with the public, nor does it imply any partnership arrangement with or endorsement of services by the Society.

b) Titles associated with the registration of Professional Engineers such as "PEng" and "PEng(UK)" and membership of the Society such as "Fellow of the Society of Professional Engineers", "Member of the Society of Professional Engineers", and all others relating to membership of the Society of Professional Engineers, and the designations FSPE, MSPE, Hon.FSPE, Hon.MSPE shall only be used or authorised to be used in connection with a partnership or company

- in the name of any partnership in which such member practises provided all the member's partners are similarly entitled to use the Title and designatory letters
- to describe the name of any company provided only that all the shareholders and/or members of such company and all the directors of such company are similarly entitled to use the Title.
- to describe the name of a firm or business which is not a partnership or company in which he/she practises provided such use of the Title does not give the impression that any other person or persons with whom such member is carrying on business or whom such member employs or with whom such member is associated in any way is entitled to use the same Relevant Title or, if the impression referred to is given, such other person or persons is or are similarly entitled to use the Title.

7. Managerial responsibility

a) In addition to the responsibilities referred to in the Rules of Professional Conduct, but subject to the following, any Professional Engineer on the register or any aspiring member seeking to gain access to the register shall be prima facie

responsible, as a matter of professional conduct, for the acts or omissions including, in particular, breach of any of the provisions of the Articles and Bye-Laws of the Society or these Rules of Professional Conduct of:

- any firm in which the member is, or holds him/herself out to be, or allows him/herself to be held out as a partner, or any firm which the member allows to use his/her name and/or style and title or designatory letters in any of its advertisements, publicity material or notepaper; and
- any company of which he/she is a director or any co-director of that company or any company which the member allows to use his/her name and/or style and title or designatory letters in any of its advertisements, publicity material or notepaper.

b) If any Professional Engineer on the register or any aspiring member seeking to gain access to the register is able to show that, without default on his/her part, he/she was not aware, and there was no reason for him to be aware at the time of any breach of these provisions by any firm or company referred to above and he/she had, prior to the breach, taken all reasonable steps to ensure that such a breach would not occur, then he/she shall not be in breach of this Rule.

8 Publicity and Advertising

a) Any Professional Engineer on the register or any aspiring member seeking to gain access to the register may publicise his/her services or permit another person to do so, but in doing so the member must have due regard to the standards set by the Advertising Standards Authority and any standards set by any other regulatory or governmental authority in relation to advertising and ensure that any publicity for which he/she is in any way responsible is neither inaccurate nor misleading.

b) In all advertising, publicity material or public statements for which any Professional Engineer on the register or any aspiring member seeking to gain access to the register is in any way responsible, he/she shall avoid all claims of superiority over, or critical comparisons of, the services provided by other engineers and shall avoid any direct comparison of fees and charges levied by other engineers.

c) Any Professional Engineer on the register or any aspiring member seeking to gain access to the register may only refer to the name of a client in any advertising, publicity material or public statement if the prior written consent of that client is first obtained.

d) Advertisements or other publicity material issued by any Professional Engineer on the register or any aspiring member seeking to gain access to the register or

by a firm in which they are held out to be a partner or director or a company through which they practise or conducts their business may state (subject to compliance with any other relevant regulations or legal requirements) either expressly or implied that they, the firm or the company (as the case may be) offers expertise or specialist advice in relation to a particular field of engineering provided only that this is the case.

ASSIGNMENT

From newspaper, journal, internet, online chatting groups, show one event that signify the breach of engineering ethics such as use of substandard materials, breach of safety law, breach of fair practice, attempt to monopolizing , use of law and authority for safeguarding own benefits or personal associates , depressing others and highlight how engineering ethics are breached.

BAE 708 Engineering Knowledge 10 Credits

See the given site

From the list of the subject, select two subjects, ask me to send the e-Book. Then you have to do the followings

The students will have to write 20 pages study report for each of the subjects outlined below.

The report needs to include

☐ Book review- Review on each chapter of the book highlighting the key concepts, key formula, key theory & practical application concepts

☐ Own idea on how to apply those concepts in real practical applications.

☐ Examples of engineering designs that use the concepts & knowledge expressed in those books (If any)

☐ Your comment on each book

BAE708 will be completed when you have done the above tasks

PART (B) IQY Master Diploma in Engineering Part 2- (40 credits)

(St Clements University's Master of Applied Engineering)

(STC Technological University Master of Engineering)

BAE709-Design Project (40 credits)

You need to do a supervised design. In this unit, Singapore Institute of Engineering Technologists can provide the supervised design which is a part of Professional Engineers (UK) Assessment. If you do not want to apply for part of Professional Engineers (UK), IQY Technical College itself will provide design supervision that you can later use it to apply for Professional Engineers (UK)

See the given links for required engineering handbooks

You can ask the teacher to send you the e-Books if you want to use it for your selected design

IQY Master Diploma in Applied Science (Information Technology)

(240 credits including 120 Credits for Professional Diploma/ BE degree/ City & Guild Level 6 Diploma)

Master of Applied Science (Information Technology)

(St Clements University)

(240 credits including 120 Credits for Professional Diploma/ BE degree/ City & Guild Level 6 Diploma)

Follow the instructions in

<http://www.highlightcomputer.com/MAppSCIT.pdf>

The candidates will need to request the e-book for study

IQY Master Diploma in Renewable Energy Engineering

Master of Applied Engineering (St Clements University)

Master of Engineering (Renewable Energy)(STC Technological University)

(240 credits including 120 Credits for Professional Diploma/ BE degree/ City & Guild Level 6 Diploma)

Follow the instructions in

<http://www.highlightcomputer.com/MScRE.pdf>

The candidates will need to request the e-book for study

ADDITIONAL COURSE

Doctoral Research Studies

IQY Master Diploma in Research Studies

http://www.highlightcomputer.com/Master_of_Engineering.pdf

Only St Clements University will confer the Doctoral Degree while IQY Technical College will provide the joint supervision.

Dissertation for Doctorate

MAE 601 Research Method

MAE602 Thesis

[http://www.filefactory.com/file/111r1k0ftawt/n/11.Research+Thesis_\(ICT_605\).zip](http://www.filefactory.com/file/111r1k0ftawt/n/11.Research+Thesis_(ICT_605).zip)

MAE601 Research Method

This course guides the student, step by step, through the research process, from problem selection through writing up results. It provides all of the basics necessary to complete a research project in any discipline.

Outline. The following aspects are reflected in this course:

What is research?

Tools of research

The problem: the heart of the research process

Review of the related literature

Planning your research design

Writing the research proposal

Qualitative research

Historical research

Descriptive research

Experimental and causal - comparative designs

Statistical techniques for analyzing quantitative data

Technical details: style, format, and organization of the research report

Doctoral Research Proposal

Synopsis: Research students are expected to present a written research proposal within three months after commencement. The proposal is handed in to the study leader.

Assessors of this proposal are selected by the faculty for their understanding of the field and the research involved. The purpose of a research is to set out a plan for conducting the research and writing the dissertation within the available time. It should take account of the availability and guidance of the study leader.

The starting point for a research proposal is the topic, which is the field of interest in which the research is to be carried out. In introducing the topic, the proposal should clarify the field that it falls into and the specific part that field which the research will explore.

It should clarify why the topic is of interest and importance, and how the proposed research

will contribute to the field of knowledge or profession. The proposal should clarify the research questions, ensuring that these are specific and answerable.

It is important to show how these questions relate to the topic are, and how they will advance the student's contribution. The proposal should detail the research to be carried out, and clarify the research methods, the timeframe and the reasons for selecting particular methods.

Where a period of literature review or research should precede any empirical research, this should be factored in as part of the research. It is important to estimate any periods of field research and to flag their duration and cost in your research proposal.

MAE 602 Thesis

Thesis Dissertation for Doctorate

Candidates need to complete a 60000-words dissertation (in Myanmar or English) and a 3000-words executive portfolio (in English).

This program requires the candidates to complete a thesis as part of the assessment for the Doctorate

Doing a thesis / dissertation means that instead of knowledge and information being presented and following a prescribed route for answering questions, candidates are thrust into an active role of managing an investigation into a topic area. This means researching and discovering things for themselves.

They will have to set their own targets and parameters, pose their own central research questions and decide on the appropriate sources of information to support the research. It therefore requires the use of the higher-level cognitive skills of analysis, synthesis and evaluation. Candidates may choose an area of particular interest to them within the scope of course title.

Doctoral dissertation

A dissertation is an individual effort and the candidate, academic tutor and the course professor will work together on constructing an approved topic (research question) and methodologies.

Dissertation Defence for doctorate

It is expected of Doctoral candidates to defend their thesis by means of a colloquium (academic discussion). The purpose of the meeting is for the candidates to convince a panel of experts in the field of the dissertation how well they have done in the conducting of their research study and the preparation of their dissertation

Candidates need to complete all course assessments with the results of Grade B+ or above.

Weblink

www.highlightcomputer.com/iqymasterdiploma2.pdf

Pre-requisites

Year 10 to 12

Year 1-Diploma in Renewable Energy Engineering

List of subjects (Total 30 credits)

RE001- Foundation Studies in Renewable Energy and Sustainability

RE002- Grid Connected Photovoltaic Power Systems

RE003- Solar and Thermal Energy Systems

RE004- Energy Storage Systems

RE005- Renewable Energy Resource Analysis

RE006- Wind Energy Conversion Systems

RE007- Energy System Efficiency

Year 2 Advanced Diploma in Electro-Mechanical Engineering (Renewable Energy Construction) (Total 60 Credits)

Semester (1)

RE008-Mathematics & Physics (I)

RE009-Mathematics & Physics (II)

RE010-Engineering Materials

RE011-Civil & Mechanical Engineering

Semester (2)

RE012-Electrical Engineering

RE013-Electrical Machines

RE014-Electronics Control

RE015-Electrical Project

Final Project

RE016-Design & Management

Year 3+4 Bachelor of Applied Engineering Technology(Renewable Energy Engineering)

(2 points / unit x 15 units = 30 points)

Year 3

RE101 Mathematics 1A (MATH1131)

RE102 Mathematics 1B (MATH1231)

RE103 Physics 1A (PHYS1121)

RE104 Physics 1B (PHYS1221)

RE105 Engineering Design (ENGG1000)

RE106 Electronics & Telecomm Engineering (1)
(ELEC1111)

RE107 Sustainable Energy (SOLA1070)

Year 4

RE201	Electronics & Telecomm Engineering (2) (ELEC1111)
RE202	Numerical Methods & Statistics (MATH2089)
RE203	Engineering Materials and Chemistry (MATS1101)
RE204	Project in PV and Solar Energy (SOLA2051)
RE205	Sustainable & Renewable. Energy. Technology (SOLA2053)
RE206	Introduction to Electronics Devices (SOLA2060)
RE207	Applied Photo Voltaics (SOLA2540)
RE208	Project Presentation

Bachelor of Engineering (Renewable Energy Engineering)
(2 points / unit x 15 units = 60 points+ Thesis)

Year 5

RE301	Low Energy Buildings and PV (SOLA3010)
RE302	PV Technology & Manufacturing (SOLA3020)
RE303	Software Engineering (COMP3111)
RE304	Analogue Electronics (ELEC2133)
RE305	Power Electronics (ELEC4614)
RE306	Electromagnetic Engineering (ELEC3115)
RE307	Circuits and Signals (ELEC2134)
RE308	Control Systems (ELEC3114)

Year 6

RE401	Fluid Mechanics (MMAN2600)
RE402	Thermodynamics (MMAN2700)
RE403	Computational Fluid Dynamics (MECH9620)
RE404	Strategic Leadership & Ethics (ELEC4122)
RE405	Grid-Connect PV System (SOLA4012)
RE406	Wind Energy Converters (SOLA5053)
RE407	Semiconductor Devices (SOLA5055)
RE408	Thesis

Total 120 Points + Thesis for award of Professional Diploma/Bachelor of Engineering (Renewable Energy Engineering)

ASSESSMENT MODE- Submission of Study Records/ Assignments/ Test in some subjects/ Project , Thesis

ONLINE ENROLMENT

<http://www.iqytechnicalcollege.com/enrolment.htm>

Pre-requisites

Year 10 to 12

Year 1-Diploma in Renewable Energy Engineering

List of subjects (Total 30 credits)

RE001- Foundation Studies in Renewable Energy and Sustainability

RE002- Grid Connected Photovoltaic Power Systems

RE003- Solar and Thermal Energy Systems

RE004- Energy Storage Systems

RE005- Renewable Energy Resource Analysis

RE006- Wind Energy Conversion Systems

RE007- Energy System Efficiency

Year 2 Advanced Diploma in Electro-Mechanical Engineering (Renewable Energy Construction) (Total 60 Credits)

Semester (1)

RE008-Mathematics & Physics (I)

RE009-Mathematics & Physics (II)

RE010-Engineering Materials

RE011-Civil & Mechanical Engineering

Semester (2)

RE012-Electrical Engineering

RE013-Electrical Machines

RE014-Electronics Control

RE015-Electrical Project

Final Project

RE016-Design & Management

Year 3+4 Bachelor of Applied Engineering Technology(Renewable Energy Engineering)

(2 points / unit x 15 units = 30 points)

Year 3

RE101 Mathematics 1A (MATH1131)

RE102 Mathematics 1B (MATH1231)

RE103 Physics 1A (PHYS1121)

RE104 Physics 1B (PHYS1221)

RE105 Engineering Design (ENGG1000)

RE106 Electronics & Telecomm Engineering (1)
(ELEC1111)

RE107 Sustainable Energy (SOLA1070)

Year 4

RE201	Electronics & Telecomm Engineering (2) (ELEC1111)
RE202	Numerical Methods & Statistics (MATH2089)
RE203	Engineering Materials and Chemistry (MATS1101)
RE204	Project in PV and Solar Energy (SOLA2051)
RE205	Sustainable & Renewable. Energy. Technology (SOLA2053)
RE206	Introduction to Electronics Devices (SOLA2060)
RE207	Applied Photo Voltaics (SOLA2540)
RE208	Project Presentation

Bachelor of Engineering (Renewable Energy Engineering)
(2 points / unit x 15 units = 60 points+ Thesis)

Year 5

RE301	Low Energy Buildings and PV (SOLA3010)
RE302	PV Technology & Manufacturing (SOLA3020)
RE303	Software Engineering (COMP3111)
RE304	Analogue Electronics (ELEC2133)
RE305	Power Electronics (ELEC4614)
RE306	Electromagnetic Engineering (ELEC3115)
RE307	Circuits and Signals (ELEC2134)
RE308	Control Systems (ELEC3114)

Year 6

RE401	Fluid Mechanics (MMAN2600)
RE402	Thermodynamics (MMAN2700)
RE403	Computational Fluid Dynamics (MECH9620)
RE404	Strategic Leadership & Ethics (ELEC4122)
RE405	Grid-Connect PV System (SOLA4012)
RE406	Wind Energy Converters (SOLA5053)
RE407	Semiconductor Devices (SOLA5055)
RE408	Thesis

Total 120 Points + Thesis for award of Professional Diploma/Bachelor of Engineering (Renewable Energy Engineering)

ASSESSMENT MODE- Submission of Study Records/ Assignments/ Test in some subjects/ Project , Thesis

ONLINE ENROLMENT

<http://www.iqytechnicalcollege.com/enrolment.htm>

IQY Technical College Languages

www.iqytechnicalcollege.com/language.htm

MYANMAR ETHNICS LANGUAGES

Myanmar

Karen

Kachin

Chin

Shan

Mon

Kayah

Rakhine

Wa

Palaung

INTERNATIONAL LANGUAGES

English

French

Spanish

Chinese

Bengali

Danish

Finnish

Irish
Norwegian
Polish
Turkish
Urdu
Japanese
Korean
Hindi
Arabic
Greek
Italian
Russian
Hebrew
Thai
Khamer
Malay
Portuguese
Dutch
German
Farsi (Persian)
Vietnamese
Laotian
Indonesian
Mongolian

Filipino (Tagalog)

Icelandic

Serbian+Croatian

Tamil

Sinhala

Bhutanese(Dzongkha)

Nepali

Swedish

Finnish

Tibetan

Austrian

Albanian

Hungarian

Romanian

Fijian

Bulgarian

Diploma/ Advanced Diploma in Marine Engineering + Professional Diploma in Engineering (Marine & Mechanical) Bachelor of Engineering (Marine & Mechanical)

Objective

The course prepares students for careers in

- Marine and Offshore Engineering - the selection, deployment and commissioning of machinery, machinery systems and operational systems for merchant and naval vessels plus offshore floating and fixed vessels/structures. Building on core fundamental engineering units, this degree specialises in associated mechanical and mechanical-electrical power generation, machinery and operational systems.

Diploma/ Advanced in Marine Engineering is 30 to 60 credit points diploma. Depending on the amount of study, the graduates can achieve Diploma or Advanced Diploma in Marine Engineering

The students who completed this diploma can proceed to third year and fourth year of Professional Diploma in Mechanical Engineering and can be graduated with Professional Diploma in Marine and Mechanical Engineering OR BE(Marine & Mechanical)

Please see

<http://www.highlightcomputer.com/BEwithRE.pdf>

http://www.highlightcomputer.com/Dip_Mar_E_Course_outline.pdf

Diploma/ Advanced Diploma in Automotive Engineering

Professional Diploma in Engineering (Automotive & Mechanical) Bachelor of Engineering (Automotive & Mechanical)

Diploma/ Advanced in Automotive Engineering is 30 to 60 credit points diploma. Depending on the amount of study, the graduates can achieve Diploma or Advanced Diploma in Automotive Engineering

The students who completed this diploma can proceed to third year and fourth year of Professional Diploma in Mechanical Engineering and can be graduated with Professional Diploma in Automotive and Mechanical Engineering OR BE(Automotive& Mechanical)

Please see

<http://www.highlightcomputer.com/BEwithRE.pdf>

http://www.highlightcomputer.com/Dip_AE_Course_Outline.pdf

Professional Diploma in Engineering (Naval Architecture) Bachelor of Engineering (Naval Architecture)

Objective

The course prepares students for careers in

Naval Architecture - the shipbuilding industry, high-speed ferry industry, marine consultancy firms and in government in areas of commercial shipping, transport policy and administration and in the insurance sector.

Learning Outcomes

1. NavArch: Rationally apply comprehensive knowledge of the fundamental principles underpinning maritime engineering, with advanced knowledge of **ocean vehicle design, hydrodynamics, ship structures, and/or on-board systems and equipment** specific to the naval architecture discipline, using creativity, critical thinking and judgement.

OceanEng: Rationally apply comprehensive knowledge of the fundamental principles underpinning maritime engineering, with advanced knowledge of **the design of offshore to coastal installations, subsea platforms and additional equipment and techniques for operations in the maritime environment** specific to the ocean engineering discipline, using creativity, critical thinking and judgement.

MarOffEng: Rationally apply comprehensive knowledge of the fundamental principles underpinning maritime engineering, with advanced knowledge of **the design, procurement and installation of mechanical, electrical and thermal systems**, specific to the marine and offshore engineering discipline, using creativity, critical thinking and judgement.

2. Apply knowledge of research principles and management methods to devise, plan and execute a piece of engineering research with limited supervision.

3. Apply problem solving, design and decision-making methodologies to identify complex problems in both the maritime and wider engineering fields and to formulate innovative solutions with intellectual independence.

4. NavArch: Apply abstraction and analysis to complex problems specific to **ship design and construction industries and the wider maritime sector** whilst concurrently considering the implications of the solution in a global and sustainable context using appropriate engineering methods and tools.

OceanEng: Apply abstraction and analysis to complex problems specific to **the design and development of offshore, subsea and coastal infrastructure and operations in the wider maritime sector** whilst concurrently considering the implications of the solution in a global and sustainable context using appropriate engineering methods and tools.

MarOffEng: Apply abstraction and analysis to complex problems specific to **the maritime engineering industries** whilst concurrently considering the implications of the solution in a global and sustainable context using appropriate engineering methods and tools.

5. Demonstrate a high level of communication skills in professional practice and articulate complex knowledge, by written and oral means, to specialist and nonspecialist audiences; including clients, multi-disciplinary and multi-cultural project teams and stakeholders.
6. Demonstrate entrepreneurship and creativity, professional accountability and ethical conduct through the application of design, research and project management techniques while concurrently displaying an awareness of professional engineering practice.
7. Review personal performance, demonstrate independent initiatives and leadership as a means of managing continuing professional development, wellbeing and lifelong learning through engagement with stakeholders, colleagues and members of other professions.

Program of study

To qualify for the Professional Diploma/Bachelor of Engineering (Naval Architecture)

a student must complete 120 Credits

GENERAL STUDIES- 60 Credits

ENGR1204-Electronics (6pt)-----BAE405/408(EE)

ENGR1401 Professional Skills (2 pt)-----BAE608 (ME Yr 4)

ENGR1711 Engineering Design (2 pt) -----BAE614 (ME Yr 4)

ENGR1721 Engineering Programming (2 pt)-----BAE601 (ME Yr 4)

ENGR1722Engineering Physics and Materials (4 pt)-----RE010+ EE204 (EE Adv Dip)

ENGR1732 Engineering Mechanics (4 pt)-----ME103 (Adv Dip ME) / BAE403 (Common Yr 3 BE)

MATH1121 Mathematics 1A (4 pt)----- EE201/302 (EE Adv Dip)

MATH1122 Mathematics 1B (2 pt)----- BAE401(Common Yr 3 BE)

ENGR2703 Mechanical Practice Certificate (6 pt) PC5 Certificate in Fitting/Machining, PC6 Certificate in Welding/ PC8 Certificate in Air-conditioning Refrigeration & Basic Servicing

ENGR2711 Engineering Mathematics (2 pt) -----BAE402 (Common Yr 3)

ENGR2722 Analysis of Engineering Systems (6 pt)----BAE502/BAE50 (Linear System+ Control System) (EE)/ME203 (Adv Dip ME)

ENGR2741 Mechanics and Structures (4 pt)-----RE011a/b Civil & Mechanical Engineering (Mechanical/Civil) (Common Yr 3 BE)

ENGR2751 Fluid Mechanics (2 pt units)-----BAE423 Fluid Mechanics (Civil)

ENGR2771 Dynamics (2 pt)-----BAE614 (ME Yr 4)

ENGR2776 Hydrostatics (2 pt) -----ME201 (Adv Dip ME)

ENGR3781 Elements of Shipboard Safety (ESS) Certificate (4 units) MarE106 (Dip Mar E)

PHYS2712 Thermodynamics and Energy Systems (2 pt)-----BAE404 (Common Yr 3 BE)

ME634 Pneumatics (2 pt) (Adv Dip ME)

ME303 Computer Aided Design (2 pt) (Adv Dip ME)

NAVAL ARCHITECTURE AND RELATED STUDY 60 Credits

ENGR2766 Ship Design and Construction -----MarE113N (Dip Mar E)

NArch 601 Ship Construction (Naval Architecture) Theory 40 Credits

Each 2 credits

MarE113NA Ship Repairing

MarE113NB Ship Construction Engineering

MarE113NC Principle of Ship Stability

ME206 Introduction to Turbo Machinery

Mar E 110 General Engineering Knowledge

Mar E 111 Motor Engineering Knowledge

Mar E 107 Marine Electrical Practice

ME 305 Corrosion Prevention

NArch 501 Naval Architecture

NArch 502 Ship Design and Construction

NArch 503 Practical Ship Design

NArch 504 Ship Stability Control

NArch 505 History of Ship Design Calculations

NArch 506 Ship Technology

NArch 507 Ship Building Methods.pdf

NArch 508 Ship Design Research

Mgt 508 Project Management

Mgt 605 Management

Mgt505 Quality Management

NArch 509 Ship Propulsion

NArch 602 Ship Construction (Naval Architecture) Project 20 Credits

Detailed Contents

ENGR1201 Electronics

Topic Description	<p>Electronics provides students with an understanding of basic electronics. It includes:</p> <ol style="list-style-type: none">1. Digital Electronics: digital design concepts, number systems and signed numbers, combinational logic and design, minimisation of logic expressions, hazards, sequential logic and design, finite state machines2. Analog Electronics: circuit variables and elements, simple resistive circuits, techniques of circuit analysis3. Microprocessors: introduction to microprocessors, sensors and motors, microprocessor programming4. Workshop Practice: bonding methods, soldering and flux, planning and designing electronic equipment, printed circuit boards and microelectronics
Educational Aims	<p>This topic aims</p> <ol style="list-style-type: none">1. To provide students with a thorough understanding of the principles of combinational and sequential digital logic2. To develop the fundamental theoretical and practical skills required to carry out the design and analysis of digital electronic circuits3. To introduce the elements and basic operation of a microprocessor4. To introduce the manufacture and processes of thick and thin film microelectronics, printed circuit boards, and surface mount packages, the processes, practice, and assessment of soldering, component mounting and other connection methods, and fire safety
Expected Learning Outcomes	<p>At the completion of this topic, students are expected to be able to:</p> <ol style="list-style-type: none">1. Analyse, design and construct simple digital circuits2. Analyse, design and construct simple finite state machines3. Understand and apply basic principles of electric circuit theory4. Understand and use electrical components and instruments5. Have knowledge and understanding of microprocessors, motors and sensors6. Write simple programs for a microcontroller7. Have knowledge and understanding of microelectronics, printed circuit boards and surface mount technology8. Perform and assess electronics assembly tasks, such as soldering and wiring

ENGR1401 Professional Skills

Topic Description	This topic provides an introduction to engineering with a focus on the role of the engineering team in providing a range of products and services. The initiation, planning and development of engineering projects including such subjects as feasibility studies, design and performance specifications, construction, testing and evaluation, operation and maintenance of engineering systems and the optimum use of resources. Aside from technical considerations, the topic will consider the social, economic, political, environmental and ethical issues related to engineering projects as well as the relevant communication and interpersonal skills.
Educational Aims	The aim of this topic is to introduce students to the general nature of engineering and the core professional practices associated with an engineering project. The topic is to develop an understanding of the nature of engineering a range of transferable skills and knowledge including engineering project planning, feasibility and design, oral and written communication skills, meeting procedures, and the ability to work as a group.
Expected Learning Outcomes	<p>At the completion of the topic, students are expected to be able to:</p> <ol style="list-style-type: none">1. Understand the role of engineers in society and the purposes of engineering projects2. Understand the basic processes involved in engineering planning and design3. Apply systems concepts and elementary optimisation theory to the modelling of engineering processes4. Use decision theory and basic economic analysis for the evaluation of engineering projects5. Work effectively in a group on a complex problem6. Demonstrate an ability to apply scientific and engineering methodology7. Work effectively as part of a team, in project formulation and the execution of feasibility studies8. Have taken account of environmental and social issues and the human factor in analysing and designing engineering or other complex systems9. Understand the principles of sustainable development10. Have a basic competency in the use of word processors, spreadsheets, graphics packages and project management software11. Use a style guide, write a report, present a set of logically related ideas in spoken and written form, implement appropriate meeting procedures, and prepare and deliver a seminar

ENGR1711 Engineering Design

Topic Description	Initiation, planning and development of engineering projects including such subjects as feasibility studies, design and performance specifications, creativity, decision theory, construction, testing and evaluation, operation, maintenance and sustainability of engineering systems and the optimum use of resources. Social, economic, political, international and environmental issues related to engineering projects. Drawing and documentation standards, theory and practice, including design and modelling software.
Educational Aims	This topic introduces students to the general nature of and the core professional practices associated with engineering design in the context of engineering projects, with emphasis on the social, economic, political, international and environmental issues. The topic also develops skills in drawing and documentation.
Expected Learning Outcomes	At the completion of the topic, students are expected to be able to: <ol style="list-style-type: none">1. Appreciate the role of engineers in society and the purposes of engineering projects2. Understand the basic processes involved in engineering planning and design3. Apply systems concepts and elementary optimisation theory to the modelling of engineering processes4. Use decision theory and basic economic analysis for the evaluation of engineering projects5. Identify and consider the social, economic, political, international and environmental dimensions of an engineering project6. Apply the principles of sustainable development7. Use software tools for engineering drawing, modelling and documentation

ENGR1721 Engineering Programming

Topic Description	The topic is intended as a first course in programming for students who intend to major in engineering. It aims to introduce students to the basic tools and techniques of software development and engineering packages such as Matlab. The topic will cover the following material: the structure of a program, sequence, selection, iteration, assignment and expressions, arrays, operations, input and output, and principles of design and development, testing, and maintenance.
Educational Aims	The topic aims to help develop: <ol style="list-style-type: none">1. An understanding of the nature of programming2. The ability to read, comprehend and write simple programs3. The application of appropriate development tools4. An appreciation of the process by which software systems are developed, including their specification, design, implementation, testing and maintenance
Expected Learning Outcomes	At the completion of this topic, students are expected to be able to: < <ol style="list-style-type: none">1. Demonstrate that they can comprehend basic program control constructs of sequence, selection, and iteration2. Demonstrate that they can use programming development environments and tools within a defined context3. Demonstrate that they can read pseudo-code and translate it into a readable, working program

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|--|---|
| | 4. Demonstrate that they know the basics of testing and debugging |
| | 5. Demonstrate that they can apply programming principles to solve domain-specific problems |

ENGR1722 Engineering Physics and Materials

Topic Description	<p>Engineering Materials:</p> <ol style="list-style-type: none"> 1. Atomic structure and bonding 2. Structure of metals, ceramics, polymers and composites 3. Material properties 4. Application of Materials 5. Economic, environmental, and societal Issues <p>Electromagnetism:</p> <ol style="list-style-type: none"> 1. Electric charge and electric field 2. Electric potential 3. Electric current and resistance 4. Magnetism 5. Introduction to Electromagnetic waves
Educational Aims	<p>This topic aims to provide students with:</p> <ol style="list-style-type: none"> 1. A basic understanding of the underlying science and the engineering performance of materials used in engineering applications 2. An understanding of the fundamental principles of electromagnetism
Expected Learning Outcomes	<p>At the completion of this topic, students are expected to be able to:</p> <ol style="list-style-type: none"> 1. Understand the classification, structure and application of materials 2. Evaluate the mechanical properties of materials with regards to elastic and plastic deformation 3. Understand the economic, environmental, and societal Issues related to materials use 4. Understand and communicate the basic principles of electromagnetism 5. Apply the concepts of electromagnetism for solving engineering problems

ENGR1732 Engineering Mechanics

Topic Description	<p>Statics: Force Vectors (vector operations, vector addition of forces, addition of a system of coplanar forces, Cartesian vectors, addition of Cartesian vectors, position vectors, force vector directed along a line, dot product); Force System Resultants (moment of a force, scalar and vector formulations, principle of moments, moment of a force about a specified axis, moment of a couple, simplification of a force and couple system); Equilibrium of a Rigid Body (equilibrium and free-body diagrams 2D/3D, equations of equilibrium (2D/3D), two- and three-force members); Dry Friction (theory of dry friction, equilibrium, impending motion, motion, characteristics of dry friction, problems involving dry friction).</p> <p>Particle Dynamics: Kinematics (rectilinear kinematics: continuous motion, general curvilinear motion - rectangular components, motion of a projectile); Kinetics - Force and Acceleration (Newton's 2nd Law of Motion, equation of motion for a system of particles, equation of motion - rectangular coordinates), Work and Energy (work of a force, principle of work and energy for a system of particles, power and efficiency, conservative forces and potential energy, conservation of energy); Impulse and Momentum (principle of linear impulse and momentum, conservation of linear momentum, impact).</p>
Educational Aims	<p>This topic is a fundamental topic upon which most of the later year engineering topics build. This topic aims to ensure that the students understand both basic laws as they apply to static and dynamic mechanical systems and the theory and laws applicable to fundamental electrical circuits.</p>
Expected Learning Outcomes	<p>At the completion of this topic, students are expected to be able to:</p> <ol style="list-style-type: none">1. Understand concepts of static force systems (machines and structures)2. Understand in depth the skills to analyse these force systems and the physical meaning of force and moment equilibrium3. Acquire the skill to draw free-body diagrams and apply the equations of equilibrium for 2D and 3D rigid bodies4. Understand the characteristics of dry friction and how to analyse problems involving dry friction5. Understand the dynamic properties of particles and rigid bodies6. Write the relevant equations of motion associated with Force, Torque and Acceleration, Work and Energy, Impulse and Momentum7. Solve engineering problems dealing with the static and dynamical motion of particles subject to forces and accelerations

MATH1121 Mathematics 1A

Topic Description	<p>This topic together with MATH1122 Mathematics 1B is designed for students who have studied SACE Stage 2 Mathematics and who wish to proceed to a degree in any discipline which requires higher level mathematics. It is the standard prerequisite for all higher level topics in mathematics that require knowledge of first year mathematics.</p> <p>The material covered includes: functions, limits and continuity, differential calculus, computation of derivatives, the chain rule, Intermediate Value and Mean Value Theorems. Applications to graphing, rates of change, maxima and minima. Complex numbers, Euler's formula, complex exponential. Three-dimensional analytic geometry, matrices, systems of linear equations, vectors, equations of lines and planes.</p>
Educational Aims	<p>This topic introduces the basic concepts and techniques of differential calculus, complex numbers, linear algebra, systems of equations and matrices and provides the foundation for all areas requiring first year university mathematics. Intensive hands-on approach in the workshops aims to provide the students the essential skills in mathematical manipulations within the context of the course. The topic aims to develop a modelling and problem solving approach to mathematics and its applications through an appropriate combination of the underlying concepts and the facility of mathematical software.</p>
Expected Learning Outcomes	<p>At the completion of the topic, students are expected to be able to:</p> <ol style="list-style-type: none">1. Understand the key concepts which underlie single-variable differential calculus and linear algebra2. Be familiar with the basic facilities available in Maple mathematical software3. Use problem solving, critical and reasoning abilities

MATH1122 Mathematics 1B

Topic Description	<p>This topic is a continuation of material of MATH1121 Mathematics 1A and together with MATH1121 Mathematics 1A is intended to provide access to all higher level mathematics topics which require knowledge of standard first year mathematics. The emphasis is on a modelling approach to mathematics and its applications within a coherent framework.</p> <p>The material covered includes elementary transcendental functions. Integral calculus, fundamental theorem of the calculus, standard techniques of integration including substitution, parts, partial fractions, application to motion, arclength, area, volumes and solids of revolution, Taylor polynomials, series, power series, introduction to elementary differential equations, simple harmonic motion. Systems of linear equations, Gaussian elimination, matrix algebra and determinants.</p>
Educational Aims	<p>This topic is a continuation of the material of MATH1121 Mathematics 1A. This topic develops the properties of elementary transcendental functions and introduces key ideas and applications of integral calculus, matrix algebra and linear algebra.</p>
Expected Learning Outcomes	<p>At the completion of this topic, students are expected to be able to:</p> <ol style="list-style-type: none">1. Have a knowledge of the basic properties of the elementary transcendental functions2. Understand and apply the key ideas and methods of integral calculus3. Understand and analyse the relation between differential and integral calculus

	<ol style="list-style-type: none"> 4. Understand and apply key ideas from linear and matrix algebra to the solution of systems of linear equations 5. Develop further skills in the use of computational technology 6. Have enhanced problem solving, critical and reasoning abilities 7. Appreciate the historical context underlying the development of modern mathematical principles and ideas 8. Have an informed appreciation of the wide applicability of integral calculus and matrix algebra in other areas of Science and Engineering
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ENGR2703 Mechanical Practice Certificate

Topic Description	The topic covers exposure and practice in common mechanical and materials techniques including occupational health and safety, heat treatment, gas metal arc welding, manual metal arc welding, fabrication techniques, gas tungsten arc welding, machining techniques, marking off and hand tools.
Educational Aims	To give students an understanding of, practice in and an understanding of the safety requirements of common mechanical engineering techniques.
Expected Learning Outcomes	At the completion of this topic, students are expected to be able to have received training on OH&S and practical skills essential to being a mechanical engineer, specifically heat treatment, gas metal arc welding, manual metal arc welding, fabrication techniques, gas tungsten arc welding, machining techniques, marking off and hand tools.

ENGR2711 Engineering Mathematics

Assumed Knowledge	An understanding of fundamental concepts of calculus and linear algebra.
Topic Description	First order ODE (Existence and uniqueness, separable, exact equations), linear ODE (Existence and Uniqueness, constant coefficient homogenous, variable coefficient homogenous, constant coefficient nonhomogeneous), boundary value problems. Vectors and the geometry of Space, dot and cross product, equations of lines and planes; Vector Functions, derivatives and integrals of vector functions, velocity and acceleration in space; Partial Derivatives, tangent planes and approximation, chain rule, directional derivatives, maximum and minimum values. Double and Triple Integrals. Vector Fields, Line integrals. Curl and Divergence, Stokes' Theorem. The Divergence Theorem.
Educational Aims	This topic equips the students with the skills needed to solve mathematical problems with several variables, linear systems, and differential equations. These provide the mathematical pre-requisites that the student needs for the second and higher year Engineering topics. The focus is on the application of the mathematical ideas to Engineering problems.
Expected Learning Outcomes	<p>At the completion of the topic, students are expected to be able to:</p> <ol style="list-style-type: none"> 1. Understand and be able to apply Multivariate Calculus to Engineering problems 2. Understand and be able to apply Differential Equations to Engineering problems

ENGR2722 Analysis of Engineering Systems

Topic Description	Review of linear systems, vector spaces, orthogonality, eigenvalues and eigenvectors, linear transformations. Continuous and discrete time signals, unit impulse and unit step signals, impulse response, step response, linear time invariant (LTI) systems, convolution, correlation, system transfer function, frequency response, Fourier transform, DFT (Discrete Fourier Transform), Periodic signals, Fourier series, Nyquist frequency, sampling theorem, aliasing, Laplace transform, bilinear transfer functions, magnitude and phase responses, Bode plots.
Educational Aims	This topic is an introduction to the concepts and theories of linear algebra and signal analysis and their application to engineering systems.
Expected Learning Outcomes	At the completion of this topic, students are expected to be able to: <ol style="list-style-type: none">1. Understand Linear Algebra and Signal Analysis from a Mathematical perspective2. Be able to apply Linear Algebra and Signal Analysis to Engineering problems

ENGR2741 Mechanics and Structures

Topic Description	Principles of Statics (Review); Centre of Gravity, Centroid and Moment of Inertia; Distributed Forces; Stress and Strain; Mechanical Properties of Materials: Ductile/Brittle Materials, Hooke's Law, Poisson's Ratio; Axial load; Torsion; Bending: Shear Force and Bending Moment Diagrams; Stress Concentrations; Transverse Shear; Combined Loadings; Transformation of Stress and Strain: Mohr's Circle; Design of Beams and Shafts.
Educational Aims	This topic gives students an understanding of the basic statics concepts associated with engineering mechanics and structures.
Expected Learning Outcomes	At the completion of this topic, students are expected to be able to: <ol style="list-style-type: none">1. Develop and employ principles of Statics in solving problems2. Learn how to determine centroids and moment of inertias and how to find resultant of distributed loadings3. Understand concepts of stress, strain and mechanical properties of materials4. Analyse axial, torsional, bending, transverse stresses and their combinations in structures and machine components5. Calculate in-plane stresses and strains, their orientations and transformations through Mohr's circle, and calculate principal stresses and strains6. Develop methods for designing beams to resist both bending and shear loads; prismatic and fully stressed beam designs

ENGR2751 Fluid Mechanics

Topic Description	Fluid Mechanics: Fluid properties; Hydrostatics; One dimensional flow of incompressible fluids; Continuity, momentum and energy equations; Laminar and turbulent flows in pipes and ducts; free surface and channel flows; hydraulic jump; weir and waterfall; Dimensional analysis; Flow measurements and fluid machinery.
Educational Aims	This topic aims to ensure that the students understand the following: <ol style="list-style-type: none">1. Modelling the flows of fluids2. Measurements of the flows of fluids3. Heat transferred to and from a fluid
Expected Learning	At the completion of this topic, students are expected to be able to:

Outcomes	<ol style="list-style-type: none"> 1. Understand the basic properties of gases and liquids 2. Write the relevant equations of motion for fluids in pipes and channels 3. Solve simple flow problems 4. Understand how flow measurements are made in practice 5. Understand the flows in pumps and turbines
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ENGR2771 Dynamics

Topic Description	<ol style="list-style-type: none"> 1. Particle dynamics: Curvilinear motion, Force and acceleration, Work and Energy, Impulse and Momentum 2. Rigid body dynamics: Planar Kinematics, Force, Torque and Acceleration, Work and Energy, Linear and Angular Impulse and Momentum 3. Vibrations
Educational Aims	This topic aims to ensure that the students understand Kinematics and Kinetics as applied to particles and rigid bodies; and vibration.
Expected Learning Outcomes	<p>At the completion of this topic, students are expected to be able to:</p> <ol style="list-style-type: none"> 1. Understand the dynamic properties of particles and rigid bodies 2. Write the relevant equations of motion associated with Force, Torque and Acceleration, Work and Energy, Impulse and Momentum 3. Understand the creation and effects of vibration

ENGR2776 Hydrostatics

Topic Description	Geometry of surface vessels; Tabular methods of integration; Mass addition, removal and transfer; Elementary principle of transverse intact stability; Heeling moments and angles, and free surface effects; Inclining experiment; Elementary principles of trim; The Intact Stability Booklet; partially-afloat condition; Damage stability.
Educational Aims	<p>This topic aims to ensure that the students understand the following:</p> <ol style="list-style-type: none"> 1. Fundamentals of hydrostatics and concepts of statical stability, and trim of intact and damaged vessels 2. Introduction to the practical implications and applications of hydrostatic concepts 3. Generation of all relevant stability criteria data required for both design development and operational purposes 4. Introduction and development of a working knowledge of stability regulations
Expected Learning Outcomes	<p>At the completion of the topic, students are expected to be able to:</p> <ol style="list-style-type: none"> 1. Calculate hydrostatic data for any floating structure and predict the influence of geometric parameters on a vessel's stability characteristics 2. Interpret a vessel's response to any loading condition from lever and moment curves 3. Calculate and assess a vessel's damage stability response 4. Undertake an inclining experiment according to industry best practice

ENGR3781 Elements of Shipboard Safety (ESS) Certificate

Topic Description	Course content: <ol style="list-style-type: none">1. Elements of fire prevention on board the vessel2. Theory of combustion and methods of extinguishing fire3. Practical training in the use of portable fire fighting appliances4. Practical training in launching, boarding and survival in an inflatable life raft, including man overboard procedures5. Elements of accident prevention as they apply to the shipboard work place, particularly as they apply to falls, working in close proximity to machinery and moving objects, confined spaces, personal protective equipment and hygiene
Educational Aims	To ensure that students understand basic safety requirements when on board a vessel.
Expected Learning Outcomes	Understand the elements of fire prevention on board the vessel, including the theory of combustion and methods of extinguishing fire. Practical training in the use of portable fire fighting appliances. Practical training in launching, boarding and survival in an inflatable life raft, including man overboard procedures. Elements of accident prevention.

PHYS2712 Thermodynamics and Energy Systems

Topic Description	<ol style="list-style-type: none">1. Concepts and Definitions of Thermodynamics2. Energy and the First Law of Thermodynamics3. Properties of Substances4. Ideal and Real Gases5. Control Volume Analysis Using Energy6. The Second Law of Thermodynamics7. Entropy and Entropy Balance for Closed Systems and Control Volumes; Cycle Processes8. Thermodynamic Equilibrium9. Phase Diagrams10. Vapour Power Systems11. Gas Power Systems12. Refrigeration and Heat Pump Systems
Educational Aims	In this topic students will learn the fundamentals of Thermodynamics. The students will learn how to apply the concepts to solve experimental problems. Students will learn how to apply the fundamental principles of thermodynamics to predict the behaviour of energy systems and properly design required energy systems.
Expected Learning Outcomes	At the completion of this topic, students are expected to be able to: <ol style="list-style-type: none">1. Demonstrate the understanding of the concepts of Thermodynamics and to apply them to experiments2. Understand how solids, liquids and gases behave under different temperature and pressure conditions

	<ol style="list-style-type: none"> 3. Apply thermodynamic concepts to energy systems 4. Analyse thermodynamic cycles such as power and refrigeration cycles 5. Apply the concepts of Thermodynamics to laboratory experiments
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ENGR2766 Ship Design and Construction

Topic Description	<p>DESIGN: Vessel Types. Design Process & Constraints. Design Analyses & Techniques. Hull Form. Introduction to Propulsor Options. Introduction to Prime Mover Options. Introduction to Structural Systems. Primary Deck Machinery and Installation Considerations. Terminologies and Definitions.</p> <p>CONSTRUCTION: Environmental Framework: Commercial, industrial, legal and regulatory aspects of the ship production industry. Assembly Methodologies: Historical, current and alternative methods adopted in the construction of steel and aluminium vessels. Modular and parallel production methods. Composite Vessel Production: Materials and construction methods for composite vessels and components. Dimensional Control: Referencing moulded dimensions. Symbolologies of structural and working drawings. Construction, Launching and Repair Facilities: Shipyard facilities, arrangement and strategic equipment, launching and docking methods. Fabrication Technologies: Cutting, welding and forming technologies. Production and Quality Management: Introduction to the requirement and tools available for production co-ordination and quality assurance.</p>
Educational Aims	<ol style="list-style-type: none"> 1. To provide an introduction to issues influencing a vessel's design 2. To introduce certain fundamental aspects of the rational and engineering approach to marine design 3. Establish an understanding of the considerations essential in the determination of hull characteristics, general arrangement and requisite systems 4. To provide the student with an understanding of the overall philosophy and techniques involved in the manufacture of ships and the context in which the processes are carried out 5. To provide practical experience with commercial surface modelling software and illustrate the scope of Computer Aided Design And Manufacture
Expected Learning Outcomes	<p>At the completion of the topic, students are expected to be able to:</p> <ol style="list-style-type: none"> 1. Demonstrate a basic knowledge of regulatory, practical and economic constraints on design and production of an ocean vehicle 2. Develop a concept design based on an appraisal of operational requirements via a clearly structured and rational process 3. Identify issues regarding the methodology and efficiency of production for any particular vessel and recognise the concepts of ship production system design and main hardware elements of shipyards 4. Effectively combine the use of conventional design tools with naval architecture design software to produce a limited set of design drawings and models in accordance with industry standards and codes of practice

ENGR2768 Offshore Engineering

Topic Description	<p>Marine Sciences - a) Meteorology: regional weather systems and seasonal variations. Global pressure, air mass movement and circulation patterns. Prediction of local weather. Storms and tropical cyclones. b) Physical Oceanography: ocean structure, physical and chemical properties. Global ocean circulations, tides, waves, winds and currents. Marine resources - mineral, biological and energy. c) Marine Geology: geomorphology of the ocean floors, margins and shelves. Sedimentation and origins of hydrocarbons and minerals in the oceans. Formation and classification of coastal regions</p> <p>Ocean Renewable Energy - Renewable energy systems - wave power, wind power, thermal power and tidal power.</p> <p>Marine Transportation - Environmental forces and voyage planning. Introduction to work vessels and offshore structures. Structures - loading, stability and ballast control. Load-out and sea-transport of modules. Loads during transit and sea-fastening design. Operational codes and practices.</p> <p>Construction and Installation - Installation of fixed, floating and subsea structures. Lifting operations and mooring systems. Diving and ROV operations. Maintenance and repair of offshore installations. Removal and salvage of offshore production facilities. Risk assessment and management on offshore operations and on structures.</p>
Educational Aims	<p>The aim of this unit is to provide students with general skills and knowledge on the range of engineering operational activities in the offshore sector. The scope of the unit encompasses the essential theories of marine science and basic knowledge to plan and manage marine operations, including offshore installation, inspection and maintenance.</p>
Expected Learning Outcomes	<p>At the completion of this topic, students are expected to be able to:</p> <ol style="list-style-type: none">1. Demonstrate a fundamental knowledge of marine geology, physical oceanography and marine meteorology and its applications to a range of offshore technical problems2. Describe the equipment, technology and methods that are fundamental to common offshore engineering activities3. Apply scientific knowledge to solve a range of engineering problems4. Understand the differences between designing and building offshore structures from terrestrial structures

Master of Engineering (St Clements University) together with Professional Diploma in Engineering

This program is designed as Practical Engineers and Technicians who are working in Industries without BE/BTech Qualifications but possesses the experience and need the formal qualification papers.

On completion of this program, the graduates will receive the followings

- Professional Diploma in Engineering (IQY Technical College)
- Master Diploma in Engineering (IQY Technical College)
- Bachelor of Engineering (STC Technological University)
- Master of Engineering (St Clements University)

Entry Requirements

- Any Diploma/ Degree other than BE/BTech/AGTI

Study Stage 1

Teaching plan for Advanced Diploma/ Professional Diploma in Engineering . The detailed contents can be flexibility negotiated between the candidate and supervisor that the candidate is allowed to choose the most relevant contents for their work.

The subjects can be chosen from the following link

<http://www.iqytechnicalcollege.com/offeredcourses.htm>

On completion of Stage 1, Professional Diploma in Engineering (IQY Technical College) and Bachelor of Engineering (STC Technological University) will be issued.

Specific Discipline-

Based on the subjects that you chose, the appropriate discipline will be written on your testamur which will be sent electronically and you need to download/ print in colour and laminate it.

The list of graduates will also be expressed on our IQY website

Study Stage 2 Part A

IQY Master Diploma in Engineering

(240 credits including Bachelor Degree 120 credits)

(St Clements University -Master of Applied Engineering)

(STC Technological University-Master of Engineering)

Study Program

PART (A) IQY Master Diploma in Engineering Part 1-

(St Clements University's Graduate Diploma in Applied Engineering)

(STC Technological University Graduate Diploma in Engineering) (80 credits at 10 credits/ unit)

Download from given link

BAE 701 Engineering Fundamental

Download from given link

The candidates need to download the following textbooks

Electrical

Download from given link

Then study **Section 4-Electrical Engineering (PDF File Page 885)**

For every topic, you need to write the short note on what you understand, formula, summary, outlines and at least 2 problems solution (Please note, each problem is solved in short form, you need to clearly reproduce them by step by step)

Mechanical

Then study **Section 3-Mechanical Engineering (PDF File Page 307)**

For every topic, you need to write the short note on what you understand, formula, summary, outlines and at least 2 problems solution (Please note, each problem is solved in short form, you need to clearly reproduce them by step by step)

Civil

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Section 1-Civil Engineering (PDF File Page 7)

Section 6- Water & Waste Water Engineering (PDF File Page 1041)

Section 7-Environmental Engineering (PDF File Page 1078)

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Telecommunication

Myanmar Text Books

DTE301M Part A-Network Management-Telecom Circuit Analysis

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For every topic, you need to write the short note on what you understand, formula, summary, outlines and at least 2 problems solution (Please note, each problem is solved in short form, you need to clearly reproduce them by step by step)

After having done all above tasks, BAE 701 Engineering Fundamental will be completed.

Renewable Energy Engineering

BAE701 and BAE708 can be concurrently completed , the list of units that you need to study will be advised. You need to study at least one unit for BAE701 and at least one unit for BAE708

Reference links

Download from given link

BAE701

For every topic, you need to write the short note on what you understand, formula, summary, outlines and at least 2 problems solution (Please note, each problem is solved in short form, you need to clearly reproduce them by step by step)

After having done all above tasks, BAE 701 Engineering Fundamental will be completed.

BAE708

From the list of the subject, select two subjects, ask me to send the e-Book. Then you have to do the followings

The students will have to write 20 pages study report for each of the subjects outlined below. The report needs to include

- ☐ Book review- Review on each chapter of the book highlighting the key concepts, key formula, key theory & practical application concepts

- ☐ Own idea on how to apply those concepts in real practical applications.

- ☐ Examples of engineering designs that use the concepts & knowledge expressed in those books (If any)

- ☐ Your comment on each book

ICT Engineering

BAE701 and BAE708 can be concurrently completed , the list of units that you need to study will be advised. You need to study at least one unit for BAE701 and at least one unit for BAE708

Reference links

Download from given link

BAE701

For every topic, you need to write the short note on what you understand, formula, summary, outlines and at least 2 problems solution (Please note, each problem is solved in short form, you need to clearly reproduce them by step by step)

After having done all above tasks, BAE 701 Engineering Fundamental will be completed.

BAE708

From the list of the subject, select two subjects, ask me to send the e-Book. Then you have to do the followings

The students will have to write 20 pages study report for each of the subjects outlined below.

The report needs to include

☐ Book review- Review on each chapter of the book highlighting the key concepts, key formula, key theory & practical application concepts

☐ Own idea on how to apply those concepts in real practical applications.

☐ Examples of engineering designs that use the concepts & knowledge expressed in those books (If any)

☐ Your comment on each book

BAE 702 Engineering Management

See the site

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View the videos, download the lessons, study and then do the exercises in

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BAE 703 Leadership & Human Resources Management

See the site

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Study Guide

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BAE 704 Risk Management & Industrial Safety

Download from given link

View the videos, download the lessons, study and then write an essay

“How I will assess the risks in my workplace” You can write 3 to 5 pages.

BAE 705 Engineering Competency Development

Download from given link

View the videos, download the lessons, study

Assignment

During your study

- List the subjects that you have learnt in your study at college/ university
- List the subjects that you have achieved the good mark and explain why and how you got it
- List the subjects that you just marginally passed and explain why it happened
- List the practical tasks that you have done at college/ university
- List any reference books, tuition classes, practical books that you have read at college/ university

After Graduation

- If you are working, provide your CV that shows the detailed of your employment
- If you have not worked, list any training, engineering books, online websites, online videos etc that you study

Your future plan

- Provide an outline what you want to be, what training you will attend, what practical tasks you will do. If you have already attended the trainings and courses, provide the certificates

BAE705 will be completed when you have done the above tasks

BAE 706 Engineering Report Writing

Study Download from given link

You need to read one news paper article or web information or if you can, visit a practical work site and then write a report by following steps

- Title
- Brief description of topics

- Contents
- Detailed information
- Reference data, photos, tables, diagrams to be inserted
- Conclusion
- Reference list

BAE706 will be completed when you have done the above tasks

BAE 707 Engineering Ethics

Society of Professional Engineers-UK

<http://www.professionalengineers-uk.org/index.php/the-society/code-of-professional-conduct>

Code of Professional Conduct

All individuals registered as Professional Engineers and those aspiring to become registered Professional Engineers shall deliver services in accordance with the Society's Code of Professional Conduct and shall:

1. Competence

- only undertake professional tasks for which they are competent and will at all times exercise all reasonable professional skill and care to prevent avoidable danger to health or safety and the creation of adverse impacts on the environment.
- maintain and broaden their knowledge, experience and competence and encourage others to do so.

2. Integrity

- treat all persons fairly with respect and without bias
- avoid where possible real or perceived conflict of interest and advise affected parties should such conflicts arise.
- observe the proper duties of confidentiality owed to appropriate parties.
- discharge their professional duties with integrity, impartiality and objectivity and have no involvement with any form of bribery.

3. Responsibility

a) accept appropriate responsibility for work carried out under their supervision.

b) assess relevant risks and liability and, if appropriate, have in force appropriate liability insurances.

c) notify the Society within 28 days:

- if convicted of a criminal offence other than parking fines or convictions for exceeding the speed limit:
- upon becoming bankrupt or disqualified as a Company Director:
- if they are removed from the membership of another professional body as the result of a matter relating to conduct.

d) notify the Society of any significant violation of the Code of Conduct by any Professional Engineer on the register or any aspiring member seeking to gain access to the register.

4. Information

a) co-operate with the Society and provide such information as may be requested to facilitate any investigation into the conduct of any Professional Engineer on the register or any aspiring member seeking to gain access to the register.

5. Relationships

a) have due regard to their duty of care to clients and not take advantage of any client or potential client for whatever cause or reason in obtaining and carrying out instructions.

b) put all terms of engagement in writing and state the fees to be charged; whenever practicable, these should be issued to the client before a project is begun.

c) inform his/her client immediately if it appears that his/her estimate as to the total fees to be charged is likely to be or will be exceeded.

d) take care not to mislead a client as to the range of services that a quoted fee is intended to cover and the amount of future fees which may be involved.

Note in respect of relationships: Any Professional Engineer on the register or any aspiring member seeking to gain access to the register shall not:

- accept a professional assignment if he/she is aware or has reasonable cause to suspect that another member is acting for the client in respect of the same assignment, until either the first contract has been determined by the client, or the other member has consented to him acting.
- induce a client to agree to pay sums of money which are not justified by reference to the work which the member has carried out or has been instructed to carry out.
- offer or give any fee, commission, discount or other inducement (financial or otherwise) to a third party in return for the introduction of clients or particular professional assignments unless, before entering into a legally binding agreement

with that client he/she makes full disclosure to the relevant client of the nature or amount of such fee, commission, discount or inducement and the name of the person or persons to whom such fee, commission, discount or inducement was offered or given.

6. Practice

a) Ensure that in respect of any firm in which he/she is or is held out to be a sole proprietor, partner or a director or through which he/she practises or conducts business:

- the composition (list of partners or directors) is clearly stated on all appropriate documentation and that where there has been a material alteration to the composition, all clients of the firm or company are notified of the change promptly;
- the style or title does not adversely reflect upon his/her professional status as a Professional Engineer and the dignity and reputation of the engineering profession;
- the name is not misleading or liable to cause confusion with the public, nor does it imply any partnership arrangement with or endorsement of services by the Society.

b) Titles associated with the registration of Professional Engineers such as "PEng" and "PEng(UK)" and membership of the Society such as "Fellow of the Society of Professional Engineers", "Member of the Society of Professional Engineers", and all others relating to membership of the Society of Professional Engineers, and the designations FSPE, MSPE, Hon.FSPE, Hon.MSPE shall only be used or authorised to be used in connection with a partnership or company

- in the name of any partnership in which such member practises provided all the member's partners are similarly entitled to use the Title and designatory letters
- to describe the name of any company provided only that all the shareholders and/or members of such company and all the directors of such company are similarly entitled to use the Title.
- to describe the name of a firm or business which is not a partnership or company in which he/she practises provided such use of the Title does not give the impression that any other person or persons with whom such member is carrying on business or whom such member employs or with whom such member is associated in any way is entitled to use the same Relevant Title or, if the impression referred to is given, such other person or persons is or are similarly entitled to use the Title.

7. Managerial responsibility

a) In addition to the responsibilities referred to in the Rules of Professional Conduct, but subject to the following, any Professional Engineer on the register or any aspiring member seeking to gain access to the register shall be prima facie responsible, as a matter of professional conduct, for the acts or omissions including, in particular, breach of any of the provisions of the Articles and Bye-Laws of the Society or these Rules of Professional Conduct of:

- any firm in which the member is, or holds him/herself out to be, or allows him/herself to be held out as a partner, or any firm which the member allows to use his/her name and/or style and title or designatory letters in any of its advertisements, publicity material or notepaper; and
- any company of which he/she is a director or any co-director of that company or any company which the member allows to use his/her name and/or style and title or designatory letters in any of its advertisements, publicity material or notepaper.

b) If any Professional Engineer on the register or any aspiring member seeking to gain access to the register is able to show that, without default on his/her part, he/she was not aware, and there was no reason for him to be aware at the time of any breach of these provisions by any firm or company referred to above and he/she had, prior to the breach, taken all reasonable steps to ensure that such a breach would not occur, then he/she shall not be in breach of this Rule.

8 Publicity and Advertising

a) Any Professional Engineer on the register or any aspiring member seeking to gain access to the register may publicise his/her services or permit another person to do so, but in doing so the member must have due regard to the standards set by the Advertising Standards Authority and any standards set by any other regulatory or governmental authority in relation to advertising and ensure that any publicity for which he/she is in any way responsible is neither inaccurate nor misleading.

b) In all advertising, publicity material or public statements for which any Professional Engineer on the register or any aspiring member seeking to gain access to the register is in any way responsible, he/she shall avoid all claims of superiority over, or critical comparisons of, the services provided by other engineers and shall avoid any direct comparison of fees and charges levied by other engineers.

c) Any Professional Engineer on the register or any aspiring member seeking to gain access to the register may only refer to the name of a client in any advertising, publicity material or public statement if the prior written consent of that client is first obtained.

d) Advertisements or other publicity material issued by any Professional Engineer on the register or any aspiring member seeking to gain access to the register or by a firm in which they are held out to be a partner or director or a company through which they practise or conducts their business may state (subject to compliance with any other relevant regulations or legal requirements) either expressly or implied that they, the firm or the company (as the case may be) offers expertise or specialist advice in relation to a particular field of engineering provided only that this is the case.

ASSIGNMENT

From newspaper, journal, internet, online chatting groups, show one event that signify the breach of engineering ethics such as use of substandard materials, breach of safety law, breach of fair practice, attempt to monopolizing , use of law and authority for safeguarding own benefits or personal associates , depressing others and highlight how engineering ethics are breached.

BAE 708 Engineering Knowledge

Civil

Download from given link

Master Diploma resources

Download from given link

From the list of the subject, select two subjects, ask me to send the e-Book. Then you have to do the followings

The students will have to write 20 pages study report for each of the subjects outlined below.

The report needs to include

☐ Book review- Review on each chapter of the book highlighting the key concepts, key formula, key theory & practical application concepts

☐ Own idea on how to apply those concepts in real practical applications.

☐ Examples of engineering designs that use the concepts & knowledge expressed in those books (If any)

☐ Your comment on each book

Electrical

<http://www.highlightcomputer.com/MasterofEngineeringElectricalCourseWorkGraduateDiplomaSyllabus.pdf>

Master Diploma resources

Download from given link

From the list of the subject, select two subjects, ask me to send the e-Book. Then you have to do the followings

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☐ Your comment on each book

Mechanical

<http://www.highlightcomputer.com/MasterofEngineeringMechanicalCourseWorkGraduateDiplomaSyllabus.pdf>

Master Diploma resources

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☐ Examples of engineering designs that use the concepts & knowledge expressed in those books (If any)

☐ Your comment on each book

BAE708 will be completed when you have done the above tasks

Telecommunication

Download from given link

Go to the end and access the following units

DTE301 Network Management.zip

DTE302 Photonics.zip

DTE303 Telecom Engg.zip

DTE304 TCPIP.zip

DTE305 Optical Comm.zip

DTE306 Wireless Comm.zip

DTE307 Settlite Comm.zip

DTE308 Mobile Comm.zip

DTE309 VOIP.zip

DTE310 Customer Premise Installation.zip

DTE311 OFDMCDMA.zip

DTE312 SDHSONET.zip

From the list of the subject, select two subjects, ask me to send the e-Book. Then you have to do the followings

The students will have to write 20 pages study report for each of the subjects outlined below.

The report needs to include

☐ Book review- Review on each chapter of the book highlighting the key concepts, key formula, key theory & practical application concepts

☐ Own idea on how to apply those concepts in real practical applications.

☐ Examples of engineering designs that use the concepts & knowledge expressed in those books (If any)

☐ Your comment on each book

BAE708 will be completed when you have done the above tasks

Study Stage 2 Part B

PART (B) IQY Master Diploma in Engineering Part 2-

(St Clements University's Master of Applied Engineering)

(STC Technological University Master of Engineering

BAE709 Design Project (40 Credits)

You need to do a supervised design. In this unit, Singapore Institute of Engineering Technologists can provide the supervised design which is a part of Professional Engineers (UK) Assessment. If you do not want to apply for part of Professional Engineers (UK), IQY Technical College itself will provide design supervision that you can later use it to apply for Professional Engineers (UK)

Alternate Routes for 'Mature Candidates become FSIET & MSPE, PEng(UK)

■ By Design (6-hours open-book Exam)

- [Exam Fee per Design Paper per sitting : S\$160]
- The following main disciplines will be available:
 - Civil Engineering Design
 - Electrical Engineering Design
 - Mechanical Engineering Design
 - Chemical Engineering Design
 - Industrial Engineering Design

■ By Individual Project (3 – 6 months)

- . On a chosen topic to be approved by Joint ICES-SIET Membership Committee.
- . Length : About 10,000 words.
- . To be supervised by Supervisor approved by Joint ICES-SIET Membership Committee.
- . **Project Supervision Fee** : S\$500 (5 x 2 hours = 10 hours of face-to-face counselling).
- . **Project Assessment Fee** : S\$200

The followings are required engineering handbooks

2. Building Services Engineering Spreadsheets

This contains Building Service/ Air Con heat flow problems

Download from given link

3. Electrical Engineering formulae & tables

Download from given link

4. Mathematics-The Civil Engineering Handbook

Download from given link

5. McGraw-Hill - Civil Engineering Formulas 2002 Tlf

Download from given link

6. Mech_Eng_Calculations

Download from given link

Dynamics

Download from given link

This contains all Mechanical Engineering Calculations

7.Newnes Electrical Power Engineer Handbook

Download from given link

8.Newnes Electrical Engineers Handbook

www.mongroupsyzdney1.com/8.pdf

Those are basic handbooks. Furthermore you can explore wider books in the following links.

You can ask the teacher to send you the e-Books if you want to use it for your selected design

Download from given link

Civil

Download from given link

Electrical/ Electronics

Download from given link

Mechanical

Download from given link

For other disciplines, the links to download the resources will be sent when you start doing the design project

IQY Master Diploma in Applied Science (Information Technology)

Master of Applied Science (Information Technology)

(St Clements University and STC Technological University)

Follow the instructions in

Download from given link

The candidates will need to request the e-book for study

IQY Master Diploma in Renewable Energy Engineering

Master of Applied Engineering (St Clements University)

Master of Engineering (STC Technological University)

Follow the instructions in

Download from given link

The candidates will need to request the e-book for study

ADDITIONAL COURSE

Doctoral Research Studies

IQY Master Diploma in Research Studies

Download from given link

Only St Clements University will confer the Doctoral Degree while IQY Technical College will provide the joint supervision.

Dissertation for Doctorate

MAE 601 Research Method

MAE602 Thesis

[http://www.filefactory.com/file/111r1k0ftawt/n/11.Research+Thesis_\(ICT_605\).zip](http://www.filefactory.com/file/111r1k0ftawt/n/11.Research+Thesis_(ICT_605).zip)

MAE601 Research Method

This course guides the student, step by step, through the research process, from problem selection through writing up results. It provides all of the basics necessary to complete a research project in any discipline.

Outline. The following aspects are reflected in this course:

What is research?

Tools of research

The problem: the heart of the research process

Review of the related literature

Planning your research design

Writing the research proposal

Qualitative research

Historical research

Descriptive research

Experimental and causal - comparative designs

Statistical techniques for analyzing quantitative data

Technical details: style, format, and organization of the research report

Doctoral Research Proposal

Synopsis: Research students are expected to present a written research proposal within three months after commencement. The proposal is handed in to the study leader.

Assessors of this proposal are selected by the faculty for their understanding of the field and the research involved. The purpose of a research is to set out a plan for conducting the research and writing the dissertation within the available time. It should take account of the availability and guidance of the study leader.

The starting point for a research proposal is the topic, which is the field of interest in which the research is to be carried out. In introducing the topic, the proposal should clarify the field that it falls into and the specific part that field which the research will explore.

It should clarify why the topic is of interest and importance, and how the proposed research will contribute to the field of knowledge or profession. The proposal should clarify the research questions, ensuring that these are specific and answerable.

It is important to show how these questions relate to the topic are, and how they will advance the student's contribution. The proposal should detail the research to be carried out, and clarify the research methods, the timeframe and the reasons for selecting particular methods.

Where a period of literature review or research should precede any empirical research, this should be factored in as part of the research. It is important to estimate any periods of field research and to flag their duration and cost in your research proposal.

MAE 602 Thesis

Thesis Dissertation for Doctorate

Candidates need to complete a 60000-words dissertation (in Myanmar or English) and a 3000-words executive portfolio (in English).

This program requires the candidates to complete a thesis as part of the assessment for the Doctorate

Doing a thesis / dissertation means that instead of knowledge and information being presented and following a prescribed route for answering questions, candidates are thrust into an active role of managing an investigation into a topic area. This means researching and discovering things for themselves.

They will have to set their own targets and parameters, pose their own central research questions and decide on the appropriate sources of information to support the research. It therefore requires the use of the higher-level cognitive skills of analysis, synthesis and evaluation. Candidates may choose an area of particular interest to them within the scope of course title.

Doctoral dissertation

A dissertation is an individual effort and the candidate, academic tutor and the course professor will work together on constructing an approved topic (research question) and methodologies.

Dissertation Defence for doctorate

It is expected of Doctoral candidates to defend their thesis by means of a colloquium (academic discussion). The purpose of the meeting is for the candidates to convince a panel of experts in the field of the dissertation how well they have done in the conducting of their research study and the preparation of their dissertation

Candidates need to complete all course assessments with the results of Grade B+ or above.

Weblink

www.highlightcomputer.com/iqymasterdiploma.pdf

IQY TECHNICAL COLLEGE

STC TECHNOLOGICAL UNIVERSITY

ST CLEMENTS UNIVERSITY MYANMAR COLLEGE

IPEM TECHNOLOGICAL UNIVERSITY

MASTERS DEGREE LEARNING SUPPORT

There are two types of Masters Programs in Engineering

1. [Master of Engineering Practice](#)
2. [Master of Engineering](#)

(1) Master of Engineering Practice (240 credits, 120 credits for BE degree)

Master of Engineering Practice is for experienced engineers . It will include the following subjects of 10 credits each

- BAE 701 Engineering Fundamental
- BAE 702 Engineering Management
- BAE 703 Leadership & Human Resources Management
- BAE 704 Risk Management & Industrial Safety
- BAE 705 Engineering Competency Development
- BAE 706 Engineering Report Writing
- BAE 707 Engineering Ethics
- BAE 708 Engineering Knowledge

Completion of the above subjects will earn Graduate Diploma in Engineering Practice (80 credits at Masters level +120 Credits for Bachelors degree level total 200 credits. Completion of two or more units can earn Graduate Certificate in Engineering.

The candidate will need to do Engineering Design Project of 40 credits to complete Master of Engineering Practice of 240 credits

The followings are study instruction

Form 15

IQY Master Diploma

BAE701 to 708, you will complete the Graduate Diploma

Then submit the design project to complete the Masters

From the above links, textbooks can be downloaded. Choose Civil Engineering

[Form 45 St Clements University Master of Engineering for Non standard Entry Study Support](#)

The following link shows the example of the tasks that you need to do

[Form 46 Master Diploma Civil Worked Example](#)

The following link contains the Masters Course References.

[Form 18](#)

Master Diploma resources

(1) Master of Engineering (Professional Engineering)

(240 credits, 120 credits for BE degree)

Masters of Engineering (Professional Engineering) program is for recent graduates who have completed their BE degrees.

It will include the following 24 subjects of 5 credits each

The students will have to write 20 pages study progress report for each of the subjects outlined below.

The report needs to include

- Date and chapters that the candidate reads (The student will need to read the book
- at least 4 days per week)

- Highlight the key concepts, key formula, key theory & practical application concepts .
- Notes of the topic that you read.
- Key diagrams, formula, problem solutions
- Power point slides to express the key topics

There are 24 units in Masters of Engineering (Professional Engineering) Program, the candidate will need to complete one unit per month so that the whole program will be completed within 24 months. (120 credits at Masters level and 120 Credits for Bachelors degree total 240 credits).

As Master of Professional Engineering is delivered entirely in English and very intensive program, to encourage the students to earn the Graduate Diploma and Masters degree, the following arrangements are also made.

Graduate Diploma in Engineering (140 credits)

Completion of the compulsory 4 subjects will earn Graduate Diploma in Engineering (20 credits at Masters level +120 Credits for Bachelors degree level total 140 credits. Completion of two or more units can earn Graduate Certificate in Engineering.

Master of Engineering Science

Completion of the compulsory 6 subjects will earn Master of Engineering Science (30 credits at Masters level +120 Credits for Bachelors degree level total 150 credits.

Master of Engineering

Completion of the compulsory 6 subjects PLUS project (30 credits) will earn Master of Engineering (60 credits at Masters level +120 Credits for Bachelors degree level total 180 credits.

Master of Engineering from SCPU School of Engineering registered in Switzerland

Please note that the candidates who want to get the Master of Engineering from SCPU School of Engineering registered in Switzerland must complete

Masters of Engineering (Professional Engineering) by either studying the lectures of entire English medium of language instruction or self study in provided textbooks written in English which they need to do self study and submit the study report.

Electrical Compulsory Subjects

- BAE 655-Wireless Communications
- BAE656 Advanced Digital Signal Processing
- BAE 670-Power System Engineering
- BAE 661-Design of Electrical Services for Buildings
- BAE 677-Photovoltaic Systems
- BAE 660-Control Engineering

The above subjects will be provide with English and Myanmar Instructions and guidance. The candidates can choose the other subjects from the available subjects but they are entire English medium of instruction or self study in provided textbooks written in English which they need to do self study and submit the study report.

Instead of doing the project, the following options are also open for the students.

Option (1) Self study or two more subjects

The students can select choose two more subjects from the available subjects in same discipline or other discipline , follow the entire English medium of instruction or self study in provided textbooks written in English which they need to do self study and submit the study report.

Option (2) Complete any two of the following subjects by submitting the assignments

- BAE 702 Engineering Management
- BAE 703 Leadership & Human Resources Management
- BAE 704 Risk Management & Industrial Safety
- BAE 707 Engineering Ethics

Civil Compulsory Subjects

BAE 631-Advanced Concrete Technology

BAE 634-Building Construction

BAE 636-Building Technology Electrical Mechanical System (BAE661-Design of Electrical Services for Buildings)

BAE 650-Steel Design

BAE 635-Building Survey

BAE 644-Estimating

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Mechanical Compulsory Subjects

BAE 678A/B-Machine Design

BAE 689A/B-Mechanical Design

BAE 698-Thermal Engineering

BAE 694-Control Engineering

BAE 699-Rotating Machinery Vibration

BAE 690-Mechanical Estimating

The above subjects will be provide with English and Myanmar Instructions and guidance. The candidates can choose the other subjects from the available subjects but they are entire English medium of instruction or self study in provided textbooks written in English which they need to do self study and submit the study report.

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The following link contains the Masters Course References.

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Master Diploma resources

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- BAE 660-Control Engineering

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Professional Engineer Support

Master of Professional Engineering Practice

(120 Credits)

6688901

Course Objective

This course aims to provide both engineering fundamental knowledge and engineering application practice for Professional Engineer.

Contents

BAE701S Engineering Fundamental (16 Credits)

BAE 708S Engineering Knowledge (16 Credits)

BAE 705S Engineering Competency Development(16 Credits)

BAE 706S Engineering Report Writing(16 Credits)

BAE 707S Engineering Ethics(16 Credits)

BAE709 Design Project (40 Credits)

Assessment

Professional report/ Project/ Presentation/ Practical based design project

Master of Information Technology

This degree is designed for the experienced professionals who wish to develop their skills and knowledge as Information Technology professionals.

Graduate Diploma in Information Technology

Compulsory Modules

ICT 501 Programming in Visual C++ PLUS ICT 507 Visual Computing

ICT 502 Database Systems

ICT 503 Business System Development

ICT 504 Business Data Communications

ICT 505 Applied Computing I

ICT 506 Applied Computing II PLUS ICT 508 Object-Oriented Analysis & Design

Master of Science (Information Technology)

Electives

ICT 601 Programming in Java

ICT 602 E-Commerce

ICT 603 Software Engineering

ICT 604 Multimedia Systems

ICT 605 IT Management **Project/Thesis**

A written report between 10,000 – 12,000 words that covers both theory & practical knowledges of the above units.

To qualify for a MSc.IT degree, a student must take and pass 10 modules from the above list of modules, 6 modules are compulsory and the rest are electives.

Additionally, the student must undertake and pass a research-based or work-related project.

Master of Information Technology

This degree is designed for the experienced professionals who wish to develop their skills and knowledge as Information Technology professionals.

Graduate Diploma in Information Technology

Compulsory Modules

ICT 501 Programming in Visual C++ PLUS ICT 507 Visual Computing

ICT 502 Database Systems

ICT 503 Business System Development

ICT 504 Business Data Communications

ICT 505 Applied Computing I

ICT 506 Applied Computing II PLUS ICT 508 Object-Oriented Analysis & Design

Master of Science (Information Technology)

Electives

ICT 601 Programming in Java

ICT 602 E-Commerce

ICT 603 Software Engineering

ICT 604 Multimedia Systems

ICT 605 IT Management **Project/Thesis**

A written report between 10,000 – 12,000 words that covers both theory & practical knowledges of the above units.

To qualify for a MSc.IT degree, a student must take and pass 10 modules from the above list of modules, 6 modules are compulsory and the rest are electives.

Additionally, the student must undertake and pass a research-based or work-related project.

Master of Management

This program has been developed to fulfill the needs for those who are seeking a degree at the master's level and whom wish to specialize in a particular field of endeavor not usually available as a study option.

The main scope of this program is to emphasize the usual administrative aspects of management at the appropriate master's degree level. The Master of Management is today a professional degree and one of the most popular degree programs in the managerial or administrative fields of endeavor.

Our program has been designed to focus on major study areas of management and administration. The core courses forming the basis of the degree program equips the student with the usual fundamental aspects of management and administration applicable to the master's degree level.

The Graduate Diploma course section is common to all the majors and students must continue a masters study after completion of Graduate Diploma.

Graduate Diploma in Management (8 units)

Mgt 501 Organizational Change Management

Mgt 502 Strategic Plans Development & Implementation

Mgt 503 Leadership in Organization

Mgt 504 Innovation & Continuous Improvement

Mgt 505 Risk Management

Mgt 506 Knowledge & Information Management

Mgt 507 Human Resources Management & Strategic Planning

Mgt 508 Employee Relations Management

Master Of Management (5 units)

All Graduate Diploma Subjects PLUS

Mgt 601 Logistics Management

Mgt 602 Project Management

Mgt 603 Financial Management

PLUS

Res 601 Research Methods

PLUS

Mgt 604 Thesis

Master of Management

This program has been developed to fulfill the needs for those who are seeking a degree at the master's level and whom wish to specialize in a particular field of endeavor not usually available as a study option.

The main scope of this program is to emphasize the usual administrative aspects of management at the appropriate master's degree level. The Master of Management is today a professional degree and one of the most popular degree programs in the managerial or administrative fields of endeavor.

Our program has been designed to focus on major study areas of management and administration. The core courses forming the basis of the degree program equips the student with the usual fundamental aspects of management and administration applicable to the master's degree level.

The Graduate Diploma course section is common to all the majors and students must continue a masters study after completion of Graduate Diploma.

Graduate Diploma in Management (8 units)

Mgt 501 Organizational Change Management

Mgt 502 Strategic Plans Development & Implementation

Mgt 503 Leadership in Organization

Mgt 504 Innovation & Continuous Improvement

Mgt 505 Risk Management

Mgt 506 Knowledge & Information Management

Mgt 507 Human Resources Management & Strategic Planning

Mgt 508 Employee Relations Management

Master Of Management (5 units)

All Graduate Diploma Subjects PLUS

Mgt 601 Logistics Management

Mgt 602 Project Management

Mgt 603 Financial Management

PLUS

Res 601 Research Methods

PLUS

Mgt 604 Thesis

Graduate Diploma in Architectural Engineering Course Work

To complete the Graduate Diploma in Engineering, the students will have to complete 12 units with each 8 credit points totalling 96 credit points.

By adding Masters thesis of 24 credit points, they will complete 120 credit points . Total credit points for Masters degree is (Bachelor degree 120 credit points+ Graduate Diploma+ Masters degree 120 credit points Total 240 Credit points).

Graduate Diploma is pre-requisite for Masters degree.

Follow the instruction for Professional Diploma in Civil Engineering

www.highlightcomputer.com/profdipcivilengg.htm

Then complete the architecture units

<http://www.highlightcomputer.com/turesources.htm#i>

Also refer the followings which are not included in the above link.

- Professional Diploma in Civil and Architectural Engineering will be awarded , if 4 Architecture units are completed. 80 points at 20 points each
- Professional Diploma in Civil Engineering and Professional Diploma in Architectural I Engineering will be awarded if 6 Architecture units are completed. (120 points at 20 points each)
- If 8 Architecture Units are completed , Graduate Diploma in Architectural Engineering will be awarded (160 points at 20 points each)
- If 12 Architecture Units are completed , Master Diploma in Architectural Engineering will be awarded (ME-Architecture award by STC Technological University) (240 points)

Year 4 BE (Architectural Engineering)

AchE401 Architecture Theory

AchE402 Architectural Design

AchE403 Building Construction

AchE404 Building Services

AchE405 Construction Materials

AchE406 Sustainable Building Design

AchE407 Architectural Drafting

AchE408 Construction Quantity Surveying

Year 5 BE/ME(Year) (Architectural Engineering)

AchE501 Architectural Management

AchE502 Interior Design

AchE503 Green Building Design

AchE504 Construction Contract

AchE505 Solar Architecture & Smart House Design

AchE506 Architecture Commercial Design

AchE507 Urban Design

AE508 Landscape Design

Year 6 BE/ME (Year 2) (Architectural Engineering)

AchE601 Architectural Design & Ethics

AchE602 Building Survey & Reporting

AchE603 Building Control Systems

AchE604 Sustainable Architecture

AchE605 Details Design

AchE606 Outdoor Structure Design

Course Work Plan

The students will have to write 20 pages study report for each of the subjects outlined below.

The report needs to include

- Book review- Review on each chapter of the book highlighting the key concepts, key formula, key theory & practical application concepts
- Own idea on how to apply those concepts in real practical applications.
- Examples of engineering designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book

BAE 655-Wireless Communications

BAE 656-Advanced Digital Signal Processing

BAE 657-Advanced Electromagnetics

BAE 658-Real-time Systems

BAE 659-Computer-aided Control Systems

BAE 660-Control Engineering

BAE 661-Design of Electrical Services for Buildings

BAE 662-Design of Rotating Electrical Machines

BAE 663-Digital Electronics

BAE 664-Distributed Generation in Power System

BAE 665-Embedded Digital Signal Processing Systems

BAE 666- Low Emission Electricity Generation

BAE 667-Industrial Control System

BAE 668-Photonics

BAE 669-Power Electronics and Instrumentation Engineering

BAE 670-Power System Engineering

BAE 671-Satellite Communications and Navigation Systems

BAE 672-Industrial & System Engineering

BAE 673-Frequency Stability

BAE 674-Intelligent Systems

BAE 675-Nanoelectronics

BAE 676-Failure Analysis

BAE 677-Photovoltaics System

Graduate Diploma in Chemical Engineering Course Work

Professional Diploma (BE)/ Master Diploma (ME) in Chemical Engineering /Metallurgy/Petroleum

Follow the instruction for Professional Diploma in Chemical Engineering

<http://www.highlightcomputer.com/profdipchemengg.htm>

Then do specialized additional studies in Metallurgy/ Explosion Protection/ Petroleum

Based on the units selection and amount of studies, the following qualifications can be issued

Professional Diploma/ Master Diploma in Metallurgical Engineering and Petroleum Engineering

- Professional Diploma in Chemical and Metallurgical Engineering will be awarded , if 4 Metallurgy units are completed. 80 points at 20 points each
- Professional Diploma in Chemical Engineering and Professional Diploma in Metallurgical Engineering will be awarded if 6 Metallurgy units are completed. (120 points at 20 points each)
- If 8 Metallurgy Units are completed , Graduate Diploma in Metallurgical Engineering will be awarded (160 points at 20 points each)
- If 12 Metallurgy Units are completed , Master Diploma in Metallurgical Engineering will be awarded (ME-Metallurgical award by STC Technological University) (240 points)
- Professional Diploma in Chemical and Petroleum Engineering will be awarded , if 4 Petroleum units are completed. (80 points at 20 points each)
- Professional Diploma in Chemical Engineering and Professional Diploma in Petroleum Engineering will be awarded if 6 Petroleum units are completed. (120 points at 20 points each)
- If 8 Petroleum Units are completed , Graduate Diploma in Petroleum Engineering will be awarded (160 points at 20 points each)
- If 12 Petroleum Units are completed , Master Diploma in Metallurgical Engineering will be awarded (ME-Petroleum award by STC Technological University) (240 points at 20 points each)

Graduate Diploma & Master Diploma in Chemical Engineering

- Graduate Diploma in Chemical Engineering will be awarded if the following additional units are completed
 1. PE 41014+42014+Natural Gas Processing-PE 51024Natural Gas Engineering
 2. PE 21002+22002-Drilling Fluids

3. Met507 Explosive Engineering

From <http://www.highlightcomputer.com/profdiphazardous.htm>

4. BAE 637E Hazardous Chemical Management
5. BAE 638E Environmental Engineering in Hazardous Areas
6. BAE 636 E Hazardous Area Inspection
7. BAE 634 Explosion Protection
8. BAE 633E Hazardous Area Safety Audits (160 points at 20 points each)

Then complete Chemical Engineering Thesis to complete Master Diploma in Chemical Engineering (ME-Chemical)

Course Work Plan

The students will have to write 20 pages study report for each of the subjects outlined below.

The report needs to include

- Book review- Review on each chapter of the book highlighting the key concepts, key formula, key theory & practical application concepts
- Own idea on how to apply those concepts in real practical applications.
- Examples of engineering designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book

Graduate Diploma in Chemical Engineering Course Work

Professional Diploma (BE)/ Master Diploma (ME) in Chemical Engineering /Metallurgy/Petroleum

Follow the instruction for Professional Diploma in Chemical Engineering

<http://www.highlightcomputer.com/profdipchemengg.htm>

Then do specialized additional studies in Metallurgy/ Explosion Protection/ Petroleum

Based on the units selection and amount of studies, the following qualifications can be issued

Professional Diploma/ Master Diploma in Metallurgical Engineering and Petroleum Engineering

- Professional Diploma in Chemical and Metallurgical Engineering will be awarded , if 4 Metallurgy units are completed. 80 points at 20 points each
- Professional Diploma in Chemical Engineering and Professional Diploma in Metallurgical Engineering will be awarded if 6 Metallurgy units are completed. (120 points at 20 points each)
- If 8 Metallurgy Units are completed , Graduate Diploma in Metallurgical Engineering will be awarded (160 points at 20 points each)
- If 12 Metallurgy Units are completed , Master Diploma in Metallurgical Engineering will be awarded (ME-Metallurgical award by STC Technological University) (240 points)
- Professional Diploma in Chemical and Petroleum Engineering will be awarded , if 4 Petroleum units are completed. (80 points at 20 points each)
- Professional Diploma in Chemical Engineering and Professional Diploma in Petroleum Engineering will be awarded if 6 Petroleum units are completed. (120 points at 20 points each)
- If 8 Petroleum Units are completed , Graduate Diploma in Petroleum Engineering will be awarded (160 points at 20 points each)
- If 12 Petroleum Units are completed , Master Diploma in Metallurgical Engineering will be awarded (ME-Petroleum award by STC Technological University) (240 points at 20 points each)

Graduate Diploma & Master Diploma in Chemical Engineering

- Graduate Diploma in Chemical Engineering will be awarded if the following additional units are completed
 1. PE 41014+42014+Natural Gas Processing-PE 51024Natural Gas Engineering
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From <http://www.highlightcomputer.com/profdiphazardous.htm>

4. BAE 637E Hazardous Chemical Management
5. BAE 638E Environmental Engineering in Hazardous Areas
6. BAE 636 E Hazardous Area Inspection
7. BAE 634 Explosion Protection
8. BAE 633E Hazardous Area Safety Audits (160 points at 20 points each)

Then complete Chemical Engineering Thesis to complete Master Diploma in Chemical Engineering (ME-Chemical)

Course Work Plan

The students will have to write 20 pages study report for each of the subjects outlined below.

The report needs to include

- Book review- Review on each chapter of the book highlighting the key concepts, key formula, key theory & practical application concepts
- Own idea on how to apply those concepts in real practical applications.
- Examples of engineering designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book

Graduate Diploma in Civil Engineering Course Work

To complete the Graduate Diploma in Engineering, the students will have to complete 12 units with each 8 credit points totalling 96 credit points.

By adding Masters thesis of 24 credit points, they will complete 120 credit points . Total credit points for Masters degree is (Bachelor degree 120 credit points+ Graduate Diploma+ Masters degree 120 credit points Total 240 Credit points).

Graduate Diploma is pre-requisite for Masters degree.

Course Work Plan

The students will have to write 20 pages study report for each of the subjects outlined below.

The report needs to include

- Book review- Review on each chapter of the book highlighting the key concepts, key formula, key theory & practical application concepts
- Own idea on how to apply those concepts in real practical applications.
- Examples of engineering designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book

BAE 631-Advanced Concrete Technology

BAE 632-Architectural Design

BAE 633-Bridge Construction

BAE 634-Building Construction

BAE 635-Building Survey

BAE 636-Building Technology Electrical Mechanical System

BAE 637-Composite Structure of Steel & Concrete

BAE 638-Construction Drawing

BAE 639-Construction Materials

BAE 640-Construction Mathematics

BAE 641-Construction Site Planning

BAE 642-Design of Reinforce Concrete

BAE 643-Earthquake Resistant Structure

BAE 644-Estimating

BAE 645-Geotechnics

BAE 646- Highway Engineering

BAE 647-Piling Engineering

BAE 648-Railways Bridges

BAE 649-Soil & Rock Mechanic

BAE 650-Steel Design

BAE 651-Strom & Waste Water

BAE 652-Structural Analysis

BAE 653-Surveying

BAE 654-Theory & Design of Bridges

Graduate Diploma in Electrical Engineering Course Work

To complete the Graduate Diploma in Engineering, the students will have to complete 12 units with each 8 credit points totalling 96 credit points.

By adding Masters thesis of 24 credit points, they will complete 120 credit points . Total credit points for Masters degree is (Bachelor degree 120 credit points+ Graduate Diploma+ Masters degree 120 credit points Total 240 Credit points).

Graduate Diploma is pre-requisite for Masters degree.

Course Work Plan

The students will have to write 20 pages study report for each of the subjects outlined below.

The report needs to include

- Book review- Review on each chapter of the book highlighting the key concepts, key formula, key theory & practical application concepts
- Own idea on how to apply those concepts in real practical applications.
- Examples of engineering designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book

BAE 655-Wireless Communications

BAE 656-Advanced Digital Signal Processing

BAE 657-Advanced Electromagnetics

BAE 658-Real-time Systems

BAE 659-Computer-aided Control Systems

BAE 660-Control Engineering

BAE 661-Design of Electrical Services for Buildings

BAE 662-Design of Rotating Electrical Machines

BAE 663-Digital Electronics

BAE 664-Distributed Generation in Power System

BAE 665-Embedded Digital Signal Processing Systems

BAE 666- Low Emission Electricity Generation

BAE 667-Industrial Control System

BAE 668-Photonics

BAE 669-Power Electronics and Instrumentation Engineering

BAE 670-Power System Engineering

BAE 671-Satellite Communications and Navigation Systems

BAE 672-Industrial & System Engineering

BAE 673-Frequency Stability

BAE 674-Intelligent Systems

BAE 675-Nanoelectronics

BAE 676-Failure Analysis

BAE 677-Photovoltaics System

Graduate Diploma in Mechanical Engineering Course Work

To complete the Graduate Diploma in Engineering, the students will have to complete 12 units with each 8 credit points totalling 96 credit points.

By adding Masters thesis of 24 credit points, they will complete 120 credit points . Total credit points for Masters degree is (Bachelor degree 120 credit points+ Graduate Diploma+ Masters degree 120 credit points Total 240 Credit points).

Graduate Diploma is pre-requisite for Masters degree.

Course Work Plan

The students will have to write 20 pages study report for each of the subjects outlined below.

The report needs to include

- Book review- Review on each chapter of the book highlighting the key concepts, key formula, key theory & practical application concepts
- Own idea on how to apply those concepts in real practical applications.
- Examples of engineering designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book

BAE 625- Structural Engineering Mechanics

BAE 678A/B-Machine Design

BAE 679- Materials Science

Composite Materials & Joining Technology

BAE 680-Quality Control

BAE 681- Welding Engineering

BAE 682-Assembly Automation & Product Design

BAE 683-Material Engineering

BAE 684-Computerised Engine Control

BAE 685-Electric Vehicle Technology

BAE 686-Electro-Mechanical Manufacturing

BAE 687-Lasers in Manufacturing

BAE 688-Manufacturing Management

BAE 689A/B-Mechanical Design

BAE 690-Mechanical Estimating

BAE 691-Mechatronics

BAE 692-Metallurgy

BAE 693-Piping System

BAE 694-Control Engineering

BAE 695-Random Vibration

BAE 696-Specification Development

BAE 697-Structural Foundation Design

BAE 698-Thermal Engineering

BAE 699-Rotating Machinery Vibration

Graduate Diploma in Metallurgical Engineering Course Work

To complete the Graduate Diploma in Engineering, the students will have to complete 12 units with each 8 credit points totalling 96 credit points.

By adding Masters thesis of 24 credit points, they will complete 120 credit points . Total credit points for Masters degree is (Bachelor degree 120 credit points+ Graduate Diploma+ Masters degree 120 credit points Total 240 Credit points).

Graduate Diploma is pre-requisite for Masters degree.

Course Work Plan

The students will have to write 20 pages study report for each of the subjects outlined below.

The report needs to include

- Book review- Review on each chapter of the book highlighting the key concepts, key formula, key theory & practical application concepts
- Own idea on how to apply those concepts in real practical applications.
- Examples of engineering designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book
- **Metallurgical Engineering**
- Met501 Mechanical Estimating
- Met502 Mechanical Properties of Metals
- Met503 Metallurgy
- Met504 Engineered Metals
- Met505 Metallurgical Alloys
- Met507 Explosive Engineering
- Met508 Metallic Materials
- Met509 Stress Assessment in Metallurgy
- Met601 Metallurgical Processing
- Met602 Machineries Failure Analysis
- Met603 Materials Selection in Mechanical Design
- Met604 Strain Testing

- Met605 Applied Metallurgy

Graduate Diploma in Metallurgical Engineering Course Work

To complete the Graduate Diploma in Engineering, the students will have to complete 12 units with each 8 credit points totalling 96 credit points.

By adding Masters thesis of 24 credit points, they will complete 120 credit points . Total credit points for Masters degree is (Bachelor degree 120 credit points+ Graduate Diploma+ Masters degree 120 credit points Total 240 Credit points).

Graduate Diploma is pre-requisite for Masters degree.

Course Work Plan

The students will have to write 20 pages study report for each of the subjects outlined below.

The report needs to include

- Book review- Review on each chapter of the book highlighting the key concepts, key formula, key theory & practical application concepts
- Own idea on how to apply those concepts in real practical applications.
- Examples of engineering designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book
- **Metallurgical Engineering**
- Met501 Mechanical Estimating
- Met502 Mechanical Properties of Metals
- Met503 Metallurgy
- Met504 Engineered Metals
- Met505 Metallurgical Alloys
- Met507 Explosive Engineering
- Met508 Metallic Materials
- Met509 Stress Assessment in Metallurgy
- Met601 Metallurgical Processing
- Met602 Machineries Failure Analysis
- Met603 Materials Selection in Mechanical Design
- Met604 Strain Testing

- Met605 Applied Metallurgy

Master Diploma in Education/ Master of Education

IQY Technical College/ St Clements University/

STC Technological University

www.highlightcomputer.com/medcourse.htm

Course Overview

This program is designed to develop and support the careers of teachers who are teaching professionals, educational administrators, researchers and policymakers.

The students can choose to complete your course with units of study that suit your interests from our field offerings which are engineering education and school and vocational education.

Graduate Attributes

Demonstrate expert, specialised and technical knowledge in broad educational areas of pedagogy, assessment and curriculum designed to address the needs of diverse learners across a range of educational contexts related to engineering education or school and vocational education.

Demonstrate an advanced understanding of theory and practice in specialised disciplines within the field of education in national and/or international contexts in engineering education or school and vocational education.

Analyse critically, reflect on and synthesise information to solve complex problems in the educational field

Conduct independent research and inquiry, involving theoretical conceptualisation, innovative ideas and personal initiative in engineering education or school and vocational education

Demonstrate professional leadership through interpreting and communicating pedagogical knowledge and professional skills to specialist and non-specialist audiences in engineering education or school and vocational education.

Admission requirement

Admission to candidature for the Master of Education requires:

- a Bachelor of Education , or Bachelor degree and working as teacher or equivalent qualification or the completion of postgraduate studies, or professional experience .

Course Structure

The course consists of 240 credit points in which 120 credit points is given for Bachelors degree

Stream 1- Engineering Education

ED431 Student Learning and Teaching Approaches(15 cp)

ED432 Course Design and Assessment(15 cp)

ED433 Scholarly Teaching and Learning Project(15 cp)

ED434 Reflective Academic Practice(15 cp)

ED436 Management for Education(15 cp)

ED413 Engineering Education Part 3 (15 cp)

ED404 Educational Research(15 cp)

ED435 Governance of University (15 cp)

Total	120 cp
Bachelors degree	120 cp
TOTAL	240 cp

Stream 2-School and Vocational Education

ED431 Student Learning and Teaching Approaches(15 cp)

[ED432](#) Course Design and Assessment(15 cp)

[ED433](#) Scholarly Teaching and Learning Project(15 cp)

[ED434](#) Reflective Academic Practice(15 cp)

ED436 Management for Education (15 cp)

ED404 Educational Research(15 cp)

Any Two Electives

ED304 Maths Teaching (15 cp)

ED305 Science Teaching (15 cp)

ED306 Technology Teaching(15 cp)

ED308 Computer Supported Learning Distance Education (15 cp)

Total	120 cp
Bachelors degree	120 cp
TOTAL	240 cp

Professional Certificate in Medical Data System (Course Number-4889008)

Objective- To effectively manage data system in medical records

Pre-requisite- MBBS/ BDS/ B Pharm

Contents ICT409 Hospital Data System

- Hospital Data System (Reader)
- Database Management System for Hospital (Reader)

Videos

- Hospital Database Analysis Design
- Hospital Management System Data Entry
- Hospital website and appointment system
- Hospital Management System Doctor Log in
- Hospital Management System with PHP
- Hospital Management System in PHP

Part 1 - Practical Application Tutorials- Hospital Data System

Award- Professional Certificate in Medical Data System

An introduction about hospital Database

SQL [39 exercises with solution]

[An editor is available at the bottom of the page to write and execute the scripts.]

Sample Database: hospital

1. Write a query in SQL to find all the information of the nurses who are yet to be registered.

- 2.** Write a query in SQL to find the name of the nurse who are the head of their department.
- 3.** Write a query in SQL to obtain the name of the physicians who are the head of each department.
- 4.** Write a query in SQL to count the number of patients who taken appointment with at least one physician
- 5.** Write a query in SQL to find the floor and block where the room number 212 belongs to
- 6.** Write a query in SQL to count the number available rooms
- 7.** Write a query in SQL to count the number of unavailable rooms.
- 8.** Write a query in SQL to obtain the name of the physician and the departments they are affiliated with
- 9.** Write a query in SQL to obtain the name of the physicians who are trained for a special treatement
- 10.** Write a query in SQL to obtain the name of the physicians with department who are yet to be affiliated
- 11.** Write a query in SQL to obtain the name of the physicians who are not a specialized physician
- 12.** Write a query in SQL to obtain the name of the patients with their physicians by whom they got their preliminary treatement
- 13.** Write a query in SQL to find the name of the patients and the number of physicians they have taken appointment
- 14.** Write a query in SQL to count number of unique patients who got an appointment for examination room C
- 15.** Write a query in SQL to find the name of the patients and the number of the room where they have to go for their treatment
- 16.** Write a query in SQL to find the name of the nurses and the room scheduled, where they will assist the physicians.

- 17.** Write a query in SQL to find the name of the patients who taken the appointment on the 25th of April at 10 am, and also display their physician, assisting nurses and room no.
- 18.** Write a query in SQL to find the name of patients and their physicians who does not require any assistance of a nurse
- 19.** Write a query in SQL to find the name of the patients, their treating physicians and medication.
- 20.** Write a query in SQL to find the name of the patients who taken an advanced appointment, and also display their physicians and medication
- 21.** Write a query in SQL to find the name and medication for those patients who did not take any appointment
- 22.** Write a query in SQL to count the number of available rooms in each block
- 23.** Write a query in SQL to count the number of available rooms in each floor
- 24.** Write a query in SQL to count the number of available rooms for each block in each floor.
- 25.** Write a query in SQL to count the number of unavailable rooms for each block in each floor.
- 28.** Write a query in SQL to obtain the name of the patients, their block, floor, and room number where they are admitted.
- 29.** Write a query in SQL to obtain the nurses and the block where they are booked for attending the patients on call.
- 30.** Write a query in SQL to make a report which will show -
- a) name of the patient,
 - b) name of the physician who is treating him or her,
 - c) name of the nurse who is attending him or her,
 - d) which treatment is going on to the patient,
 - e) the date of release,
 - f) in which room the patient has admitted and which floor and block the room belongs to respectively.

- 31.** Write a SQL query to obtain the names of all the physicians performed a medical procedure but they are not certified to perform
- 32.** Write a query in SQL to obtain the names of all the physicians, their procedure, date when the procedure was carried out and name of the patient on which procedure have been carried out but those physicians are not certified for that procedure.
- 33.** Write a query in SQL to obtain the name and position of all physicians who completed a medical procedure with certification after the date of expiration of their certificate
- 34.** Write a query in SQL to obtain the name of all those physicians who completed a medical procedure with certification after the date of expiration of their certificate, their position, procedure they have done, date of procedure, name of the patient on which the procedure had been applied and the date when the certification expired
- 35.** Write a query in SQL to obtain the names of all the nurses who have ever been on call for room 122.
- 36.** Write a query in SQL to Obtain the names of all patients who has been prescribed some medication by his/her physician who has carried out primary care and the name of that physician
- 37.** Write a query in SQL to obtain the names of all patients who has been undergone a procedure costing more than \$5,000 and the name of that physician who has carried out primary care
- 38.** Write a query in SQL to Obtain the names of all patients who had at least two appointment where the nurse who prepped the appointment was a registered nurse and the physician who has carried out primary care
- 39.** Write a query in SQL to Obtain the names of all patients whose primary care is taken by a physician who is not the head of any department and name of that physician along with their primary care physician

Part (2) – My SQL General Studies (ICT410)

Award- Professional Certificate in Information Technology (MYSQL)

Lesson Videos

Introduction to My SQL

How to install My SQL in Windows 10

Full Course for beginner

Creating application by using MY SQL

My SQL Tutorial 1

My SQL Tutorials 2

My SQL Workbench Tutorial

Create Search System by using PHP

Textbooks

MySQLNotesForProfessionals

My SQL Tutorial

Software

My SQL Installer Web Community

My SQL Installer Community

Medical Data System

**Part (3) – Graduate Certificate in Information Technology (Hospital Data System)
(30 Credits)**

- ICT409 Medical Data System (10 Credits)
- ICT410 MYSQL (10 Credits)
- ICT502 Data Base System (10 Credits)

Application

- Access
- STATA

MASTER OF SCIENCE (RENEWABLE ENERGY COURSE OUTLINE)

Part (1) Preliminary Course

RE001- Foundation Studies in Renewable Energy and Sustainability
RE002- Grid Connected Photovoltaic Power Systems
RE003- Solar and Thermal Energy Systems
RE004- Energy Storage Systems
RE005- Renewable Energy Resource Analysis
RE006- Wind Energy Conversion Systems
RE007- Energy System Efficiency

Part (2) Qualified (1) Course

Semester (1)

RE008-Mathematics & Physics (I)
RE009-Mathematics & Physics (II)
RE010-Engineering Materials
RE011-Civil & Mechanical Engineering

Semester (2)

RE012-Electrical Engineering
RE013-Electrical Machines
RE014-Electronics Control
RE015-Electrical Project
RE016-Design & Management

Part (3) Qualified (2) Course

RE 501-Control of Solar Energy System
RE502- Biomass Gasification
RE503- Energy Management in Industrial and Commercial Facilities
RE504- Engineering Solution for Sustainability
RE505- Green Building Design
RE506- Low Emission Power Generation Technologies
RE507- Offshore Wind Turbines
RE508- Solar Hydrogen Energy System
RE509- Applied Photovoltaics
RE510- Water Conservation
RE511- Sustaining Earth Energy resource

A written report between 10,000 – 12,000 words that covers both theory & practical knowledge of the above units.

Part (4) Final Thesis

Res 601 Research Method
MAE 602 Thesis

This course guides the student, step by step, through the research process, from problem selection through writing up results. It provides all of the basics necessary to complete a research project in any discipline.

Outline. The following aspects are reflected in this course:

What is research?

Tools of research

The problem: the heart of the research process

Review of the related literature

Planning your research design

Writing the research proposal

Qualitative research

Historical research

Descriptive research

Experimental and causal - comparative designs

Statistical techniques for analyzing quantitative data

Technical details: style, format, and organization of the research report

Masters Research Proposal

Synopsis: Research students are expected to present a written research proposal within three months after commencement. The proposal is handed in to the study leader.

Assessors of this proposal are selected by the faculty for their understanding of the field and the research involved. The purpose of a research is to set out a plan for conducting the research and writing the dissertation within the available time. It should take account of the availability and guidance of the study leader.

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Res 601 Research Method

MENG6005 Quantitative Methods and Statistics (45 hrs) 3 credits

MAE 602 Thesis

Engineering Project/Thesis 24 credits

Candidates need to complete a 60000-words engineering dissertation (in Myanmar or English) and a 3000-words executive portfolio (in English).

This program requires the candidates to complete a dissertation as part of the assessment for the MSc (RE) degree. Doing a thesis means that instead of knowledge and information being presented and following a prescribed route for answering questions, candidates are thrust into an active role of managing an investigation into a topic area. This means researching and discovering things for themselves. They will have to set their own targets and parameters, pose their own central research questions and decide on the appropriate sources of information to support the research. It therefore requires the use of the higher-level cognitive skills of analysis, synthesis and evaluation. Candidates may choose an area of particular interest to them within the scope of course title. A dissertation is an individual effort and the candidate, academic tutor and the course professor will work together on constructing an approved topic (research question) and methodologies.

Engineering Dissertation Defense 9 credits

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Program Total Credits 48 credits

Candidates need to complete all course assessments with the results of Grade B+ or above.

MASTER OF SCIENCE (RENEWABLE ENERGY COURSE OUTLINE)

Part (1) Preliminary Course

RE001- Foundation Studies in Renewable Energy and Sustainability
RE002- Grid Connected Photovoltaic Power Systems
RE003- Solar and Thermal Energy Systems
RE004- Energy Storage Systems
RE005- Renewable Energy Resource Analysis
RE006- Wind Energy Conversion Systems
RE007- Energy System Efficiency

Part (2) Qualified (1) Course

Semester (1)

RE008-Mathematics & Physics (I)
RE009-Mathematics & Physics (II)
RE010-Engineering Materials
RE011-Civil & Mechanical Engineering

Semester (2)

RE012-Electrical Engineering
RE013-Electrical Machines
RE014-Electronics Control
RE015-Electrical Project
RE016-Design & Management

Part (3) Qualified (2) Course

RE 501-Control of Solar Energy System
RE502- Biomass Gasification
RE503- Energy Management in Industrial and Commercial Facilities
RE504- Engineering Solution for Sustainability
RE505- Green Building Design
RE506- Low Emission Power Generation Technologies
RE507- Offshore Wind Turbines
RE508- Solar Hydrogen Energy System
RE509- Applied Photovoltaics
RE510- Water Conservation
RE511- Sustaining Earth Energy resource

A written report between 10,000 – 12,000 words that covers both theory & practical knowledge of the above units.

Part (4) Final Thesis

Res 601 Research Method
MAE 602 Thesis

This course guides the student, step by step, through the research process, from problem selection through writing up results. It provides all of the basics necessary to complete a research project in any discipline.

Outline. The following aspects are reflected in this course:

What is research?

Tools of research

The problem: the heart of the research process

Review of the related literature

Planning your research design

Writing the research proposal

Qualitative research

Historical research

Descriptive research

Experimental and causal - comparative designs

Statistical techniques for analyzing quantitative data

Technical details: style, format, and organization of the research report

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Master of Science (Computer Network) (Each 10 credits) (70883)

Bachelor of Applied Science (Network)- 120 Credits

Master of Applied Science (Network)- 120 Credits

Total 240 credits

PART (1) Course Work in Graduate Diploma in Computer Network Level

(60 credits) (Each 10 credits)

ICTN701 APNET Content Management System

ICTN702 CISCO Certified Design Associate

ICTN703 CISCO Certified Network Associate

ICTN704 CISCO Firewall

ICTN705 CISCO LAN Switching Configuration

ICTN706 Computer Architecture and Security

PART (2) Course Work in Masters Level

(40 credits) (Each 10 credits)

Select 4 units

ICTN707 Computer Systems

ICTN708 Python Network Programming

ICTN709 Microsoft.NET Framework

ICTN710 Enterprise Network Monitoring

ICTN711 Parallel Computer Architecture

ICTN712 Cloud Computing

The students will have to write 20 pages study report for each of the subjects outlined below.

The report needs to include

- Book review- Review on each chapter of the book highlighting the key concepts, key points, key theory & practical application concepts in IT.
- Own idea on how to apply those concepts in real practical applications.

- Examples of IT system designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book

Master of Applied Science Work Example

[http://www.iqytechnicalcollege.com/Master Diploma in Information Technology-Worked Sample Report on IT Topics.pdf](http://www.iqytechnicalcollege.com/Master%20Diploma%20in%20Information%20Technology-Worked%20Sample%20Report%20on%20IT%20Topics.pdf)

PART (3) Master Project in Computer Network

(20 credits)

The candidate needs to write the project report for one topic mutually selected by the candidate and supervisor

REPORT GUIDE

<http://www.mongroupsydney1.com/Report.pdf>

Part (4) Master of Engineering (Computer Network) (70884)

Complete the following units after completion of Master of Applied Science (Computer Network) Each 10 credits

BAE 702 Engineering Management

BAE 703 Leadership & Human Resources Management

BAE 704 Risk Management & Industrial Safety

BAE 705 Engineering Competency Development

BAE 706 Engineering Report Writing

BAE 707 Engineering Ethics

Total Credits 320 Credits

Self Study Online CPD Courses

www.highlightcomputer.com/onlinecpdcourses.htm

To enrol these course , follow the steps

1. Pay the fees (First course is Kyats 30000, then Kyats 10000 per additional course) . Deposit into the following account

Daw Hla Myat Mon –Account Numbner 020-33-500265-2 (Yoma Bank) and attached the evidence of deposit to this application form

2. Fill the online form. (Without evidence of fund deposit, no reply will be made.)

<http://www.emailmeform.com/builder/form/H7zdPO8n8K6EBIG>

3. Then , we will send you the download links to download the e-Books

4. We will send you CPD Course Attendance Certificate electronically.

5. Each course has 20 CPD Hours.

6. They are self study courses. No needs to submit the assessment tasks

7. The list of the CPD course attenders are not included in IQY Technical College Graduates List but the authenticity of issued IQY CPD Certificates can be enquired by emailing to iqytechnicalcollege@gmail.com

Study Areas

GE1	Electrical Wiring (EE)
GE2	Electrical Machine (EE)
GE3	Electrical Distribution (EE)
GE4	Power System Operation (EE)
GE5	Power System Protection
GE6	Occupational Health & Safety
GE7	Project Management (EE/CE/ME)
GE8	Electronics (EE)
GE9	Process Control (EE/ME)
GE10	Industrial Electronics (EE)
GE11	Programmable Logic Controller (EE/ME)
GE12	Photovoltaic Solar Electrical System
GE13	Principle of Engine (ME)
GE14	Fitting & Machining (ME)
GE15	Building Construction (CE)
GE16	Engineering Drawing I (EE/CE/ME)
GE17	Pipe Fitting (CE/ME)
GE18	Air-conditioning & Refrigeration (ME)
GE19	Computer Programming (EE/CE/ME)
GE20	Computer Networking (EE)
GE21	Welding (ME)
GE22	Painting & Decoration (CE)
GE23	Pneumatics (CE/ME)
GE24	Manufacturing Management (ME)
GE25	Surveying (CE)
GE26	Energy Efficient Building Design
GE27	Machine Principle (ME)
GE28	Hydraulic (CE/ME)

GE29	Materials & Corrosion Prevention (CE/ME)
GE30	Bricklaying (CE)
GE31	Sprouting & Guttering (CE)
GE32	Electronic Security Installation
GE33	Explosion Protection
GE34	Engineering Business Management
GE35	Scaffolding
GE36	Materials Handling & Storage
IE1	Engineering Mathematics
IE2	Engineering Physics
IE3	Material Science
IE4	Advanced Engineering Mathematics
IE5	Mechanical Science
IE6	Principle of Electricity
IE7	Electrical Circuit I (EE)
IE8	Electrical Circuit II (EE)
IE9	Advanced Building Construction (CE)
IE10	Transmission Line (EE)
IE11	Electrical & Mechanical Engineering Work Experience
IE12	Civil Engineering Work Experience
IE13	Workshop
IE15	Advanced Engineering Design & Project Work
IE16	Power System Analysis-Fault Calculation
IE17	Power Line Design
IE18	Building services
IE19	PCB Design
IE20	Maths References
IE21	Electrical Principle
IE22	Co-generation
IE23	Industrial Computer System
IE24	Microprocessor
IE25	Power System Fundamental
IE26	Electrical Communication Fundamental
IE27	Control Concept
IE28	Electronic Signal & System
IE29	Electrical Estimating
IE30	Electronic Workbench
IE31	Introduction to Renewable Energy Technology
IE32	Telecommunication Cabling & Installation
IE33	Hybrid Energy System
IE34	Electricity Supply Industrial Skills

GENERAL VOCATIONAL COURSES

www.highlightcomputer.com/othervocational.htm

- Self study,
- Present the record of study
- Certificate of Studies can be issued

GE36 Storage & Materials Handling

VOC 1-Aged Care Facility Design

VOC 2-Animal Handling

VOC 3-Business Planning

VOC 4-Construction Equipment & Methods

VOC 5-Construction Management Planning

VOC 6-Fabric Preparation

VOC 7-Hotel Management

VOC 8-Kitchen & Food Management

VOC 9-Laundry Design

VOC 10-Soil Management

VOC 11-Store Management

VOC 12-Supply Chain Management

GE36 Storage & Materials Handling

Storage

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Store Stock Receiving & Storage.pdf (0.26MB)

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Materials Handling

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Tools and material handling.pdf (0.02MB)

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Materials Handling_Powered Industrial Truck Final.pdf (0.15MB)

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VOC 2-Animal Handling

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VOC 3-Business Planning

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VOC 4-Construction Equipment & Methods

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VOC 5-Construction Management Planning

<http://www.filefactory.com/file/7ctk1ac2o757/Appendix%20H.pdf>

VOC 6-Fabric Preparation

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VOC 7-Hotel Management

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VOC 8-Kitchen & Food Management

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VOC 9-Laundry Design

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VOC 11-Store Management

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http://www.filefactory.com/file/3utjtahjw0br/n/Supply_Chain_Management_in_Oil_& Gas_Industry.pdf

store_productivity.pdf (0.15MB)

http://www.filefactory.com/file/2uoqnl2mchx9/n/store_productivity.pdf

Store Stock Receiving & Storage.pdf (0.26MB)

http://www.filefactory.com/file/hcv0c7y5b3t/n/Store_Stock_Receiving_& Storage.pdf

stkmod1.pdf (0.17MB)

<http://www.filefactory.com/file/5mj2bjm3uhnd/n/stkmod1.pdf>

Organization & Management.pdf (0.64MB)

http://www.filefactory.com/file/4uvzsi7wam4p/n/Organization_& Management.pdf

sg_ch04.doc (0.15MB)

http://www.filefactory.com/file/7019oj0tnput/n/sg_ch04.doc

foodbevless.pdf (0.11MB)

<http://www.filefactory.com/file/1dc73ceyia4n/n/foodbevless.pdf>

five_critical_rules_for_firewall_management.pdf (0.19MB)

http://www.filefactory.com/file/7f1tynete26z/n/five_critical_rules_for_firewall_management.pdf

_08-0106.pdf (0.07MB)

http://www.filefactory.com/file/4xv491p4h1i9/n/_08-0106.pdf

VOC 12-Supply Chain Management

MGMT30011.pdf (0.01MB)

<http://www.filefactory.com/file/3bly4o0469jl/n/MGMT30011.pdf>

Supply_Chain_Management.pdf (17.73MB)

http://www.filefactory.com/file/7hb9eac6bmr/n/Supply_Chain_Management.pdf

Reiners.pdf (0.81MB)

<http://www.filefactory.com/file/3tnlu9dn4m8l/n/Reiners.pdf>

qt401de01_supply_chain_management.pdf (0.26MB)

http://www.filefactory.com/file/4hotefjk31sh/n/qt401de01_supply_chain_management.pdf

proc119--web.pdf (2.46MB)

<http://www.filefactory.com/file/7ciri2qx8m3p/n/proc119--web.pdf>

Isctmmod1.pdf (3.87MB)

<http://www.filefactory.com/file/1welnfly2npf/n/Isctmmod1.pdf>

Intro.ppt (0.07MB)

<http://www.filefactory.com/file/7g1s4vhw14bt/n/Intro.ppt>

global-supply-chain.pdf (0.49MB)

<http://www.filefactory.com/file/6ssu96zxjgh9/n/global-supply-chain.pdf>

fundamentals-of-supply-chain-management.pdf (3.17MB)

<http://www.filefactory.com/file/4e38lx2mzp5t/n/fundamentals-of-supply-chain-management.pdf>

GBAT9127_SCM_OV_14s2_2014.pdf (0.42MB)

http://www.filefactory.com/file/74tsblr1pbt/n/GBAT9127_SCM_OV_14s2_2014.pdf

CH14 Supply Chain Management.pdf (2.97MB)

http://www.filefactory.com/file/1p0jltqvg2evr/n/CH14_Supply_Chain_Management.pdf

e-business-SCMR-April26.pdf (0.08MB)

<http://www.filefactory.com/file/28en8wk2sjsr/n/e-business-SCMR-April26.pdf>

ChopraBookReview.pdf (0.05MB)

<http://www.filefactory.com/file/6jgyqknyhwyz/n/ChopraBookReview.pdf>

CH14 Supply Chain Management (1).pdf (2.97MB)

[http://www.filefactory.com/file/3gzevb1xdjap/n/CH14_Supply_Chain_Management_\(1\).pdf](http://www.filefactory.com/file/3gzevb1xdjap/n/CH14_Supply_Chain_Management_(1).pdf)

9781285210445.pdf (2.96MB)

<http://www.filefactory.com/file/43embjhs6ulv/n/9781285210445.pdf>

c01.pdf (0.14MB)

<http://www.filefactory.com/file/3vrbkqexgidt/n/c01.pdf>

5152_Mentzer_Chapter_1.pdf (0.47MB)

http://www.filefactory.com/file/28dgpls043rt/n/5152_Mentzer_Chapter_1.pdf

4016-16051-1-PB.pdf (0.38MB)

<http://www.filefactory.com/file/3ns76k0l8rdp/n/4016-16051-1-PB.pdf>

2552-10206-1-PB (1).pdf (0.18MB)

[http://www.filefactory.com/file/7czhs6ilsgm1/n/2552-10206-1-PB_\(1\).pdf](http://www.filefactory.com/file/7czhs6ilsgm1/n/2552-10206-1-PB_(1).pdf)

0646-chapter-9-overview-of-oracle-advanced-pricing.pdf (0.75MB)

<http://www.filefactory.com/file/16w7qfgm4rh3/n/0646-chapter-9-overview-of-oracle-advanced-pricing.pdf>

3_2--49-50,Heaslip.pdf (0.07MB)

http://www.filefactory.com/file/8pf2m75ttv/n/3_2--49-50,Heaslip.pdf

MGMT30011.pdf (0.01MB)

<http://www.filefactory.com/file/2owljf30ivht/n/MGMT30011.pdf>

SELF STUDY PROFESSIONAL DEVELOPMENT ONLINE LEARNING RESOURCES
MATERIALS AND SELF ASSESSMENT ONLINE TESTS FOR ASSISTING THE
CANDIDATES TO PREPARE FOR PROFESSIONAL ENGINEER (ELECTRICAL-BUILDING
SERVICES) REGISTRATION WITH MYANMAR BOARD OF ENGINEERS

Prepared BY- U Kyaw Naing

Registered Professional Engineer of Queensland

RPEQ-Electrical (Registration Number 07661)

Board of Professional Engineers of Queensland State

Government (Australia) www.bpeq.qld.gov.au

&

Electrical Engineering Teacher (TAFE-NSW) (Australia)

Based on 25 years experiences since BE (Electrical Power) Graduation from Yangon Institute of Technology in 1987 as electrical engineer, electrician and electrical engineering teacher in Myanmar, Fiji, Australia, New Zealand & Niue, these online electrical learning materials in line with the study materials being used to teach the engineering courses in Australia are prepared to assist Young Myanmar Engineers to participate in professional development programs of Myanmar Engineering Society to accomplish the aims & objectives of Myanmar Engineers Board in the process of Professional Engineers Registration in Myanmar.

Online tests and assessments are also included for the candidates to assess their self learning. The resources are not only theoretical studies but also industrial rules and regulations in Singapore, UK, Australia and New Zealand and practical resources of engineering practice. PEng registration competency report writing in Australia & New Zealand are also included in the resources. [Engineering Report Writing.zip](#) & ([Engineering Competency Report Submitted by U Kyaw Naing for Registered Professional Engineer of Queensland, Australia](#)). Browse <http://www.electricaldiploma2013.zoomshare.com/> for details of Australian Electrical Training.

Members of Myanmar Engineering Society at the grade of Junior Member can utilize the materials uploaded to this site at **free of charge** for online self learning & self assessment. The candidates should have good internet access to download the study support materials from this site. But for sending the materials in USB or copying them from the authorised representatives in Myanmar or assessing and providing individual professional support by e-mail, appropriate fees can be chargeable.

Further contact should be made to: U Kyaw Naing at highlightcomputergroup1@gmail.com

SCOPE- Electrical PE (Building Services)

PART (1)

YEAR 1 & 2 (Minumum 3 to 4 years is required for a graduate to become a PE)

(Total PDP Points for Informal Learning Activities-Private Study Part Time) (Total 10 points per year maximum)(MEB-PE Regulation Appendix 3). Ctrl+Click the link & then allow to download the contents.

The self study learning resources materials for SCOPE – Electrical PE (Building Services)

The tests are based on your general knowledge on the subject. They are not designed to test the limited area of study that the candidate learns one paper & sits one test.

1.Basic Electricity

1. **DC Circuit**
2. **Alternating (sinusoidal) Voltage and current**
3. **Single phase AC Circuit**
4. **Phasor Algebra and AC Circuit**
5. **Resonance in RLC Circuit**

STUDY MATERIALS (DC Circuits)

[DC_Circuit_E003_E004.zip](#)

http://www.filefactory.com/file/c0cb8ab/n/Stage_1_Part_1.zip

ONLINE MCQ TEST (1)

http://www.filefactory.com/file/58r3nfe1qieh/n/E003_E004_Online_Test_1_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/3ebb0fe603a748b6b2430e75fb07af4f#/InitializeTest.xaml>

<http://www.classroomclipboard.com/503511/Home/Test/3ebb0fe603a748b6b2430e75fb07af4f#/QuestionPresenter.xaml?id=11>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- G4UYTV

STUDY MATERIALS (AC Circuit 1)

[G002](#)

-

ONLINE MCQ TEST (2)

http://www.filefactory.com/file/7ebmnciqxf3/n/G002_Online_Test_1_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/f7fb9a22d8ba413a8d39bc6ef7be4d20#/InitializeTest.xaml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- 8YGTHT

STUDY MATERIALS (AC Circuit 2)

[G048_7769AC](#) [G048_Tutorials.zip](#)

Notes for assignment/ tutorials

[G048_Full_Part_1.zip](#) [G048Part2.zip](#)

[E025_Circuits_1](#) [E025_Circuits_2](#)

[E025_Tutorial](#)

[Stage 2 Part 3.zip](#) http://www.filefactory.com/file/c0ccb1f/n/Stage_2_Part_3.zip

[Stage 3 Part 2.zip](#) http://www.filefactory.com/file/c0ccdbc/n/Stage_3_Part_2.zip

ONLINE MCQ TEST (3)

http://www.filefactory.com/file/52h82a0t0f3f/n/E025_Online_Test_1_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/0d8e41400b24465b97e60b2a555d7cfff#/InitializeTest.xaml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- DCVK7

ONLINE MCQ TEST (4)

http://www.filefactory.com/file/713uvwk5vbel/n/G048_Online_Test_1_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/a03f83dbf40e4991800c44b484ae6a1d#/InitializeTest.xaml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- G9PLM

After you have done the test, the score can be printed out in PDF format The score with at least 50% or more for all tests, it will be record of 4 HR x 0.5 = 2 HR

2. Three phase Circuits and System

1. Three phase voltage generation
2. Phasor diagram
3. Star/ Delta connection
4. Balanced Three phase loads
5. Active , Reactive and Apparent Power
6. Power Measurements
7. Power Factor Correction

STUDY MATERIALS (Three Phase Circuits)

[G049_7762AB_7761M_Notes](#) [G049_7762ABTutorial](#)

[E029_Motor_Control_1](#) [E029_Motor_Control_2](#)

[Fault Calculation](#)

[7762AB Fault Calculation.zip](#)

[AB-Part1.zip](#) [AB-Part 2.zip](#) [AB-Part 3.zip](#) [AB-Part4.zip](#) [AB-Part5.zip](#) [AB-Part6.zip](#)

[ABFormula.zip](#)

Power System Analysis

[7761M-Part1.zip](#) [7761M-Part2.zip](#) [7761M-Part3.zip](#) [7761M-Part4.zip](#) [7761M-Part5.zip](#)

[7761M-Part6.zip](#) [7761M-Part7.zip](#)

Phase AC Supply Handout		
Connection of balanced three phase loads handout		
Star delta conversion handout		
Connection of unbalanced three phase loads		
Power and energy in ac circuit handout		
Watt meter handout		
Three Phase Power Handout		
Power factor correction handout		
High voltage transmission line losses handout		
Symmetrical components handout		
Distribution of fault currents through power system handout		
Phase sequence diagrams for power systems handout		
Phase sequence detectors handout		
Fault calculations on power system handout		
Power Circuits (Reference)		
Part 1	Part 2	Part 3
Part 4	Part 5	Part 6
Part 7	Part 8	Part 9
Part 10	Part 11	Part 12
Part 13	Part 14	Part 15
Part 16	Part 17	Part 18

[Stage 2 Part 3.zip](#) http://www.filefactory.com/file/c0ccb1f/n/Stage_2_Part_3.zip
[E029Tutorial](#)

ONLINE MCQ TEST (5)

G049 Test 1

http://www.filefactory.com/file/5vhbs8sn20f3/n/G049_Online_Test_1_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/d5b2138544c74b709963660627046ffe#/InitializeTest.xml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- UE6FAG

G049 Test 2

http://www.filefactory.com/file/611ftvpa3dit/n/G049_Online_Test_2_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/797cac44d12248b9b3be8507518c9bc4#/InitializeTest.xml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- PS83

After you have done the test, the score can be printed out in PDF format The score with at least 50% or more for all tests, it will be record of 4 HR x 0.5 = 2 HR

3. Magnetism and Magnetic Circuits

1. Magnetic Field
2. Magnetic Materials and Magnetization curves
3. Magnetic Equivalent Circuit
4. Sinusoidal Excitation
5. Magnetic losses

STUDY MATERIALS (Magnetic Circuits)

[G001_Part_1](#) [G001_Part_2](#) [G001_Part_1](#) [G001_Part_2](#)

<http://www.filefactory.com/file/cf9b277/n/G001.zip>

http://www.filefactory.com/file/c0cc1cd/n/Stage_1_Part_4.zip

ONLINE MCQ TEST (6)

G001 Test 1

http://www.filefactory.com/file/7c658zyrj9gx/n/G001_Online_Test_1_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/ec4d44c4f8004474b48ceafa43b2e228#/InitializeTst.xml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- BDL8L85

After you have done the test, the score can be printed out in PDF format The score with at least 50% or more for all tests, it will be record of 2 HR x 0.5 = 1 HR

4.AC/DC Machines

1. DC Machine: operating principle, voltage and torque equations
2. Three phase Induction motors: operating principle, equivalent Circuit, torque-speed, Characteristics, losses and efficiency

STUDY MATERIALS (AC/DC Machines)

[Elect Machine-G043+G044+G045.zip](#) http://www.filefactory.com/file/c0b6668/n/Elect_Machine-G043_G044_G045.zip

[G043_G045_7762AF_Notes](#) [G043_G045_Part_1_7762AF_Notes](#)

[G015_G046_G040_G043_G045_G042Tutorials](#)

[ESI12_14_Syn_Motor_Generator.zip](#) [ESI_13_Voltage_regulation_devices.zip](#)

[ESI_19.4_Turbine_Control.zip](#)

[ESI_19.2_Generator_Control_Load_Flow.zip](#)

[ESI_19.3_Generator_.zip](#)

[Synchronous Generator](#)

Advanced AC Machines

[AF_Wk_1-2.zip](#) [AF_Wk_2-3.zip](#) [AF_Wk_4.zip](#) [AF_Wk_5.zip](#) [AF_Wk_6.zip](#) [AF_Wk_7.zip](#) [AF_Wk_8.zip](#)

[AF_Wk_9.zip](#) [AF_Wk_10.zip](#) [AFWk11-12-13Part1.zip](#) [AFWk11-12-13Part2.zip](#) [AF_Wk_14.zip](#)

[AF_Wk_15.zip](#) [AF_Week_16.zip](#) [AF_wk_17.zip](#)

[Motor_Lab.pdf](#)

[Principle_of_Synchronous_motors.doc](#)

[SyncMotorsPowerControl.pdf](#)

[G043_G045_7762AF_Notes](#) [G043_G045_Part_1_7762AF_Notes](#)

[MachineControlCkt1.zip](#) [MachineControlCkt2.zip](#) [MachineControlCkt3.zip](#)

[Motor control 2](#) [Motor control 3](#) [Motor control 4](#) [Motor control 5](#)

[Motor control 6](#) [Motor control 7](#) [Motor control 8](#) [Motor control 9](#)

[Motor control 10](#) [Motor control 11](#) [Motor control 12](#) [Motor control 13](#)

[Motor control 14](#) [Motor control 15](#) [Motor control 16](#)

[E029_Motor_Control_1](#) [E029_Motor_Control_2](#) [E047Mech](#)

Advanced DC Machines

[G044_7762AC1](#) [G044_7762AC2](#)

<http://www.filefactory.com/file/cf9a3a6/n/E029.zip>

ONLINE MCQ TEST (7)

G043+G045 Test

http://www.filefactory.com/file/7h9c99zngfq1/n/G043_G045_Online_Test_1_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/2f02528bbe5d47ba8056aaac1c66972#/InitializeTest.xaml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- 7TBWXJ5

G044Test

http://www.filefactory.com/file/5iyno92bji67/n/G044_Online_Test_1_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/39a2497862a448b1b34e39893dd92183#/InitializeTest.xaml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- VH4D

After you have done the test, the score can be printed out in PDF format The score with at least 50% or more for all tests, it will be record of 4 HR x 0.5 = 2 HR

5.Transformers

1. **Ideal Transformer**
2. **Equivalent circuit**
3. **Phasor Diagrams**
4. **Determination of Parameters**
5. **Performance Evaluation**
6. **Auto-transformers**
7. **Three phase Transformers**

STUDY MATERIALS (Power Transformer)

[Power Transformer+Line-G040.zip](#)

[G040_7762AD_Notes](#)

[New-AA_AB_AD_AE_AF_AG_AH_4269T_Tutorials](#)

[ESI_4_11_Power_Transformer.zip](#)

[ESI_4_Power_Transformer.zip](#)

7762AD Power Transformer

[AD_Day_1.zip](#) [AD_Day_2.zip](#) [AD_Day_4.zip](#) [AD_Day_5.zip](#) [AD_Day_6.zip](#)

[AD_Day_8.zip](#) [AD_Day_9.zip](#)

Power Transformer Reference

[TrRef1.zip](#) [TrRef2.zip](#) [TrRef3_0.zip](#) [TrRef4.zip](#) [TrRef5.zip](#) [TRRef6.zip](#)

[TrRef7.zip](#) [TrRef8.zip](#) [TrRef9.zip](#)

ONLINE MCQ TEST (8)

G040 Test 1

http://www.filefactory.com/file/3ve7iz9640yp/n/G040_Online_Test_1_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/b12e17211b8b407b9cac0025aff7462c#/InitializeTest.xaml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- 67VWMYJ

After you have done the test, the score can be printed out in PDF format The score with at least 50% or more for all tests, it will be record of 4 HR x 0.5 = 2 HR

6.Active Power and Frequency Control

1. Governor Control Systems
2. Transmission Losses , penalty factors and loss coefficients
3. Automatic Generation Control
4. Active power Control Devices

STUDY MATERIALS (Power Frequency Control 1)

[ESI12_14_Syn_Motor_Generator.zip](#) [ESI_13_Voltage_regulation_devices.zip](#)

[ESI_18.1_Substation equipments_1.zip](#) [ESI_18.2_Substation equipments_2.zip](#)

[ESI_18.3_Substation equipments_3.zip](#) [ESI_33.3_Harmoniceffect_on_machines.zip](#)

[ESI_33.4_Harmonic_in_synchronous_machines.zip](#)

[ESI_33.5_Harmonic_in_transformer.zip](#)

[ESI_33.6_Power_Quality_Improvement_Capacitor_bank.zip](#)

[ESI_33.7_Power_Quality_Improvement-Filter.zip](#)

[ESI_33.8_Power_Quality_Improvement-General.zip](#)

[ESI_33.9_Power_Quality_Improvement-Power_Conditioner.zip](#)

[Stage 2 Part 1A.zip](#) http://www.filefactory.com/file/c0cb96f/n/Stage_2_Part_1A.zip

[Stage 2 Part 3.zip](#) http://www.filefactory.com/file/c0ccb1f/n/Stage_2_Part_3.zip

[ESI12_14_Harmonic](#) [ESI12_14_Reactor](#) [ESI12_14_Syn_Motor_Generator](#)

[ESI_19.1_Computer_Control](#) [ESI_19.4_Turbine_Control](#)

[ESI_19.2_Generator_Control_Load_Flow](#)

[ESI_19.3_Generator](#) [ESI_22.1_Generator_Study](#) [ESI_22.2_Voltage_surge_control](#)

[ESI_24_Modern_Power_System](#)

[Lesson 1](#)

[Lesson 3](#)

[Power System Operation \(General aspect\) Reading 1](#)

[Power System Operation \(General aspect\) Reading 2](#)

[Power System Operation \(General aspect\) Reading 3](#)

[Power System Operation \(General aspect\) Reading 4](#)

[Power System Operation \(General aspect\) Reading 5](#)

[Power System Operation \(General aspect\) Reading](#)

<http://kyawnaing325.zoomshare.com/files/7762ElectricalPowerModules.htm>

7762AH Power System Fundamental

7762AH Power System Fundamental

[AH_Day_1.zip](#) [AH_Day_2_3.zip](#) [AH_Day_4.zip](#) [AH_Day_5.zip](#) [AH_Day_6_7_8.zip](#)

[Stage 3 Part 3.zip](#) http://www.filefactory.com/file/c0ccd44/n/Stage_3_Part_3.zip

7.Reactive Power and Frequency Control

1. Production and Absorption of Reactive Power
2. Methods of Voltage Control
3. Reactive Power and Voltage Control Devices
4. Application to Transmission and Distribution Systems

STUDY MATERIALS (Power Frequency Control 2)

[G015 G037 G038 G030Pt1 7762AG Notes](#) [G015 G042 G037 G038 G039 Part 2 Notes](#)

[G015 G042 G037 G038 G039 Part 2 Notes](#) [G015 G037 G038 G030Pt1 7762AG Notes](#)

[Power system 2-G037+G038+G039.zip](#)

http://www.filefactory.com/file/c0b7a33/n/Power_system_2-G037_G038_G039.zip

[Power system 2-G037+G038+G039.zip](#)

http://www.filefactory.com/file/c0b7a33/n/Power_system_2-G037_G038_G039.zip

[Transmission line-G042.zip](#)

http://www.filefactory.com/file/c0b7dad/n/Transmission_line-G042.zip

[G042 Part 3 Notes](#) [G037 G038 G030Pt1 7762AG Notes](#)

ONLINE MCQ TEST (9)

G037+G038+G039 Test 1

http://www.filefactory.com/file/6o7ow8er4f9l/n/G037_G038_G039_Online_Test_1_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/9696759cec624be1a7793b7d1edd87c2#/InitializeTest.xaml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- HYCEUE

ONLINE MCQ TEST (10)

G037+G038+G039 Test 2

http://www.filefactory.com/file/5by85g9rxmoh/n/G037_G038_G039_Online_Test_2_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/8ea510a583bf41b5b6a994378eeb912f#/InitializeTest.xaml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- LCCD

ONLINE MCQ TEST (11)

G037+G038+G039 Test 3

http://www.filefactory.com/file/5fy0regqoh0n/n/G037_G038_G039_Online_Test_3_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/adae49f2f39c4158925fe7010b460540#/InitializeTest.xaml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- S947G

ONLINE MCQ TEST (12)

G037+G038+G039 Test 4

http://www.filefactory.com/file/q1sn4hitpb/n/G037_G038_G039_Online_Test_4_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/f1486f63ce8f4e349919659cd7bd4a98#/InitializeTest.xaml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- 49JL

ONLINE MCQ TEST (13)

G037+G038+G039 Test 5

http://www.filefactory.com/file/738vtwzyd3qp/n/G037_G038_G039_Online_Test_5_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/029dcf4b117c47109ff8d981a108e5c6#/InitializeTest.xaml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- KV6K3G

After you have done the test, the score can be printed out in PDF format The score with at least 50% or more for all tests, it will be record of 8 HR x 0.5 = 4HR

8.Electric Power Distribution Systems

1. Distribution System Configuration
2. Primary and Secondary Distribution
3. Ring , Radial and Inter-connected Systems
4. Distribution System Layout
5. Planning Criteria and Network Design
6. Fault Diagnosis and Restoration of Supply

STUDY MATERIALS (Electrical Power Distribution)

Electrical Distribution Typed Notes

[AA_Typed_Note_1.doc](#) [AA_Typed_Note_2.doc](#) [AA_Typed_Notes_3-.doc](#)

[7762AA_Typed_Note_4.doc](#)

[AA_Typed_note_5.doc](#) [AA_Typed_note_6.doc](#) [AA_typed_note_7.doc](#)

[AA_typed_note_8.doc](#) [7762AA_Module_Book](#)

[Power System 1-G015+G046+A010](#)

[AA.zip](#)

<http://www.filefactory.com/file/c0b7e92/n/AA.zip>

[AE.zip](#)

<http://www.filefactory.com/file/c0b7ff7/n/AE.zip>

[AG.zip](#)

<http://www.filefactory.com/file/c0b7f21/n/AG.zip>

[A010.zip](#)

<http://www.filefactory.com/file/c0b7f3c/n/A010.zip>

[AA_AB_AD_AE_AF_AG_AH_4269T_Tutorials](#)

[ESI_8_Insulation_1.zip](#)

[ESI_8_Insulation_2.zip](#)

[ESI_25_27_31_32_Part_2_Installation_and_testing_0.zip](#)

[ESI_25_27_31_32_Part_3_Electrical_Drawing.zip](#)

[ESI_25_27_31_32_Part_4_Data_Com_and_Wiring.zip](#)

[ESI_25_27_31_32_Part_5_Installation_Work_Books.zip](#)

[ESI_25_27_31_32_Part_6_Switching_1_2.zip](#)

[ESI_25_27_31_32_Part_7_Switching_3_4.zip](#)

[ESI_25_27_31_32_Part_8a_Electrical_Installation_Requirement_1.zip](#)

[ESI_25_27_31_32_Part_8b_Electrical_Installation_Requirement_2.zip](#)

[ESI_9.1_Protection_Relay_Construction.zip](#)

[ESI_9.2Test_Equipment.zip](#)

Study Package (10) HV Equipments

[ESI10.1_HV_equipments.zip](#)

[ESI10.2_Substation_equipments.zip](#)

Study Package (12) Harmonics

[ESI12_14_Harmonic.zip](#)

[ESI12_14_Reactor.zip](#)

[ESI12_14_Syn_Motor_Generator.zip](#)

Study Package (13) Voltage Regulation 3333

[ESI_13_Voltage_regulation_devices.zip](#)

Study Package (18) Sub station equipments

[ESI_18.1_Substation_equipments_1.zip](#)

[ESI_18.2_Substation_equipments_2.zip](#)

[ESI_18.3_Substation_equipments_3.zip](#)

Study Package (33) Power Quality

[ESI_33.1_Power_Quality_Concept.zip](#)

[ESI_33.2_Harmonic_in_capacitor.zip](#)

[ESI_33.3_Harmoniceffect_on_machines.zip](#)

[ESI_33.4_Harmonic_in_synchronous_machines.zip](#)

[ESI_33.5_Harmonic_in_transformer.zip](#)

[ESI_33.6_Power_Quality_Improvement_Capacitor_bank.zip](#)

[ESI_33.7_Power_Quality_Improvement-Filter.zip](#)

[ESI_33.8_Power_Quality_Improvement-General.zip](#)

[ESI_33.9_Power_Quality_Improvement-Power_Conditioner.zip](#)

Study Package (34) Power Equipments Commissioning

[ESI_34.1_Power_Eqpt_Commissioning_1.zip](#)

[ESI_34.2_Power_Eqpt_Commissioning_2.zip](#)

[ESI_34.3_Power_Eqpt_Commissioning_3.zip](#)

[ESI_34.4_Power_Eqpt_Commissioning_4.zip](#)

[ESI_34.5_Power_Eqpt_Commissioning_5.zip](#)

[ESI_34.6_Power_Eqpt_Commissioning_6.zip](#)

[ESI_34.7_Power_Eqpt_Commissioning_Trade_1.zip](#)

[ESI_34.8_Power_Eqpt_Commissioning_Trade_2.zip](#)

[ESI_34.9_Power_Eqpt_Commissioning_Trade_3.zip](#)

[ESI_34.10_Power_Eqpt_Commissioning_Trade_4.zip](#)

[ESI_34.11_Power_Eqpt_Commissioning_Trade_5.zip](#)

[ESI_34.12_Power_Eqpt_Commissioning_Trade_6.zip](#)

[ESI_34.13_Power_Eqpt_Configuration_1.zip](#)

[ESI_34.14_Power_Eqpt_Configuration_2.zip](#)

Study Package (34) Equipments Commissioning [ESI_34.1_Background_theory_for_equipments_commissioning_1.zip](#)

[ESI_34.2_Background_theory_for_equipments_commissioning_2.zip](#)

[ESI_34.3_Background_theory_for_equipments_commissioning_3.zip](#)

[ESI_34.4_Background_theory_for_equipments_commissioning_4.zip](#)

[ESI_34.5_Background_theory_for_equipments_commissioning_5.zip](#)

[ESI_34.6_Background_theory_for_equipments_commissioning_6.zip](#)

BACK UP FOR 2& 10

[Stage 2 Part 1A.zip](#) http://www.filefactory.com/file/c0cb96f/n/Stage_2_Part_1A.zip

[Stage 2 Part 3.zip](#) http://www.filefactory.com/file/c0ccb1f/n/Stage_2_Part_3.zip

Switch Gear

[Elect_Installation_Protection_Method_Devices.zip](#)

[ElectSystSafety1.zip](#)

[ElectSystSafety2.zip](#)

[ESI_27.4Circuit_Breaker_1.zip](#)

[ESI_27.5_Circuit_Breaker_2.zip](#)

[ESI_7_Switching_system_design_consideration.zip](#)

[ESI_8.2_Site_Insulation_Surge_Protection.zip](#)

ONLINE MCQ TEST (14)

G015+G046 Test 1

http://www.filefactory.com/file/50ox6xeklufp/n/G015_G046_Online_Test_1_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/67dbfd25caa3484498a850f3b1050457#/InitializeTest.xaml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code -----G9UCJ

ONLINE MCQ TEST (15)

G015+G046 Test 2

http://www.filefactory.com/file/1s822zs1jz89/n/G015_G046_Online_Test_2_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/204b4231f0ea4492986ce2ec11302704#/InitializeTest.xaml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code -----FSXU

ONLINE MCQ TEST (16)

G015+G046 Test 3

http://www.filefactory.com/file/6pcivv5e0y05/n/G015_G046_Online_Test_3_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/542fb0501a334d8788c68c19208e96e1#/InitializeTest.xaml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code -----JE3W

After you have done the test, the score can be printed out in PDF format The score with at least 50% or more for all tests, it will be record of 4 HR x 0.5=2HR

9. Building Services Engineering

1. Estimation of Power Demand
2. LV Cable and Bus-way Systems
3. Conductor Sizing Factors
4. Circuit Protective Conductor
5. Earth Leakage and Touch Voltage
6. Inspection and Testing
7. Lightning Protection

STUDY MATERIALS (Building Service Engineering)

[Wiring_Notes_1.](#) [Wiring_Notes_2](#) [Switchboard_Wiring](#)

[1Wiring_E033_E008](#) [2Wiring_E033_E008](#)

http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip

[Stage 1 Part 1.zip](#) http://www.filefactory.com/file/c0cb8ab/n/Stage_1_Part_1.zip

[Stage 1 Part 5.zip](#) http://www.filefactory.com/file/c0cb9b3/n/Stage_1_Part_5.zip

[Electrical_safe_working.zip](#)

[NREL_Disconnect_Reconnect.zip](#)

[Stage 1 Part 5.zip](#) http://www.filefactory.com/file/c0cb9b3/n/Stage_1_Part_5.zip

[Stage 1 Part 1.zip](#) http://www.filefactory.com/file/c0cb8ab/n/Stage_1_Part_1.zip

[ELV_Cable_termination](#) [ELV_Cable_termination](#) [Wiring_Notes_1.](#) [Wiring_Notes_2](#) [Switchboard_Wiring](#)

[1Wiring_E033_E008](#) [2Wiring_E033_E008](#)

[ElectricalDrawing1.zip](#) [ElectricalDrawing2.zip](#) [ElectricalDrawing3.pdf](#)

[Stage 2 Part 2A.zip](#)

http://www.filefactory.com/file/c0cca4a/n/Stage_2_Part_2A.zip

[Construction_ElectricalSafety.zip](#)

[InserviceTesting.zip](#)

BACK UP FOR 9 & 10

[Stage 2 Part 1B.zip](#) http://www.filefactory.com/file/c0ccac0/n/Stage_2_Part_1B.zip

[Stage 2 Part 3.zip](#) http://www.filefactory.com/file/c0ccb1f/n/Stage_2_Part_3.zip

[Stage 2 Part 6.zip](#) http://www.filefactory.com/file/c0cccc0/n/Stage_2_Part_6.zip

[Stage 3 Part 3.zip](#) http://www.filefactory.com/file/c0ccd44/n/Stage_3_Part_3.zip

[Stage 3 Part 4.zip](#) http://www.filefactory.com/file/c0ccd9a/n/Stage_3_Part_4.zip

[Stage 4 Part 8.zip](#) http://www.filefactory.com/file/c0cc5a1/n/Stage_4_Part_8.zip

[Stage 4 Part 9.zip](#) http://www.filefactory.com/file/c0cc5db/n/Stage_4_Part_9.zip

[Stage 4 Part 10.zip](#) http://www.filefactory.com/file/c0cc5f8/n/Stage_4_Part_10.zip

[Stage 3 Part 5.zip](#) http://www.filefactory.com/file/c0ccefd/n/Stage_3_Part_5.zip

[Stage 3 Part 8.zip](#) http://www.filefactory.com/file/c0ccf09/n/Stage_3_Part_8.zip

[Stage 3 Part 9.zip](#) http://www.filefactory.com/file/c0ccf48/n/Stage_3_Part_9.zip

http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
AS3000-2007Overview.zip AS3000_AS3008TablesExtract.zip WiringRules.zip Part (1) Study the following notes Installation_Requirement_1-A.zip Installation_Requirement_1-B.zip Installation_Requirement_2-A.zip Installation_Requirement_2-B.zip Stage_2_Wiring.zip
http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
AS3000-2007Overview.zip AS3000_AS3008TablesExtract.zip WiringRules.zip Part (1) Study the following notes Installation_Requirement_1-A.zip Installation_Requirement_1-B.zip Installation_Requirement_2-A.zip Installation_Requirement_2-B.zip Stage_2_Wiring.zip

[Cable_Installation.zip](#)

[Regulatory_Requirement.zip](#)

BACK UP FOR 9 & 10

[Stage 2 Part 1B.zip](#) http://www.filefactory.com/file/c0ccac0/n/Stage_2_Part_1B.zip

[Stage 2 Part 3.zip](#) http://www.filefactory.com/file/c0ccb1f/n/Stage_2_Part_3.zip

[Stage 2 Part 6.zip](#) http://www.filefactory.com/file/c0cccc0/n/Stage_2_Part_6.zip

[Stage 3 Part 3.zip](#) http://www.filefactory.com/file/c0ccd44/n/Stage_3_Part_3.zip

[Stage 3 Part 4.zip](#) http://www.filefactory.com/file/c0ccd9a/n/Stage_3_Part_4.zip

[Stage 3 Part 5.zip](http://www.filefactory.com/file/c0ccefd/n/Stage_3_Part_5.zip)http://www.filefactory.com/file/c0ccefd/n/Stage_3_Part_5.zip

[Stage 3 Part 8.zip](http://www.filefactory.com/file/c0ccf09/n/Stage_3_Part_8.zip) http://www.filefactory.com/file/c0ccf09/n/Stage_3_Part_8.zip

[Stage 3 Part 9.zip](http://www.filefactory.com/file/c0ccf48/n/Stage_3_Part_9.zip) http://www.filefactory.com/file/c0ccf48/n/Stage_3_Part_9.zip

[Stage 4 Part 7.zip](http://www.filefactory.com/file/c0cc479/n/Stage_4_Part_7.zip)http://www.filefactory.com/file/c0cc479/n/Stage_4_Part_7.zip

[Stage 4 Part 8.zip](http://www.filefactory.com/file/c0cc5a1/n/Stage_4_Part_8.zip) http://www.filefactory.com/file/c0cc5a1/n/Stage_4_Part_8.zip

[Stage 4 Part 9.zip](http://www.filefactory.com/file/c0cc5db/n/Stage_4_Part_9.zip) http://www.filefactory.com/file/c0cc5db/n/Stage_4_Part_9.zip

[Stage 4 Part 10.zip](http://www.filefactory.com/file/c0cc5f8/n/Stage_4_Part_10.zip) http://www.filefactory.com/file/c0cc5f8/n/Stage_4_Part_10.zip

http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip G103+104 Notes+Lessons http://www.filefactory.com/file/2bg8qift6nzh/n/G103_G104.zip
Wiring_Notes_1_ Wiring_Notes_2 Switchboard_Wiring 1Wiring_E033_E008 2Wiring_E033_E008 Fixing Equipments E002_E005.zip Lighting.zip E_trade_1.zip E_trade_2.zip E_trade_3.zip E_trade_4.zip G008_General_Notes_1.zip G008_General_Notes_2.zip Hazard_Identification.zip G003_G004_Wiring_2_Part_1.zip G003_G004_Wiring_2_Part_2.zip Cable_CktProt_E_Accessories.zip Cable_Conduit_E_Accessories.zip Elect_Installation_Protection_Method_Devices.zip Elect_Installation_Requirement_1.zip Elect_Installation_Requirement_1.zip Elect_Installation_Requirement_2.zip ElectricInstallationDesign.zip ElectSystSafety1.zip ElectSystSafety2.zip FireProtHeatingTestingEarthing.zip GeneralWiring.zip HazardLightingPanel.zip PanelRCDWireSpecial_Installation.zip ProtectionMethods.zip

[Electrician Capstone unit.pdf](#)

http://www.filefactory.com/file/c392ae1/n/Electrician_Capstone_unit.pdf

Electrician Capstone Test Old Questions

[Electrician Capstone Unit Study Guide.zip](#)

http://www.filefactory.com/file/c4bbf1b/n/Electrician_Capstone_Unit_Study_Guide.zip

ONLINEASSESSMENT (17)

Reflect your experience in the work place , write the technical report of 10 pages & submit it.

After you have done the test, the score can be printed out in PDF format The score with at least 50% or more for all tests, it will be record of 4 HR x 0.5 = 2HR

10.General Protections

1. Basic Protection Principles
2. Instrument Transformers
3. Co-ordination of Over-current and Earth Protection for Distribution Systems
4. Pilot-wire Differential Protection Feeder

STUDY MATERIALS (General Protection Principles)

[AE.zip](#)

<http://www.filefactory.com/file/c0b7ff7/n/AE.zip>
[G015_G042_G037_G038_G039_Part_2_Notes](#)

[ESI_27.1_Arts_and_Science_of_Protective_Relaying_1.zip](#)

[ESI 27.2 Arts and Science of Protective Relaying 2.zip](#)

[ESI 27.3 Arts and Science of Protective Relaying 3.zip](#)

[ESI 27.4Circuit Breaker 1.zip](#) [ESI 27.5 Circuit Breaker 2.zip](#)

[ESI 27_1 Relay Principle 1.zip](#) [ESI 27_1 Relay Principle 2.zip](#)

[ESI 27_1 Relay Principle 3.zip](#) [ESI 27.2 Element of Relay Protection.zip](#)

[ESI 27.3 Relay operation characteristics.zip](#) [ESI 27.4 Relay connection and response.zip](#)

[ESI 27.5 Machine and busbar protection 1.zip](#) [ESI 27.5 Machine and busbar protection 2.zip](#)

[ESI 27.5 Machine and busbar protection 3.zip](#)

[ESI 27.6 Feeder protection.zip](#) [ESI 27.7 CT and PT.zip](#) [ESI 27.9 Comparator.zip](#)

[ESI 27.10 Static relay.zip](#) [ESI 27.11 Test and maintenance.zip](#)

[ESI 27.12 Circuit Breaker 1.zip](#) [ESI 27.12 Circuit Breaker 2.zip](#)

[ESI 27.12 Circuit Breaker 3.zip](#) [ESI 27.12 Circuit Breaker 4.zip](#)

[ESI 27.8 Line protection 1.zip](#) [ESI 27.8 Line protection 2.zip](#)

[ESI 27.8 Line protection 3.zip](#) [ESI 27.5 Machine and busbar protection 2_0.zip](#)

ONLINE MCQ TEST (18)

G015+G046 Test 4

http://www.filefactory.com/file/4obspr3n1fkf/n/G015_G046_Online_Test_4_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/faf4fd339f25425784a5c04d186fe5db#/InitializeTest.xaml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code ----CCLV2SN

ONLINE MCQ TEST (19)

G015+G046 Test 5

http://www.filefactory.com/file/5t1q4kveec4v/n/G015_G046_Online_Test_5_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/0fd45546932d49dbb628fee5cbbaed7b#/InitializeTest.xaml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code ----T6X5982

After you have done the test, the score can be printed out in PDF format The score with at least 50% or more for all tests, it will be record of 2 HR x 0.5 = 1HR

TOTAL PROFESSIONAL DEVELOPMENT PROGRAM (PDP) HOURS = 20 Hours For Year 1 &

SCOPE Electrical PE (Building Services)

PART (2)

YEAR 3 & 4 (Minumum 3 to 4 years is required for a graduate to become a PE)

The practice reports need to write for each topics of the study materials included in Scope Part II.

The reports should include the followings:

- Professional topics----- You need to select the topic such as building electrical wiring or power distribution etc
- Fundamental of Engineering- What knowledge you got from the materials in your selected professional topic..
- Engineering Management--- How will you manage the I project / workforce to implement the engineering tasks by applying those knowledge in actual workplace project or simulated work place and project?.
- Rules Regulations, Standards & Specifications- You need to refer the relevant engineering rules, regulations, standards and specifications in the tasks expressed in your report.
- Safety---How will you safeguard public safety in performing the engineering tasks?
- Ethics--- How will you apply professional code of ethics in performing the engineering tasks?

The candidate should use the following format in the practice exercise reports for each topics of the Scope II that are simulated practice tasks for preparing the Professional Experience and Competency Report to be submitted to Myanmar Engineers Board for Professional Engineer (PE) Registration.

Section (1) Introduction

Section (2) Work experiences in brief and highlight the major important projects

Section 3 to 10 , the following competency should be addressed

- Apply engineering knowledge, methods and techniques
- Use of engineering technology , tools and equipments
- Safeguard public safety
- Recognition the impacts of engineering on the environment , economy and society.
- Manage engineering activities
- Communicate engineering information.
- Work collaboratively
- Main and enhance engineering skills and knowledge. (Ref-MEB PEng Reg)

1.Electrical Power Supply

1. Generation, Transmission and Distribution
2. Application of Electricity
3. Solar Photovoltaic System
4. Design of Electrical Installation
5. Load Estimation
6. Power Factor Correction
7. Power Quality and Power System Harmonics
8. Consumer and Substation Switchboards and Switch Gears
9. Maintenance of Electrical Equipments, Switch Gears and Cables
10. Design of Energy Efficiency and Sustainability

STUDY MATERIALS (Electrical Power Supply)

[G008 General Notes 1.zip](#) [G008 General Notes 2.zip](#) [MachineControlCkt1.zip](#) [MachineControlCkt2.zip](#)

[MachineControlCkt3.zip](#) [MachineRepair1.zip](#) [MachineRepair2.zip](#) [MachineRepair3.zip](#) [ProcessControlCkt1.zip](#)
[ProcessControlCkt2.zip](#) [ProcessControlCkt3.zip](#)

[ESI 8 Insulation 1](#) [ESI 8 Insulation 2](#) [ESI 9.1 Protection Relay Construction](#)

[ESI 9.2Test Equipment](#) [ESI 33.1 Power Quality Concept](#) [ESI 33.2 Harmonic in capacitor](#)

[ESI 33.3 Harmoniceffect on machines](#) [ESI 3.1 HV Measurement Cable Test.zip](#)

[ESI 3.2 Magnetic measurement.zip](#) [ESI 3.3 Power measurement.zip](#)

[ESI 3.4 RLC measurement 1.zip](#) [ESI 3.4 RLC measurement 2.zip](#) [ESI 3.4 RLC measurement 3.zip](#)

[ESI 3.5 Digital equipments.zip](#) [ESI 3.6 V.A.W meter.zip](#) [ESI 3.7T and M.zip](#) [ESI 3.8 Thermography.zip](#)

[ESI 4 11 Power Transformer.zip](#) [ESI 5 Machinery Installation.zip](#) [ESI 7 Drawing Switching Diagram.zip](#)

[ESI 7 Electrical Installation Design.zip](#) [ESI10.1 HV equipments.zip](#)

[ESI10.2 Substation equipments.zip](#) [ESI12 14 Harmonic.zip](#)

[ESI12 14 Reactor.zip](#) [ESI12 14 Syn Motor Generator.zip](#)

[ESI 13 Voltage regulation devices.zip](#)

[Power system 2-G037+G038+G039.zip](#)

http://www.filefactory.com/file/c0b7a33/n/Power_system_2-G037_G038_G039.zip

[ESI12 14 Harmonic](#) [ESI12 14 Reactor](#) [ESI12 14 Syn Motor Generator](#)

[ESI 19.1 Computer Control](#) [ESI 19.4 Turbine Control](#)

[ESI 19.2 Generator Control Load Flow](#)

[ESI 19.3 Generator](#) [ESI 22.1 Generator Study](#) [ESI 22.2 Voltage surge control](#)

[ESI 24 Modern Power System](#)

[2.bUnintentional islanding in distribution grids with a high penetration of inverter-based DG.mht](#)

2.Un intentional islanding in distribution grids-Part 2 [2.c.pdf](#)

2.Un intentional islanding in distribution grids-Part 3 [2.d-1.pdf](#)

2.Distribution Network 1 [2b_Distribution_Network.pdf](#)

2.Distribution Network 2 [2d-2.pdf](#)

2.Distribution Network 3 [2d-3.pdf](#)

[Solar Inspector Training.zip](#)

[ESI_22.2_Voltage_surge_control.zip](#)

[ESI_33.5_Harmonic_in_transformer.zip](#)

[ESI_33.6_Power_Quality_Improvement_Capacitor_bank.zip](#)

[ESI_33.7_Power_Quality_Improvement-Filter.zip](#)

[ESI_33.8_Power_Quality_Improvement-General.zip](#)

[ESI_33.9_Power_Quality_Improvement-Power_Conditioner.zip](#)

[ESI_25_27_31_32_Part_2_Installation_and_testing_0.zip](#)

[ESI_25_27_31_32_Part_3_Electrical_Drawing.zip](#)

[ESI_25_27_31_32_Part_4_Data_Com_and_Wiring.zip](#)

[ESI_25_27_31_32_Part_5_Installation_Work_Books.zip](#)

[ESI_25_27_31_32_Part_6_Switching_1_2.zip](#)

[ESI_25_27_31_32_Part_7_Switching_3_4.zip](#)

[ESI_25_27_31_32_Part_8a_Electrical_Installation_Requirement_1.zip](#)

[ESI_25_27_31_32_Part_8b_Electrical_Installation_Requirement_2.zip](#)

[ESI_13_Voltage_Regulating_Devices.zip](#)

[ESI_27.7_CT_and_PT.zip](#)

[ESI_27.9_Comparator.zip](#) [ESI_27.10_Static_relay.zip](#) [ESI_27.11_Test_and_maintenance.zip](#)

Advanced Diploma in Electricity Supply Industry (ESI)

The [LINK](#) for

Study Package (2)-Power System Planning

Study Package (3)-Testing

The [LINK](#) for

Study Package (16+17)-OHS

Study Package (20) Transmission System

Study Package (28) Power Accessories

The [LINK](#) for

Study Package (23) Machine Rating

The [LINK](#) for

Study Package (5) Machine Installation

Study Package (9) Protection

[ESI_9.2Test_Equipment.zip](#)

The [LINK](#) for

Study Package (3)-Testing

Study Package (5) Machine Installation

Study Package (15) Electrical Estimating

The [LINK](#) for

Study Package (1)-OHS

Study Package (12) Harmonics

Study Package (19) Computer Control

Study Package (20) Transmission System

The [LINK](#) for

Study Package (4) Power Transformer

Study Package (7) Drawing

Study Package (21+34)-Electrical Distribution

The [LINK](#) for

Study Package (10) HV Equipments

Study Package (18) Sub station equipments

The [LINK](#) for

Study Package (12) Harmonics

Study Package (22) Generator

Study Package (24) Signal Communication

The [LINK](#) for

Study Package (19) Generator

Study Package (25+27+31+32) Installation & Testing

The [LINK](#) for

Study Package (9) Protection

Study Package (16+17)-OHS

The [LINK](#) for

Study Package (22) Generator

The [LINK](#) for

Study Package (34) Power Equipments Commissioning

Study Package (21+34)-Electrical Distribution

The [LINK](#) for

Study Package (26) (41)

The [LINK](#) for

Study Package (6+ 10) HV Equipments

The [LINK](#) for

Study Package (7) Drawing

Study Package (8) Insulation

Study Package (13) Voltage Regulation

The [LINK](#) for

Study Package (15) Electrical Estimating

Study Package (15) Transmission System

Study Package (25+27+31+32) Installation & Testing

The [LINK](#) for

Study Package (18) Sub station equipments

Study Package (28) Power Accessories

The [LINK](#) for

Study Package (24) Modern Power System

The [LINK](#) for

Study Package (33) Power Quality

The [LINK](#) for

Study Package (27) Relay

The [LINK](#) for

Study Package (13) Voltage Regulation

The [LINK](#) for

Study Package (35)

The [LINK](#) for

Study Package (34) Equipments Commissioning

The [LINK](#) for

Study Package (8) Insulation

Study Package (12) Harmonics

The [LINK](#) for

Study Package (25+27+31+32) Installation & Testing

Study Package (25+27+31+32) Installation & Testing

The [LINK](#) for

Study Package (27) Relay

The [LINK](#) for

Study Package (20) Transmission System

EXERCISE ASSESSMENT (20)

Based on the study you got from the above resources, write a professional experiences and competency report for engineering tasks in electrical power supply in above mentioned format & submit it to the assessor.

(Weighted informal learning time for CPD including study &

report= 20Hr x 0.5= 10Hr)

2.Lighting Requirement for Workplace , Indoor and Outdoor

1. Visual Needs for Safety and Security
2. Determine the Lighting Requirement for Indoor and Outdoor Workplaces

STUDY MATERIALS (Lighting Requirement)

[Lighting.zip](#) [E_trade_1.zip](#) [E_trade_2.zip](#) [E_trade_3.zip](#) [E_trade_4.zip](#)

[G008_General_Notes_1.zip](#) [G008_General_Notes_2.zip](#) [Hazard_Identification.zip](#)

[K041_Lesson_16-Energy_efficiency+Lighting.zip](#)

http://www.filefactory.com/file/c0b6e0f/n/K041_Lesson_16-Energy_efficiency_Lighting.zip

[K041_Lesson_17-Illumination+Smoke_alarm.zip](#)

http://www.filefactory.com/file/c0b6fc5/n/K041_Lesson_17-Illumination_Smoke_alarm.zip

EXERCISE ASSESSMENT (21)

Based on the study you got from the above resources, write a professional experiences and competency report for engineering tasks in workplace lighting in above mentioned format & submit it to the assessor.

(Weighted informal learning time for CPD including study & report= 20Hr x 0.5= 10Hr)

3.Energy Efficiency Requirement

1. Minimum Energy Efficiency Requirements for New Installation and Replacement of Systems and Equipments in Buildings
2. Replacement of Components of Systems and Equipments in Buildings
3. Criteria for Determining Compliance with Energy Efficiency in Building with regards to Air conditioning and Heat Rejection Equipments, Water Heater, Motor Drives and Lighting used in Buildings.

STUDY MATERIALS (Energy Efficiency)

Building Design+Material Science-K041+E047.zip http://www.filefactory.com/file/c0b645d/n/Building_Design_Material_Science-K041_E047.zip
K041_Building_Design_1 K041_Building_Design_2 K041Airconditioning K041Energy_Management_Textbook E047Mech

[UEENEEK041B E047B Tutorials](#)

[Energy_survey_assignment](#)

[K041Textbook1.zip](#) [K041Textbook2.zip](#) [K041Textbook3.zip](#)

EXERCISE ASSESSMENT (22)

Based on the study you got from the above resources, write a professional experiences and competency report for engineering tasks in energy efficiency in above mentioned format & submit it to the assessor.

(Weighted informal learning time for CPD including study & report= 20Hr x 0.5= 10Hr)

4. Protection for Safety
1. Principle of Operation of Protective Devices
2. Maximum Demand and Diversity Factors
3. Protection against Over Current and Short Circuit Currents
4. Protective Devices and Circuit Conductors
5. Discrimination in Protection of Electrical Circuits

STUDY MATERIALS (Protection for Safety)

http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip G033 http://www.filefactory.com/file/1b2utxydvcx7/n/G033.zip

[Wiring_Notes_1.](#)

[Wiring_Notes_2 Switchboard Wiring](#)

[1Wiring_E033_E008 2Wiring_E033_E008](#)

Fixing Equipments

[E002_E005.zip Lighting.zip](#)

[E_trade_1.zip](#)

[E_trade_2.zip](#)

[E_trade_3.zip](#)

[E_trade_4.zip](#)

[G008_General_Notes_1.zip](#)

[G008_General_Notes_2.zip](#)

[Hazard_Identification.zip](#)

[G003_G004_Wiring_2_Part_1.zip](#)

[G003_G004_Wiring_2_Part_2.zip](#)

[Cable_CktProt_E_Accessories.zip](#)

[Cable_Conduit_E_Accessories.zip](#)

[Elect_Installation_Protection_Method_Devices.zip](#)

[Elect_Installation_Requirement_1.zip](#)

[Elect_Installation_Requirement_1.zip](#)

[Elect_Installation_Requirement_2.zip](#)

[ElectricInstallationDesign.zip](#)

[ElectSystSafety1.zip](#)

[ElectSystSafety2.zip](#)

[FireProtHeatingTestingEarthing.zip](#)

[GeneralWiring.zip](#)

[HazardLightingPanel.zip](#)

[PanelRCDWireSpecial_Installation.zip](#)

[ProtectionMethods.zip](#)

[G008_General_Notes_1.zip](#) [G008_General_Notes_2.zip](#) [MachineControlCkt1.zip](#) [MachineControlCkt2.zip](#)

[MachineControlCkt3.zip](#) [MachineRepair1.zip](#) [MachineRepair2.zip](#) [MachineRepair3.zip](#) [ProcessControlCkt1.zip](#)
[ProcessControlCkt2.zip](#) [ProcessControlCkt3.zip](#)

[ESI_8_Insulation_1](#) [ESI_8_Insulation_2](#) [ESI_9.1_Protection_Relay_Construction](#)

[ESI_9.2Test_Equipment](#) [ESI_33.1_Power_Quality_Concept](#) [ESI_33.2_Harmonic_in_capacitor](#)

[ESI_33.3_Harmoniceffect_on_machines](#) [ESI_3.1_HV_Measurement_Cable_Test.zip](#)

[ESI_3.2_Magnetic_measurement.zip](#) [ESI_3.3_Power_measurement.zip](#)

[ESI_3.4_RLC_measurement_1.zip](#) [ESI_3.4_RLC_measurement_2.zip](#)

[ESI_3.4_RLC_measurement_3.zip](#)

[ESI_3.5_Digital equipments.zip](#) [ESI_3.6_V.A.W_meter.zip](#) [ESI_3.7T_and_M.zip](#)

[ESI_3.8_Thermography.zip](#)

[ESI_4_11_Power_Transformer.zip](#) [ESI_5_Machinery_Installation.zip](#)

[ESI_7_Drawing_Switching_Diagram.zip](#) [ESI_7_Electrical_Installation_Design.zip](#)

[ESI10.1_HV equipments.zip](#) [ESI10.2_Substation equipments.zip](#)

[ESI12_14_Harmonic.zip](#) [ESI12_14_Reactor.zip](#)

[ESI12_14_Syn_Motor_Generator.zip](#) [ESI_13_Voltage_regulation_devices.zip](#)

[BACK UP FOR 4](#)

[Stage 3 Part 3.zip](#) http://www.filefactory.com/file/c0ccd44/n/Stage_3_Part_3.zip

[Stage 4 Part 15.zip](http://www.filefactory.com/file/c0cc7cb/n/Stage_4_Part_15.zip) http://www.filefactory.com/file/c0cc7cb/n/Stage_4_Part_15.zip

[Stage 4 Part 17.zip](http://www.filefactory.com/file/c0cc76b/n/Stage_4_Part_17.zip) http://www.filefactory.com/file/c0cc76b/n/Stage_4_Part_17.zip

[Stage 4 Part 7.zip](http://www.filefactory.com/file/c0cc479/n/Stage_4_Part_7.zip) http://www.filefactory.com/file/c0cc479/n/Stage_4_Part_7.zip

[Stage 4 Part 14.zip](http://www.filefactory.com/file/c0cc684/n/Stage_4_Part_14.zip) http://www.filefactory.com/file/c0cc684/n/Stage_4_Part_14.zip

Study Package (19) Generator

[ESI 19.4 Generator .zip](#)

Study Package (28) Power Accessories

[ESI 28.1 Power Accessories 1.zip](#) [ESI 28.2 Power Accessories 2.zip](#)

[ESI 28.3 Power Accessories 3.zip](#) [ESI 28.4 Power Accessories 4.zip](#)

[ESI 28.5 Power Accessories 5.zip](#) [ESI 28.6 Power Accessories 6.zip](#)

Study Package (34) Equipments Commissioning

[ESI 34.1 Background theory for equipments commissioning 1.zip](#)

[ESI 34.2 Background theory for equipments commissioning 2.zip](#)

[ESI 34.3 Background theory for equipments commissioning 3.zip](#)

[ESI 34.4 Background theory for equipments commissioning 4.zip](#)

[ESI 34.5 Background theory for equipments commissioning 5.zip](#)

[ESI 34.6 Background theory for equipments commissioning 6.zip](#)

Study Package (27) Relay

[ESI 27 1 Relay Principle 1.zip](#) [ESI 27 1 Relay Principle 2.zip](#)

[ESI 27 1 Relay Principle 3.zip](#)

[ESI 27.2 Element of Relay Protection.zip](#)

[ESI 27.3 Relay operation characteristics.zip](#) [ESI 27.4 Relay connection and response.zip](#)

[ESI 27.5 Machine and busbar protection 1.zip](#) [ESI 27.5 Machine and busbar protection 2.zip](#)

[ESI 27.5 Machine and busbar protection 3.zip](#)

[ESI 27.6 Feeder protection.zip](#) [ESI 27.7 CT and PT.zip](#) [ESI 27.9 Comparator.zip](#)

[ESI 27.10 Static relay.zip](#) [ESI 27.11 Test and maintenance.zip](#)

[ESI 27.12 Circuit Breaker 1.zip](#) [ESI 27.12 Circuit Breaker 2.zip](#)

[ESI 27.12 Circuit Breaker 3.zip](#) [ESI 27.12 Circuit Breaker 4.zip](#)

[ESI 27.8 Line protection 1.zip](#) [ESI 27.8 Line protection 2.zip](#)

[ESI 27.8 Line protection 3.zip](#) [ESI 27.5 Machine and busbar protection 2 0.zip](#)

EXERCISE ASSESSMENT (23)

Based on the study you got from the above resources, write a professional experiences and competency report for engineering tasks in protection and safety in above mentioned format & submit it to the assessor.

(Weighted informal learning time for CPD including study & report= 20Hr x 0.5= 10Hr)

5.Cables,Bus-ways and Distribution Boards

1. Types and Characteristics of Cables
2. Method Installation
3. Sizing of Conduit and Trunking
4. Factors Affecting the Current Carrying Capacities of Cables
5. Sizing of Cables and Bus-ways for use Under Different Types of Conditions
6. Connected Load, Maximum Demand and Circuit Breakers Ratings for an Electrical Distribution Board

STUDY MATERIALS (Electrical Installation)

http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip

[AS3000-2007Overview.zip](#) [AS3000_AS3008TablesExtract.zip](#) [WiringRules.zip](#)

Part (1) Study the following notes

[Installation_Requirement_1-A.zip](#) [Installation_Requirement_1-B.zip](#)

[Installation_Requirement_2-A.zip](#) [Installation_Requirement_2-B.zip](#)

[Stage_2_Wiring.zip](#)

[G003_G004_Wiring_2_Part_1.zip](#)

[G003_G004_Wiring_2_Part_2.zip](#)

[Cable_CktProt_E_Accessories.zip](#)

[Cable_Conduit_E_Accessories.zip](#)

[Elect_Installation_Protection_Method_Devices.zip](#)

[Elect_Installation_Requirement_1.zip](#)

[Elect_Installation_Requirement_1.zip](#)

[Elect_Installation_Requirement_2.zip](#)

[ElectricInstallationDesign.zip](#)

[ElectSystSafety1.zip](#)

[ElectSystSafety2.zip](#)

[FireProtHeatingTestingEarthing.zip](#)

[GeneralWiring.zip](#)

[HazardLightingPanel.zip](#)

[PanelRCDWireSpecial_Installation.zip](#)

[ProtectionMethods.zip](#)

Assessment

Read the above notes files and do the assignments for the following tutorial file.

[WiringPracticals.zip](#)

[G003G004Tutorial.zip](#)

PRACTICAL

Workshop 2+3

[WorkShop_Part_2_Practical_1_to_6_.zip](#) [WorkShop_Part_2_Practical_7_to_12_.zip](#)

[WorkShop_Part_2_Practical_13_to_17_.zip](#) [WorkShop_Part_2_Practical_18_to_21_.zip](#)

[ElectricalWorkshopPart3_G008_Group1Machine_.zip](#)

[ElectricalWorkshopPart3_G008_Group2LineProtection_.zip](#)

[ElectricalWorkshopPart3_G008_Group3InstrumentsDevices_.zip](#)

OTHER PRACTICALS

[ELECTRICAL_WORKSHOP_PART_2_G003_G004_G009_.zip](#)

[Electrical_Workshop_Part_2_Practical_1_to_18.zip](#)

[Electrical_Workshop_Part_2_Practical_19_to_21.zip](#)

[G003_G004_G009Practicals.pdf](#)

G005

UEENEEG005B		Verify compliance and functionality of general electrical installations
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[G005.zip](#)

Power Distribution Trade

[Power_Distribution_Trade.zip](#)

Metering

[Metering.zip](#)

Switch Gear

[Elect_Installation_Protection_Method_Devices.zip](#)

[ElectSystSafety1.zip](#)

[ElectSystSafety2.zip](#)

7762AH Power System Fundamental

[AH_Day_1.zip](#) [AH_Day_2_3.zip](#) [AH_Day_4.zip](#) [AH_Day_5.zip](#) [AH_Day_6_7_8.zip](#)

[ESI_27.4Circuit_Breaker_1.zip](#) [ESI_27.5_Circuit_Breaker_2.zip](#)

[ESI_7_Switching_system_design_consideration.zip](#) [ESI_8.2_Site_Insulation_Surge_Protection.zip](#)

EXERCISE ASSESSMENT (24)

Based on the study you got from the above resources, write a professional experiences and competency report for engineering tasks in electrical installation in above mentioned format & submit it to the assessor.

(Weighted informal learning time for CPD including study & report= 20Hr x 0.5= 10Hr)

6.Earthing

1. Purpose of Earthing
2. Methods of Earthing
3. Earth Fault Loop Impedance and Earth Fault Current
4. Suitable Sizes of Circuit Protective Conductor
5. Testing of Earthing

STUDY MATERIALS (Electrical Earthing)

G007

[G007 Lesson 1 AS3000 Wiring rule overview.zip](#)

http://www.filefactory.com/file/cf94220/n/G007_Lesson_1_AS3000_Wiring_rule_overview.zip

[G007 Lesson 2 Maximum Demand calculation.zip](#)

http://www.filefactory.com/file/cf9456f/n/G007_Lesson_2_Maximum_Demand_calculation.zip

[G007 Lesson 3 Cable selection.zip](#)

http://www.filefactory.com/file/cf9465c/n/G007_Lesson_3_Cable_selection.zip

[G007 Lesson 4 Cable voltage drop calculation.zip](#)

http://www.filefactory.com/file/cf9479e/n/G007_Lesson_4_Cable_voltage_drop_calculation.zip

[G007 Lesson 5 Derating of cable part 1.zip](#)

http://www.filefactory.com/file/cf95acb/n/G007_Lesson_5_Derating_of_cable_part_1.zip

[G007 Lesson 6 Derating of cable part 2.zip](#)

http://www.filefactory.com/file/cf95a6b/n/G007_Lesson_6_Derating_of_cable_part_2.zip

[G007 Lesson 7 Derating of cable for HRC fuse protection.zip](#)

http://www.filefactory.com/file/cf95cd7/n/G007_Lesson_7_Derating_of_cable_for_HRC_fuse_protection.zip

[G007 Lesson 8 Final subcircuit fault loop impedance.zip](#)

http://www.filefactory.com/file/cf95dd1/n/G007_Lesson_8_Final_subcircuit_fault_loop_impedance.zip

Electrical Installation requirement

[FireProtHeatingTestingEarthing.zip](#)

[HazardLightingPanel.zip](#)

[PanelRCDWireSpecial_Installation.zip](#)

[ProtectionMethods.zip](#)

[ESI_8.2_Site_Insulation_Surge_Protection.zip](#)

[Power system 2-G037+G038+G039.zip](#)

http://www.filefactory.com/file/c0b7a33/n/Power_system_2-G037_G038_G039.zip

[G037+G038+G039 Lesson 2-Site Earthing.zip](#)

http://www.filefactory.com/file/c0bb244/n/G037_G038_G039_Lesson_2-Site_Earthing.zip

[G037+G038+G039 Lesson 8-Turbine Control+Power Line Earthing.zip](#)

http://www.filefactory.com/file/c0bb521/n/G037_G038_G039_Lesson_8-Turbine_Control_Power_Line_Earthing.zip

[G037+G038+G039 Lesson 9-Insulator.zip](#)

http://www.filefactory.com/file/c221eff/n/G037_G038_G039_Lesson_9-Insulator.zip

Power System (2)

[G037+G038+G039 Lesson 1-Power Flow.zip](#)

http://www.filefactory.com/file/c0bb2a3/n/G037_G038_G039_Lesson_1-Power_Flow.zip
[G037+G038+G039 Lesson 2-Site Earthing.zip](#)

http://www.filefactory.com/file/c0bb244/n/G037_G038_G039_Lesson_2-Site_Earthing.zip
[G037+G038+G039 Lesson 4-Auxiliary System+Harmonic.zip](#)

http://www.filefactory.com/file/c0bb3c3/n/G037_G038_G039_Lesson_4-Auxiliary_System_Harmonic.zip
[G037+G038+G039 Lesson 3-Power System Control Equipments.zip](#)

http://www.filefactory.com/file/c0bcd7/n/G037_G038_G039_Lesson_3-Power_System_Control_Equipments.zip
[G037+G038+G039 Lesson 5-Harmonic.zip](#)

http://www.filefactory.com/file/c0bb35b/n/G037_G038_G039_Lesson_5-Harmonic.zip
[G037+G038+G039 Lesson 6-Harmonic Calculation.zip](#)
http://www.filefactory.com/file/c0bb43f/n/G037_G038_G039_Lesson_6-Harmonic_Calculation.zip

[G037+G038+G039 Lesson 7-Synchronous Generator Loading.zip](#)

http://www.filefactory.com/file/c0bb49d/n/G037_G038_G039_Lesson_7-Synchronous_Generator_Loading.zip
[G037+G038+G039 Lesson 8-Turbine Control+Power Line Earthing.zip](#)
http://www.filefactory.com/file/c0bb521/n/G037_G038_G039_Lesson_8-Turbine_Control_Power_Line_Earthing.zip

[G037+G038+G039 Lesson 9-Insulator.zip](#)

http://www.filefactory.com/file/c221eff/n/G037_G038_G039_Lesson_9-Insulator.zip

[G037+G038+G039 Lesson 10-Reliability of Power System.zip](#)
http://www.filefactory.com/file/c0bb6e4/n/G037_G038_G039_Lesson_10-Reliability_of_Power_System.zip

[G037+G038+G039 Lesson 11-Harmonic Reduction.zip](#)

http://www.filefactory.com/file/c0bce89/n/G037_G038_G039_Lesson_11-Harmonic_Reduction.zip
[G037+G038+G039 Lesson 12-Grounding + Power Quality.zip](#)
http://www.filefactory.com/file/c0bb872/n/G037_G038_G039_Lesson_12-Grounding_Power_Quality.zip
[G037+G038+G039 Lesson 13-Power Quality.zip](#)
http://www.filefactory.com/file/c0bb98d/n/G037_G038_G039_Lesson_13-Power_Quality.zip
[G037+G038+G039 Lesson 14-Harmonic Model.zip](#)
http://www.filefactory.com/file/c0bcd7/n/G037_G038_G039_Lesson_14-Harmonic_Model.zip
[G037+G038+G039 Lesson 15-Harmonic Losses in Transformer.zip](#)
http://www.filefactory.com/file/c0bca73/n/G037_G038_G039_Lesson_15-Harmonic_Losses_in_Transformer.zip
[G037+G038+G039 Lesson 16-Reliability Improvement.zip](#)
http://www.filefactory.com/file/c0bcba0/n/G037_G038_G039_Lesson_16-Reliability_Improvement.zip

[G037+G038+G039 Lesson 17-Preparation for emergency.zip](#)

http://www.filefactory.com/file/c0bcbd7/n/G037_G038_G039_Lesson_17-Preparation_for_emergency.zip
[G037+G038+G039 Lesson 18-Harmonic problems.zip](#)
http://www.filefactory.com/file/c0bcb68/n/G037_G038_G039_Lesson_18-Harmonic_problems.zip
[G037+G038+G039 Lesson 19-Synchronous machine problems.zip](#)
http://www.filefactory.com/file/c0bccb8/n/G037_G038_G039_Lesson_19-Synchronous_machine_problems.zip

[G037+G038+G039 Lesson 20-Power Generation + Generator Control.zip](#)

http://www.filefactory.com/file/c0bcc20/n/G037_G038_G039_Lesson_20Power_Generation_Generator_Control.zip
[G037+G038+G039 Lesson 21-Turbine Control+ Digital Excitation.zip](#)

http://www.filefactory.com/file/c0bcd6/n/G037_G038_G039_Lesson_21-Turbine_Control_Digital_Excitation.zip
[G037+G038+G039 Lesson 22-Power System Protection.zip](#)
http://www.filefactory.com/file/c0bcd4c/n/G037_G038_G039_Lesson_22-Power_System_Protection.zip

[G037+G038+G039 Lesson 23-Switch Gear.zip](#)

http://www.filefactory.com/file/c0bcea8/n/G037_G038_G039_Lesson_23-Switch_Gear.zip

EXERCISE ASSESSMENT (25)

Based on the study you got from the above resources, write a professional experiences and competency report for engineering tasks in site earthing in above mentioned format & submit it to the assessor.

(Weighted informal learning time for CPD including study & report= 20Hr x 0.5= 10Hr)

7.Emergency Lighting

1. Exit and Emergency Lighting Requirements for Evaluation of Occupants
2. Types of Back-up Power Supply
3. Exit and Directional Signs

STUDY MATERIALS (Emergency Lighting)

[EE 617 Building Electrical and Mechanical System Part 1 \(1 pt\)](#)

[EE 617 Building Electrical and Mechanical System Part 2](#)

[BAE 606 Building Service Electrical & Mechanical Engineering Lighting.zip](#)

[E_trade_1.zip](#) [E_trade_2.zip](#) [E_trade_3.zip](#) [E_trade_4.zip](#)

EXERCISE ASSESSMENT (26)

Based on the study you got from the above resources, write a professional experiences and competency report for engineering tasks in emergency lighting in above mentioned format & submit it to the assessor.

(Weighted informal learning time for CPD including study & report= 20Hr x 0.5= 10Hr)

8.Standby Power Generator System

1. Types of Essential and Critical Loads
2. Sizing of Generator
3. Voltage Regulation and its Effects on Generator Sizing
4. Protection of Alternators and Prime Movers
5. Installation of Standby Generator System Including Day-tank Battery and Charger, Fuel Supply, Engine cooling system, Plant room ventilation and fresh air intake, contend instrumentation plant and automatic transfer switch.

STUDY MATERIALS (Standby Power GeneratorSystem)

Study Package (22) Generator

[ESI_22.1_Generator_Study.zip](#)

[ESI_22.2_Voltage_surge_control.zip](#)

Study Package (23) Machine Rating

[ESI_23.1_Generator_Rating.zip](#)

[ESI_23.1_Transformer_Rating.zip](#)

Study Package (24) Modern Power System

[ESI_24_Modern_Power_System.zip](#)

[EE 512 Electrical Power Generation System \(1 pt\)](#)

[EE 512 Principles of Power Systems](#)

[EE 512 Generation Transmission and Distribution of Electrical Power](#)

EXERCISE ASSESSMENT (27)

Based on the study you got from the above resources, write a professional experiences and competency report for engineering tasks in stand by power system in above mentioned format & submit it to the assessor.

(Weighted informal learning time for CPD including study & report= 20Hr x 0.5= 10Hr)

9.Automatic Fire Alarm System

1. Requirement for automatic and manual fire detection system and purpose of compartmentation as required by the fire code.
2. Interaction with other building services as emergency voice communication system, lifts, AHU, pressurization fans and auto-doors during alarm activation.

STUDY MATERIALS (Automatic Fire Alarm System)

Part 1 Over all Knowledge of the subject

[BAE 606 Building Service Electrical & Mechanical Engineering](#)

Part 2 Competency units of the subject

Building Electrical & Mechanical System

[EE 617 Building Electrical and Mechanical System Part 1 \(1 pt\)](#)

[EE 617 Building Electrical and Mechanical System Part 2](#)

[HazardLightingPanel.zip](#)

ADDITIONAL STUDY FOR AUTOMATIC FIRE ALARM SYSTEM

Contact: highlightcomputergroup1@gmail.com to request the URL for download

10. Emergency Voice Communication System

1. Requirement for public address system for building above 24 meters but less than 60 meters.
2. Requirements for emergency voice communication for building above 60 meters.
3. Requirement for fireman intercom.

STUDY MATERIALS (Emergency Voice Communication System)

Study Package (24) Signal Communication

[ESI_26_Electronics_Signals.zip](#)

[FireProtHeatingTestingEarthing.zip](#)

[E071Hazard_Identification_Wk6_.zip](#)

EXERCISE ASSESSMENT (28)

Based on the study you got from the above resources, write a professional experiences and competency report for engineering tasks in emergency voice communication system in above mentioned format & submit it to the assessor.

(Weighted informal learning time for CPD including study & report= 20Hr x 0.5= 10Hr)

ADDITIONAL STUDY FOR EMERGENCY VOICE COMMUNICATION

Contact: highlightcomputergroup1@gmail.com to request the URL for download

11. Inspection, Testing and Common Violation in Electrical Installation

1. Mandatory requirements for inspection and testing of electrical prior to energisation of electrical supply
2. Types of test instruments and standard methods of testing.

STUDY MATERIALS (Electrical Testing & Inspection)

Electrical Risk Assessment

[Project Risk Management References](#)

[Electrician Capstone unit.pdf](#)

http://www.filefactory.com/file/c392ae1/n/Electrician_Capstone_unit.pdf

Electrician Capstone Test Old Questions

[Electrician Capstone Unit Study Guide.zip](#)

http://www.filefactory.com/file/c4bbf1b/n/Electrician_Capstone_Unit_Study_Guide.zip

[SubstationEntry.zip](#)

[Construction ElectricalSafety.zip](#)

[InserviceTesting.zip](#)

UEENEEE033

[Electrical_safe_working.zip](#)

[NREL_Disconnect_Reconnect.zip](#)

[AS3000-2007Overview.zip](#)

[AS3000_AS3008TablesExtract.zip](#)

[WiringRules.zip](#)

Part (1) Study the following notes

[Installation_Requirement_1-A.zip](#)

[Installation_Requirement_1-B.zip](#)

[Installation_Requirement_2-A.zip](#)

[Installation_Requirement_2-B.zip](#)

[Stage_2_Wiring.zip](#)

[Cable_Installation.zip](#)

[Protection_1.zip](#)

[Protection_2.zip](#)

[System_safety_1.zip](#)

[System_safety_2.zip](#)

[Regulatory_Requirement.zip](#)

[FireProtHeatingTestingEarthing.zip](#)

EXERCISE ASSESSMENT (29)

Based on the study you got from the above resources, write a professional experiences and competency report for engineering tasks in electrical safety inspection and testing in above mentioned format & submit it to the assessor.

(Weighted informal learning time for CPD including study & report= 20Hr x 0.5= 10Hr)

12.Measuring Instruments

1. Principle of operation of Electrical Measuring Instruments
2. Essential of Indicating Instruments
3. Types of Instruments
4. Errors Common to All Types of Instruments
5. Moving Iron Instruments
6. Moving coil Instruments
7. Comparison Between Moving Iron and Moving Coil Instruments
8. Comparison Between Moving Iron and Dynamometer Type Instrument
9. Extension of Instrument Range
10. Measurement of Power
11. Watt Meter, Dynamometer Type Wattmeter
12. Energy Meter, Multi-meter or AVO Meter, Electronic Multi-meter
13. Digital Multi-meter

STUDY MATERIALS (Electrical Measurement)

[EE 404 Electrical Measurement \(1 pt\)](#)

EXERCISE ASSESSMENT (30)

Based on the study you got from the above resources, write a professional experiences and competency report for engineering tasks in electrical measurement and testing in above mentioned format & submit it to the assessor.

(Weighted informal learning time for CPD including study & report= 20Hr x 0.5= 10Hr)

13.Electrical Engineering Codes/ Standards

1. Codes, Standards and Regulations
2. Codes and Standards for building services

STUDY MATERIALS (Electrical Engineering Code and Standard)

MYANMAR

[Myanmar Electrical Regulations](#)

UK

[IEE2002](#)

[Electrical Building Services IEE based](#)

[Domestic Electric Wiring BS7671_2008](#)

[Handbook of Electrical Installation Practice UK](#)

USA

[IEEE colored books](#)

[Handbook of Electrical Design Details](#)

[American Electrician Handbook](#)

IEC

[Electrical Engineer Portable Handbook \(IEC\)](#)

AUSTRALIA & NEW ZEALAND

[Australian Electrical Wiring Rules Part 1](#)

[Australian Electrical Wiring Rules Part 2](#)

[Australian Electrical Wiring Rules Part 3](#)

[New South Wales Electrical Service Rules Australia](#)

OTHERS

[Switch Gear Manual](#)

[Energy Management Handbook](#)

[Handbook of Electrical Design Details](#)

[Newnes Electrical Power Engineer Handbook](#)

[Newnes Electrical Engineers Handbook](#)

[Power Fault Calculation & Protection Cable Selection Note](#)

[Power Data Planning India](#)

[Switch Gear Online](#)

[Engineering Competency Report Submitted by U Kyaw Naing for Registered Professional Engineer of Queensland](#)

REFERENCES

[Service_Rule_1](#) [Service_Rule_2](#) [Service_Rule_3](#)

[AS3000 Wiring Rules Overview](#)

[AS3000-2007Overview.zip](#)

[AS3000_AS3008TablesExtract.zip](#)

[WiringRules.zip](#)

[E071DesiE071HVOverheadConductors_Wk2-3_.zip](#)

[E071LVOverheadConductor_Wk4-5_.zip](#)

[E071Hazard_Identification_Wk6_.zip](#)

[E071General_Wiring_Wk7-8_.zip](#)

[E071UGCableSpecification_Wk9-10-11_.zip](#)

[E071TelecomDatacom_Wk12_.zip](#)

[E071Switching_Wk13_.zip](#)

[E071DesignStdOHDevelopment_Wk14-16_.zip](#)

[12-Specifications](#)

[13-BSpecifications](#)

[14-Specifications](#)

[E071DesiE071HVOverheadConductors_Wk2-3_.zip](#)

[6-ElectricalDrawing](#)

BACK UP FOR 2, 6 & 10

[Stage 4 Part 7.zip](#) http://www.filefactory.com/file/c0cc479/n/Stage_4_Part_7.zip

[Stage 4 Part 11.zip](#) http://www.filefactory.com/file/c0cc540/n/Stage_4_Part_11.zip

[Stage 4 Part 12.zip](#) http://www.filefactory.com/file/c0cc566/n/Stage_4_Part_12.zip

[Stage 4 Part 13.zip](#) http://www.filefactory.com/file/c0cc6c1/n/Stage_4_Part_13.zip

[Electrician Capstone unit.pdf](#)

http://www.filefactory.com/file/c392ae1/n/Electrician_Capstone_unit.pdf

Electrician Capstone Test Old Questions

[Electrician Capstone Unit Study Guide.zip](#)

http://www.filefactory.com/file/c4bbf1b/n/Electrician_Capstone_Unit_Study_Guide.zip

OTHERS REFERENCES

[E_trade_1.zip](#) [E_trade_2.zip](#) [E_trade_3.zip](#) [E_trade_4.zip](#)

[G008_General_Notes_1.zip](#) [G008_General_Notes_2.zip](#)

Part (1) Study the following notes

[Installation_Requirement_1-A.zip](#) [Installation_Requirement_1-B.zip](#)

[Installation_Requirement_2-A.zip](#) [Installation_Requirement_2-B.zip](#)

[Stage_2_Wiring.zip](#)

Do the assignments from the following book & submit the assignment (1)

[Cable_Installation.zip](#)

Assignment: At the end of each chapter, there are review questions & exercises. You need to do all exercises & submit them as assignment

Part (2) Study the following notes

[Protection_1.zip](#) [Protection_2.zip](#) [System_safety_1.zip](#) [System_safety_2.zip](#)

Do the assignments from the following book & submit the assignment (2)

[Regulatory_Requirement.zip](#)

Assignment: At the end of each chapter, there are review questions & exercises. You need to do all exercises & submit them as assignment

Tutorial review questions and answers

[Electrical_trade_review_questions_and_answers.zip](#)

[Stage 2 Part 6.zip](#)
http://www.filefactory.com/file/c0cccc0/n/Stage_2_Part_6.zip
Stage_1_Wiring_Practical
Stage_2_Wiring
System_Installation_Examples_-_NUER02_version
System_safety_1
System_safety_2

[Stage_1_Wiring_Practical.zip](#)

[Electrical_safe_working.zip](#)

OTHER REFERENCES

UEENEEG003B		Install wiring and accessories for low voltage circuits
UEENEEG004B		Install low voltage electrical apparatus and associated equipment

[G003_G004_Wiring_2_Part_1.zip](#)

[G003_G004_Wiring_2_Part_2.zip](#)

[Stage 3 Part 1B.zip](#)
http://www.filefactory.com/file/c0ccc42/n/Stage_3_Part_1B.zip
Cable_CktProt_E_Accessories
Cable_Conduit_E_Accessories

[Stage 4 Part 8.zip](#)

http://www.filefactory.com/file/c0cc5a1/n/Stage_4_Part_8.zip

Cable+CktProt+E Accessories

Cable+Conduit+E Accessories

Elect Installation Protection Method Devices

[Stage 4 Part 9.zip](#)

http://www.filefactory.com/file/c0ccc5db/n/Stage_4_Part_9.zip

G003+G004 Notes Upload

[Cable_CktProt_E_Accessories.zip](#)

[Cable_Conduit_E_Accessories.zip](#)

[Elect_Installation_Protection_Method_Devices.zip](#)

[Elect_Installation_Requirement_1.zip](#)

[Elect_Installation_Requirement_1.zip](#)

[Elect_Installation_Requirement_2.zip](#)

[ElectricInstallationDesign.zip](#)

[Stage 3 Part 5.zip](#)

http://www.filefactory.com/file/c0ccefd/n/Stage_3_Part_5.zip

ElectSystSafety1

ElectSystSafety2

Energy survey assignment

FireProtHeatingTestingEarthing

G003_G004_G009Practicals

G003_G004_Wiring_2_Part_1

G003_G004_Wiring_2_Part_2

G003G004Tutorial

G005

[ElectSystSafety1.zip](#)

[ElectSystSafety2.zip](#)

[FireProtHeatingTestingEarthing.zip](#)

[GeneralWiring.zip](#)

[HazardLightingPanel.zip](#)

[PanelRCDWireSpecial_Installation.zip](#)

[ProtectionMethods.zip](#)

[Assessment](#)

Read the above notes files and do the assignments for the following tutorial file.

[Stage 3 Part 9.zip](#)

http://www.filefactory.com/file/c0ccf48/n/Stage_3_Part_9.zip

WiringPracticals

WorkShop_Part_2_Practical_1_to_6_

WorkShop_Part_2_Practical_7_to_12_

WorkShop_Part_2_Practical_13_to_17_

WorkShop_Part_2_Practical_18_to_21_

EXERCISE ASSESSMENT (31)

Based on the study you got from the above resources, write a professional experiences and competency report for engineering tasks in electrical engineering codes and standards used in engineering work in above mentioned format & submit it to the assessor.

(Weighted informal learning time for CPD including study & report= 20Hr x 0.5= 10Hr)

SELF STUDY PROFESSIONAL DEVELOPMENT ONLINE LEARNING RESOURCES
MATERIALS AND SELF ASSESSMENT ONLINE TESTS FOR ASSISTING THE
CANDIDATES TO PREPARE FOR PROFESSIONAL ENGINEER (ELECTRONICS)
REGISTRATION WITH MYANMAR BOARD OF ENGINEERS

Prepared BY- U Kyaw Naing

Registered Professional Engineer of Queensland

RPEQ-Electrical (Registration Number 07661)

Board of Professional Engineers of Queensland State

Government (Australia) www.bpeq.qld.gov.au

&

Electrical Engineering Teacher (TAFE-NSW) (Australia)

Based on 25 years experiences since BE (Electrical Power) Graduation from Yangon Institute of Technology in 1987 as electrical engineer, electrician and electrical engineering teacher in Myanmar, Fiji, Australia, New Zealand & Niue, these online electrical learning materials in line with the study materials being used to teach the engineering courses in Australia are prepared to assist Young Myanmar Engineers to participate in professional development programs of Myanmar Engineering Society to accomplish the aims & objectives of Myanmar Engineers Board in the process of Professional Engineers Registration in Myanmar.

Online tests and assessments are also included for the candidates to assess their self learning. The resources are not only theoretical studies but also industrial rules and regulations in Singapore, UK , Australia and New Zealand and practical resources of engineering practice. PEng registration competency report writing in Australia & New Zealand are also included in the resources.

Browse www.electricaldiploma2013.zoomshare.com for details of Australian Electrical Training.

Members of Myanmar Engineering Society at the grade of Junior Member can utilize the materials uploaded to this site at **free of charge** for online self learning & self assessment. The candidates should have good internet access to download the study support materials from this site. But for sending the materials in USB or copying them from the authorised representatives in Myanmar or assessing and providing individual professional support by e-mail, appropriate fees can be chargeable.

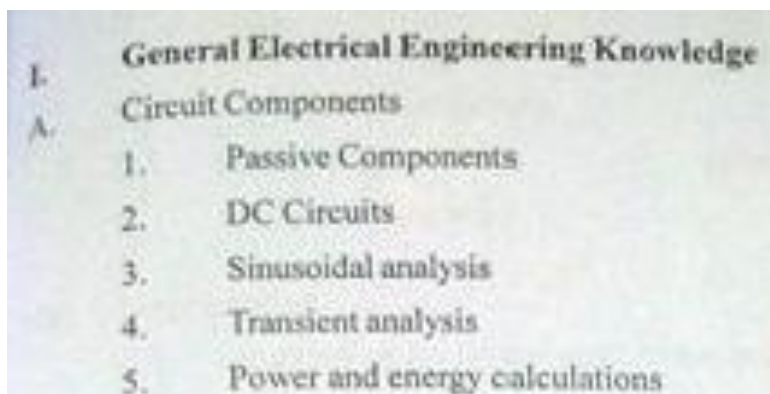
Further contact should be made to: U Kyaw Naing at [highlightcomputergroup1@ gmail.com](mailto:highlightcomputergroup1@gmail.com)

SCOPE- Electrical PE (Building Services)

PART (1)

YEAR 1 & 2 (Minumum 3 to 4 years is required for a graduate to become a PE)

(Total PDP Points for Informal Learning Activities-Private Study Part Time) (Total 10 points per year maximum)(MEB-PE Regulation Appendix 3). Ctrl+Click the link & then allow to download the contents.



STUDY MATERIALS (DC Circuits)

[DC Circuit E003 E004.zip](#)

http://www.filefactory.com/file/c0cb8ab/n/Stage_1_Part_1.zip

The tests are based on your general knowledge on the subject. They are not designed to test the limited area of study that the candidate learns one paper & sits one test.

ONLINE MCQ TEST (1)

http://www.filefactory.com/file/58r3nfe1qieh/n/E003_E004_Online_Test_1_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/3ebb0fe603a748b6b2430e75fb07af4f#/InitializeTest.xam>

<http://www.classroomclipboard.com/503511/Home/Test/3ebb0fe603a748b6b2430e75fb07af4f#/QuestionPresenter.xam?id=11>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- G4UYTV

STUDY MATERIALS (AC Circuit 1)

[G002](#)

ONLINE MCQ TEST (2)

http://www.filefactory.com/file/7ebmnciqxmf3/n/G002_Online_Test_1_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/f7fb9a22d8ba413a8d39bc6ef7be4d20#/InitializeTest.xaml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- 8YGTHT

STUDY MATERIALS (AC Circuit 2)

[G048_7769AC](#)

[G048_Tutorials.zip](#)

Notes for assignment/ tutorials

[G048_Full_Part_1.zip](#)

[G048Part2.zip](#)

[E025_Circuits_1](#)

[E025_Circuits_2](#)

[E025_Tutorial](#)

[Stage 2 Part 3.zip](#) http://www.filefactory.com/file/c0ccb1f/n/Stage_2_Part_3.zip

[Stage 3 Part 2.zip](#) http://www.filefactory.com/file/c0ccdbc/n/Stage_3_Part_2.zip

ONLINE MCQ TEST (3)

http://www.filefactory.com/file/52h82a0f3f/n/E025_Online_Test_1_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/0d8e41400b24465b97e60b2a555d7cff#/InitializeTest.xaml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- DCVK7

ONLINE MCQ TEST (4)

http://www.filefactory.com/file/713uvwk5vbel/n/G048_Online_Test_1_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/a03f83dbf40e4991800c44b484ae6a1d#/InitializeTest.xaml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- G9PLM

After you have done the test, the score can be printed out in PDF format The score with at least 50% or more for all tests, it will be record of 4 HR x 0.5 = 2 HR

STUDY MATERIALS (Three Phase Circuits)

[G049 7762AB 7761M Notes](#)

[G049 7762ABTutorial](#)

[E029 Motor Control 1](#)

[E029 Motor Control 2](#)

Fault Calculation

[7762AB Fault Calculation.zip](#)

[AB-Part1.zip](#) [AB-Part 2.zip](#) [AB-Part 3.zip](#) [AB-Part4.zip](#) [AB-Part5.zip](#) [AB-Part6.zip](#)

[ABFormula.zip](#)

Power System Analysis

[7761M-Part1.zip](#) [7761MPart-2.zip](#) [7761M-Part-3.zip](#) [7761M-Part-4.zip](#) [7761M-Part-5.zip](#)

[7761M-Part-6.zip](#) [7761M-Part-7.zip](#)

[Phase AC Supply Handout](#)

[Connection of balanced three phase loads handout](#)

[Star delta conversion handout](#)

[Connection of unbalanced three phase loads](#)

[Power and energy in ac circuit handout](#)

[Watt meter handout](#)

[Three Phase Power Handout](#)

[Power factor correction handout](#)

[High voltage transmission line losses handout](#)

[Symmetrical components handout](#)

[Distribution of fault currents through power system handout](#)

[Phase sequence diagrams for power systems handout](#)

[Phase sequence detectors handout.](#)

[Fault calculations on power system handout](#)

[Power Circuits \(Reference\)](#)

Part 1	Part 2	Part 3
Part 4	Part 5	Part 6
Part 7	Part 8	Part 9
Part 10	Part 11	Part 12
Part 13	Part 14	Part 15
Part 16	Part 17	Part 18

[Stage 2 Part 3.zip](#) http://www.filefactory.com/file/c0ccb1f/n/Stage_2_Part_3.zip

[E029Tutorial](#)

ONLINE MCQ TEST (5)

G049 Test 1

http://www.filefactory.com/file/5vhbs8sn20f3/n/G049_Online_Test_1_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/d5b2138544c74b709963660627046ffe#/InitializeTest.xml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- UE6FAG

G049 Test 2

http://www.filefactory.com/file/611ftvpa3dit/n/G049_Online_Test_2_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/797cac44d12248b9b3be8507518c9bc4#/InitializeTest.xml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- PS83

After you have done the test, the score can be printed out in PDF format The score with at least 50% or more for all tests, it will be record of $4 \text{ HR} \times 0.5 = 2 \text{ HR}$

B.	Measurement and Instrumentation
1.	Transducer and System Characteristics
2.	Operational Amplifier

STUDY MATERIALS (Electrical Measurement)

[EE 404 Electrical Measurement \(1 pt\)](#)

EXERCISE ASSESSMENT (30)

Based on the study you got from the above resources, write a professional experiences and competency report for engineering tasks in electrical measurement and testing in above mentioned format & submit it to the assessor.

(Weighted informal learning time for CPD including study & report= 20Hr x 0.5= 10Hr)

After you have done the test, the score can be printed out in PDF format The score with at least 50% or more for all tests, it will be record of 2 HR x 0.5 = 1 HR

C.	Signal Processing
1.	Sampling Theory
2.	Analog-to-digital (A/D) and digital-to-analog (D/A) Conversions

[Process control-I006+I008+I020.zip](#)

http://www.filefactory.com/file/c0b7d9d/n/Process_control-I006_I008_I020.zip

I006

UEENEEI006B		Solve problems in process controllers, transmitters and converters
6032A	EA904	Control concepts
7761L	EA190	Electronic signals and systems

- 1.Process control transducer
- 2.Operational amplifier
- 3.Pnuematic
- 4.Digital control
- 5.PLC TL31

- 6.Encoder+Decoder
- 7.Digital signal processing
- 8.DAC+Flipflop+Sensor
- 9.Analogue to Digital Conversion
- 10.Temperature control
- 11.Industrial transducer
- 12.Control system evaluation
- 13.Proportional control
- 14.Electronic signal system
- 15.Types of transducers
- 16.Speed measurement

[Stage 4 Part 18.zip](#)

http://www.filefactory.com/file/c0cc793/n/Stage_4_Part_18.zip

[Stage 4 Part 1A.zip](#)

http://www.filefactory.com/file/c0cc226/n/Stage_4_Part_1A.zip

ONLINE MCQ TEST

I006Test 1

http://www.filefactory.com/file/46zzpcym7uqz/n/I006_H012_Online_Test_1_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/25f59f11b4584a23b3f564fe4041fb1d#/InitializeTest.xml>

SPHHMYT

I006Test 2

http://www.filefactory.com/file/78kbc9x2alx/n/I006_H012_Online_Test_2_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/7b0f9808d98a48d79e9d77ea4e2af721#/InitializeTest.xml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- F44J

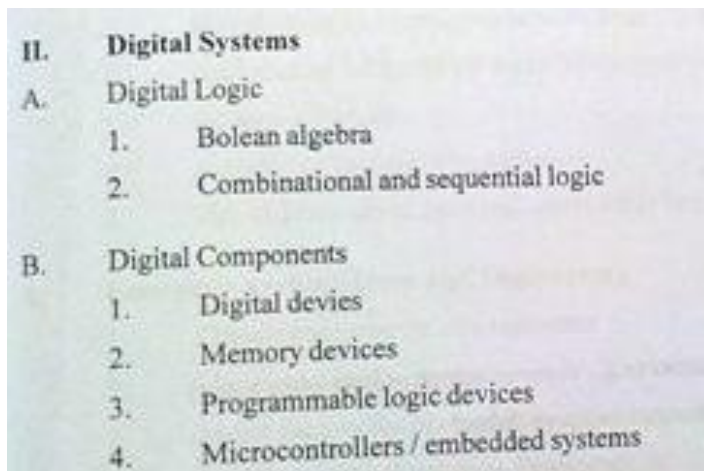
Advanced References

[EE 403 Introduction to Electronic Engineering \(1 pt\)](#)

[EE 524 Introduction to Power Electronics \(1 pt\)](#)

[EE 524 Power Electronics](#)

[EE 524 Applied Electronics](#)



II.	Digital Systems
A.	Digital Logic
1.	Boolean algebra
2.	Combinational and sequential logic
B.	Digital Components
1.	Digital devices
2.	Memory devices
3.	Programmable logic devices
4.	Microcontrollers / embedded systems

Digital Electronics Notes

UEENEEH012B		Troubleshoot digital subsystems
UEENEEH043B		Diagnose and rectify faults in digital subsystems of electronic controls

<http://kyawnaing325.zoomshare.com/files/6/DigitalElectronics.htm>

<http://kyawnaing325.zoomshare.com/files/6/7794CD-DigitalElectronics.htm>

DE 1

Binary Number [Binary Number Lesson.zip](#)

D.A.C Encoder Multiplexer [DAC-Encoder-Multiplexer.zip](#)

Introduction to Digital Logic [DE1-1.zip](#)

Boolean Algebra [DE1-2.zip](#)

De Morgan Theorem [DE1-3.zip](#)

Karnaugh's Map [DE1-5.zip](#)

DE2

Timing Diagram + Operation of Discrete Equipments [DE2-1 2 Notes.zip](#)

7 Segments Display [DE2-7 Segment Display.zip](#)

Logic Families Part 1 & Part 2 [DE2 Logic Families Part I Part II Note Exercise.zip](#)

SR Flip Flop [DE2-SR Flip Flop Notes.zip](#)

D J K Flip Flop [DE2-D J K Flip Flop.zip](#)

Data Transfer [DE2-Data Transfer Note.zip](#)

Encoder [DE2-Encoder Lesson.zip](#)

Logic Level [DE2-Logic Level Note Exercise.zip](#)

Logic Level + Totem Pole [DE2-Logic Level TotemPole Note Exercise.zip](#)

Multiplexer [DE2-Multiplexer Lesson.zip](#)

Schmitt Trigger [DE2-Schmitt Trigger Device Exercise.zip](#)

Shift Register [DE2-Shift Register.zip](#)

ESD [ESD Review Questions.zip](#)

Digital Logic Simplification [Digital Logic Simplification.zip](#)

SR & D Latches [SRandDLatches.mht](#)

Simple Sequential [SimpleSequentialCircuit.mht](#)

Demorgan [DeMorganTheorm 0.mht](#)

Sequential State Diagram [SequentialCircuitStateDiagram.mht](#)

De Morgan Theorem [DeMorganTheorm.mht](#)

D & JK Flip Flop [DandJKFlipFlops 0.mht](#)

Basic Logic Gates [BasicLogicGates.mht](#)

Digital Electronics [DE.zip](#) [DE1.zip](#) [DE2Notes.zip](#)

[Digital logic Simplification.zip](#)

IC Reference

[Digital IC Ref 1-Part 1.zip](#)

[Digital IC Ref 1-Part 2 0.zip](#)

[Digital IC Reference 2-Part 1.zip](#)

[Digital IC Reference 2-Part 2.zip](#)

Digital Electronics Exercises

DE1 Exercise

[DE1-1 Review Question.zip](#)

[DE1-2Review Questions.zip](#)

[DE1-3 Review Question.zip](#)

[DE1-4 Review Question.zip](#)

[ESD Review Questions.zip](#)

[Digital Logic Simplification.zip](#)

DE2 Exercise

[DE2-7 Segment Display Review Q.zip](#)

[DE2 Shift Register Exercise.zip](#)

[DE2-Counter Exercise.zip](#)

[DE2 SR Flip Flop Q.zip](#)

[DE2-D Flip Flop Q.zip](#)

[DE2-Data Transfer Q.zip](#)

[DE2-DecoderMultiplexer Assignment.zip](#)

Advanced References

[BAE 408 Analogue & Digital Electronics](#)

[EE 405 Digital System \(1 pt\)](#)

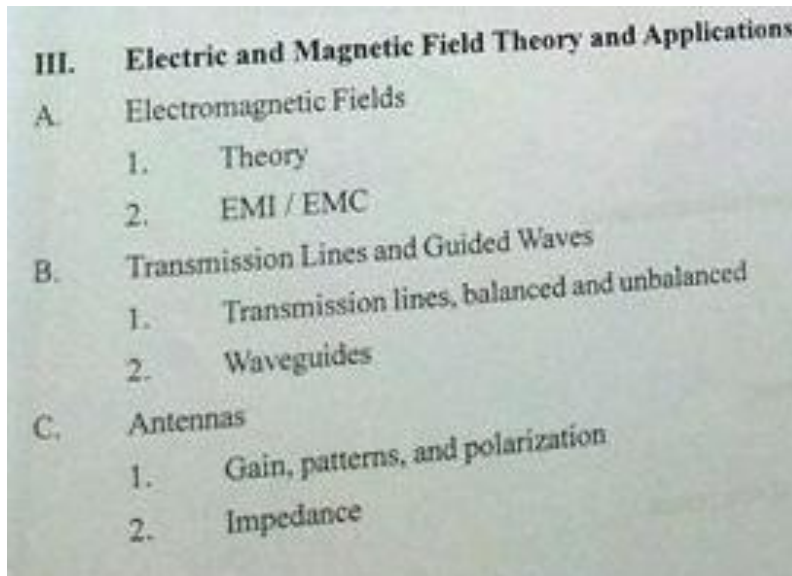
[EE 405 Digital System \(1 pt\)](#)

[EE 526 Digital Signal Processing \(1 pt\)](#)

[EE 527 Digital Image Processing 1 \(1 pt\)](#)

[EE 527 Digital Image Processing 2](#)

After you have done the test, the score can be printed out in PDF format The score with at least 50% or more for all tests, it will be record of 4 HR x 0.5 = 2 HR



[G042 Part 3 Notes](#)

[G037 G038 G030Pt1 7762AG Notes](#)

[G015 G042 G037 G038 G039 Part 2 Notes](#)

[G015 G037 G038 G030Pt1 7762AG Notes](#)

[Stage 4 Part 15.zip](#)

http://www.filefactory.com/file/c0cc7cb/n/Stage_4_Part_15.zip

[BAE 607 Radio Wave Propagation & Microwave Techniques](#)

[EE 625 Radio Wave Propagation \(1 Pt\)](#)

[EE 626 Microwave Technique \(1pt\)](#)

ONLINE MCQ TEST

G042 Test 1

http://www.filefactory.com/file/12pcsbpgbkhx/n/G042_Online_Test_1_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/8c2511d53079456f9c5d159095ec766a#/InitializeTest.xml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- HPNYFFB

G042 Test 2

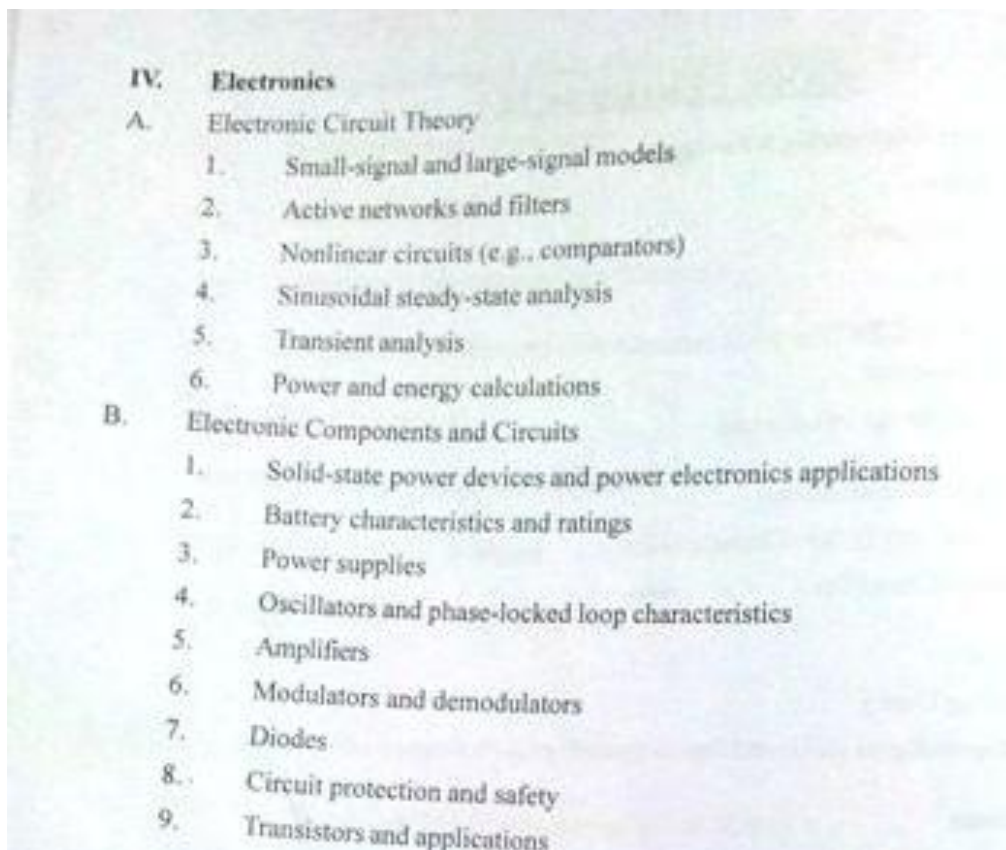
http://www.filefactory.com/file/3ol2dpyi4qm9/n/G042_Online_Test_2_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/cb5cd0dd19524431905d5519ad17ab67#/InitializeTest.xaml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- 35KCC

After you have done the test, the score can be printed out in PDF format The score with at least 50% or more for all tests, it will be record of $4 \text{ HR} \times 0.5 = 2 \text{ HR}$



IV. Electronics
A. Electronic Circuit Theory
1. Small-signal and large-signal models
2. Active networks and filters
3. Nonlinear circuits (e.g., comparators)
4. Sinusoidal steady-state analysis
5. Transient analysis
6. Power and energy calculations
B. Electronic Components and Circuits
1. Solid-state power devices and power electronics applications
2. Battery characteristics and ratings
3. Power supplies
4. Oscillators and phase-locked loop characteristics
5. Amplifiers
6. Modulators and demodulators
7. Diodes
8. Circuit protection and safety
9. Transistors and applications

H045+7761A

UEENEEH045		Develop solutions to analogue electronic problems
7761A	EA100	Analogue electronics 1

Analog1

Analog2

Assessment-Test + Assignment for flexible study students

Electronics H045 Tutorials

H025

UEENEEH025		Provide solutions to single phase electronic power control problems
8273Z	NE064	Variable speed drives

H025 Operational Amplifier

Assessment-Test + Assignment for flexible study students

Electronics H025 Tutorials

H026

UEENEEH026		Provide solutions to polyphase electronic power control problems
8273Z	NE064	Variable speed drives

H026 3 Ph Power Control Electronics 1

H026 3 Ph Power Control Electronics 2

H026 3 Ph Power Control Electronics 3

H026 3 Ph Power Control Electronics 4

Assessment-Test + Assignment for flexible study students

UEENEEH026 Tutorials.doc

Stage 3 Part 2.zip

http://www.filefactory.com/file/c0ccdbc/n/Stage_3_Part_2.zip

BAE 408 Analogue & Digital Electronics

Part 2 Competency units of the subject

Advanced References

EE 403 Introduction to Electronic Engineering (1 pt)

[EE 524 Introduction to Power Electronics \(1 pt\)](#)

[EE 524 Power Electronics](#)

[EE 524 Applied Electronics](#)

ONLINE MCQ TEST

H011Test 2

http://www.filefactory.com/file/3e54mrgli7ft/n/H011_Online_Test_2_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/367cc44c01944cb59982be0255dca5bd#/InitializeTest.xml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- 65TG

H013Test 1

http://www.filefactory.com/file/4ze60r57ea9/n/H013_Online_Test_1_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/ea8db99cb2b44c49d016f6c8eee5910#/InitializeTest.xml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- SN3T84

H013Test 2

http://www.filefactory.com/file/sutmaakz949/n/H013_Online_Test_2_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/957b751abb4641cf9ae0a79176936549#/InitializeTest.xml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- 6LYXKLE

H025Test 1

http://www.filefactory.com/file/7j320hlrk6k9/n/H025_H045_I006_Online_Test_1_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/ab5d528d1ff742f7a3d632a61c210eb0#/InitializeTest.xml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- 96T3TX3

H025Test 2

http://www.filefactory.com/file/20vzqp9mvm8p/n/H025_H045_I006_Online_Test_2_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/99835b7ab0c348e8a2fd0827394b60d8#/InitializeTest.xml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- HHH2HNC

H026Test 1

http://www.filefactory.com/file/fch86cnsrdp/n/H026_Online_Test_1_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/ee1e8307748441aeab67110c145a7d16#/InitializeTest.xml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- U585X6W

H045Test 1

http://www.filefactory.com/file/3vpq08cwj73/n/H045_Online_Test_1_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/bd50d0b35eb241518cdddc8e23c0b593#/InitializeTest.xml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- 8S359V

H045Test 2

http://www.filefactory.com/file/6pxixn406w51/n/H045_Online_Test_2_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/f059c6212cc94ca098b61d5ef8188826#/InitializeTest.xml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- L9UMJM6

After you have done the test, the score can be printed out in PDF format The score with at least 50% or more for all tests, it will be record of $8 \text{ HR} \times 0.5 = 4\text{HR}$

V.	Control System Fundamentals
A.	Block diagrams
B.	Characteristic equations
C.	Frequency response
D.	Time response
E.	Control system design and implementation (e.g., compensators, steady-state error)
F.	Stability (e.g., tests, Bode plots, root locus, transport delay)

I006

UEENEEI006B		Solve problems in process controllers, transmitters and converters
6032A	EA904	Control concepts
7761L	EA190	Electronic signals and systems

[AnalogDigitalSignalConditioning](#)

[H085 66 I006 Note 1 Sensors 1](#)

[H085 66 I006 Note 2 Sensors 2](#)

[H085 66 I006 Note 3 Sensors 3](#)

[H085 66 I006 Note 4 Control Concept1](#)

[H085 66 I006 Note 5 Control Concept2](#)

[H085 66 I006 Note 6 Electronics Signal](#)

[H085 66 I006 Note 8 Process Control 1](#)

[H085 66 I006 Note 9 Process Control 2](#)

[PLC Textbook1](#)

[PLC Textbook2](#)

[PLC Textbook3](#)

[PLC](#)

[6487E.zip](#)

PLC References

[User Manuals.zip](#)

[TRILOGI5-purdue](#)

[SetupTL6Edu](#)

[Installation](#)

[Installation Instruction](#)

[F Nano-Product Sheets](#)

PID (Proportional Integral Derivative) Control

[PID.zip](#)

Assessment

[I006_Tutorials.zip](#)

UEENEEI001B		Install and set up transducers and sensing devices
UEENEEI002B		Solve problems in pressure measurement systems
UEENEEI004B		Solve problems in flow measurement systems

UEENEEI005B		Solve problems in temperature measurement systems
-------------	--	---

I001

[H085_66_I006_Note_1_Sensors_1](#)

[H085_66_I006_Note_2_Sensors_2](#)

[H085_66_I006_Note_3_Sensors_3](#)

I002+I004

[I002I004PressureFlowPnuematicReference.zip](#)

I005

[I005TemperatureMeasurement.zip](#)

Process Control Practicals

[PLC_Application_Assignment.zip](#)

[Control_Circuit_Boards.zip](#)

[PLC_Hardware_Notes_1.zip](#)

[PLC Hardware Notes 2.zip](#)

[PLC Hardware Notes 3.zip](#)

[PLC Hardware Notes 4.zip](#)

[PLC Hardware Notes 5.zip](#)

[PLC Hardware Notes 6.zip](#)

[PLC Trilogy Advanced Programs.zip](#)

[PLC SCADA Project Example 1.zip](#)

[PLC SCADA Project Example 2.zip](#)

[PLC SCADA Project Example 3.zip](#)

[Process Control Equipment Setup 1.zip](#)

[Process Control Equipment Setup 2.zip](#)

[SCADA PLC Project 1.zip](#)

[SCADA PLC Project 2.zip](#)

[SCADA PLC Project 3.zip](#)

[SCADA PLC Project 4.zip](#)

[SCADA PLC Project 5.zip](#)

MACHINE REPAIR+PROCESS CONTROL

[MachineControlCkt1.zip](#) [MachineControlCkt2.zip](#) [MachineControlCkt3.zip](#)

[ProcessControlCkt1.zip](#) [ProcessControlCkt2.zip](#) [ProcessControlCkt3.zip](#)

[Stage 4 Part 1A.zip](#)

http://www.filefactory.com/file/c0cc226/n/Stage_4_Part_1A.zip

Advanced References

[BAE 503 Control System](#)

[BAE 503 Control System Part 1](#)

Part 2 Competency units of the subject

Linear System + Control System

[EE 601 Non Linear Control Applications \(1 pt\)](#)

[EE 601 Control Engineering \(1 pt\)](#)

[EE 601 Feedback and Control System](#)

[EE 601 PID Control](#)

[EE 601 Non Linear Control](#)

[EE 624 Process Control \(1 pt\)](#)

http://www.filefactory.com/file/34ha7biln93z/EE_624_Process_Control.pdf

[ME 534 Numerical Control Part 1 \(1 pt\)](#)

[ME 534 Numerical Control Part 2](#)

ONLINE MCQ TEST

I006Test 3

http://www.filefactory.com/file/hl6qx2ks1b1/n/I006_H012_Online_Test_3_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/ef761b3fa64a4ca783baa5dd986f24ab#/InitializeTest.xml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- 2J3PEH

I006Test 4

http://www.filefactory.com/file/3sbsd1yu13h/n/I006_Online_Test_4_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/ae651477d73c4f5194abd42c8487095b#/InitializeTest.xml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- WKMM7

After you have done the test, the score can be printed out in PDF format The score with at least 50% or more for all tests, it will be record of 4 HR x 0.5=2HR

PART (2)

YEAR 3 & 4 (Minimum 3 to 4 years is required for a graduate to become a PE)

The practice reports need to write for each topics of the study materials included in Scope Part II.

The reports should include the followings:

- Professional topics----- You need to select the topic such as building electrical wiring or power distribution etc
- Fundamental of Engineering- What knowledge you got from the materials in your selected professional topic..
- Engineering Management--- How will you manage the I project / workforce to implement the engineering tasks by applying those knowledge in actual workplace project or simulated work place and project?.
- Rules Regulations, Standards & Specifications- You need to refer the relevant engineering rules, regulations, standards and specifications in the tasks expressed in your report.
- Safety—How will you safeguard public safety in performing the engineering tasks?
- Ethics--- How will you apply professional code of ethics in performing the engineering tasks?

The candidate should use the following format in the practice exercise reports for each topics of the Scope II that are simulated practice tasks for preparing the Professional Experience and Competency Report to be submitted to Myanmar Engineers Board for Professional Engineer (PE) Registration.

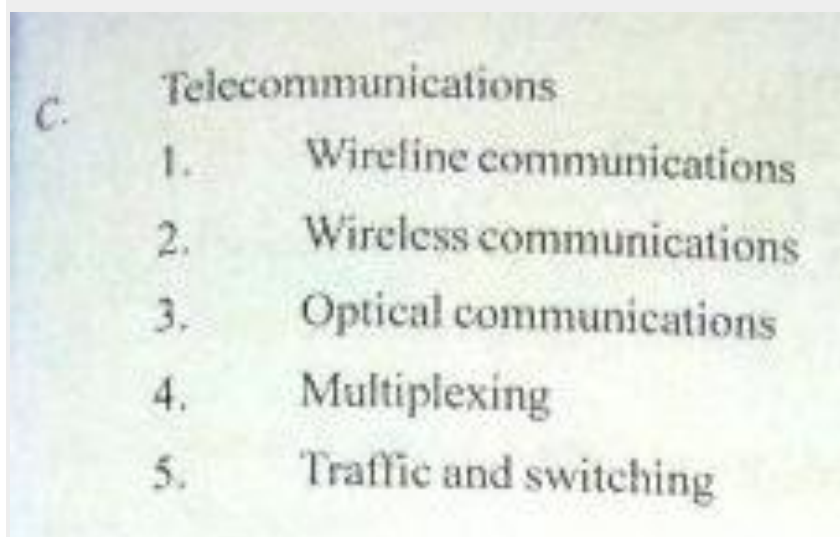
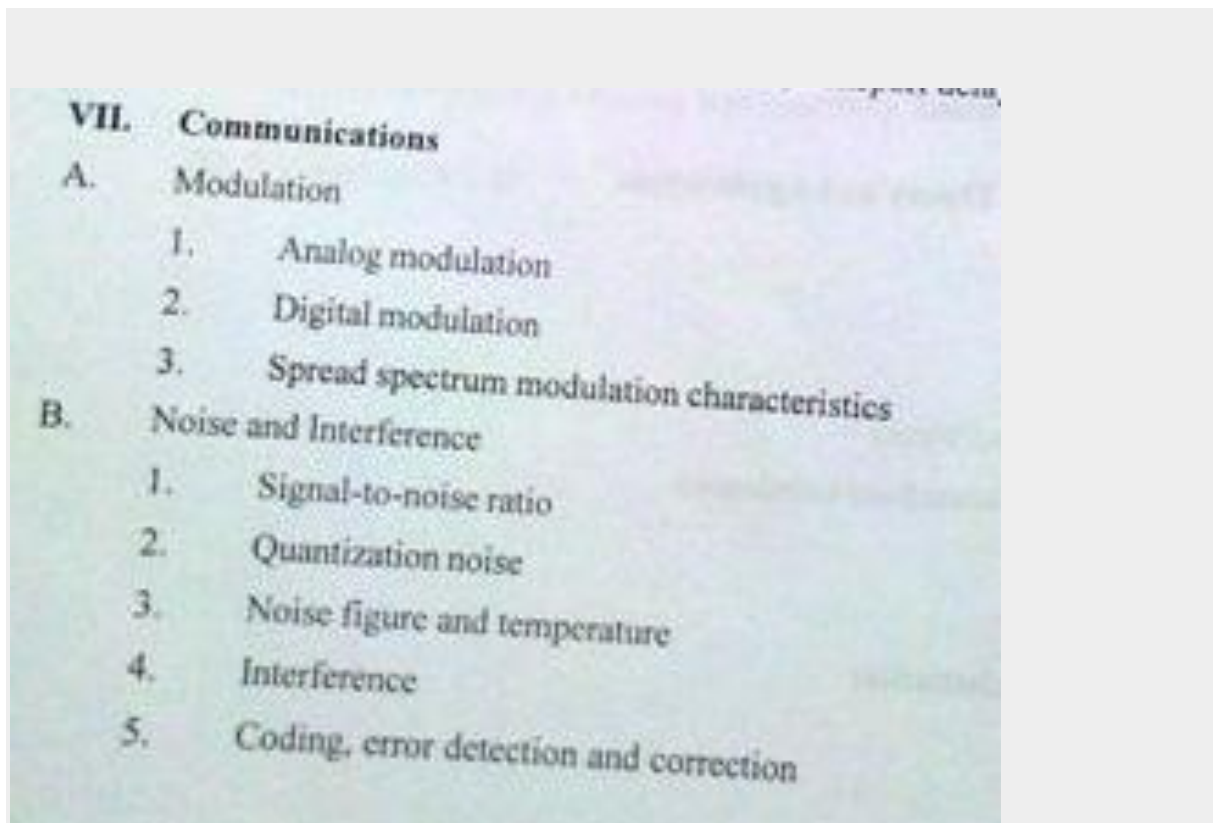
Section (1) Introduction

Section (2) Work experiences in brief and highlight the major important projects

Section 3 to 10 , the following competency should be addressed

- Apply engineering knowledge, methods and techniques
- Use of engineering technology , tools and equipments
- Safeguard public safety
- Recognition the impacts of engineering on the environment , economy and society.
- Manage engineering activities
- Communicate engineering information.

- Work collaboratively
- Main and enhance engineering skills and knowledge. (Ref-MEB PEng Reg)



H046 Telecommunication

UEENEEH046B		Solve fundamental problems in electronic communications system
7761AU	EA181	Communication fundamentals

[H046TelecomNote1.zip](#)

[H046TelecomNote2.zip](#)

[H046TelecomNote3.zip](#)

[Stage 4 Part 16.zip](#)

http://www.filefactory.com/file/c0cc703/n/Stage_4_Part_16.zip

Advanced References

[BAE 604 Telecommunication Engineering](#)

Part 2 Competency units of the subject

[Electronics Communications](#)

[EE 525 Data Communication \(1 pt\)](#)

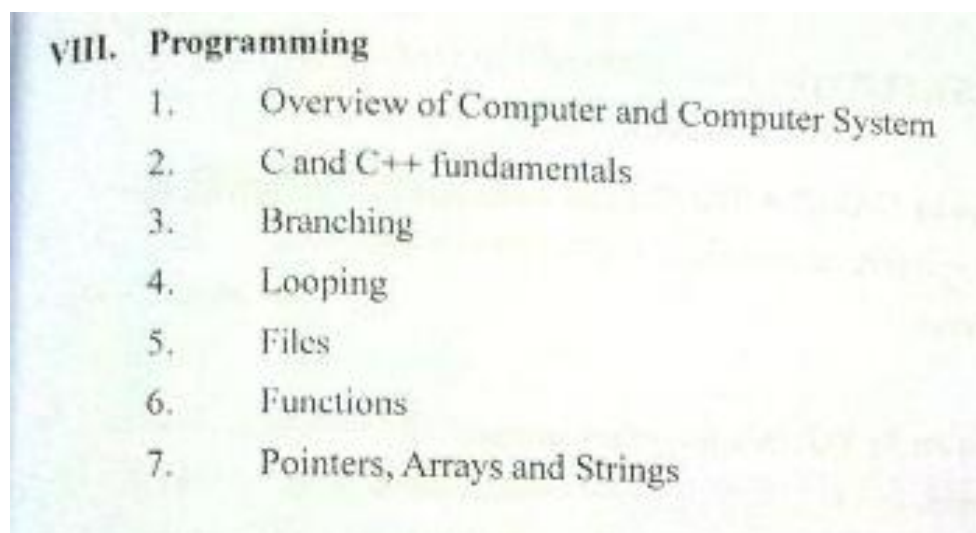
[EE 603 Electronics Telecommunication \(1 pt\)](#)

Reflect your experience in the work place , write the technical report of 10 pages & submit it.

EXERCISE ASSESSMENT

Based on the study you got from the above resources, write a professional experiences and competency report for engineering tasks in electrical power supply in above mentioned format & submit it to the assessor.

(Weighted informal learning time for CPD including study & report= 20Hr x 0.5= 10Hr)



BAE 601 Computer Programming

[C++ Programming Part 1](#)

[C++ Programming Part 2](#)

[C++ Programming Part 3](#)

[C++ Programming Part 4](#)

[C++ Programming Part 5](#)

[C++ Programming Part 6](#)

C # Programming

[C # Programming](#)

C++ & Java Programming Course

[Speed_C_Programming.zip](#)

[Turbo_C.zip](#)

[C_Programming_1.zip](#)

[C_Programming_2.zip](#)

[C_Programming_3.zip](#)

[C_Programming_4.zip](#)

[C_Programming_5.zip](#)

[C_Programming_6.zip](#)

[C_Programming_7.zip](#)

[C_Programming_8.zip](#)

Part 2 Competency units of the subject

IT + Programming 1

[IT 401 Object Oriented Programming \(1 pt\)](#)

[IT 402 Structured Programming \(1 pt\)](#)

[IT 403 Visual Basic Programming \(1 pt\)](#)

EXERCISE ASSESSMENT (20)

Based on the study you got from the above resources, write a professional experiences and competency report for engineering tasks in electrical power supply in above mentioned format & submit it to the assessor.

(Weighted informal learning time for CPD including study & report= 20Hr x 0.5= 10Hr)

IX. Microprocessor System

1. Introduction to Microprocessor System
2. Architecture of the 8088/ 8086 Microprocessor
3. Addressing Modes
4. Assembly Language Programming
5. The architecture of Intel microprocessor families

X. Computer Architecture and Engineering

1. Classic components of a computer
2. Measuring Performance
3. Major factors for performance of a computer
4. MIPS assembly Language Programming

Computer Programming

UEENEED027B	Develop structured programs for control sub systems to access external devices
-------------	--

UEENEED009B	Develop, enter and verify programs for industrial control systems using high level instruction
-------------	--

[Microprocessor Notes upload.zip](#)

[Microprocessor Textbook to upload.zip](#)

[Microprocessor References to upload.zip](#)

[Speed C Programming.zip](#)

[Turbo C.zip](#)

[C Programming 1.zip](#)

[C Programming 2.zip](#)

[C Programming 3.zip](#)

[C Programming 4.zip](#)

[C Programming 5.zip](#)

[C Programming 6.zip](#)

[C Programming 7.zip](#)

[C Programming 8.zip](#)

MP LAB

[33014K.pdf](#)

[DS-51317H.pdf](#)

[DS-51761B.pdf](#)

[MPLAB Integrated Development Environment.doc](#)

[MPLAB IDE 8 50 Release Notes.zip](#)

[MPLAB User Guide 51519c.pdf](#)

[Stage 4 Part 5A.zip](#)

http://www.filefactory.com/file/c0cc4a1/n/Stage_4_Part_5A.zip

[Stage 4 Part 5B.zip](#)

http://www.filefactory.com/file/c0c3a6e/n/Stage_4_Part_5B.zip

EXERCISE ASSESSMENT

Based on the study you got from the above resources, write a professional experiences and competency report for engineering tasks in electrical power supply in above mentioned format & submit it to the assessor.

(Weighted informal learning time for CPD including study & report= 20Hr x 0.5= 10Hr)

STUDY MATERIALS (Electrical Engineering Code and Standard)

Myanmar Electrical Regulations

IEE2002

Electrical Building Services IEE based

Domestic Electric Wiring BS7671 2008

IEEE colored books

Handbook of Electrical Design Details

American Electricians' Handbook, 15th Edition

Electrical Eng Portable handbook NEC (2)

Newnes Electrical Power Engineer Handbook

Newnes Electrical Engineers Handbook

Energy Management Handbook 6E

Handbook of Electrical Installation Practice UK

Power Fault Calculation & Protection Cable Selection Note

Power Data Planning India

Myanmar Professional Engineers Register (The Institution of Professional Engineers-Myanmar)

www.highlightcomputer.com/mper.htm

Myanmar Engineering Council Law Changing Campaign

www.highlightcomputer.com/mengclaw.htm

PROFESSIONAL ENGINEER SUPPORT WEBSITE OF IQY TECHNICAL COLLEGE OF HIGHLIGHT COMPUTER GROUP

(if the direct download link is unavailable, the resources can be found & downloaded from the download centre)

www.highlightcomputer.com/pesupport.htm

www.highlightcomputer.com

A Professional Engineer needs wide knowledge of theory and practical applications of engineering. The knowledge is not limited to a particular course.

This Professional Engineer Support Website includes Engineering Job Competencies, Technician+ Technologist Level, Theoretical Knowledge requirement for Professional Engineer, Undergraduate Level Theoretical Knowledge requirement for Professional Engineer, Post graduate Level Theoretical Knowledge requirement for Professional Engineer, Practical Knowledge requirement for Professional Engineer ,Professional Engineer Postgraduate Competency Development (Electrical & Civil),Knowledge refreshing by watching lesson videos, Youtube Engineering Lessons ,MP4 Engineering Lessons ,Engineering Rules/Regulation/Safety Knowledge(Electrical Safety, Construction site safety & OHS, Explosion Protection & safety etc are included & the reference materials are referred from relevant Australian Industrial Safety Authorities), Engineering Competency Demonstration Report and Information on Professional Engineer Registration around the world. .

The purpose is to provide the one stop shop for the engineers who seek PE/RSE registration in Myanmar as well as ASEAN , UK, USA, Australia etc to get the information as well as refreshing the theoretical studies and practical knowledge.

Engineering Job Competencies

[IQY Technical College Professional Engineer/Management Professional & Information Technology Professional Skills Training](#)

[Engineers Australia Professional Engineer, Engineering Technologists & Engineering Associate Competencies References](#)

Part 1-ENGINEERING FUNDAMENTAL

[Technician+ Technologist Level Theoretical Knowledge requirement for Professional Engineer](#)

[Undergraduate Level Theoretical Knowledge requirement for Professional Engineer \(Part 1-Online Lessons\)](#)

[Undergraduate Level Theoretical Knowledge requirement for Professional Engineer \(Part 2-Reference Resources\)](#)

[Post graduate Level Theoretical Knowledge requirement for Professional Engineer](#)

Practical Knowledge requirement for Professional Engineer

Practical Knowledge requirement for Professional Engineer

Part 2-PROFESSIONAL ENGINEER COMPETENCY

DEVELOPMENT

Electrical Electronics Civil

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MIEAust, RPEQ,FSIET

MP4 Engineering Lessons by Program Leader Engineering-

MIEAust, RPEQ, FSIET

Youtube Engineering Lessons (Advanced Diploma of Electrical Engineering/Technology courses in Australia)

by Program Leader Engineering- **MIEAust, RPEQ, FSIET**

Part 3-ENGINEERING RULES/REGULATION/SAFETY

Engineering Rules/Regulation/Safety Knowledge

Engineering Competency Demonstration Report

Competency Elements of Stage 1 Professional Engineer (Australia)

Electro-technology Competency Development

Electro-technology Competency Development (Electronics)

Part 4-PROFESSIONAL ENGINEER REGISTRATION

Professional Engineer Registration around the world

Undergraduate Level Theoretical Knowledge requirement for Professional Engineer

Part 5-PROFESSIONAL ENGINEER RESOURCES DOWNLOAD CENTRE

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www.highlightcomputer.com/PEEE.htm

Electronics

www.highlightcomputer.com/PEEC.htm

Civil

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<http://www.highlightcomputer.com/CivilDegreeInstruction1.pdf>

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<http://www.highlightcomputer.com/ElectricalDegreeInstruction1.pdf>

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<http://www.highlightcomputer.com/MechanicalDegreeInstruction1.pdf>

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Post graduate Level Theoretical + Practical+ Management Knowledge requirement for Professional Engineer

Graduate Diploma & Master of Engineering Practice (Electrical/Civil/ Mechanical) for Graduate Engineers

(72115/73315/72515/72315/72415/82115/82215/82315/82415/)

<http://www.highlightcomputer.com/GraduateDiplomaEngineeringPracticeOutline.pdf>

GRADUATE ENGINEER TRAINING PROGRAM

www.mongroupsytdney1.com/GraduateCapstone.pdf

www.mongroupsytdney1.com/AdditionalCapstoneTextBooks.pdf

PROFESSIONAL ENGINEER REGULATIONS

www.mongroupsytdney1.com/PEngReg.pdf

PROPOSED PE ROUTE

www.mongroupsytdney1.com/PERSEProposalBasedonAccreditationModel.pdf

PROPOSED PE ROUTE EXPLANATION

www.mongroupsydneyn1.com/PERSEFlowDiagramExplanation.pdf

PROPOSED PE REGISTRATION PROCESS

www.mongroupsydneyn1.com/MyanmarEngineerRegistrationRulesProvision.pdf

REVIEW OF ENGINEER LAW

www.mongroupsydneyn1.com/MEngCLawsPossibleWaystoimplementMod.pdf

MYANMAR VERSION

www.mongroupsydneyn1.com/MEngCLawAnalysisMyanmarVersionTyped.pdf

www.mongroupsydneyn1.com/RegistraionSuggestionDrKyawNaing.pdf

Engineering Rules/Regulation/Safety Knowledge

Explosion Protection

PROTECTION UNITS

Click [HERE](#) to access the references for explosion protection

Electrical Safety

Electrician Licensing Requirements.zip

[Stage 1 Part 3.zip](#)

http://www.filefactory.com/file/c0cb8f5/n/Stage_1_Part_3.zip

Substation Entry.zip

[Stage 1 Part 5.zip](#)

http://www.filefactory.com/file/c0cb9b3/n/Stage_1_Part_5.zip

Construction Electrical Safety.zip

[Stage 1 Part 1.zip](#)

http://www.filefactory.com/file/c0cb8ab/n/Stage_1_Part_1.zip

Inservice Testing.zip

[Stage 1 Part 4.zip](#)

http://www.filefactory.com/file/c0cc1cd/n/Stage_1_Part_4.zip

NREL_Disconnect_Reconnect.zip

[Stage 1 Part 5.zip](#)

http://www.filefactory.com/file/c0cb9b3/n/Stage_1_Part_5.zip

Electrical_safe_working.zip

[Stage 1 Part 3.zip](#)

http://www.filefactory.com/file/c0cb8f5/n/Stage_1_Part_3.zip

Occupational Health & Safety

OHS Workbook.zip

[Stage 1 Part 5.zip](#)

http://www.filefactory.com/file/c0cb9b3/n/Stage_1_Part_5.zip

Electrical Risk Assessment

[Project Risk Management References](#)

[Report Writing](#)

Post graduate Level Theoretical Knowledge requirement for Professional Engineer

[IOY Masters Degree \(M Mat+ ME \(EE.CE.ME\)+M App Sc \(IT\)+MSc \(RE\)+ Associate Degree in RE+ BE \(Civil+ Mechanical\) Courses Learning Support Website](#)

[Graduate Diploma of Engineering Practice \(Mechanical\) Course Outline](#)

Course Notes

http://www.filefactory.com/file/21fkobz76fvj/Graduate_Diploma%20in%20Mechanical%20Engineering%20Course%20Work.pdf

[Graduate Diploma of Engineering Practice \(Civil\) Course Outline](#)

Course Notes

http://www.filefactory.com/file/21ifsjw6w873/Graduate_Diploma%20in%20Civil%20Engineering%20Course%20Work.pdf

Graduate Diploma of Engineering (Electrical+Electronics) Course Outline

Course Notes

http://www.filefactory.com/file/70g9yl2t4ogt/Graduate_Diploma%20in%20Electrical%20Engineering%20Course%20Work.pdf

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[Undergraduate Level Theoretical Knowledge requirement for Professional Engineer \(Part 2-Reference Resources\)](#)

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[Engineering Rules/Regulation/Safety Knowledge](#)

[Engineering Competency Demonstration Report](#)

[Competency Elements of Stage 1 Professional Engineer \(Australia\)](#)

[Electro-technology Competency Development](#)

[Electro-technology Competency Development \(Electronics\)](#)

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[Professional Engineer Registration around the world](#)

[Undergraduate Level Theoretical Knowledge requirement for Professional Engineer](#)

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<http://www.highlightcomputer.com/CivilDegreeInstruction1.pdf>

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<http://www.highlightcomputer.com/ElectricalDegreeInstruction1.pdf>

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Course Notes

http://www.filefactory.com/file/21fkobz76fvj/Graduate_Diploma%20in%20Mechanical%20Engineering%20Course%20Work.pdf

[Graduate Diploma of Engineering Practice \(Civil\) Course Outline](#)

Course Notes

http://www.filefactory.com/file/21ifsjw6w873/Graduate_Diploma%20in%20Civil%20Engineering%20Course%20Work.pdf

[Graduate Diploma of Engineering \(Electrical+Electronics\) Course Outline](#)

Course Notes

http://www.filefactory.com/file/70g9yl2t4ogt/Graduate_Diploma%20in%20Electrical%20Engineering%20Course%20Work.pdf

Engineering Rules/Regulation/Safety Knowledge

Explosion Protection

Click **HERE** to access the references for explosion protection

Electrical Safety

Electrician Licensing Requirements.zip

Stage 1 Part 3.zip

http://www.filefactory.com/file/c0cb8f5/n/Stage_1_Part_3.zip

SubstationEntry.zip Stage 1 Part 5.zip http://www.filefactory.com/file/c0cb9b3/n/Stage_1_Part_5.zip
Construction ElectricalSafety.zip Stage 1 Part 1.zip http://www.filefactory.com/file/c0cb8ab/n/Stage_1_Part_1.zip
InserviceTesting.zip Stage 1 Part 4.zip http://www.filefactory.com/file/c0cc1cd/n/Stage_1_Part_4.zip NREL_Disconnect_Reconnect.zip Stage 1 Part 5.zip http://www.filefactory.com/file/c0cb9b3/n/Stage_1_Part_5.zip
Electrical_safe_working.zip Stage 1 Part 3.zip http://www.filefactory.com/file/c0cb8f5/n/Stage_1_Part_3.zip
Occupational Health & Safety
OHSWorkbook.zip Stage 1 Part 5.zip http://www.filefactory.com/file/c0cb9b3/n/Stage_1_Part_5.zip
RiskManagement.pdf Stage 4 Part 20.zip http://www.filefactory.com/file/c0cc9b4/n/Stage_4_Part_20.zip
Electrical Risk Assessment
Project Risk Management References

Civil/Mechanical/Electrical Engineering Practical Courses for AGTI/BTech/BE students of Government Technical Colleges & Technological Universities

If you find the question in Myanmar language, the lessons in Myanmar language for that question is also provided.

PC 1-Certificate in Bricklaying & Masonry

PC 2-Certificate in Plumbing

PC 3-Certificate in Building Construction

PC 4-Certificate in Gutter Construction

PC 5-Certificate in Fitting & Machining

PC 6-Certificate in Welding

PC 7-Certificate in Engine Operation & Basic Servicing

PC 8-Certificate in Air-conditioning & Refrigeration Basic Servicing

PC 9-Certificate in Electrical Wiring

PC 10-Certificate in Electrical Machine Winding

PC 11-Certificate in Electrical Power Wiring & Switch Gear Installation

(PC15/H102) Certificate in Basic Electronics & Telecommunication

PC16 Certificate in Rigging & Scaffolding

PC Practical Course (Level 2 for Engineering Technicians)

PC 12-Certificate in Surveying. Quantity Surveying & Estimating

PC 13-Certificate in Manufacturing Process Control & CNC

PC 14-Certificate in Building Energy Efficiency

Preparation for Myanmar Engineering Council Accreditation Course

Course Outline

This two weeks course is designed as Technical Teacher Education Professional Development course for teachers working at Government Technical Colleges and Technological Universities to design the curriculums and teaching resources to meet the accreditation requirements of Myanmar Engineering Council.

Aim of the course

To provide the training to the technical education teachers to understand and apply the principles of adult & vocational education outcome based education, competency based training, compliance with Qualification & Training Authority-Myanmar Engineering Council's Rules, Regulations and Standards for accreditation by taking part in intensive workshop focussing on curriculum development and assessment documents portfolio preparations for Myanmar Engineering Council Accreditation

Outcome of the course

After completion of this course, the participant will be able to

- Understand Myanmar Engineering Council Accreditation Rules & Regulations related to accreditation of Government Technical Colleges & Technological Universities in Myanmar.
- Understand and utilize the principle & features of Outcome based education.
- Understand the Adult & Vocational Education, Work based Learning and Competency based training & assessments tasks.
- Acquire the knowledge on Competency based education and training and training packages being used in industrialized countries (Examples of Australian Standard Competency based vocational education & training system.
- Get the information & knowledge on Current issues related to international & Myanmar Engineering profession.
- Participate in hand on practice workshop focussing on curriculum development & collecting and preparing the materials for accreditation by Myanmar Engineering Council Engineering Accreditation Committee & taking part in mock accreditation sessions.
- Explore the Adult & Vocational Educational Literatures, Textbooks, References & Resources, e-Learning, Learning Technology & Technology in classroom resources knowledge sharing.
- Certificate of Training will be issued by Myanmar Engineering Council as well as by the trainer's educational institution.

Target Group

- Course leaders who are responsible for development of teaching curriculums and learning resources for teaching of engineering programs.

Arrangement of attendances

- It will be an official course development and accreditation workshop in accordance with Myanmar Engineering Councils' Rules , Regulations and Accreditation system, the attendance of this course is part of the official duty and appropriate duty release arrangement may be required under the procedures of the Ministry of Science & Technology.

Place of the course

- Appropriate training venue arranged by Myanmar Engineering Council or Myanmar Engineering Society.

Course Duration

12 days (Mondays to Saturdays) (December 2015)(The exact date will be provided)

Requirements

The participants will need to bring the documents related to teaching plan, curriculum, course materials or reference notes that they are using in teaching. Access to laptop/computer will be required for the participants. Teaching aids such as white board , computer & Overhead Projector will be required to show the slides. It will be better to access Internet.

Sessions , Trainers and Facilitators

Session 1 9 to 10:30AM	Tea break	Session 2 11 to 12:30 Noon
<div>5</div> <div>Welcome speech by<ul style="list-style-type: none">• Chairman of Myanmar Engineering Council• President of Myanmar Engineering Society• Chairman of Engineering Accreditation CommitteeIntroduction to trainers & facilitators Outline of the program Participants ' self introduction General information and arrangement (detailed time schedule needs to be arranged)</div>	Morning tea and networking	Overview of Myanmar Engineering By -Trainer from Myanmar Engineering Council Delivery mode-Lecture

5	<p>Outcome Based Education</p> <p>By Myanmar Engineering Council or Myanmar Engineering Society</p> <p>Delivery mode-Lecture</p>	<p>Morning tea and networking</p>	<p>Competency based education to reach the desired outcome</p> <p>By Dr Kyaw Naing</p> <p>References</p> <p><i>Characteristics of Learning Outcomes</i></p> <p>Delivery mode-Lecture 30 min</p> <p>VIDEO</p> <p>Day 2 Session 2(1)-Competency http://youtu.be/k0OtStQk7NA</p> <p>Day 2 Session 2(2)-Outcome based http://youtu.be/sqBmP7N1Kms</p> <p>Day 2 Session 2(3)-Assessment http://youtu.be/GvJlac8yy-4s</p> <p>Day 2 Session 2(4)-BE course content http://youtu.be/TLAsivfd69o</p> <p>Day 2 Session 2(5)-BE Curriculum http://youtu.be/C02lhMzcO8k</p> <p>Day 2 Session 2(6)- Day 2 Session http://youtu.be/jUggt-eG6N4</p> <p>References</p> <p>http://www.highlightcomputer.com/KyawNaing/day-2-session</p> <p>In Certificate I to Vocational Diploma http://www.filefactory.com/file/32f Page 36 to 41</p> <p>Provide the level of performances</p> <p>Sample Curriculums</p> <p>Certificate to Advanced Diploma http://www.highlightcomputer.com</p> <p>Bachelor degrees equivalent level http://highlightcomputer.com/B%2</p>
5	<p>9.2.3 Learning Outcomes Requirement of Myanmar Engineering Council & how to design the curriculum to address the learning outcomes</p> <p>By Dr Kyaw Naing</p> <p>Delivery mode-Lecture</p> <p>VIDEO</p> <p>Day 3 Session 1(1) Motivation of adult learning http://youtu.be/fX1E8GBKJko</p> <p>Day 3 Session 2(2) Course evaluation http://youtu.be/plfr_KaAHDQ</p> <p>Day 3 Session 1(3)-Experimental Learning http://youtu.be/NxfczPA1J1l</p> <p>Day 3 Session 1(4)-Relating Learning Outcomes to Program Objectives http://youtu.be/cCkgL0kKakY</p> <p>LISTEN</p> <p>http://yourlisten.com/KyawNaing/day-3-session-1</p> <p>Educational Theoretical Readings</p> <p>ED 104 Lesson Planning http://www.filefactory.com/file/4m30ym0ez37r/ED%20104%20Lesson%20Planning.zip</p> <p>ED 202 Curriculum & Design http://www.filefactory.com/file/1jotv5d428j1/ED%20202%20Curriculum%20%26amp%38%20Design.zip</p> <p>Practical Example</p> <p>www.highlightcomputer.com/OverallProgramGeneral.pdf Page 13 to 21</p>	<p>Morning tea and networking</p>	<p>Engineering Fundamental</p> <p>Current Engineering Fundamentals</p> <p>By Myanmar Engineering Society</p> <p>Delivery mode-Lecture</p> <p>Engineering Fundamental Assessment</p> <p>By Myanmar Engineering Society</p> <p>Engineering Fundamental Assessment</p> <p>By Dr Sam Man Keong President of Singapore Institute of Technology</p> <p>Delivery mode-Lecture</p>

<p>5</p>	<p><u>9.2.4 Academic Curriculum</u> Discuss the programme structure and course contents(MEng C) Discuss the programme delivery and assessment methods</p> <p>By Myanmar Engineering Council Delivery mode-Lecture</p>	<p>Morning tea and networking</p>	<p>General Knowledge related to By Dr Kyaw Naing Vocational Education Teacher Education</p> <p>VIDEO http://youtu.be/q191YGPWaZM</p> <p>Delivery mode-Lecture 45 min http://youlisten.com/Kyaw-Naing http://www.filefactory.com/file/4yb11lp1x9</p> <p>Sample Training Packages Electrotechnology/ Electronics/ /Communication UEE11_R1.5.docm (13.37MB) http://www.filefactory.com/file/1n283tjamw2p</p> <p>Electricity Supply UET12_R2.1.docm (7.86MB) http://www.filefactory.com/file/56saqflqmh41/</p> <p>Electrical Power Generation UEP12_R2.1.docm (7.79MB) http://www.filefactory.com/file/52peQ3hs2xq1</p> <p>Automotive AUR12_R2.1.docm (13.37MB) http://www.filefactory.com/file/4qtgr5i39dzl/n/</p> <p>Manufacturing & Engineering (Mechanical) MEM05_R11.1.docm (9.8MB) http://www.filefactory.com/file/29evfecw9yk9/</p> <p>Marine MAR_R2.0.docm (1.78MB) http://www.filefactory.com/file/6sodu2z259j3/</p> <p>Textile LMT07_R4.1.docm (8.28MB) http://www.filefactory.com/file/6gea7ztqgsq3/</p> <p>Construction CPC08_R9.0.docm (9.59MB) http://www.filefactory.com/file/3j1y315nbze7/</p> <p>Information Technology ICA11_R2.0.docm (5.27MB) http://www.filefactory.com/file/4e3ioubld73n/r</p> <p>Chemical PMA02_2.pdf (1.92MB) http://www.filefactory.com/file/2t53b3xj0slr/n/</p> <p>PMA02_1.pdf (1.65MB) http://www.filefactory.com/file/33ikm94dl8jb/r</p> <p>Manufacturing MSA07_R8.4.docm (4.93MB) http://www.filefactory.com/file/4tcjsetp0rd/n/</p> <p>TAE10_R3.4.docm (1.87MB) http://www.filefactory.com/file/566jfcvasu5/r</p> <p>Gas UEG11_R2.0.docm (5.44MB) http://www.filefactory.com/file/6shho87gm1n/</p> <p>Mining MNM05_3.pdf (2.28MB) http://www.filefactory.com/file/78fk485ew98v</p> <p>MNM05_2.pdf (2.29MB) http://www.filefactory.com/file/72vjazer7nij/n/</p> <p>MNM05_1.pdf (1.77MB) http://www.filefactory.com/file/6ahwwdwosk8</p>
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5	<p>Approach to various learning modes in VET</p> <p>By- Dr Kyaw Naing & the speakers from various technological universities Delivery mode-Lecture 43 min VIDEO http://youtu.be/NVgAAT7Muv0</p> <p>Audio http://yourlisten.com/Kyaw_Naing/day-3-session-11</p> <p>Topics & References</p> <p>Practical focus Group Base learning.pdf (3.25MB) http://www.filefactory.com/file/266naJoy9to3/n/16.taadel401a_Plan_&_Organize_Group_Base_learning.pdf</p> <p>Facilitate Group based learning.pdf (2.81MB) http://www.filefactory.com/file/1bvk73q17j43/n/18.taadel402a_Facilitate_Group_based_learning.pdf</p> <p>Work based learning.pdf (4.15MB) http://www.filefactory.com/file/24apg5s5n0fx/n/22.taadel404a_Facilitate_work_based_learning.pdf</p> <p>individual learning.pdf (1.94MB) http://www.filefactory.com/file/4mmwy8ldewh1/n/20.taadel403a_Facilitate_individual_learning.pdf</p> <p>Distance based learning (2.56MB) http://www.filefactory.com/file/3w2b2mdycbx1/n/24.taadel405a_Coordinate_7_facilitate_distance_based_learnin.pdf</p> <p>Educational Theory Resources ED 103 Teaching Practice http://www.filefactory.com/file/1o732n0j46mf/ED%20103%20Teaching%20Practice.zip</p> <p>ED 105 Principle of Learning http://www.filefactory.com/file/7660i6kjr8sx/ED%20105%20Principle%20of%20Learning.zip</p> <p>ED 107 Teaching & Learning http://www.filefactory.com/file/6u5o455lyqj7/ED%20107%20Teaching%20%26amp%3B%20Learning.zip</p> <p>Myanmar Engineering Council References</p> <ul style="list-style-type: none"> the choice of the teaching-learning (delivery) methods. A balanced curriculum The curriculum shall integrate theory with practice through adequate exposure to laboratory work and professional engineering (MEng C) Time allocation Credit points <p>ED 401 Adult Learning Technology http://www.filefactory.com/file/68y4bd94janb/ED%20401%20Adult%20Learning%20Technology.zip</p>	Morning tea and networking	<p>Preparing vocational teaching By Dr Kyaw Naing Delivery mode-Lecture 48 min References Worksheets VIDEO http://youtu.be/cc-xLKjz3J8</p> <p>Audio http://yourlisten.com/Kyaw_Naing/day-3-session-11</p> <p>Provide Training through instr TAADEL301A.doc (0.03MB) http://www.filefactory.com/file/2ppyhdqlhsh/r</p> <p>Facilitate work-based learning TAADEL404A.doc (0.03MB) http://www.filefactory.com/file/60ojuvglyvuy3/n</p> <p>Group based delivery TAADEL401A.doc (0.03MB) http://www.filefactory.com/file/3i5scp12gkdn/r</p> <p>Use Training Packages to mee TAADES401A.doc (0.03MB) http://www.filefactory.com/file/32bofyvl82wfr/n</p> <p>Design and develop learning p TAADES402A.doc (0.03MB) http://www.filefactory.com/file/4nhro84kl2nxx/r</p> <p>Work effectively in vocational TAAENV401A.doc (0.03MB) http://www.filefactory.com/file/45zeif6cy5zx/n</p> <p>Foster and promote an inclusi TAAENV402A.doc (0.03MB) http://www.filefactory.com/file/3zoufgaty89n/r</p> <p>Ensure a safe and healthy lear TAAENV403A.doc (0.03MB) http://www.filefactory.com/file/6ireaw7s5jg9/r</p> <p>Individual learning TAADEL403A.doc (0.03MB) http://www.filefactory.com/file/7g3h9iwpdqfr/r</p> <p>Language Literacy & Numeracy</p> <p>1397606218-taelln411_sample.pdf (0.34MB) http://www.filefactory.com/file/5fh2bd8z3k0r/r</p> <p>Report.pdf (0.41MB) http://www.filefactory.com/file/655u3qyppqy3/</p> <p>Section 4 Model for core skills analysis.p http://www.filefactory.com/file/6p480mpcellfr/r</p> <p>ACSF_Document.pdf (1.03MB) http://www.filefactory.com/file/54s5xbs3esdn/r</p> <p>LLN Preparation of students.docx (0.02MB) http://www.filefactory.com/file/77ps5dxqgbhpi/</p> <p>Australian Core Skills Framework for LLN http://www.filefactory.com/file/4qt7qx24cd9l/r</p> <p>LLN Preparation of students.docx (0.02MB) http://www.filefactory.com/file/1rvd487grxw0j/</p>
5	<p>Assessment Validation Guide of Myanmar Engineering Council</p> <ul style="list-style-type: none"> assessment & evaluation methods for the attainment achievement of the Learning Outcome <p>Developing the assessment strategies in VET</p> <p>VIDEO http://youtu.be/qwNZHPBn6DQ</p> <p>By Dr Kyaw Naing Delivery mode-Lecture 60 min Audio http://yourlisten.com/Kyaw_Naing/day-6-session-11</p> <p>Practical Application Resources Participate in assessment validation TAAASS404A.doc (0.03MB) http://www.filefactory.com/file/5zv1ke0eh2djin/TAAASS404A.doc</p> <p>Develop assessment tools TAAASS403A.doc (0.03MB) http://www.filefactory.com/file/5rxw2lqgk7rx/n/TAAASS403A.doc</p> <p>Plan and organise assessment TAAASS401A.doc (0.03MB) http://www.filefactory.com/file/1tpnwpwxgqgv/n/TAAASS401A.doc</p> <p>Assess competence TAAASS402A.doc (0.03MB) http://www.filefactory.com/file/48yye4zmmxi7/n/TAAASS402A.doc</p> <p>Reference Textbooks (Theory aspect) ED 205 Teaching & Measuring http://www.filefactory.com/file/4eu01ck2awl/ED%20205%20Teaching%20%26amp%3B%20Measuring.zip</p> <p>Designing Instructions & Assessment http://www.filefactory.com/file/4dnh3r8wsd9t/ED%20206%20Designing%20Instructions%20%26amp%3B%20Assessment.zip</p> <p>ED 405 Training Principle http://www.filefactory.com/file/5qupttpxznin/ED%20405%20Training%20Principle.zip</p>	Morning tea and networking	<p>Examination & Assessment St</p> <p>By the educators from various tec</p>

5	Educational Resources Development in line with Myanmar Engineering Council Requirements 9.2.7 Facilities By- Myanmar Engineering Council Engineering Accreditation Committee Delivery mode-Lecture Overviews of Professional Development Programs provided by Myanmar Engineering Society By- Myanmar Engineering Society Delivery mode-Lecture	Morning tea and networking	Integration of Learning Techn By Dr Kyaw Naing Delivery mode-Lecture VIDEO http://youtu.be/bV_CJdY7fs0 AUDIO http://yourlisten.com/Kyaw.Naing Resources http://www.filefactory.com/file/3bsfz0e/ http://www.filefactory.com/file/cvavvr9/ Due to the big file size, the resour
5	Technology in Classroom By Dr Kyaw Naing Delivery mode-Lecture 1 Hr VIDEO http://youtu.be/rzLQq6D6-OU AUDIO http://yourlisten.com/Kyaw.Naing/day-8-session-1a Resources ED312 Technology in Classrooms http://www.filefactory.com/file/7jcivu232opx/n/7_Technology_in_classroom.zip ED 308 Computer Supported Learning & Distance Education http://www.filefactory.com/file/4mdzrx52k45/ED%20308%20Computer%20Supported%20Learning%20%26amp%3B%20Distance%20Education.zip		Integration of Learning Techn Delivery mode-Lecture+ Tutor VIDEO http://youtu.be/Katbr81IPnk AUDIO http://yourlisten.com/Kyaw.Naing By Dr Kyaw Naing Sharing the e-Learning work exp <ul style="list-style-type: none"> Resources development Computer assisted test Use of online test/online surv Online simulated practicals www.easytestmaker.com http://www.emailreform.com/
5	8.5.2 Programme Quality Management and Planning 8.5.4 Quality Assurance 9.2.8 Quality Management System Preparation of self accreditation report Requirements of Myanmar Engineering Council By -Myanmar Engineering Council Delivery mode-Lecture References Curriculum design for accreditation compliance http://www.filefactory.com/file/2vyvpy64k4w3/Accredition%20Manual.pdf Overall accreditation and compliance practice http://www.filefactory.com/file/2vyvpy64k4w3/Accredition%20Manual.pdf Preparation for self accreditation report http://www.filefactory.com/file/43x0yutpx31v/2%20SAR.pptx Engineering Accreditation Plan http://www.filefactory.com/file/2ynzo3fydckb/2015%20YTU%20First%20Workshop.pptx	Morning tea and networking	Preparing the documents to cc Delivery mode-Lecture 25 min VIDEO http://youtu.be/vKGOB9ZBKAU AUDIO http://yourlisten.com/Kyaw.Naing By Dr Kyaw Naing Sample www.highlightcomputer.com/asse Quality Assurance http://www.highlightcomputer.com
5	Learning Environment By- Dr Kyaw Naing Delivery mode-Lecture 48min VIDEO http://youtu.be/3Lzk27pAQBk AUDIO http://yourlisten.com/Kyaw.Naing/day-0a-session-1 - Reference ED 407 Learning Environment http://www.filefactory.com/file/31o7fw99ux7I/ED%20407%20Learning%20Environment.zip	Morning tea and networking	Change Management By- Daw Hla Myat Mon Delivery mode-Lecture 38min VIDEO http://youtu.be/ynkcUcKr8tQ AUDIO http://yourlisten.com/Kyaw.Naing - References University of Technology Master o & experience in University of Tech
5	Preparation and finalisation of full documentations for Myanmar Engineering Council Accreditation Delivery mode-Tutorial Facilitators Dr Kyaw Naing Prof Dr Charlie Than & other trainers of MEng C	Morning tea and networking	Preparation and finalisation of Delivery mode-Tutorial Dr Kyaw Naing Prof Dr Charlie Than & other trainers of MEng C
5	Mock Accreditation Sessions Practice	Morning tea and networking	Mock Accreditation Sessions Pract

Remark

Depending on the resources & facilities availabilities, Session 2 & 3 of Day 7 & 8 may need to be replaced with other activities

Preparation for Myanmar Engineering Council Accreditation Course

Course Outline

This two weeks course is designed as Technical Teacher Education Professional Development course for teachers working at Government Technical Colleges and Technological Universities to design the curriculums and teaching resources to meet the accreditation requirements of Myanmar Engineering Council.

Aim of the course

To provide the training to the technical education teachers to understand and apply the principles of adult & vocational education outcome based education, competency based training. compliance with Qualification & Training Authority-Myanmar Engineering Council's Rules, Regulations and Standards for accreditation by taking part in intensive workshop focussing on curriculum development and assessment documents portfolio preparations for Myanmar Engineering Council Accreditation

Outcome of the course

After completion of this course, the participant will be able to

- Understand Myanmar Engineering Council Accreditation Rules & Regulations related to accreditation of Government Technical Colleges & Technological Universities in Myanmar.
- Understand and utilize the principle & features of Outcome based education.
- Understand the Adult & Vocational Education, Work based Learning and Competency based training & assessments tasks.
- Acquire the knowledge on Competency based education and training and training packages being used in industrialized countries (Examples of Australian Standard Competency based vocational education & training system.
- Get the information & knowledge on Current issues related to international & Myanmar Engineering profession.
- Participate in hand on practice workshop focussing on curriculum development & collecting and preparing the materials for accreditation by Myanmar Engineering Council Engineering Accreditation Committee & taking part in mock accreditation sessions.

- Explore the Adult & Vocational Educational Literatures, Textbooks, References & Resources, e-Learning, Learning Technology & Technology in classroom resources knowledge sharing.
- Certificate of Training will be issued by Myanmar Engineering Council as well as by the trainer's educational institution.

Target Group

- Course leaders who are responsible for development of teaching curriculums and learning resources for teaching of engineering programs.

Arrangement of attendances

- It will be an official course development and accreditation workshop in accordance with Myanmar Engineering Councils' Rules, Regulations and Accreditation system, the attendance of this course is part of the official duty and appropriate duty release arrangement may be required under the procedures of the Ministry of Science & Technology.

Place of the course

- Appropriate training venue arranged by Myanmar Engineering Council or Myanmar Engineering Society.

Course Duration

12 days (Mondays to Saturdays) (December 2015)(The exact date will be provided)

Requirements

The participants will need to bring the documents related to teaching plan, curriculum, course materials or reference notes that they are using in teaching. Access to laptop/computer will be required for the participants. Teaching aids such as white board, computer & Overhead Projector will be required to show the slides. It will be better to access Internet.

Sessions , Trainers and Facilitators

Day	Session 1 9 to 10:30AM	Tea break	Session 2 11 to 12:30 Noon	Lunch break 12:30 to 1:30 PM	Session 3 1:30 to 3:30PM (The extended time up to 5PM can be taken up to the duration of workshop & group works)
1 17 Dec 2015	<p>Welcome speech by</p> <ul style="list-style-type: none"> Chairman of Myanmar Engineering Council President of Myanmar Engineering Society Chairman of Engineering Accreditation Committee <p>Introduction to trainers & facilitators</p> <p>Outline of the program</p> <p>Participants ' self introduction</p> <p>General information and arrangement (detailed time schedule needs to be arranged)</p>	<p>Morning tea and networking</p>	<p>Overview of Myanmar Engineering Council Law, Regulation, Accreditation Principles</p> <p>By -Trainer from Myanmar Engineering Council</p> <p>Delivery mode-Lecture</p>	<p>Lunch</p>	<p>Highlighting 9.2.1 General Information (MEng C) 9.2.2 Programme Objectives & writing the objectives of the course by Dr Kyaw Naing</p> <p>Delivery mode-Lecture 30 min + Tutorial 90 min Audio http://yourlisten.com/Kyawnaing2524/day-1-session-3</p> <p>Reference Reading (Education theory) ED 106 Interpreting Curriculums http://www.filefactory.com/file/1h141zxbv8z/ED%20106%20Interpreting%20Curriculums.zip</p> <p>Practical Information Provide the examples of how to set up the program objectives for Professional Engineer, Engineering Technologists and Engineering Associates levels www.highlightcomputer.com/OverallProgramGeneral.pdf</p> <p>Page 4 to 11</p> <p>References</p>

					<p>Engineers Australia References www.highlightcomputer.com/engineersaustraliareferences.htm</p> <p>Stage 1 Competencies of PEng, Eng Technologists & Eng Associates</p> <p>Engineering job competencies http://www.highlightcomputer.com/EngineeringJobCompetencies.pdf</p> <p>Participants' tasks</p> <p>Write the course objectives of the engineering programs that they are teaching, discussion & feedback</p>
<p>2 18 Dec 2015</p>	<p>Outcome Based Education</p> <p>By Myanmar Engineering Council or Myanmar Engineering Society</p> <p>Delivery mode-Lecture</p>	<p>Morning tea and networking</p>	<p>Competency based education & training & how the competency based training is important to reach the desired outcome</p> <p>By Dr Kyaw Naing</p> <p>References</p> <p><i>Characteristics of Learning Outcomes</i></p> <p>Delivery mode-Lecture 30 min + Demonstration 60 min</p> <p>AUDIO http://yourlisten.com/Kyaw.Naing/day-2-session-2</p>	<p>Lunch</p>	<p>1:30 to 3:30PM</p> <p><u>Example of Singapore Professional Engineers Assessment Programs</u></p> <p>By Dr Sam Man Keong President of Singapore Institute of Engineering Technologists</p> <p>Delivery mode-Lecture</p> <p>3:45 to 5PM</p> <p><u>Sample of Competency based training widely used in Myanmar</u></p> <p>Examples of marine engineers competency assessment in Myanmar/ in line with International Certification standards & explore the way to apply the similar competency based training in other engineering areas</p>

			<p>In Certificate I to Vocational Diploma http://www.filefactory.com/file/32hy8l1za8wz/TAE10_R3.4.docm Page 36 to 41</p> <p>Provide the level of performances of the students tasks in the curriculums & activities</p> <p>Sample Curriculums</p> <p>Certificate to Advanced Diploma http://www.highlightcomputer.com/detailedcontent.htm</p> <p>Bachelor degrees equivalent level http://highlightcomputer.com/B%20E+B%20App%20Sc(IT)+B%20Bus%20Course%20Detailed%20Contents.htm</p>		<p>By- Dr Charlie Than</p> <p>Delivery mode-Lecture</p>
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<p>3 19 Dec 2015</p>	<p><u>9.2.3 Learning Outcomes Requirement of Myanmar Engineering Council & how to design the curriculum to address the learning outcomes</u> By Dr Kyaw Naing Delivery mode-Lecture AUDIO http://yourlisten.com/KyawNaing/day-3-session-1</p> <p>Educational Theoretical Readings ED 104 Lesson Planning http://www.filefactory.com/file/4m30ym0ez37r/ED%20104%20Lesson%20Planning.zip</p> <p>ED 202 Curriculum & Design http://www.filefactory.com/file/1jotv5d428j1/ED%20202%20Curriculum%20%26amp%3B%20Design.Zip</p> <p>Practical Example www.highlightcomputer.com/OverallProgramGeneral.pdf Page 13 to 21</p>	<p>Morning tea and networking</p>	<p><u>Engineering Fundamental</u> <u>Current Engineering Fundamental Assessment in Myanmar</u> By Myanmar Engineering Society Delivery mode-Lecture</p> <p>Engineering Fundamental Assessments By Myanmar Engineering Society</p> <p><u>Engineering Fundamental Assessment in UK Engineering Council Examinations</u> By Dr Sam Man Keong President of Singapore Institute of Engineering Technologists Delivery mode-Lecture</p>	<p>Lunch</p>	<p><u>Curriculum Development Workshop Part 1</u> The participants need to make the samples of the plans to provide the competency based training in their teaching and training areas Delivery mode-Tutorial 120 min <u>Facilitator</u>- Dr Kyaw Naing & other trainers How to put the topics to meet the learning outcomes and how to include the engineering fundamentals concepts into curriculum contents Group development task & discussions <u>Facilitators</u> Dr Kyaw Naing & other trainers Dr Sam Man Keong will also contribute his views & advices. <u>Education Theory Reference</u> ED 106 Interpreting Curriculums http://www.filefactory.com/file/1h141zxbov8z/ED%20106%20Interpreting%20Curriculums.zip Delivery mode-Tutorial 120 min</p>
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<p>4 21 Dec 2015</p>	<p><u>9.2.4 Academic Curriculum</u> <u>Discuss the programme structure and course contents(MEng C)</u> <u>Discuss the programme delivery and assessment methods</u></p> <p>By Myanmar Engineering Council Delivery mode-Lecture</p>	<p>Morning tea and networking</p>	<p><u>General Knowledge related to overseas programs</u> By Dr Kyaw Naing <u>Vocational Education Teacher Education</u> Delivery mode-Lecture 45 min AUDIO http://yourlisten.com/KyawNaing/day-4-session-2 http://www.filefactory.com/file/4yb11p1x9b/n/Vocatinal_Education_Teacher_Education_pdf <u>Sample Training Packages</u> Electrotechnology/ Electronics/ /Communication UEE11_R1.5.docm (13.37MB) http://www.filefactory.com/file/1n283tjamw2p/n/UEE11_R1.5.docm Electricity Supply UET12_R2.1.docm (7.86MB) http://www.filefactory.com/file/56saqflqmh41/n/UET12_R2.1.docm</p>	<p>Lunch</p>	<p><u>Curriculum Development Workshop Part 2</u></p> <p>Group work on selecting the Contents of curriculums & training packages into teaching curriculums of participants' institutions. Group discussion, feedback</p> <p>Facilitator</p> <p>Dr Kyaw Naing & Other trainers Delivery mode-Tutorial 120 min</p> <p><u>Examples</u> www.highlightcomputer.com/OverallProgramGeneral.pdf Page 22 to 43</p> <p><u>Samples</u> http://www.highlightcomputer.com/BECurriculum.htm http://www.highlightcomputer.com/DiplomaAdvancedDiplomaCivilEngineeringCurriculum.htm http://www.highlightcomputer.com/DiplomaAdvancedDiplomaElectricalEngineeringCurriculum.htm http://www.highlightcomputer.com/DiplomaAdvancedDiplomaMechanicalEngineeringCurriculum.htm</p>
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			<p>Electrical Power Generation UEP12_R2.1.docm (7.79MB) http://www.filefactory.com/file/52pe03hs2xq1/n/UEP12_R2.1.docm</p> <p>Automotive AUR12_R2.1.docm (13.37MB) http://www.filefactory.com/file/4gtgr5i39dzt/n/AUR12_R2.1.docm</p> <p>Manufacturing & Engineering (Mechanical)</p> <p>MEM05_R11.1.docm (9.8MB) http://www.filefactory.com/file/29evfecw9yk9/n/MEM05_R11.1.docm</p> <p>Marine MAR_R2.0.docm (1.78MB) http://www.filefactory.com/file/6sodu2z259j3/n/MAR_R2.0.docm</p> <p>Textile LMT07_R4.1.docm (8.28MB) http://www.filefactory.com/file/6gea7ztqgsq3/n/LMT07_R4.1.docm</p>		<p>Examples Page 77 to 86 of www.highlightcomputer.com/OverallProgramGeneral.pdf</p>
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			<p>Construction</p> <p>CPC08_R9.0.docm (9.59MB) http://www.filefactory.com/file/3j1y315nbze7/n/CPC08_R9.0.docm</p> <p>Information Technology</p> <p>ICA11_R2.0.docm (5.27MB) http://www.filefactory.com/file/4e3ioubld73n/n/ICA11_R2.0.docm</p> <p>Chemical</p> <p>PMA02_2.pdf (1.92MB) http://www.filefactory.com/file/2t53b3xi0slr/n/PMA02_2.pdf</p> <p>PMA02_1.pdf (1.65MB) http://www.filefactory.com/file/33ikm94dl8jb/n/PMA02_1.pdf</p> <p>Manufacturing</p> <p>MSA07_R8.4.docm (4.93MB) http://www.filefactory.com/file/4tcjlsetp0rd/n/MSA07_R8.4.docm</p> <p>TAE10_R3.4.docm (1.87MB)</p>		
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			http://www.filefactory.com/file/566jfcvasu5/n/TAE10_R3.4.docm Gas UEG11_R2.0.docm (5.44MB) http://www.filefactory.com/file/6shho87gm1nh/n/UEG11_R2.0.docm Mining MNM05_3.pdf (2.28MB) http://www.filefactory.com/file/78fk485ew98v/n/MNM05_3.pdf MNM05_2.pdf (2.29MB) http://www.filefactory.com/file/72vjazer7njj/n/MNM05_2.pdf MNM05_1.pdf (1.77MB) http://www.filefactory.com/file/6ahwwdwosk8j/n/MNM05_1.pdf		
5 22 Dec 2015	<u>Approach to various learning modes in VET</u> By- Dr Kyaw Naing & the speakers from various technological universities Delivery mode-Lecture 43 min AUDIO http://yourlisten.com/Kyaw.Naing/day-5-session-1b	Morning tea and networking	<u>Preparing vocational teaching portfolios</u> By Dr Kyaw Naing Delivery mode-Lecture 48 min References Worksheets AUDIO http://yourlisten.com/Kyaw.Naing/day-5-session-23	Lunch	<u>Learning outcomes & Teaching / Training Strategies workshop</u> Develop teaching and learning strategies in the curriculum for the courses that are taught by the participants Group work, group discussions <u>Example</u>

	<p>Topics & References</p> <p>Practical focus</p> <p>Group Base learning.pdf (3.25MB) http://www.filefactory.com/file/266najo91o3/n/16.taadel401a_Plan_&_Organize_Group_Base_learning.pdf</p> <p>Facilitate Group based learning.pdf (2.81MB) http://www.filefactory.com/file/1tvk73q17i43/n/18.taadel402a_Facilitate_Group_based_learning.pdf</p> <p>Work based learning.pdf (4.15MB) http://www.filefactory.com/file/24apg5s5n0fx/n/22.taadel404a_Facilitate_work_based_learning.pdf</p> <p>individual learning.pdf (1.94MB) http://www.filefactory.com/file/4nmwy8ldewh1/n/20.taadel403a_Facilitate_individual_learning.pdf</p> <p>Distance based learning (2.56MB) http://www.filefactory.com/file/3w2b2mdycbx1/n/24.taadel405a_Coordinate_7_facilitate_distance_based_learnin.pdf</p> <p>Educational Theory Resources ED 103 Teaching Practice http://www.filefactory.com/file/1o732n0j46mf/ED%20103%20Teaching%20P</p>	<p>Provide Training through instruction and demonstration of work skills</p> <p>TAADEL301A.doc (0.03MB) http://www.filefactory.com/file/2ppyhdlqhlsh/n/TAADEL301A.doc</p> <p>Facilitate work-based learning</p> <p>TAADEL404A.doc (0.03MB) http://www.filefactory.com/file/60ojucglvyu3/n/TAADEL404A.doc</p> <p>Group based delivery</p> <p>TAADEL401A.doc (0.03MB) http://www.filefactory.com/file/3i5scp12gkdn/n/TAADEL401A.doc</p> <p>Use Training Packages to meet client needs</p> <p>TAADES401A.doc (0.03MB) http://www.filefactory.com/file/32bofyyl82wf/n/TAADES401A.doc</p> <p>Design and develop learning programs</p> <p>TAADES402A.doc (0.03MB) http://www.filefactory.com/file/4nhro84kl2nx/n/TAADES402A.doc</p>	<p>Page 44 to 49 of www.highlightcomputer.com/OverallProgramGeneral.pdf</p> <p>Facilitator Dr Kyaw Naing & Other trainers</p> <p>Contents Research http://www.filefactory.com/file/eovzqp6gd1/assessment%20strategies.pdf</p> <p>http://www.filefactory.com/file/7jfakka1vpfx/G015BWor k%20performance%20report.doc</p> <p>http://www.filefactory.com/file/3ymfd2ekdn11/UFE11%20V1acessguidelines%5B1%5D.pdf</p> <p>DELIVERY & ASSESSMENT PLAN SAMPLES http://www.filefactory.com/file/1c03t5k3fp8p/SAMPLE%20ASSESSMENT%20ITEMS.htm</p>
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	<p>ractice.zip</p> <p>ED 105 Principle of Learning</p> <p>http://www.filefactory.com/file/7660l6kjr8sx/ED%20105%20Principle%20of%20Learning.zip</p> <p>ED 107 Teaching & Learning</p> <p>http://www.filefactory.com/file/6u5o455lyqj7/ED%20107%20Teaching%20%26amp%3B%20Learning.zip</p> <p><u>Myanmar Engineering Council</u> <u>References</u></p> <ul style="list-style-type: none"> the choice of the teaching-learning (delivery) methods. A balanced curriculum The curriculum shall integrate theory with practice through adequate exposure to laboratory work and professional engineering(MEng C) 		<p>Work effectively in vocational education and training</p> <p>TAAENV401A.doc (0.03MB) http://www.filefactory.com/file/45zeif6cy5zx/n/TAAENV401A.doc</p> <p>Foster and promote an inclusive learning culture</p> <p>TAAENV402A.doc (0.03MB) http://www.filefactory.com/file/3zoufgaty89n/n/TAAENV402A.doc</p> <p>Ensure a safe and healthy learning environment</p> <p>TAAENV403A.doc (0.03MB) http://www.filefactory.com/file/6ireaw7s5jg9/n/TAAENV403A.doc</p> <p>Individual learning</p> <p>TAADEL403A.doc (0.03MB) http://www.filefactory.com/file/7g3h9iwpodfr/n/TAADEL403A.doc</p> <p>Language Literacy &</p>		
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	<ul style="list-style-type: none"> • Time allocation • Credit points <p>ED 401 Adult Learning Technology</p> <p>http://www.filefactory.com/file/68y4bd94ianb/ED%20401%20Adult%20Learning%20Technology.zip</p>		<p>Numeracy</p> <p>1397606218-taelln411_sample.pdf (0.34MB) http://www.filefactory.com/file/5fh2bd8z3k0r/n/1397606218-taelln411_sample.pdf</p> <p>Report.pdf (0.41MB) http://www.filefactory.com/file/655u3qypqyj3/n/Report.pdf</p> <p>Section 4 Model for core skills analysis.pdf (0.69MB) http://www.filefactory.com/file/6p480mpcelft/n/Section_4_Model_for_core_skills_analysis.pdf</p> <p>ACSF_Document.pdf (1.03MB) http://www.filefactory.com/file/54s5xbe3esdn/n/ACSF_Document.pdf</p> <p>LLN Preparation of students.docx (0.02MB) http://www.filefactory.com/file/77ps5dxgbhbj/n/LLN_Preparation_of_students.docx</p> <p>Australian Core Skills Framework for LLN Level</p>		
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			<p>determination.docx (0.02MB) http://www.filefactory.com/file/4qt7gx24cd9l/n/Australian_Core_Skills_Framework_for_LLN_Level_determination.docx</p> <p>LLN Preparation of students.docx (0.02MB) http://www.filefactory.com/file/1rvd487gxw0j/n/LLN_Preparation_of_students.docx</p>		
<p>6 23 Dec 2015</p>	<p><u>Assessment Validation Guide of Myanmar Engineering Council</u></p> <ul style="list-style-type: none"> assessment & evaluation methods for the attainment achievement of the Learning Outcome <p><u>Developing the assessment strategies in VET</u></p> <p>By Dr Kyaw Naing</p> <p>Delivery mode-Lecture 60 min</p> <p>AUDIO http://yourlisten.com/Kyaw.Naing/day-6-session-1</p>	<p>Morning tea and networking</p>	<p><u>Examination & Assessment Strategies & Experiences talks</u></p> <p>By the educators from various technological universities & skills training organizations</p>	<p>Lunch</p>	<p><u>Prepare the sample assessment activities for the courses that the participants are teaching</u></p> <p>Delivery mode-Lecture 41min + Tutorial 80 min</p> <p>AUDIO http://yourlisten.com/Kyaw.Naing/day-6-session-23</p> <p><u>Facilitator</u> Dr Kyaw Naing & Other trainers</p> <p>Page 49 to 76 of www.highlightcomputer.com/OverallProgramGeneral.pdf</p> <p>Sample Assessment validation matrices http://www.filefactory.com/file/617mgi9ir63x/UEENEEE046B.zip</p>

	<p><u>Practical Application Resources</u></p> <p>Participate in assessment validation</p> <p>TAAASS404A.doc (0.03MB) http://www.filefactory.com/file/5zv1ke0eh2dj/n/TAAASS404A.doc</p> <p>Develop assessment tools</p> <p>TAAASS403A.doc (0.03MB) http://www.filefactory.com/file/5rxw2igqk7rx/n/TAAASS403A.doc</p> <p>Plan and organise assessment</p> <p>TAAASS401A.doc (0.03MB) http://www.filefactory.com/file/1tpnwpxgvgv/n/TAAASS401A.doc</p> <p>Assess competence</p> <p>TAAASS402A.doc (0.03MB) http://www.filefactory.com/file/48yye4zmmxt7/n/TAAASS402A.doc</p> <p><u>Reference Textbooks (Theory aspect)</u></p> <p>ED 205 Teaching & Measuring http://www.filefactory.com/file/4eu01</p>				<p>http://www.filefactory.com/file/333wtizbok0n/UEENEEG002.zip</p> <p>http://www.filefactory.com/file/11tkbwlf04jt/UEENEEG015B.zip</p> <p>Sample delivery & assessment schedules http://www.filefactory.com/file/5k19ps1z6xj9/20222%20Sequence%20%28V1%29%20%28001%200861%29%2020120726.pdf</p> <p>Self assessment journal/ Reflection http://www.filefactory.com/file/1c0jfwumb27p/Self%20Assessment%20Journal%20Reflection.doc</p> <p>Sample-Student Assessment Guide.doc (0.09MB) http://www.filefactory.com/file/10m1ja7dnha3/n/UEENEE101A_Student_Assessment_Guide.doc</p> <p>Sample- RPL Tool Validation Record.pdf (0.08MB) http://www.filefactory.com/file/34muh9bkgpk9/n/UEENEE101A_RPL_Tool_Validation_Record.pdf</p> <p>Sample- Assessment Cover sheet.doc (0.08MB) http://www.filefactory.com/file/n6s0sk8izqj/n/UEENEE101A_Assessment_Cover_sheet.doc</p> <p>Sample-Assessment Feedback Sheet.docx (0.05MB) http://www.filefactory.com/file/3soxroqt927j/n/UEENEE101A_Assessment_Feedback_Sheet.docx</p>
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	ck2awl/ED%20205%20Teaching%20%26amp%3B%20Measuring.zip ED 206 Designing Instructions & Assessment http://www.filefactory.com/file/4dnh3r8wsd9t/ED%20206%20Designing%20Instructions%20%26amp%3B%20Assessment.zip ED 405 Training Principle http://www.filefactory.com/file/5guptpxznin/ED%20405%20Training%20Principle.zip				Evaluation check list http://www.filefactory.com/file/6jslcpuborkx/Evaluation%20Check%20List%20General%2BOnline%20Survey.docx http://www.filefactory.com/file/4crkqpgke02z/Evaluation.docx Recognition of Prior Learning Tools-Sample http://www.filefactory.com/file/2gtq6nqjag03/20278%20ORPL_form_WVL_2014_V1_multi.xlsm http://www.filefactory.com/file/4phu09qmmmy89/20281%20ORPL_form_WVL_2014_V1_multi.xlsm http://www.filefactory.com/file/6qtg6w4uh3fh/20282%20ORPL_form_WVL_2014_V1_multi.xlsm
7 24 Dec 2015	<u>Educational Resources Development in line with Myanmar Engineering Council Requirements</u> <u>9.2.7 Facilities</u> By- Myanmar Engineering Council Engineering Accreditation Committee Delivery mode-Lecture	Morning tea and networking	<u>Integration of Learning Technology in Teaching & Learning Part 1</u> By Dr Kyaw Naing Delivery mode-Lecture AUDIO http://yourlisten.com/KyawNaing/day-7-session23	Lunch	<u>On line & offline e-Learning systems Part 1</u> By Dr Kyaw Naing Delivery mode-Tutorial 120 min Samples Learning Platform example http://www.highlightcomputer.com/onlineteaching1.htm Using multimedia & videos in teaching & Learning http://www.highlightcomputer.com/videos1.htm

	<p>Overviews of Professional Development Programs provided by Myanmar Engineering Society</p> <p>By- Myanmar Engineering Society</p> <p>Delivery mode-Lecture</p>		<p>Resources</p> <p>http://www.filefactory.com/file/3bsfz0ehba7z/n/5_Learning_Technology_1_zip</p> <p>http://www.filefactory.com/file/cvavvr9gonr/n/6_Learning_Technology_2_zip</p> <p>Due to the big file size, the resources will be given in CD</p>		<p>Using Youtube in teaching & learning</p> <p>http://www.highlightcomputer.com/videos2.htm</p> <p>Practice</p> <p>Use of DVD recorder, Digital note takers to record the lessons and prepare the multimedia power point lectures, PDF-JPG format conversion softwares</p>
<p>8</p> <p>26 Dec 2015</p>	<p>Technology in Classroom</p> <p>By Dr Kyaw Naing</p> <p>Delivery mode-Lecture 1 Hr</p> <p>AUDIO</p> <p>http://yourlisten.com/Kyaw.Naing/day-8-session-1a</p> <p>Resources</p> <p>ED312 Technology in Classrooms</p> <p>http://www.filefactory.com/file/7jativu232opx/n/7_Technology_in_classroom_zip</p> <p>ED 308 Computer Supported Learning & Distance Education</p> <p>http://www.filefactory.com/file/4mdzrx52kl45/ED%20308%20Computer%20Supported%20Learning%20%26amp%3B%20Distance%20Education.zip</p>		<p>Integration of Learning Technology in Teaching & Learning Part 2</p> <p>Delivery mode-Lecture+ Tutorial</p> <p>AUDIO</p> <p>http://yourlisten.com/Kyaw.Naing/day-8-session-23</p> <p>By Dr Kyaw Naing</p> <p>Sharing the e-Learning work experience utilized in TAFE-NSW Australian Classroom</p> <ul style="list-style-type: none"> Resources development Computer assisted test 		<p>On line & offline e-Learning systems Part 2</p> <p>Delivery mode-Tutorial 120 min</p> <p>Development of e-Learning Resources Practice workshop</p> <p>Development of learning support website & contents placement</p> <p>Sample</p> <p>www.electricaldiploma2013.zoomshare.com</p> <p>Use of online documents sharing sites</p> <p>www.filefactory.com</p> <p>www.uploading.com</p> <p>www.zoomshare.com</p> <p>www.webs.com</p>

			<ul style="list-style-type: none"> • Use of online test/online survey • Online simulated practicals www.easytestmaker.com http://www.emailmeform.com/		
9 28 Dec 2015	8.5.2 Programme Quality Management and Planning 8.5.4 Quality Assurance 9.2.8 Quality Management System Preparation of self accreditation report Requirements of Myanmar Engineering Council By -Myanmar Engineering Council Delivery mode-Lecture <u>References</u> Curriculum design for accreditation compliance http://www.filefactory.com/file/2vyvpy64k4w3/Accredition%20Manual.pdf Overall accreditation and	Morning tea and networking	<u>Preparing the documents to comply with Myanmar Engineering Council Requirement</u> Delivery mode-Lecture 25 min AUDIO http://yourlisten.com/KyawNaing/day-9-session-23 By Dr Kyaw Naing Sample www.highlightcomputer.com/assessment.htm Quality Assurance http://www.highlightcomputer.com/QualityAssurance.htm	Lunch	<u>Quality Assurance Compliance Documentation preparation workshop</u> Delivery mode-Tutorial 120 min The participants to prepare the quality assurance documents for the courses that they are teaching to comply with the requirements of Myanmar Engineering Council <u>Facilitator</u> Dr Kyaw Naing & Other trainers <u>Reference</u> Page 92 to 96 of www.highlightcomputer.com/OverallProgramGeneral.pdf

	<p>compliance practice http://www.filefactory.com/file/2vyvpy64k4w3/Accreditation%20Manual.pdf</p> <p>Preparation for self accreditation report http://www.filefactory.com/file/43x0yutpx31v/2%20SAR.pptx</p> <p>Engineering Accreditation Plan http://www.filefactory.com/file/2ynzo3fydckb/2015%20YTU%20First%20Workshop.pptx</p>				
10 29 Dec 2015	<p>Learning Environment By- Dr Kyaw Naing Delivery mode-Lecture 48min</p> <p>AUDIO http://yourlisten.com/Kyaw.Naing/day-10-session-1</p> <p>Reference ED 407 Learning Environment http://www.filefactory.com/file/31o7fw99ux7l/ED%20407%20Learning%20Environment.zip</p>	<p>Morning tea and networking</p>	<p>Change Management By- Daw Hla Myat Mon Delivery mode-Lecture 38min</p> <p>AUDIO http://yourlisten.com/Kyaw.Naing/day-10-session-23</p> <p>References University of Technology Master of Business Change Management References & experience in University of Technology Sydney</p>	<p>Lunch</p>	<p>Educational Leadership work experience knowledge By Invited Educational Leaders of Myanmar Education Delivery mode-Lecture</p> <p>Textbook ED 308 Change Management http://www.filefactory.com/file/4cxrjx86buot/n/9_Leadership_Change_Management.zip ED309 Educational Communication http://www.filefactory.com/file/6tbjy1omi7kz/n/1_Educational_Communication.zip ED 402 Educational Leadership http://www.filefactory.com/file/68h2rewfq7jx/ED%20402%20Educational%20Leadership.zip</p>

11 30 Dec 2015	<u>Preparation and finalisation of full documentations for Myanmar Engineering Council Accreditation</u> Delivery mode-Tutorial Facilitators Dr Kyaw Naing Prof Dr Charlie Than & other trainers of MEng C	Morning tea and networking	<u>Preparation and finalisation of full documentations for Myanmar Engineering Council Accreditation</u> Delivery mode-Tutorial Dr Kyaw Naing Prof Dr Charlie Than & other trainers of MEng C	Lunch	<u>Preparation and finalisation of full documentations for Myanmar Engineering Council Accreditation</u> Delivery mode-Tutorial Dr Kyaw Naing Prof Dr Charlie Than & other trainers of MEng C
12 31 Dec 2015	Mock Accreditation Sessions Practice	Morning tea and networking	Mock Accreditation Sessions Practice		Conclusion of the training.

Remark

Depending on the resources & facilities availabilities, Session 2 & 3 of Day 7 & 8 may need to be replaced with other activities

Diploma in Hazardous Safety Engineering Course (based on Professional Diploma but focused on beginner aspect (30 credits)

Course Objective

This course provides the information and knowledge related to safely working in hazardous areas, safe working knowledge, safety protection equipments, systems and methods, auditing the safety requirements of hazardous area engineering works such as mining, petroleum, chemical plants ,civil ,electrical and mechanical engineering

Pre-requisite

Nil

SAFE 101 General Safety Management(Diploma version of BAE 636E Hazardous Area Inspection)

(5 Credits)

-Contents- Management+ Industrial Management + Safety Lessons

SAFE102 Electrical Safety(Diploma version of BAE 632E Electrical Wiring in Hazardous Areas) (

(5 Credits)

-Contents EE101+102+ Electrical Wiring (IQY)+ + Electrical Safety Lessons

SAFE103 –Construction Safety (Diploma version of BAE 633E Hazardous Area Safety Audits)

(5 Credits)

-Contents- CE104+CE106 Building Construction+ Brick Laying+ Plumbing+ Safety Lessons

SAFE104 –Chemical Safety (Diploma version of BAE 637E Hazardous Chemical Management)

(5 Credits)

-Contents Year 12 Chemistry + Chemical Safety Lessons

SAFE105 –Environmental Safety (Diploma version of BAE 638E Environmental Engineering in Hazardous Areas)

(5 Credits)

Contents-BAE 523A Environmental Engineering+ Safety Lessons

SAFE106-Mechanical Safety(Diploma version of BAE 631E Maintenance & Repair Works in Hazardous Areas)

Content-Fitting & Machining + Safety Lessons

Location

IQY Technical College- No 307B Thura 2 Street, 9 Ward South Okkalapa

GGO Training Group -No 76A 4 th Floor Awwbar St, Kyauk-myaung, Tarmwe

ADVANCED COURSE (ONLINE)

Professional Diploma in Hazardous Safety Engineering

Course Objective

This course provides the information and knowledge related to safely working in hazardous areas, safe working knowledge, safety protection equipments, systems and methods, auditing the safety requirements of hazardous area engineering works such as mining, petroleum, chemical plants ,civil ,electrical and mechanical engineering

Pre-requisite

Professional Diploma/ Bachelor degree in Engineering (Any discipline)

Course Outline

It consists of 8 units with each 5 credits.

- BAE 631E Maintenance & Repair Works in Hazardous Areas
- BAE 632E Electrical Wiring in Hazardous Areas
- BAE 633E Hazardous Area Safety Audits
- BAE 634E Explosion Protection
- BAE 635E Testing in Hazardous Areas
- BAE 636E Hazardous Area Inspection
- BAE 637E Hazardous Chemical Management
- BAE 638E Environmental Engineering in Hazardous Areas

Professional Diploma in Architectural Engineering

(Guided study to complete Professional Diploma in Civil Engineering & Fees will be charge for that)

Stage 1- Complete Professional Diploma in Civil Engineering Program

Stage 2-Study the textbooks in the following site.

(Self study with presentation of study progress report to complete Professional Diploma in Architectural Engineering- Assessment Fees will be charged only after the student can submit the report for first textbook)

Year 4 BE (Architectural Engineering)

AE401 Architecture Theory

AE402 Architectural Design

AE404 Building Services

AE406 Sustainable Building Design

AE407 Architectural Drafting

Year 5 BE (Architectural Engineering)

AE501 Architectural Management

AE502 Interior Design

AE503 Green Building Design

AE504 Construction Contract

AE505 Solar Architecture & Smart House Design

AE506 Architecture Commercial Design

AE507 Urban Design

AE508 Landscape Design

Year 6 BE (Architectural Engineering)

AE601 Architectural Design& Ethics

AE602 Building Survey & Reporting

AE603 Building Control Systems

AE604 Sustainable Architecture

AE605 Details Design

AE606 Outdoor Structure Design

Study Method & Assessment

The students will need to read the reference materials provided in folder of each unit & write the report on their study for each unit.

The report should contain

- Summary of knowledge acquired in the unit
- Practical methods related to assessment, safe working, protection, technical data, equipments utilized in hazardous areas
- Practical applications in work place
- Specific applications in the area of your choice
- Reference guides etc

Each report should be Arial 11 fonts with 10 to 20 pages written in own words by using English..

Insert the appropriate diagrams & tables, formula and data related to information.

Professional Diploma in Chemical Engineering

(This course can only be studied by self study mode)

Fees will only be charged after submission of the study progress report for first textbook.

EM 11001	Engineering Mathematics I
EPh 11011	Engineering Physics I
ECh11011	Engineering Chemistry I
ME 11011	Basic Engineering Drawing
ChE 11001	Organic Chemistry

ME 22021	Machine Drawing
ME 22015	Engineering Mechanics
EcE 22012	Applied Electronic Engineering
Met 21071	Engineering Material
ChE 22013	Material and Energy Balances

BE(Chemical) Year 3

ME 31014	Strength of Materials
ChE 31012	Fluid Mechanics
ChE 31013	Chemical Engineering Thermodynamics
ChE 31022	Heat Transfer

BE(Chemical) Year 4

ME 41031	Design of Machine Elements
ChE41015	Quality Control
ChE41032	Mass Transfer
ChE41042	Particle Mechanics

BE(Chemical) Year 5

ME 51028	Industrial Management
ChE51025	Instrumentation for Chemical and Automatic Process Control
ChE 51052	Chemical Reaction Kinetics and Reactor Design
ChE 51007	Pollution Control, Maintenance and Industrial Safety
ChE 51062	Biochemical Engineering
ChE 51016	Chemical Process Design

BE(Chemical) Year 6

IT 61024 Computer Application Software

ChE 61016 Plant Design and Economics for Chemical Engineers

Study Method & Assessment

The students will need to read the reference materials provided in folder of each unit & write the report on their study for each unit.

The report should contain

- Summary of knowledge acquired in the unit
- Practical methods related to assessment, safe working, protection, technical data, equipments utilized in hazardous areas
- Practical applications in work place
- Specific applications in the area of your choice
- Reference guides etc

Each report should be Arial 11 fonts with 10 to 20 pages written in own words by using English..

Insert the appropriate diagrams & tables, formula and data related to information.

Advanced Diploma in Engineering (Engineering Practice)/ Professional Diploma in Engineering (Engineering Practice)

(Course 67110/67111)

Course Objective

This course aims to provide the necessary skills and knowledge for Diploma/ AGTI /BTech /BE Graduates of Government or Non Government Technical Colleges and Technological Universities of Myanmar to achieve the educational requirement to acquire Singapore Recognized Engineer (Fellowship)/ ASEAN Engineering Technologists/ Associate Engineering Technologists/ ASEAN Engineering Technician/ Associate Technicians through Membership of Singapore Institute of Engineering Technologists & further career progress toward ASEAN Engineer.

Course Outline

ENG601- Engineering Studies (60 pt- for submission of AGTI/BTech/BE)

ENG602-Engineering Applications (10 pt for submission of Curriculum Vitae for experienced engineers and Final Year Project Report for recent graduates)

ENG603-Engineering Practicals (10 pt- Which can be exempted for minimum of 5 Years Engineering Experience)

ENG604-Occupational Health & Safety (5 pt)

ENG605-Engineers Law (2 pt)

ENG606-Engineering Ethics (3 pt)

The candidates who complete ENG 601/602/603/604/605/606) can receive Advanced Diploma in Engineering (Engineering Practice) (Credit Points 90) which is academic requirement for MSIET (Member of Singapore Institute of Engineering Technologists)

ENG607 -Leadership & Management Skills for Engineers (4 pt)

ENG608-Business Skills for Engineers (6 pt)

ENG609-Financial Management Skills for Engineers (3 pt)

ENG610-Engineering Materials (4 pt)

ENG611-Renewable Energy Engineering (10 Pt)

ENG612-Risk Assessment Skills for Engineers (3 pt)

The candidates who complete ENG 601/602/603/604/605/606/607/608/609/610/611/612) can receive Professional Diploma in Engineering (Engineering Practice) (Credit Points 120) which is academic requirement for FSIET (Fellow of Singapore Institute of Engineering Technologists)

Enrol at the following link <http://www.emailmeform.com/builder/form/p915fvwS1a00971Hx9U6u10>

STUDY GUIDE

ENG601- Engineering Studies (60 pt- for submission of AGTI/BTech/BE)

ENG602-Engineering Applications (10 pt for submission of Curriculum Vitae for experienced engineers and Final Year Project Report for recent graduates)

ENG603-Engineering Practicals

Select any two practical courses, study and submit the assignment

RESOURCES DOWNLOAD LINK

<http://www.highlightcomputer.com/PracticalCourses.htm>

ENG604-Occupational Health & Safety (5 pt)

Mgt 208 Safety Management

www.mongroupsyzdney1.com/Mgt208SafetyManagement.pptx

ASSIGNMENT

Do the exercises in the following link.

www.mongroupsyzdney1.com/AdvancedDiplomainManagementStudyGuide.pdf

VIDEOS

E011+E017 Lesson 1 Hazards of electricity

<http://youtu.be/u7hZkdSDWxl>

E011+E017 Lesson 2 Low voltage safety

<http://youtu.be/O9C0S5yzpy4>

<http://youtu.be/DILqJf5qNEQ>

<http://youtu.be/8fjcP8MEffl>

E011+E017 Lesson 3 Safety procedure & methods

<http://youtu.be/DRdri7ZJUfw>

E011+E017 Lesson 4 Electrical installation safety

<http://youtu.be/2srZpukbAQw>

E011+E017 Lesson 5 Installation safety

<http://youtu.be/NVBghDWmeX0>

Power Line Accident Due to Ladder

<http://youtu.be/csV1qiMskSQ>

Electric Fire

<http://youtu.be/0DXz2Ny7w74>

<http://youtu.be/1n61ds40lt4>

-

ENG605-Engineers Law (2 pt)

Write the critical review of Myanmar Engineering Council Laws and Regulations by reflecting your own view. You can write 1 to 3 Pages.

RESOURCES DOWNLOAD LINK

<http://www.highlightcomputer.com/mengclaw.htm>

<http://www.myanmarengc.org/laws-regulation>

ENG606-Engineering Ethics (3 pt)

Study Engineers Ethics of Myanmar Engineering Council. Then do the research work on various media such as Newspaper/ Journals/ Internet to find out any engineering tasks which do not comply with public safety/ ware fare of public and wasting of public money/ breach of consumers' right etc and provide the critical review by referring the relevant clauses of Engineers Ethics.

RESOURCES DOWNLOAD LINK

www.highlightcomputer.com/MEngCEthics.pdf

|

ENG607 -Leadership & Management Skills for Engineers (4 pt)

VIDEOS

Mgt 101 Management

[Day 3 Part 3AMgt 101+501](#)

[Day 3 Part 3BMgt 101+501](#)

[Day 3 Part 3CMgt 101+501](#)

ICT 104 Mgt 104 Program Project +BAE 508 Project Management

Day 7 Part 2

[ICT104+Mgt104+BAE508 1](#)

[ICT104+Mgt104+BAE508 2](#)

[ICT104+Mgt104+BAE508 3](#)

[ICT104+Mgt104+BAE508 4](#)

[ICT104+Mgt104+BAE508 5](#)

[ICT104+Mgt104+BAE508 6](#)

-

Mgt 105 Quality Management

Day11 Part 2

[Mgt 5051](#)

[Mgt 5052](#)

[Mgt 5053](#)

[Mgt 5054](#)

[Mgt 5055](#)

-

LESSONS TO BE STUDIED & ASSIGNMENT

www.iqytechnicalcollege.com/MgtAdvDip.zip

studies all files JPG+MP3

Then answer Questions for MGT 104 (for MGT505+EE309 Lessons) (Page 3 to 5) and MGT105 (for MGT505 Lessons (Page 5 to 8) of www.highlightcomputer.com/DipManagementAssignment.pdf

OTHER REFERENCES

www.highlightcomputer.com/Day 3 Part2-Mgt 101 Management.zip

www.highlightcomputer.com/Day 7 Part 2-ICT 104 Mgt 104 Program Project BAE 508 ProjectManagement.zip

www.highlightcomputer.com/Day 11 Part 2-Mgt 105 Quality Management.zip

ENG608-Business Skills for Engineers (6 pt)

VIDEOS

Mgt 102 Performance Management

Day 12 Part 2

[Mgt 1021](#)

[Mgt 1022](#)

[Mgt 1023](#)

Mgt 201 Customer Service Management

<https://youtu.be/3I-eSQyy9x0>

Mgt 202 Change Management

<https://youtu.be/cF8e-GrmqIo>

<https://youtu.be/i-yXY9k71uc>

Mgt 203 Inventory & Budget Management

<https://youtu.be/UsUsrFLspxc>

Mgt 204 Continuous Improvement Management

<https://youtu.be/H8X9GP9nY7Q>

Mgt 205 Office Management

<https://youtu.be/yYacivydUa4>

<https://youtu.be/J6Nwoz8nnOY>

Mgt 206 Work-based Training Management

https://youtu.be/_t0SLtD3BY

<https://youtu.be/wgTrTLTS9KY>

Mgt 207 Business Letter Writing

<https://youtu.be/3c4mhgmBums>

Mgt 210 Professional Development Management

<https://youtu.be/bYrknSQDERA>

<https://youtu.be/wxUI2K390GY>

Mgt 211 Leadership

<https://youtu.be/cF8e-GrmqIo>

<https://youtu.be/i-yXY9k71uc>

Mgt 212 Preparing Portfolios

Mgt 213 Conflict Management

<https://youtu.be/caiSooLv5K0>

-

LESSONS TO BE STUDIED & ASSIGNMENT

Do any two units of the followings/ If you do all, you will get Advanced Diploma in Management as well.

Mgt 201 Customer Service Management

www.mongroupsydney1.com/Mgt201CustomerServiceManagement.zip

Mgt 202 Change Management Reader

www.mongroupsydney1.com/Mgt202ChangeManagementReader.pdf

Mgt 204 Continuous Improvement Management

www.mongroupsydney1.com/Mgt204ContinuousImprovementManagement.zip

Mgt 211 Leadership

www.mongroupsydney1.com/Mgt211Leadership.zip

Mgt 213 Conflict Management

www.mongroupsydney1.com/Mgt213ConflictManagement.zip

ASSIGNMENT

Do the exercises in the following link.

www.mongroupsydney1.com/AdvancedDiplomainManagementStudyGuide.pdf

ENG609-Financial Management Skills for Engineers (3 pt)

Certificate in Financial Management

www.highlightcomputer.com/Mgt106.zip

All lessons+ Exercises in the above link

ENG610-Engineering Materials (4 pt)

10 RE010-Engineering Materials

www.iqytechnicalcollege.com/RE010.zip

ASSIGNMENT

Page 48 to 61 of

www.highlightcomputer.com/BEGeneralREAssignment.pdf

ENG611-Renewable Energy Engineering (10 Pt)

Do any two units. If you do all, you will also receive Diploma in Renewable Energy Engineering.

RE001- Foundation Studies in Renewable Energy and Sustainability

www.iqytechnicalcollege.com/RE001.pdf

ASSIGNMENT

Page 5 to 16 All questions of

www.highlightcomputer.com/BEGeneralREAssignment.pdf

RE003- Solar and Thermal Energy Systems

www.iqytechnicalcollege.com/RE003.zip

ASSIGNMENT

Page 18 All questions of

www.highlightcomputer.com/BEGeneralREAssignment.pdf

RE004- Energy Storage Systems

www.iqytechnicalcollege.com/RE004.zip

ASSIGNMENT

Page 19 to 30 All questions of

www.highlightcomputer.com/BEGeneralREAssignment.pdf

RE005- Renewable Energy Resource Analysis & Wind Energy Conversion Systems

www.iqytechnicalcollege.com/RE005.zip

www.iqytechnicalcollege.com/RE006.zip

ASSIGNMENT

Page 31 to 46 All questions of

www.highlightcomputer.com/BEGeneralREAssignment.pdf

RE007- Energy System Efficiency

www.iqytechnicalcollege.com/RE007.zip

ASSIGNMENT

www.mongroupsydneyn1.com/RE007Exercises.pdf

VIDEOS

LECTURES (ENGLISH+MYANMAR EXPLANATIONS)

When you click the link, it will come out with Safety Mode ON
You need to sign in by using your e-mail account to lock off the Safety Mode.

RE001 Foundation Studies in Renewable Energy

Day 6 Part 1

[Foundation Studies in Renewable Energy 1\(Myanmar+English\)](#)

Topics-Climate change, solar energy, hydro energy

[Foundation Studies in Renewable Energy 2\(Myanmar+English\)](#)

Topics-Tidal Power, Design for climate

[Foundation Studies in Renewable Energy 3\(Myanmar+English\)](#)

Topics-Solar heating, Site selection, Embodied Energy

Day 6 Part 1

RE001- Foundation Studies in Renewable Energy and Sustainability /BAE 523A Environmental Engineering (Civil)

www.highlightcomputer.com/Day 6 Part 1 R001BAE523-Foundation Studies in Renewable Energy and Sustainability.zip

Day 6 Part 1

RE 001 Foundation Studies in RE

Slide 1,2,4,8,12,14,16,20,22,23,24,27,29,34,44,50,52,66,69,77,81,82,86,88,93,97,99,114,115,117,118,119,138,142,145,146,161,164,192

RE005 Renewable Energy Resources Analysis

Day 9 Part 1

[Renewable Energy Resources Analysis 1 \(Myanmar+English\)](#)

Topics-Hydro Power Plants

[Renewable Energy Resources Analysis 2 \(Myanmar+English\)](#)

Topics-Water Turbines

[Renewable Energy Resources Analysis 3 \(Myanmar+English\)](#)

Topics-Bio-Energy, Thermo Chemical

[Renewable Energy Resources Analysis 4 \(Myanmar+English\)](#)

Topics-Bio-Chemical Processing, Geo-thermal Energy, Tidal Energy

[Renewable Energy Resources Analysis 5 \(Myanmar+English\)](#)

Topics-Tidal Wave Generators, Connection to Electricity Grid

Day 9 Part 1

RE005- Renewable Energy Resource Analysis

RE005-RE Resources Analysis (6).pdf (5.42MB)

[http://www.filefactory.com/file/6ij4aag9kodh/n/RE005-RE_Resources_Analysis_\(6\).pdf](http://www.filefactory.com/file/6ij4aag9kodh/n/RE005-RE_Resources_Analysis_(6).pdf)

[www.highlightcomputer.com/Day 9 Part 1 RE005-Renewable Energy Resource Analysis.zip](http://www.highlightcomputer.com/Day_9_Part_1_RE005-Renewable_Energy_Resource_Analysis.zip)

Day 9 Part 1

RE005 Renewable Energy Resources Analysis

RE004-4

Hydro power Slide 2,3,5,6

Hydro plants 7,8

Turbine blades 11,14,15,18,22

Bio energy

29,31,32,33,34,

Bio fuel 36,37,41

Oil extraction 44,45

Thermo chemical processing 46

RE005-5

Bio chemical processing 7,9,10,11, Ethanol 13,14

Geothermal 24,28,32,36,40,42,46,50,51

RE005-6

Tidal energy Physics 1,3,5,6,7,8,9,11,14,17,20,21,23,24,25,27,28,29,30,31,34,36,37,43,44,47,50,52,53

RE005-7

Hydrogen Fuel

1,2,3

Fuel cell 13,14

RE003- Solar and Thermal Energy Systems

Day 7 Part 1

[Solar and Thermal Energy Systems 1 \(Myanmar+English\)](#)

Topics-Solar Energy & Thermal Conversion

[Solar and Thermal Energy Systems 2 \(Myanmar+English\)](#)

Topics-Heat Exchanger, District Heating, Combined Heat & Power

[Solar and Thermal Energy Systems 3 \(Myanmar+English\)](#)

Topics-Domestic Solar Heating & Cooling, Earth Heat Reservoir

Day 7Part 1

RE003 Solar & Thermal Energy System

Slide

1,2,5,6,9,11,14,15,20,21,24,25,31,33,35,37,39,42,44,46,47,53,57,58,61,63,69,71,73,77,100,117,118,122,123,126,130,137,138,148,151,152,154

Solar energy+ Measurement of irradiation Page 1 to 15

Solar water heating system + Collectors Page 20 to 39

Solar water heater + Heat exchanger Page 42 to 63

Combined hot water system Page 100 to 148

Dielectric +Heating system + Earth Reservoir Page 151 to 154

Day 7 Part 1

RE003- Solar and Thermal Energy Systems

[www.highlightcomputer.com/Day 7 Part 1 RE003- Solar and Thermal Energy Systems.zip](http://www.highlightcomputer.com/Day_7_Part_1_RE003-Solar_and_Thermal_Energy_Systems.zip)

RE004- Energy Storage Systems

Day 8 Part 1

[Energy Storage Systems \(Myanmar+English\)](#)

Topics-Principle, Power Grid Energy Storage Devices, Redox

Battery, Hydrogen Cell Battery

Day 8 Part 1

RE004- Energy Storage Systems+ RE006- Wind Energy Conversion Systems

www.highlightcomputer.com/Day 8 Part 1A-RE004- Energy Storage Systems.zip

Day 8 Part 1A

RE004 Energy Storage System

Storage& density Page 1,4,6

Page 7-System, Page 8 Storage management Page 10

Frequency regulation Page 12 Voltage Page 16

Distribution network energy storage Page 18

Energy storage retailer Page 23, 24, 25, 29, 30, 31,32,35,37,38,41,42,43,44

www.highlightcomputer.com/Day 8 Part 1B-RE006- Wind Energy Conversion Systems.zip

RE006 Wind Energy Conversion System

Wind Energy Conversion System 1(Myanmar+English)

Topics-Energy& Power in Wind, World Wind Energy

Wind Energy Conversion System 2 (Myanmar+English)

Topics-Wind Turbine, Aero-dynamic forces, Electricity Generated by Wind Turbine

Day 8 Part 1B

RE006 Wind Energy System

Page 1 Wind of the world

Page 2 Energy & Power in the wind Page 3,4

Wind machines Page 6,7,8,9

Page 14 Aero dynamic force Page 19,20 Aerofoil

Page 23 Relative wind velocity

Page 24 Wind turbine power 26,27,28

Page 32 Wind energy calculation Page 36

RE002- Grid Connected Photovoltaic Power Systems-Electrical

Day 14Part 1

Grid Connected Photovoltaic Power Systems 1(Myanmar+English)

Topics-Sun Geometry, Solar Cell Connection

Grid Connected Photovoltaic Power Systems 2(Myanmar+English)

Topics-Solar Electrical System Installation

Grid Connected Photovoltaic Power Systems 3(Myanmar+English)

Topics-Power Output from solar cell, Grid Connection

Grid Connected Photovoltaic Power Systems 4(Myanmar+English)

Topics-Solar Installation Inspection

Grid Connected Photovoltaic Power Systems 5(Myanmar+English)

Topics-Lightning & Surge Protection, Metering

Day 14 Part 1

RE002- Grid Connected Photovoltaic Power Systems-Electrical

www.highlightcomputer.com/Day 14-Part 1-RE002- Grid Connected Photovoltaic Power Systems-Electrical.zip

Day 14 Part 1

RE002 Grid Connected PV system

RE 002 Part 1

Sun geometry 1

Daily irradiance 2, 9

Power output calculation 29, 31, 36

Pen circuit voltage 37,40,41,42,44

Inverter diagram 45,46,48,52,53

Grid protection 55, 56, 57, 58, 59

Lightening surge protection 62, 63

Net metering 64, 67, 68, Inspection& testing

73 PV array location 81, 82, 89, 90

PV power system 92,93,

Typical arrays 97,98,100,102,105,

Grid connected inverter 134,135,136,137,139,146

RE002 Part 2

Economy 16,20,23

RE007- Energy System Efficiency

Day 16 Part 1

[Energy System Efficiency 1 \(Myanmar+English\)](#)

Topics-Unit Energy, Energy used by day

[Energy System Efficiency 2 \(Myanmar+English\)](#)

Topics-Comparison of energy usage, Solar Farming

[Energy System Efficiency 3 \(Myanmar+English\)](#)

Topics-Regeneration, Combined Heat& Power

[Energy System Efficiency 4 \(Myanmar+English\)](#)

Topics-Heat Transfer, Energy Efficient Building Construction

[Energy System Efficiency 5\(Myanmar+English\)](#)

Topics-Energy Survey, Building Survey, Lighting Control

Day 16 Part 1

**RE007- Energy System Efficiency
(Electrical)(Mechanical)**

www.highlightcomputer.com/Day_16Part_1-RE007- Energy System Efficiency.zip

Day 16 Part 1

RE007 Energy Efficiency

Page 1,3,4,5,6 Energy Use Page 11

Water use Page 16

Comparison Page 19,20

Solar farming Page 21,25,26,27,30

Bulb efficiency Page 35,40,45,46

Regenerative braking Page 48, 49, 53

CHP Page 55, 57, 58

Efficient electricity use Page 61, 64, 66

Car Page 68,69,70,

Ventilation Page 76, 78, 86

Energy efficient office Page 92,93,94,95,110

Power system in energy efficiency Page 111

Survey Page 115,118,119,120

Building survey

Page 122, 123

ENG612-Risk Assessment Skills for Engineers (3 pt)

VIDEOS

Mgt 208 Safety Management

<https://youtu.be/rPhf8Ngkd7w>

Mgt 209 Risk Management

<https://youtu.be/QawB3xDt2dc>

LESSONS TO BE STUDIED & ASSIGNMENT

Mgt 208 Safety Management

www.mongroupsytdney1.com/Mgt208SafetyManagement.pptx

Mgt 209 Risk Management

www.mongroupsytdney1.com/Mgt209RiskManagement.zip

ASSIGNMENT

Do the exercises in the following link.

Professional Diploma in Electrical Engineering (Electrical Power & Electronics)

(Prof Dip EPEC Engg)

www.highlightcomputer.com/profdipepec1.htm

Enrolment Link

<http://www.emailmeform.com/builder/form/xE6omX3577z595GCB60>

Objective

This course provides Electrical Power Knowledge to Electronics Engineers and Electronics Knowledge to Electrical Power Engineers.

Features of the course

It integrates Australian Electrical Engineering Training System Units (UEE07/UEE011)

It focuses on practical application aspects and the entire course is taught in English language by referring classroom lessons and videos that are used in Australian Electrical Engineering teaching classes.

Credit Points

It needs 120 credit points to complete this course. The credit transfer arrangements is as follows.

For Electrical Power Graduates

AGTI(EP)/BTech(EP)/BE(EP)----Credit Transfer of 60 points

Complete the following 20 subjects (Each 3 Credit points) Total= 60 Points

Total Credit Points = 120 Points

List of Subjects	Australian Electrical Units
EPEC601 Electronics Power Supply	UEENEEH011B
EPEC602 Digital Electronics	UEENEEH012B
EPEC603 Amplifiers	UEENEEH013B
EPEC604 Single Phase Electronics Power Control	UEENEEH025B
EPEC605 Three Phases Electronics Power Control	UEENEEH026B
EPEC606 Analogue Electronics	UEENEEH045B
EPEC607 Process Control Systems	UEENEEI006B
EPEC608 Sinewaves & Solar Inverters	UEENEEK035C
EPEC609 Building Services Electrical & Mechanical Systems	UEENEEK041B
EPEC610 Electrical Workshops	Electrical Workshops (UEENEEE001/002/005/007/008)
EPEC611 Electrical Wiring	UEENEEG003/004/005/007/033/063
EPEC612 Electrical Risk Assessment	UEENEEE011C+E117B
EPEC613 Control Programming	UEENEEED150/151B
EPEC614 Programmable Logic Controllers	UEENEEI150/151
EPEC615 Electronics Workshop	UEENEEH102B
EPEC626 Advanced Power System	UEENEEG037/38/39
BAE 604 Telecommunication Engineering	
BAE 602 Computer Network	
BAE 603 Software Engineering	
RE007 Energy System Efficiency	

For Electronics Graduates

AGTI(EC)BTech(Ec)/BE(EC)----Credit Transfer of 60 points

Complete the following 20 subjects (Each 3 Credit points) Total= 60 Points

Total Credit Points = 120 Points

List of Subjects	Australian Electrical Units
EPEC616 Electromagnetism & Basic Machines	UEENEEG001/002/E029B
EPEC610 Electrical Workshops	Electrical Workshops (UEENEEE001/002/005/007/008)
EPEC611 Electrical Wiring	UEENEEG003/004/005/007/033/063
EPEC612 Electrical Risk Assessment	UEENEEE011C+E117B
EPEC617 Electrical Distribution	UEENEEG015B(AA)
EPEC618 Power System Protection	UEENEEG015B(AE)
EPEC619 Power System Operation	UEENEEG015B(AG)
EPEC620 Power Panel Design &	UEENEEA010
EPEC621 Three Phase Power Circuits & Fault Calculations	UEENEEG049B
EPEC622 Power Transformer	UEENEEG040B
EPEC623 Transmission Line	UEENEEG042B
EPEC624 Electrical Machines	UEENEEG043/44/45
EPEC625 Solar Electrical System	UEENEEK025B
RE007 <u>Energy System Efficiency</u>	
RE003- Solar and Thermal Energy Systems	
RE004- Energy Storage Systems	
EPEC626 Advanced Power System	UEENEEG037/38/39
<u>BAE 404 Engineering Materials & Thermodynamics</u>	
<u>BAE 506 Power System Stability & Protection</u>	
RE010-Engineering Materials	

Practicals (Trade Level)

Electrical Wiring

<http://www.highlightcomputer.com/PracticalCourses.htm#j>

Electrical Machine Winding

<http://www.highlightcomputer.com/PracticalCourses.htm#k>

Power Wiring

<http://www.highlightcomputer.com/PracticalCourses.htm#l>

Basic Electronics Communication

<http://www.highlightcomputer.com/PracticalCourses.htm#m>

Practicals (Professional Level)

<http://www.filefactory.com/file/cf88135/n/Practical.zip>

Enrolment Link

<http://www.emailmeform.com/builder/form/xE6omX3577z595GCB60>

Professional Diploma in Information Technology (Computer Networking)

Bachelor of Applied Science (Computer Networking) (63347)

Professional Diploma in ICT Engineering (Network)

Bachelor of Engineering (Computer Networking) (63348)

Professional Diploma in Information Technology (Computer Networking)

Bachelor of Applied Science (Computer Networking)

Pre-requisite- Advanced Diploma in Information Technology (Network)
(Experience based) (60 Credits)

Self study

Professional 1-Core units (Each 5 credit points)

ICTN401-Computer Systems Architecture

ICTN402-Computer Networking

ICTN403-Cisco Networking

ICTN404- Home Networking

ICTN405- System and Network Administration

ICTN406- Wireless Communications and Networking

Professional 2-Elective units (Each 5 credit points)

Any six units to complete

ICTN501-Enterprise System Administration

ICTN502- Mobile and Wireless Network Security

ICTN503- Cisco Certified Entry Networking

ICTN504- Wireless Security

ICTN505- UNIX System Administration

ICTN506- Advanced Network Programming

ICTN507- Windows Server Administration

ICTN508- Enterprise Network Testing

Total 120 Credits

Professional Diploma in ICT Engineering (Network)

Bachelor of Engineering (Computer Networking)

Completion of Professional Diploma in IT (Computer Networking) (120 credits)+completion of the following units

BAE 401 Advanced Engineering Mathematics (3 credits)

BAE 402 Calculus (3 credits)

RE012a-Electrical Engineering Part 1(3 credits)

RE014-Electronics Control (3 credits)

BAE 604 Telecommunication Engineering (3 credits)

BAE 605 Engineering Management (3 credits)

BAE 608 Professional Engineer Engineering Competency Demonstration Report (2 credits)

Total 140 Credits

www.iqytechnicalcollege.com/ProfDipICTEnggBENetwork.pdf

Professional Diploma in Mechanical Engineering and Management

www.iqytechnicalcollege.com/ProfDipMechEnggMgtOutline.pdf

This program is mixture of Mechanical Engineering and Management. The graduates can either work as Mechanical Engineer or Project Manager

Advanced Diploma in Mechanical Engineering and Management

Advanced Diploma in Mechanical Engineering

30 Credit Points in Engineering units Each 2 Points

Maths 101 Engineering Mathematics

ME101 Applied Mathematics

ME106 Electrical Circuits

ME201 Introduction to Fluid Mechanic

ME103 Engineering Mechanics

ME107+ME102 Thermodynamics and Heat Transfer

ME108 Principle of Engines (Self Study)

ME203 Control Engineering

ME205 Manufacturing Processes and Materials (Self Study)

ME634 Pnuematics (Self Study)

ME334 Air-conditioning and Refrigeration (Self Study)

ME434 Mechatronics and Robotics (Self Study)

EE102+ME105 Electrical Workshop

ME305 Corrosion Protection (Self Study)

CE111 Drawing

30 Credit Points in Management units

Advanced Diploma in Management

Mgt 101 Management (4 pt)

Mgt 102 Performance Management (4 pt)

Mgt 103 Operation Management +Mgt 107 Industrial Risk Assessment
(4 pt)

ICT 104 Mgt 104 Program Project +BAE 508 Project Management

(6 pt)

Mgt 105 Quality Management (4 pt)

ICT 107 Business Information Systems (4 pt)

Mgt 108 Computer Application in Management (4 pt)

THS graduates will need to do self study in some mechanical units .

Advanced Diploma in Mechanical Engineering and Management will be completed

Professional Diploma in Mechanical Engineering and Management

PART 1-Engineering (9 points)

Professional Diploma in Engineering (Year 3) (9 points for Engineering)

Complete BAE units by personal attendance and RE units by self study

1 BAE 401 Advanced Engineering Mathematics (2 pt)

2 BAE 402 Calculus (2 pt)

3 BAE 403 Engineering Mechanics (2 pt)

4 BAE 404 Engineering Materials & Thermodynamics (3 pt)

PART 2-Management (21 points)

Complete any 7 units at each 3 points

Complete

<http://www.iqytechnicalcollege.com/advdipmgt.htm>

Mgt 201 Customer Service Management

Mgt 202 Change Management

Mgt 203 Inventory & Budget Management

Mgt 204 Continuous Improvement Management

Mgt 205 Office Management

Mgt 206 Work-based Training Management

Mgt 207 Business Letter Writing
Mgt 208 Safety Management
Mgt 209 Risk Management
Mgt 210 Professional Development Management
Mgt 211 Leadership
Mgt 212 Preparing Portfolios
Mgt 213 Conflict Management

Professional Diploma in Mechanical Engineering & Management (Year 4)
(30 points)

Professional Diploma in Mechanical Engineering

Complete 10 units at 30 Points

RE011a Civil and Mechanical Engineering (3 pt)
BAE606 Building Services Electrical and Mechanical Engineering(3 pt)
BAE314 Power Generation (3 pt)
BAE423 Fluid Mechanics(3 pt)
BAE512 Building Services Water Supply System (3 pt)
RE014 Electronics Control (3 pt)
BAE601 Computer Programming (3 pt)
BAE605 Management (3 pt)
BAE508 Project Management (3 pt)
BAE608 Engineering Competency Report (3 pt)

Professional Diploma in Mechanical Engineering and Management will be completed

Professional Diploma in Mechanical Engineering and Management

www.iqytechnicalcollege.com/ProfDipMechEnggMgtOutline.pdf

This program is mixture of Mechanical Engineering and Management. The graduates can either work as Mechanical Engineer or Project Manager

Advanced Diploma in Mechanical Engineering and Management

Advanced Diploma in Mechanical Engineering

30 Credit Points in Engineering units Each 2 Points

Maths 101 Engineering Mathematics

ME101 Applied Mathematics

ME106 Electrical Circuits

ME201 Introduction to Fluid Mechanic

ME103 Engineering Mechanics

ME107+ME102 Thermodynamics and Heat Transfer

ME108 Principle of Engines (Self Study)

ME203 Control Engineering

ME205 Manufacturing Processes and Materials (Self Study)

ME634 Pnuematics (Self Study)

ME334 Air-conditioning and Refrigeration (Self Study)

ME434 Mechatronics and Robotics (Self Study)

EE102+ME105 Electrical Workshop

ME305 Corrosion Protection (Self Study)

CE111 Drawing

30 Credit Points in Management units

Advanced Diploma in Management

Mgt 101 Management (4 pt)

Mgt 102 Performance Management (4 pt)

Mgt 103 Operation Management +Mgt 107 Industrial Risk Assessment
(4 pt)

ICT 104 Mgt 104 Program Project +BAE 508 Project Management

(6 pt)

Mgt 105 Quality Management (4 pt)

ICT 107 Business Information Systems (4 pt)

Mgt 108 Computer Application in Management (4 pt)

THS graduates will need to do self study in some mechanical units .

Advanced Diploma in Mechanical Engineering and Management will be completed

Professional Diploma in Mechanical Engineering and Management

PART 1-Engineering (9 points)

Professional Diploma in Engineering (Year 3) (9 points for Engineering)

Complete BAE units by personal attendance and RE units by self study

1 BAE 401 Advanced Engineering Mathematics (2 pt)

2 BAE 402 Calculus (2 pt)

3 BAE 403 Engineering Mechanics (2 pt)

4 BAE 404 Engineering Materials & Thermodynamics (3 pt)

PART 2-Management (21 points)

Complete any 7 units at each 3 points

Complete

<http://www.iqytechnicalcollege.com/advdipmgt.htm>

Mgt 201 Customer Service Management

Mgt 202 Change Management

Mgt 203 Inventory & Budget Management

Mgt 204 Continuous Improvement Management

Mgt 205 Office Management

Mgt 206 Work-based Training Management

Mgt 207 Business Letter Writing
Mgt 208 Safety Management
Mgt 209 Risk Management
Mgt 210 Professional Development Management
Mgt 211 Leadership
Mgt 212 Preparing Portfolios
Mgt 213 Conflict Management

Professional Diploma in Mechanical Engineering & Management (Year 4)
(30 points)

Professional Diploma in Mechanical Engineering

Complete 10 units at 30 Points

RE011a Civil and Mechanical Engineering (3 pt)
BAE606 Building Services Electrical and Mechanical Engineering(3 pt)
BAE314 Power Generation (3 pt)
BAE423 Fluid Mechanics(3 pt)
BAE512 Building Services Water Supply System (3 pt)
RE014 Electronics Control (3 pt)
BAE601 Computer Programming (3 pt)
BAE605 Management (3 pt)
BAE508 Project Management (3 pt)
BAE608 Engineering Competency Report (3 pt)

Professional Diploma in Mechanical Engineering and Management will be completed

Professional Diploma in Metallurgical & Materials Engineering

Stage 1- Complete Advanced Diploma in Mechanical Engineering & Year 3 Common course of Professional Diploma in Mechanical Engineering Studies

(Guided study to complete Advanced Diploma in Mechanical Engineering PLUS up to Year 3 of Professional Diploma)

Stage 2-Study the following textbooks

Year 4 BE (Metallurgy & Materials)

(Self study with presentation of study progress report to complete Professional Diploma in Metallurgical & Materials Engineering- Assessment Fees will be charged only after the student can submit the report for first textbook)

Met 401 Mechanical Properties of Metals
Met 402 Metallurgical Engineering Alloys
Met 403 Metallurgy Principle
Met 404 Metallurgy
Met 405 Powdered Metallurgy

Year 5 BE (Metallurgy & Materials) common to BE (Minerals Extraction & Explosion Protection)

Met501 Mechanical Estimating
Met502 Mechanical Properties of Metals

Met503 Metallurgy

Met504 Engineered Metals

Met505 Metallurgical Alloys

Met507 Stress Assessment in Metallurgy

Met508 Metallic Materials

Year 6 BE (Metallurgy & Materials) common to BE (Minerals Extraction & Explosion Protection)

Met601 Metallurgical Processing

Met602 Machinery Failure Analysis

Met603 Materials Selection in Mechanical Design

Met604 Strain Testing

Met605 Applied Metallurgy

Met606 Metals Extraction

Additional units

Met608 Corrosion Prevention

Study Method & Assessment

The students will need to read the reference materials provided in folder of each unit & write the report on their study for each unit.

The report should contain

- Summary of knowledge acquired in the unit
- Practical methods related to assessment, safe working, protection, technical data, equipments utilized in hazardous areas
- Practical applications in work place
- Specific applications in the area of your choice
- Reference guides etc

Each report should be Arial 11 fonts with 10 to 20 pages written in own words by using English..

Insert the appropriate diagrams & tables, formula and data related to information.

Professional Diploma in Mineral Extraction & Explosion Protection Engineering (Combined course of Mining & Petroleum)

Stage 1- Complete Advanced Diploma in Mechanical Engineering & Year 3 Common course of Professional Diploma in Mechanical Engineering Studies

(Guided study to complete Advanced Diploma in Mechanical Engineering PLUS up to Year 3 of Professional Diploma)

Stage 2-Study the following textbooks

(Self study with presentation of study progress report to complete Professional Diploma in Metallurgical & Materials Engineering- Assessment Fees will be charged only after the student can submit the report for first textbook)

Year 3 BE (Mineral Extraction& Explosion Protection)

PE 21015	Properties of Reservoir Rocks and Fluids
PE 21002	Drilling Fluids
Geol 21002	Petroleum Geology
ChE 31013	Chemical Engg. Thermodynamics
PE 31012	Drilling Engg.
PE 31016	Formation Evaluation
PE 31013	Production Engineering

Year 4 BE (Mineral Extraction& Explosion Protection)

PE 41014	Natural Gas Engg.
PE 41022	Applied Drilling Engg.
PE 41023	Well Completion and Servicing
PE 41035	Applied Reservoir Engg.

Year 4 BE (Minerals Extraction & Explosion Protection) common to
BE (Metallurgy & Materials)

Min501 Mechanical Estimating/ Met501 Mechanical Estimating

Min502 Mechanical Properties of Metals/ Met502 Mechanical Properties of
Metals

Min503 Metallurgy/ Met503 Metallurgy

Min504 Engineered Metals/ Met504 Engineered Metals

Min505 Metallurgical Alloys/ Met505 Metallurgical Alloys

Min507 Stress Assessment in Metallurgy/ Met507 Stress Assessment in
Metallurgy

Min508 Metallic Materials/ Met508 Metallic Materials

Year 5 BE (Minerals Extraction & Explosion Protection) common to
BE (Metallurgy & Materials)

Min601 Metallurgical Processing/ Met601 Metallurgical Processing

Min602 Machineries Failure Analysis/ Met602 Machineries Failure Analysis

Min603 Materials Selection in Mechanical Design/ Met603 Materials Selection
in Mechanical Design

Min604 Strain Testing/ Met604 Strain Testing

Min605 Applied Metallurgy/ Met605 Applied Metallurgy

Min606 Metals Extraction/ Met606 Metals Extraction

Additional Unit

Met607 Explosive Engineering

ADDITIONAL STUDY

Year 6 BE (Minerals Extraction & Explosion Protection)

Explosion Protection

Lessons+ References

Professional Diploma in Hazardous Safety Engineering

www.highlightcomputer.com/profdiphazardous.htm

Professional Diploma in Hazardous Safety Engineering

Course Objective

This course provides the information and knowledge related to safely working in hazardous areas, safe working knowledge, safety protection equipments, systems and methods, auditing the safety requirements of hazardous area engineering works such as mining, petroleum, chemical plants ,civil ,electrical and mechanical engineering

Course Outline

It consists of 8 units with each 5 credits.

BAE 631E Maintenance & Repair Works in Hazardous Areas

BAE 632E Electrical Wiring in Hazardous Areas

BAE 633E Hazardous Area Safety Audits

BAE 634 Explosion Protection

BAE 635E Testing in Hazardous Areas

BAE 636 E Hazardous Area Inspection

BAE 637E Hazardous Chemical Management

BAE 638E Environmental Engineering in Hazardous Areas

Study Method & Assessment

The students will need to read the reference materials provided in folder of each unit & write the report on their study for each unit.

The report should contain

- Summary of knowledge acquired in the unit
- Practical methods related to assessment, safe working, protection, technical data, equipments utilized in hazardous areas
- Practical applications in work place
- Specific applications in the area of your choice
- Reference guides etc

Each report should be Arial 11 fonts with 10 to 20 pages written in own words by using English..

Insert the appropriate diagrams & tables, formula and data related to information.

Objective of the course

This Professional Diploma in Technical Teaching (Training, Assessment & Learning Management) is designed as Teachers Education Professional Development for teachers in Government Technical Colleges, Technological Universities and other Vocational Education and Training Institutions in Myanmar to upgrade their skills and knowledge in training and assessment, curriculum design and development, management of technical training institutions, adult and vocational education and training, assessment validation and current accreditation rules and requirements of Myanmar Engineering Council as well as current training and assessment practices of overseas industrialized countries.

Learning Outcomes

After completion of the levels of the training programs, the students should be able to

- Understand adult learning principles in technical education and training contexts
- Apply the skills in training, assessment, course development, curriculum development, learning management and management of technical training institutions.
- Understand the accreditation requirements of Myanmar Engineering Council in accredited engineer, technologist and technician education & prepare for the compliance processes.
- Understand the technology, science and mathematics teaching & educational pedagogies principles of outcome based education and effectively utilize them in the workplace
- Provide effective work-based learning & career development for the working people in industries and apply the various ways of assessing the competences

Components of the course

- Educational theories, educational technology, teaching and learning, teaching and measuring.
- Lesson planning, interpreting curriculums, class room management, instruction and assessment design, training principle, competency based training and assessment integrated the competencies of Australian Training and Assessment (TAE40110) course
- Management of educational establishment in line with the accreditation requirements of Myanmar Engineering Council by customizing the competencies in Australian Vocational Education and Training Diploma (TAE50111) to be relevant to the requirements of Myanmar Vocational Education and Training.
- Postgraduate level educational knowledge related to Learning Technology, Technology in classrooms, educational leadership, leadership and change management, computer supported learning and distance education,
- Teaching practicum preparation at different levels of training

Study Areas & Levels of Training

Level 1-Educational Theories , Teaching Pedagogies & Training and Assessment Practice

Part (1) Educational Theoretical Subjects

- ED 101 Theory of Education
- ED 102 Education Technology
- ED 103 Teaching Practice
- ED 104 Lesson Planning
- ED 105 Principle of Learning
- ED 106 Interpreting Curriculums
- ED 107 Teaching & Learning
- ED 201 Class Room Management & Teaching

Part (2A) Basic Teaching Practicum Preparation

ED101P-Teaching Support

ED102P- Application of Information Technology in School /Vocational Education

ED103P- Classroom Management

ED104P- Teaching Portfolio

ED105P- Inclusive Teaching

ED106P- Subject Area Knowledge

ED107P- Theory of Education, Educational Technology & Teaching Practice

ED107PA-Theory of Education

ED107PB-Education Technology

ED107PC-Teaching Practice

ED107PD-Lesson Planning

ED108P- Curriculum Study , Teaching & Learning

ED108PA-Principle of Learning

ED108PB-Interpreting Curriculums

ED108PC-Teaching & Learning

Part (2B) Training &Assessment Practice (Certificate IV in Training & Assessment TAE40110)

- ED111P Learning Program Design & Development Practice
(TAEDES401A Design and develop learning programs)
- ED112P Assessing the needs of trainees
(TAEDES402A Use training packages and accredited courses to meet client needs Delivery)
- ED113P Group based learning
(TAEDEL401A Plan, organise and deliver group-based learning)
- ED114P Workplace Assessment
(TAEDEL402A Plan, organise and facilitate learning in the workplace Assessment)
- ED115P Assessment Planning
(TAEASS401B Plan assessment activities and processes)
- ED116P Competency Assessment
(TAEASS402B Assess competence)
- ED117P Assessment Validation
(TAEASS403B Participate in assessment validation)
- ED118P Work skills Instruction
(TAEDEL301A Provide work skill instruction)
- ED119P Educational Presentation
(BSBCM401A Make a presentation)(TAEASS301B Contribute to assessment

Level 2-Adult Vocational Education

Part (1) Adult Vocational Education Theoretical Subjects

- ED 401 Adult Learning Technology
- ED 202 Curriculum & Design
- ED 205 Teaching & Measuring
- ED 206 Designing Instructions & Assessment
- ED 405 Training Principle

Part (2) Vocational Education & Training Practice (Diploma in Vocational Education & Training TAE50111)

- ED201P-Advanced Assessment Practice
(TAEASS501A: Provide advanced assessment practice)

- ED202P-Assessment Development
(TAEASS502B: Design and develop assessment tools)
- ED203P-Training Facilitation
(TAEDEL502A: Provide advanced facilitation practice)
- ED204P-Learning Strategies
(TAEDES501A: Design and develop learning strategies)
- ED205P- Language Literacy & Numeracy
(TAEELN401A: Address adult language, literacy and numeracy skills)
- ED206P-Continuing Professional Development
(TAEPPD501A: Maintain and enhance professional practice)
- ED207P Learning Resources Design & Development
(TAEDES502A: Design and develop learning resources)
- ED208P Organizational Training Needs Analysis
(TAETAS501B: Undertake organisational training needs analysis)
- ED 404 Educational Research (Part 1)
(TAERES501A: Apply research to training and assessment practice)
- ED209P- Training Program Evaluation
(TAEDES505A: Evaluate a training program)

Level 3-Training Authorities Accreditation Compliances

Part (1) Educational Leadership Subjects

- ED 402 Educational Leadership
- ED 301 Educational Policy (Myanmar Engineering Council Accreditation Requirements)
- ED 308 Change Management
- ED309 Educational Communication
- ED 407 Learning Environment
- ED311 Outcome based Education

Part (2) Myanmar Engineering Council's Accreditation Compliance Practice

- ED301P- Curriculum design for accreditation compliance
- ED302P-Overall accreditation and compliance practice

Level 4-Specialized Teaching Areas

- ED 308 Computer Supported Learning & Distance Education
- ED 304 Maths Teaching
- ED 305 Science Teaching
- ED 306 Technology Teaching
- ED 404 Educational Research (Part 2)
- ED310 Learning Technology I & II
- ED312 Technology in Classrooms

RESOURCES

ASSESSMENT FOR THE SUBJECTS IN PART 1 OF THE LEVELS

The students will have to write 20 pages study report for each of the subjects outlined in the Part 1 of any level .

The report needs to include

- Book review- Review on each chapter of the book highlighting the key concepts, points, key theory & practical application concepts
- Own idea on how to apply those concepts in real practical applications.
- Examples of curriculum designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book

The book references for the subjects can be downloaded from the following links by entering the given password.

Password- to be given

ASSESSMENT FOR THE SUBJECTS IN PART 2 OF THE LEVELS

Follow the specific assessment instruction provided for the units in Part 2 of the levels

Study Areas & Levels of Training

Level 1-Educational Theories , Teaching Pedagogies & Training and Assessment Practice

Part (1) Educational Theoretical Subjects

The students will have to write 20 pages study report for each of the subjects outlined in the Part 1 of any level .

The report needs to include

- Book review- Review on each chapter of the book highlighting the key concepts, points, key theory & practical application concepts
- Own idea on how to apply those concepts in real practical applications.
- Examples of curriculum designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book

The book references for the subjects can be downloaded from the following links by entering the given password.

Password- to be given

- ED 101 Theory of Education
<http://www.filefactory.com/file/4fuby1dpqs9f/ED%20101%20Theory%20of%20Education.zip>
- ED 102 Education Technology
<http://www.filefactory.com/file/1ghlzng7e0n3/ED%20102%20Education%20Technology.zip>
- ED 103 Teaching Practice
<http://www.filefactory.com/file/1o732n0j46mf/ED%20103%20Teaching%20Practice.zip>
- ED 104 Lesson Planning
<http://www.filefactory.com/file/4m30ym0ez37r/ED%20104%20Lesson%20Planning.zip>
- ED 105 Principle of Learning
<http://www.filefactory.com/file/7660l6kjr8sx/ED%20105%20Principle%20of%20Learning.zip>
- ED 106 Interpreting Curriculums
<http://www.filefactory.com/file/1h141zxbv8z/ED%20106%20Interpreting%20Curriculums.zip>
- ED 107 Teaching & Learning
<http://www.filefactory.com/file/6u5o455lyqj7/ED%20107%20Teaching%20%26amp%3B%20Learning.zip>
- ED 201 Class Room Management & Teaching
<http://www.filefactory.com/file/48gvqykksqiz/ED%20201%20Class%20Room%20Mgt%20%26amp%3B%20Teaching.zip>

[Part \(2A\) Basic Teaching Practicum Preparation](#)

Follow the specific assessment instruction provided for the units in Part 2 of the levels

ED101P-Teaching Support

ED102P- Application of Information Technology in School /Vocational Education

ED103P- Classroom Management

ED104P- Teaching Portfolio

ED105P- Inclusive Teaching

ED106P- Subject Area Knowledge

[Certificate in Teaching Support+ Diploma in Teaching Practice+ Bachelor of Teaching+ Bachelor of Education \(School & Vocational\)](http://www.filefactory.com/file/4a5o50idxqvr/Diploma%20in%20Teaching%20Practice.pdf)
<http://www.filefactory.com/file/4a5o50idxqvr/Diploma%20in%20Teaching%20Practice.pdf>

ED107P- Theory of Education, Educational Technology & Teaching Practice

ED107PA-Theory of Education

ED107PB-Education Technology

ED107PC-Teaching Practice

ED107PD-Lesson Planning

ED108P- Curriculum Study , Teaching & Learning

ED108PA-Principle of Learning

ED108PB-Interpreting Curriculums

ED108PC-Teaching & Learning

ED 107 Lesson Slide 1 to 20 Mod.pdf (4.71MB)

http://www.filefactory.com/file/1w4faybri0p9/n/ED_107_Lesson_Slide_1_to_20_Mod.pdf

Download now by clicking the above link!

ED107 Lesson Slide 21 to 40.pdf (3.06MB)

http://www.filefactory.com/file/1ae111n3e1gl/n/ED107_Lesson_Slide_21_to_40.pdf

[Download now!](#)

ED107 Lesson Slide 41 to 60.pdf (3.27MB)

http://www.filefactory.com/file/4slgwynziwxz/n/ED107_Lesson_Slide_41_to_60.pdf

[Download now!](#)

ED107 Lesson Slide 61 to 80.pdf (3.22MB)

http://www.filefactory.com/file/1txrj08z5329/n/ED107_Lesson_Slide_61_to_80.pdf

[Download now!](#)

ED107 Lesson Slide 81 to 100.pdf (2.97MB)

http://www.filefactory.com/file/15p9vb74rljl/n/ED107_Lesson_Slide_81_to_100.pdf

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ED107 Lesson Slide 101 to 120.pdf (3.07MB)

http://www.filefactory.com/file/lxvcg3369i9/n/ED107_Lesson_Slide_101_to_120.pdf

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ED107 Lesson Slide 121 to 140.pdf (2.69MB)

http://www.filefactory.com/file/6h7bu8dsq7q7/n/ED107_Lesson_Slide_121_to_140.pdf

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ED107 Lesson Slide 141 to 160.pdf (2.57MB)

http://www.filefactory.com/file/6pxq45urnfyn/n/ED107_Lesson_Slide_141_to_160.pdf

[Download now!](#)

ED107 Lesson Slide 161 to 180.pdf (2.99MB)

http://www.filefactory.com/file/6srxl6iwl2o3/n/ED107_Lesson_Slide_161_to_180.pdf

[Download now!](#)

ED107 Lesson Slide 181 to 200.pdf (2.76MB)

http://www.filefactory.com/file/10d9wna6jr4r/n/ED107_Lesson_Slide_181_to_200.pdf

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ED107 Lesson Slide 201 to 220.pdf (2.86MB)

http://www.filefactory.com/file/3o4wea6j5uof/n/ED107_Lesson_Slide_201_to_220.pdf

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ED107 Lesson Slide 221 to 240.pdf (3.27MB)

http://www.filefactory.com/file/32bcquqzs1ll/n/ED107_Lesson_Slide_221_to_240.pdf

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ED107 Lesson Slide 241 to 260.pdf (2.83MB)

http://www.filefactory.com/file/p0y76lkvkjd/n/ED107_Lesson_Slide_241_to_260.pdf

[Download now!](#)

ED107 Lesson Slide 261 to 280.pdf (2.84MB)

http://www.filefactory.com/file/2kdx8ty4uj1d/n/ED107_Lesson_Slide_261_to_280.pdf

[Download now!](#)

ED107 Lesson Slide 281 to 304.pdf (3.78MB)

http://www.filefactory.com/file/1y06uzz0iaq1/n/ED107_Lesson_Slide_281_to_304.pdf

[Download now!](#)

ED 107 Exercises.pdf (2.3MB)

http://www.filefactory.com/file/1isf2cao4gxx/n/ED_107_Exercises.pdf

[Download now!](#)

ED 108 Curriculum Study , Teaching & Learning Lessons**ED108 Lesson Slide 1 to 20.pdf (2.37MB)**

http://www.filefactory.com/file/6r5rg8bucgkx/n/ED108_Lesson_Slide_1_to_20.pdf

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ED108 Lesson Slide 21 to 40.pdf (2.69MB)

http://www.filefactory.com/file/1wxu981xeel/n/ED108_Lesson_Slide_21_to_40.pdf

[Download now!](http://www.filefactory.com/file/1wxu981xeel/n/ED108_Lesson_Slide_21_to_40.pdf)

ED108 Lesson Slide 41 to 60.pdf (2.27MB)

http://www.filefactory.com/file/71av1by59uit/n/ED108_Lesson_Slide_41_to_60.pdf

[Download now!](http://www.filefactory.com/file/71av1by59uit/n/ED108_Lesson_Slide_41_to_60.pdf)

ED108 Lesson Slide 61 to 80.pdf (2.12MB)

http://www.filefactory.com/file/4qghmt89g2zr/n/ED108_Lesson_Slide_61_to_80.pdf

[Download now!](http://www.filefactory.com/file/4qghmt89g2zr/n/ED108_Lesson_Slide_61_to_80.pdf)

ED108 Lesson Slide 81 to 100.pdf (2.22MB)

http://www.filefactory.com/file/11jmlg5ax3e1/n/ED108_Lesson_Slide_81_to_100.pdf

[Download now!](http://www.filefactory.com/file/11jmlg5ax3e1/n/ED108_Lesson_Slide_81_to_100.pdf)

ED108 Lesson Slide 101 to 120.pdf (2.57MB)

http://www.filefactory.com/file/67air98a9wpz/n/ED108_Lesson_Slide_101_to_120.pdf

[Download now!](http://www.filefactory.com/file/67air98a9wpz/n/ED108_Lesson_Slide_101_to_120.pdf)

ED108 Lesson Slide 121 to 140.pdf (2.32MB)

http://www.filefactory.com/file/2fw5kwlelb03/n/ED108_Lesson_Slide_121_to_140.pdf

[Download now!](http://www.filefactory.com/file/2fw5kwlelb03/n/ED108_Lesson_Slide_121_to_140.pdf)

ED108 Lesson Slide 141 to 168.pdf (2.7MB)

http://www.filefactory.com/file/5foiol6m9rwx/n/ED108_Lesson_Slide_141_to_168.pdf

[Download now!](http://www.filefactory.com/file/5foiol6m9rwx/n/ED108_Lesson_Slide_141_to_168.pdf)

ED 108 Exercises.pdf (1.22MB)

http://www.filefactory.com/file/5o110j6pg6dz/n/ED_108_Exercises.pdf

[Download now!](http://www.filefactory.com/file/5o110j6pg6dz/n/ED_108_Exercises.pdf)

[Part \(2B\) Training & Assessment Practice \(Certificate IV in Training & Assessment TAE40110\)](#)

Follow the specific assessment instruction provided for the units in Part 2 of the levels

- ED111P Learning Program Design & Development Practice
(TAEDES401A Design and develop learning programs)
- ED112P Assessing the needs of trainees
(TAEDES402A Use training packages and accredited courses to meet client needs Delivery)
- ED113P Group based learning
(TAEDEL401A Plan, organise and deliver group-based learning)
- ED114P Workplace Assessment
(TAEDEL402A Plan, organise and facilitate learning in the workplace Assessment)

- ED115P Assessment Planning
(TAEASS401B Plan assessment activities and processes)
- ED116P Competency Assessment
(TAEASS402B Assess competence)
- ED117P Assessment Validation
(TAEASS403B Participate in assessment validation)
- ED118P Work skills Instruction
(TAEDEL301A Provide work skill instruction)
- ED119P Educational Presentation
(BSBCMM401A Make a presentation)(TAEASS301B Contribute to assessment

RESOURCES FOR ABOVE UNITS

Working in Vocational Education & Assessment

http://www.filefactory.com/file/136bwooflstr/n/3_Assessment_Working_in_VET_zip

Preparing vocational teaching portfolios

http://www.filefactory.com/file/2l9iu8ptfk0t/n/8_Guides_for_preparing_VET_portfolios_zip

Learning , Facilitation & Teaching in Vocational Education and Training

http://www.filefactory.com/file/3b1d9kduz515/n/4_Learning_Facilitation_Teaching_in_VET_zip

Work-based Learning & Assessment

http://www.filefactory.com/file/5pef2h8dhav9/n/10_Workbased_Learning_amp_Assessment_2_zip

Learning Environment

http://www.filefactory.com/file/5l12qij9s67j/n/12_Learning_Environment_zip

Level 2-Adult Vocational Education

Part (1) Adult Vocational Education Theoretical Subjects

The students will have to write 20 pages study report for each of the subjects outlined in the Part 1 of any level .

The report needs to include

- Book review- Review on each chapter of the book highlighting the key concepts, points, key theory & practical application concepts

- Own idea on how to apply those concepts in real practical applications.
- Examples of curriculum designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book

The book references for the subjects can be downloaded from the following links by entering the given password.

Password- to be given

- ED 401 Adult Learning Technology
<http://www.filefactory.com/file/68y4bd94ianb/ED%20401%20Adult%20Learning%20Technology.zip>
- ED 202 Curriculum & Design
<http://www.filefactory.com/file/1jotv5d428j1/ED%20202%20Curriculum%20%26amp%3B%20Design.zip>
- ED 205 Teaching & Measuring
<http://www.filefactory.com/file/4eu01ck2awl/ED%20205%20Teaching%20%26amp%3B%20Measuring.zip>
- ED 206 Designing Instructions & Assessment
<http://www.filefactory.com/file/4dnh3r8wsd9t/ED%20206%20Designing%20Instructions%20%26amp%3B%20Assessment.zip>
- ED 405 Training Principle
<http://www.filefactory.com/file/5qupttpxznn/ED%20405%20Training%20Principle.zip>

Part (2) Vocational Education & Training Practice (Diploma in Vocational Education & Training TAE50111)

Follow the specific assessment instruction provided for the units in Part 2 of the levels

- ED201P-Advanced Assessment Practice
(TAEASS501A: Provide advanced assessment practice)
- ED202P-Assessment Development
(TAEASS502B: Design and develop assessment tools)
- ED203P-Training Facilitation
(TAEDEL502A: Provide advanced facilitation practice)
- ED204P-Learning Strategies

(TAEDES501A: Design and develop learning strategies)

- ED205P- Language Literacy & Numeracy

(TAEELLN401A: Address adult language, literacy and numeracy skills)

- ED206P-Continuing Professional Development
(TAEPPDD501A: Maintain and enhance professional practice)

- ED207P Learning Resources Design & Development

(TAEDES502A: Design and develop learning resources)

- ED208P Organizational Training Needs Analysis

(TAETAS501B: Undertake organisational training needs analysis)

- ED 404 Educational Research (Part 1)

(TAERES501A: Apply research to training and assessment practice)

- ED209P- Training Program Evaluation

(TAEDES505A: Evaluate a training program)

Vocational Education & Training Practice (Diploma in Vocational Education & Training TAE50111) Portfolio Guide

<http://www.filefactory.com/file/rh0eb9n4sfn/TAE50111PortfolioGuide.pdf>

SAMPLE PORTFOLIOS

Please note that the reference & example documents contained in the link of the portfolio can not be downloaded from the internet, they can only be available in DVDs that can be sent upon request.

The document is password protected. Password is needed and can be given upon request.

http://www.filefactory.com/file/3i8k0ls9peup/TAE50110_Diploma%20RPL%20Submission%20U%20Kyaw%20Naing.pdf

Level 3-Training Authorities Accreditation Compliances

Part (1) Educational Leadership Subjects

The students will have to write 20 pages study report for each of the subjects outlined in the Part 1 of any level .

The report needs to include

- Book review- Review on each chapter of the book highlighting the key concepts, points, key theory & practical application concepts
- Own idea on how to apply those concepts in real practical applications.

- Examples of curriculum designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book

The book references for the subjects can be downloaded from the following links by entering the given password.

Password- to be given

- ED 402 Educational Leadership
<http://www.filefactory.com/file/68h2rewfq7jx/ED%20402%20Educational%20Leadership.zip>
- ED 301 Educational Policy (Myanmar Engineering Council Accreditation Requirements)

Registration Rules

<http://www.filefactory.com/file/yzxtm3a7z2b/06.%20Licensing%20%26amp%3B%20Registration%20Rules%20-%20Engineering%20-%20Myanmar%20-%20CCS%2068%20reduced.pdf>

Myanmar Assessment Statement

<http://www.filefactory.com/file/9adocfm4877/06.%20Myanmar%20Assessment%20Statement%20-%20%28ACPECC%2014%29.pdf>

Graduates Attributes

<http://www.filefactory.com/file/4r5z3i9uxw5p/1%20Graduate%20Attributes%20%26amp%3B%20Terminology.pptx>

Qualification Policy

<http://www.filefactory.com/file/69mj6zk64zj5/Policy%20%20Qualifications%20Policy%20POL11%20v4.PDF>

Regulations

<http://www.filefactory.com/file/65cxuftzoxmh/Regulations.pdf>

Engineers Australia References

www.highlightcomputer.com/engineersaustraliareferences.htm

- ED 308 Change Management
http://www.filefactory.com/file/4cxrjx86buot/n/9_Leadership_Change_Management_zip
- ED309 Educational Communication
http://www.filefactory.com/file/6tbjy1omi7kz/n/1_Educational_Communication_zip
- ED 407 Learning Environment
<http://www.filefactory.com/file/31o7fw99ux7l/ED%20407%20Learning%20Environment.zip>

- ED311 Outcome based Education

<http://www.filefactory.com/file/6sq2l3hmac3b/Final%20OBE%20Training%20at%20Myanmar%20July%202014.pptx>

[Part \(2\) Myanmar Engineering Council's Accreditation Compliance Practice](#)

- ED301P- Curriculum design for accreditation compliance

<http://www.filefactory.com/file/2vyvpy64k4w3/Accreditation%20Manual.pdf>

[Example](#)

www.highlightcomputer.com/OverallProgramGeneral.pdf

- ED302P-Overall accreditation and compliance practice

<http://www.filefactory.com/file/2vyvpy64k4w3/Accreditation%20Manual.pdf>

<http://www.highlightcomputer.com/Accreditation.htm>

Preparation for self accreditation report

<http://www.filefactory.com/file/43x0yutpx31v/2%20SAR.pptx>

Engineering Accreditation Plan

<http://www.filefactory.com/file/2ynzo3fydckb/2015%20YTU%20First%20Workshop.pptx>

ASSIGNMENT

Prepare the portfolios for your section/ department to comply with Myanmar Engineering Council's Accreditation Requirements.

Level 4-Specialized Teaching Areas

The students will have to write 20 pages study report for each of the subjects outlined in the Part 1 of any level .

The report needs to include

- Book review- Review on each chapter of the book highlighting the key concepts, points, key theory & practical application concepts
- Own idea on how to apply those concepts in real practical applications.
- Examples of curriculum designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book

The book references for the subjects can be downloaded from the following links by entering the given password.

Password- to be given

- ED 308 Computer Supported Learning & Distance Education
<http://www.filefactory.com/file/4mdzrx52kl45/ED%20308%20Computer%20Supported%20Learning%20%26amp%3B%20Distance%20Education.zip>
- ED 304 Maths Teaching
<http://www.filefactory.com/file/60ngdjnse60x/ED%20304%20Maths%20Teaching.zip>
- ED 305 Science Teaching
<http://www.filefactory.com/file/4hqlf7r16xyf/ED%20305%20Science%20Teaching.zip>
- ED 306 Technology Teaching
<http://www.filefactory.com/file/3crwj4pdyt7b/ED%20306%20Techology%20Teaching.zip>
- ED 404 Educational Research (Part 2)
<http://www.filefactory.com/file/42pl9c8013ab/ED%20404%20Educational%20Research.zip>
- ED310 Learning Technology I & II
http://www.filefactory.com/file/3bsfz0ehba7z/n/5_Learning_Technology_1.zip
http://www.filefactory.com/file/cvavvr9gonr/n/6_Learning_Technology_2.zip
- ED312 Technology in Classrooms
http://www.filefactory.com/file/7jicivu232opx/n/7_Technology_in_classroom.zip

Professional Diploma in Hazardous Safety Engineering

Course Objective

This course provides the information and knowledge related to safely working in hazardous areas, safe working knowledge, safety protection equipments, systems and methods, auditing the safety requirements of hazardous area engineering works such as mining, petroleum, chemical plants ,civil ,electrical and mechanical engineering

Pre-requisite

Professional Diploma/ Bachelor degree in Engineering (Any discipline)

Course Outline

It consists of 8 units with each 5 credits.

BAE 631E Maintenance & Repair Works in Hazardous Areas

BAE 632E Electrical Wiring in Hazardous Areas

BAE 633E Hazardous Area Safety Audits

BAE 634E Explosion Protection

BAE 635E Testing in Hazardous Areas

BAE 636E Hazardous Area Inspection

BAE 637E Hazardous Chemical Management

BAE 638E Environmental Engineering in Hazardous Areas

Study Method & Assessment

The students will need to read the reference materials provided in folder of each unit & write the report on their study for each unit.

The report should contain

- Summary of knowledge acquired in the unit
- Practical methods related to assessment, safe working, protection, technical data, equipments utilized in hazardous areas
- Practical applications in work place
- Specific applications in the area of your choice
- Reference guides etc

Each report should be Arial 11 fonts with 10 to 20 pages written in own words by using English..

Insert the appropriate diagrams & tables, formula and data related to information.

Detailed Topics

BAE 631 Maintenance & Repair Works in Hazardous Areas

UEENEEM019A Attend to breakdowns in hazardous areas - coal mining

KS01-EM01

9A

Explosion protection, certification and techniques

Evidence shall show an understanding of Ex certification schemes and techniques to accepted Standards to an extent indicated by the following aspects:

T1 Explosion-protection equipment — Ex certification schemes encompassing:

- ☐ Purpose and scope of certification schemes.
- ☐ Schemes accepted in Australia and New Zealand.
- ☐ Schemes commonly used in countries other than Australia and New Zealand.
- ☐ Processes for having equipment certified under the acceptable Ex schemes — scheme procedures; quality management requirements; conformance testing and assessment; and requirements for ongoing certification.

T2 Flameproof (Ex 'd') explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the flameproof (Ex 'd') technique. (Examples of characteristics and design features are flame paths, integrity under pressure, pressure piling, and enclosure entries).
- ☐ Typical situations where the flameproof explosion-protection technique is used;
- ☐ Actions or conditions that would void the protection provided the Flameproof technique;
- ☐ The use of Standards in determining the requirements to which the installation of flameproof explosion-protected apparatus shall comply.

T3 Increased safety (Ex 'e') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Increased safety (Ex 'e') technique (Examples of characteristics and design features are temperature rise, maximum power dissipation, protection devices, certified components, creepage and clearance distances, absence of sparking contacts and enclosure entries).

☐ Typical situations where the Increased safety explosion-protection technique is used;

Actions or conditions that would void the protection provided the Increased safety technique;

☐ The use of Standards in determining the requirements to which the installation of Increased safety explosion-protected apparatus shall comply.

T4 Non-sparking (Ex 'n') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Non-sparking (Ex 'n') technique (Examples of characteristics and design features are creepage and clearance distances and restricted breathing).

☐ Typical situations where the Non-sparking explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Non-sparking technique; and

☐ The use of Standards in determining the requirements to which the installation of Non-sparking explosion-protected apparatus shall comply.

T5 Intrinsic safety (Ex 'i') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Intrinsic safety (Ex 'i') technique (Examples of characteristics and design features are field devices, cables, safe area devices, earthing, entity

versus integrated system concept, simple devices and interface devices and their parameters, segregation, infallible components, current and voltage limiting, creepage and clearance distances).

☐ Typical situations where the Intrinsic safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Intrinsic safety;

☐ The use of Standards in determining the requirements to which the installation of Intrinsic safety explosion-protected apparatus shall comply.

T6 Pressurization (Ex 'p') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Pressurization (Ex 'p') technique (Examples of characteristics and design features are exclusion and dilution; purge periods, controlled shut down, monitoring and sources of internal release).

☐ Typical situations where the pressurization explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the pressurization technique;

☐ The use of Standards in determining the requirements to which the installation of pressurization explosion-protected apparatus shall comply.

T7 Enclosures for dusts (Ex 'tD') - explosion-protection technique encompassing:

The purpose and characteristics of the design features of apparatus and circuits protected by the techniques for dusts (Examples of characteristics and design features are for enclosures; pressurization; encapsulation; and intrinsic safety).

☐ Typical situations where the each dust explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the each dust technique;

☐ The use of Standards in determining the requirements to which the installation of dust explosion-protected apparatus shall comply.

T8 Common characteristics of explosion-protection techniques encompassing:

☐ The purposes of 'temperature classification' and 'gas grouping/apparatus grouping'.

☐ Compliance plate markings.

☐ Limitations of non-metallic or specific alloy enclosures.

☐ The purpose of conformity and certification/approval for equipment used in hazardous areas.

☐ Environmental conditions that may impact on explosion-protection techniques.

☐ The principles and applications of other and mixed explosion-protection techniques (Other techniques include encapsulation Ex 'm'; oil-immersion Ex 'o'; powder-filling Ex 'q', ventilation Ex 'v' and special protection Ex 's').

☐ Features and purpose of conduit seals and cable termination devices designed for use in hazardous areas (These include conduit seals and barrier and compression glands for cables with or without armouring, screening and/or drain wires)

UEENEEM020A Attend to breakdowns in hazardous areas - gas

Atmospheres

KS01-EM020

A

Explosion protection, certification and techniques

Evidence shall show an understanding of Ex certification schemes and techniques to accepted Standards to an extent indicated by the following aspects:

T1 Explosion-protection equipment — Ex certification schemes encompassing:

☐ Purpose and scope of certification schemes.

☐ Schemes accepted in Australia and New Zealand.

☐ Schemes commonly used in countries other than Australia and New Zealand.

☐ Processes for having equipment certified under the acceptable Ex schemes — scheme procedures; quality management requirements; conformance testing and assessment; and requirements for ongoing certification.

T2 Flameproof (Ex 'd') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the flameproof (Ex 'd') technique. (Examples of characteristics and design features are flame paths, integrity under pressure, pressure piling, and enclosure entries).

☐ Typical situations where the flameproof explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Flameproof technique;

☐ The use of Standards in determining the requirements to which the installation of flameproof explosion-protected apparatus shall comply.

T3 Increased safety (Ex 'e') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Increased safety (Ex 'e') technique (Examples of characteristics and design features are temperature rise, maximum power dissipation, protection devices, certified components, creepage and clearance distances, absence of sparking contacts and enclosure entries).

☐ Typical situations where the Increased safety explosion-protection technique is used;

Actions or conditions that would void the protection provided the Increased safety technique;

☐ The use of Standards in determining the requirements to which the installation of Increased safety explosion-protected apparatus shall comply.

T4 Non-sparking (Ex 'n') explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Non-sparking (Ex 'n') technique (Examples of characteristics and design features are creepage and clearance distances and restricted breathing).
- ☐ Typical situations where the Non-sparking explosion-protection technique is used;
- ☐ Actions or conditions that would void the protection provided the Non-sparking technique; and
- ☐ The use of Standards in determining the requirements to which the installation of Non-sparking explosion-protected apparatus shall comply.

T5 Intrinsic safety (Ex 'i') explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Intrinsic safety (Ex 'i') technique (Examples of characteristics and design features are field devices, cables, safe area devices, earthing, entity versus integrated system concept, simple devices and interface devices and their parameters, segregation, infallible components, current and voltage limiting, creepage and clearance distances).
- ☐ Typical situations where the Intrinsic safety explosion-protection technique is used;
- ☐ Actions or conditions that would void the protection provided the Intrinsic safety;
- ☐ The use of Standards in determining the requirements to which the installation of Intrinsic safety explosion-protected apparatus shall comply.

T6 Pressurization (Ex 'p') explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Pressurization (Ex 'p') technique (Examples of characteristics

and design features are exclusion and dilution; purge periods, controlled shut down, monitoring and sources of internal release).

☐ Typical situations where the pressurization explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the pressurization technique;

☐ The use of Standards in determining the requirements to which the installation of pressurization explosion-protected apparatus shall comply.

T7 Enclosures for dusts (Ex 'tD') - explosion-protection technique encompassing:

The purpose and characteristics of the design features of apparatus and circuits protected by the techniques for dusts (Examples of characteristics and design features are for enclosures; pressurization; encapsulation; and intrinsic safety).

☐ Typical situations where the each dust explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the each dust technique;

☐ The use of Standards in determining the requirements to which the installation of dust explosion-protected apparatus shall comply.

T8 Common characteristics of explosion-protection techniques encompassing:

☐ The purposes of 'temperature classification' and 'gas grouping/apparatus grouping'.

☐ Compliance plate markings.

☐ Limitations of non-metallic or specific alloy enclosures.

☐ The purpose of conformity and certification/approval for equipment used in hazardous areas.

☐ Environmental conditions that may impact on explosion-protection techniques.

☐ The principles and applications of other and mixed explosion-protection techniques (Other techniques include encapsulation Ex 'm'; oil-immersion Ex

‘o’; powder-filling Ex ‘q’, ventilation Ex ‘v’ and special protection Ex ‘s’).

☐ Features and purpose of conduit seals and cable termination devices designed for use in hazardous areas (These include conduit seals and barrier and compression glands for cables with or without armouring, screening and/or drain wires).

UEENEEM021A Attend to breakdowns in hazardous areas - dust

Atmospheres

KS01-EM021

A

Explosion protection, certification and techniques

Evidence shall show an understanding of Ex certification schemes and techniques to accepted Standards to an extent indicated by the following aspects:

T1 Explosion-protection equipment — Ex certification schemes encompassing:

☐ Purpose and scope of certification schemes.

☐ Schemes accepted in Australia and New Zealand.

☐ Schemes commonly used in countries other than Australia and New Zealand.

☐ Processes for having equipment certified under the acceptable Ex schemes — scheme procedures; quality management requirements; conformance testing and assessment; and requirements for ongoing certification.

T2 Flameproof (Ex ‘d’) explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the flameproof (Ex ‘d’) technique. (Examples of characteristics and design features are flame paths, integrity under pressure, pressure piling, and enclosure entries).

☐ Typical situations where the flameproof explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Flameproof

technique;

☐ The use of Standards in determining the requirements to which the installation of flameproof explosion-protected apparatus shall comply.

T3 Increased safety (Ex 'e') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Increased safety (Ex 'e') technique (Examples of characteristics and design features are temperature rise, maximum power dissipation, protection devices, certified components, creepage and clearance distances, absence of sparking contacts and enclosure entries).

☐ Typical situations where the Increased safety explosion-protection technique is used;

Actions or conditions that would void the protection provided the Increased safety technique;

☐ The use of Standards in determining the requirements to which the installation of Increased safety explosion-protected apparatus shall comply.

T4 Non-sparking (Ex 'n') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Non-sparking (Ex 'n') technique (Examples of characteristics and design features are creepage and clearance distances and restricted breathing).

☐ Typical situations where the Non-sparking explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Non-sparking technique; and

☐ The use of Standards in determining the requirements to which the installation of Non-sparking explosion-protected apparatus shall comply.

T5 Intrinsic safety (Ex 'i') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Intrinsic safety (Ex 'i') technique (Examples of characteristics and design features are field devices, cables, safe area devices, earthing, entity versus integrated system concept, simple devices and interface devices and their parameters, segregation, infallible components, current and voltage limiting, creepage and clearance distances).

☐ Typical situations where the Intrinsic safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Intrinsic safety;

☐ The use of Standards in determining the requirements to which the installation of Intrinsic safety explosion-protected apparatus shall comply.

T6 Pressurization (Ex 'p') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Pressurization (Ex 'p') technique (Examples of characteristics and design features are exclusion and dilution; purge periods, controlled shut down, monitoring and sources of internal release).

☐ Typical situations where the pressurization explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the pressurization technique;

☐ The use of Standards in determining the requirements to which the installation of pressurization explosion-protected apparatus shall comply.

T7 Enclosures for dusts (Ex 'tD') - explosion-protection technique encompassing:

The purpose and characteristics of the design features of apparatus and circuits protected by the techniques for dusts (Examples of characteristics and design features are for enclosures; pressurization; encapsulation; and intrinsic safety).

- ☐ Typical situations where the each dust explosion-protection technique is used;
- ☐ Actions or conditions that would void the protection provided the each dust technique;
- ☐ The use of Standards in determining the requirements to which the installation of dust explosion-protected apparatus shall comply.

T8 Common characteristics of explosion-protection techniques encompassing:

- ☐ The purposes of 'temperature classification' and 'gas grouping/apparatus grouping'.
- ☐ Compliance plate markings.
- ☐ Limitations of non-metallic or specific alloy enclosures.
- ☐ The purpose of conformity and certification/approval for equipment used in hazardous areas.
- ☐ Environmental conditions that may impact on explosion-protection techniques.
- ☐ The principles and applications of other and mixed explosion-protection techniques (Other techniques include encapsulation Ex 'm'; oil-immersion Ex 'o'; powder-filling Ex 'q', ventilation Ex 'v' and special protection Ex 's').
- ☐ Features and purpose of conduit seals and cable termination devices designed for use in hazardous areas (These include conduit seals and barrier and compression glands for cables with or without armouring, screening and/or drain wires).

UEENEEM022A Attend to breakdowns in hazardous areas – pressurisation

KS01-EM02

2A

Explosion protection, certification and techniques

Evidence shall show an understanding of Ex certification schemes and techniques to accepted Standards to an extent indicated by the following aspects:

T1 Explosion-protection equipment — Ex certification schemes encompassing:

☐ Purpose and scope of certification schemes.

☐ Schemes accepted in Australia and New Zealand.

☐ Schemes commonly used in countries other than Australia and New Zealand.

☐ Processes for having equipment certified under the acceptable Ex schemes — scheme procedures; quality management requirements; conformance testing and assessment; and requirements for ongoing certification.

T2 Flameproof (Ex 'd') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the flameproof (Ex 'd') technique. (Examples of characteristics and design features are flame paths, integrity under pressure, pressure piling, and enclosure entries).

☐ Typical situations where the flameproof explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Flameproof technique;

☐ The use of Standards in determining the requirements to which the installation of flameproof explosion-protected apparatus shall comply.

T3 Increased safety (Ex 'e') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Increased safety (Ex 'e') technique (Examples of characteristics and design features are temperature rise, maximum power dissipation, protection devices, certified components, creepage and clearance distances, absence of sparking contacts and enclosure entries).

☐ Typical situations where the Increased safety explosion-protection technique is used;

Actions or conditions that would void the protection provided the Increased safety technique;

☐ The use of Standards in determining the requirements to which the installation of Increased safety explosion-protected apparatus shall comply.

T4 Non-sparking (Ex 'n') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Non-sparking (Ex 'n') technique (Examples of characteristics and design features are creepage and clearance distances and restricted breathing).

☐ Typical situations where the Non-sparking explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Non-sparking technique; and

☐ The use of Standards in determining the requirements to which the installation of Non-sparking explosion-protected apparatus shall comply.

T5 Intrinsic safety (Ex 'i') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Intrinsic safety (Ex 'i') technique (Examples of characteristics and design features are field devices, cables, safe area devices, earthing, entity versus integrated system concept, simple devices and interface devices and their parameters, segregation, infallible components, current and voltage limiting, creepage and clearance distances).

☐ Typical situations where the Intrinsic safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Intrinsic safety;

☐ The use of Standards in determining the requirements to which the installation of Intrinsic safety explosion-protected apparatus shall comply.

T6 Pressurization (Ex 'p') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Pressurization (Ex 'p') technique (Examples of characteristics and design features are exclusion and dilution; purge periods, controlled shut down, monitoring and sources of internal release).

☐ Typical situations where the pressurization explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the pressurization technique;

☐ The use of Standards in determining the requirements to which the installation of pressurization explosion-protected apparatus shall comply.

T7 Enclosures for dusts (Ex 'tD') - explosion-protection technique encompassing:

The purpose and characteristics of the design features of apparatus and circuits protected by the techniques for dusts (Examples of characteristics and design features are for enclosures; pressurization; encapsulation; and intrinsic safety).

☐ Typical situations where the each dust explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the each dust technique;

☐ The use of Standards in determining the requirements to which the installation of dust explosion-protected apparatus shall comply.

T8 Common characteristics of explosion-protection techniques encompassing:

☐ The purposes of 'temperature classification' and 'gas grouping/apparatus grouping'.

☐ Compliance plate markings.

☐ Limitations of non-metallic or specific alloy enclosures.

☐ The purpose of conformity and certification/approval for equipment used in hazardous areas.

☐ Environmental conditions that may impact on explosion-protection techniques.

☐ The principles and applications of other and mixed explosion-protection techniques (Other techniques include encapsulation Ex 'm'; oil-immersion Ex 'o'; powder-filling Ex 'q', ventilation Ex 'v' and special protection Ex 's').

☐ Features and purpose of conduit seals and cable termination devices designed for use in hazardous areas (These include conduit seals and barrier and compression glands for cables with or without armouring, screening and/or drain wires).

UEENEEM027A Maintain equipment in hazardous areas - coal mining

KS01-EM027

A

Explosion protection installation and maintenance requirements

Evidence shall show an understanding of explosion protection installation and maintenance requirements to an extent indicated by the following aspects:

T1 Explosion-protection equipment — Ex certification schemes encompassing:

☐ Purpose and scope of certification schemes.

☐ Schemes accepted in Australia and New Zealand.

☐ Schemes commonly used in countries other than Australia and New Zealand.

☐ Processes for having equipment certified under the acceptable Ex schemes — scheme procedures; quality management requirements; conformance testing and assessment; and requirements for ongoing certification.

T2 Flameproof (Ex 'd') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the flameproof (Ex 'd') technique. (Examples of characteristics and design features are flame paths, integrity under pressure, pressure piling, and enclosure entries).

☐ Typical situations where the flameproof explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Flameproof technique;

☐ The use of Standards in determining the requirements to which the installation of flameproof explosion-protected apparatus shall comply.

T3 Increased safety (Ex 'e') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Increased safety (Ex 'e') technique (Examples of characteristics and design features are temperature rise, maximum power dissipation, protection devices, certified components, creepage and clearance distances, absence of sparking contacts and enclosure entries).

☐ Typical situations where the Increased safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Increased safety technique;

☐ The use of Standards in determining the requirements to which the installation of Increased safety explosion-protected apparatus shall comply.

T4 Non-sparking (Ex 'n') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Non-sparking (Ex 'n') technique (Examples of characteristics and design features are creepage and clearance distances and restricted breathing).

☐ Typical situations where the Non-sparking explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Non-sparking technique; and

☐ The use of Standards in determining the requirements to which the installation of Non-sparking explosion-protected apparatus shall comply.

T5 Intrinsic safety (Ex 'i') explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Intrinsic safety (Ex 'i') technique (Examples of characteristics and design features are field devices, cables, safe area devices, earthing, entity versus integrated system concept, simple devices and interface devices and their parameters, segregation, infallible components, current and voltage limiting, creepage and clearance distances).
- ☐ Typical situations where the Intrinsic safety explosion-protection technique is used;
- ☐ Actions or conditions that would void the protection provided the Intrinsic safety;
- ☐ The use of Standards in determining the requirements to which the installation of Intrinsic safety explosion-protected apparatus shall comply.

T6 Pressurization (Ex 'p') explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Pressurization (Ex 'p') technique (Examples of characteristics and design features are exclusion and dilution; purge periods, controlled shut down, monitoring and sources of internal release).
- ☐ Typical situations where the pressurization explosion-protection technique is used;
- ☐ Actions or conditions that would void the protection provided the pressurization technique;
- ☐ The use of Standards in determining the requirements to which the installation of pressurization explosion-protected apparatus shall comply.

T7 Enclosures for dusts (Ex 'tD') - explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the techniques for dusts (Examples of characteristics and design

features are for enclosures; pressurization; encapsulation; and intrinsic safety).

- ☐ Typical situations where the each dust explosion-protection technique is used;

- ☐ Actions or conditions that would void the protection provided the each dust technique;

- ☐ The use of Standards in determining the requirements to which the installation of dust explosion-protected apparatus shall comply.

T8 Common characteristics of explosion-protection techniques encompassing:

- ☐ The purposes of 'temperature classification' and 'gas grouping/apparatus grouping'.

- ☐ Compliance plate markings.

- ☐ Limitations of non-metallic or specific alloy enclosures.

- ☐ The purpose of conformity and certification/approval for equipment used in hazardous areas.

- ☐ Environmental conditions that may impact on explosion-protection techniques.

- ☐ The principles and applications of other and mixed explosion-protection techniques (Other techniques include encapsulation Ex 'm'; oil-immersion Ex 'o'; powder-filling Ex 'q', ventilation Ex 'v' and special protection Ex 's').

- ☐ Features and purpose of conduit seals and cable termination devices designed for use in hazardous areas (These include conduit seals and barrier and compression glands for cables with or without armouring, screening and/or drain wires).

T9 Preparation to install and maintain explosion-protected equipment in hazardous areas encompassing:

- ☐ OHS procedures to be followed when working in a hazardous area;

the significance of information provided on the certification documentation and schedules for a given item of explosion-protected equipment;

- ☐ the typical contents of a verification dossier and their purpose; and

☐ limitations in the use of tools and testing devices in hazardous areas.

T10 The relationship between explosion-protected equipment, their certification documents and required locations given in specifications and layout drawings and/or written instructions encompassing:

☐ the purpose of markings on the compliance plate and certification documents for a given item of explosion-protected equipment;

☐ matching explosion-protected equipment with certification documents and the equipment specified for an installation; and

☐ the location the items of explosion-protected equipment for an installation from specifications and layout drawings and/or instructions.

T11 Installation Standards and requirements applicable to hazardous encompassing:

☐ the wiring systems permitted and not permitted in or above hazardous areas;

☐ equipment not permitted in or above hazardous areas;

☐ the regulations and Standards to which explosion-protected equipment and wiring must be installed in a hazardous area and how these are applied; and

☐ the documentation required as a record of the installation process, including certification documentation.

T12 Maintenance procedures in hazardous areas that will ensure the integrity of the explosion-protection technique encompassing:

☐ the purpose of a maintenance schedule;

☐ the purpose and extent of 'close', 'sample' and 'periodic' inspections;

☐ the features of each explosion-protection techniques that should be included in a maintenance schedule;

☐ the impact of environmental conditions on explosion-protected equipment, including corrosion and frequency of maintenance;

☐ the documentation requirements for recording the maintenance process and

results;

☐ the use of Standards in determining the requirements with which the design of explosion-protected apparatus shall comply.

T13 Cable termination types suitable for use in hazardous areas encompassing:

☐ explosion protection features of cable terminations devices.

☐ selecting compliant cable termination devices.

T14 Terminating cables suitable for use in hazardous areas encompassing:

☐ installing conduit systems, where applicable, including seals to meet hazardous areas requirements. (Gases only.)

☐ terminating a cable with a barrier gland. (Gases only.)

☐ terminating a multipair, SWA, overall screened, individual screened cable into an enclosure.

☐ testing termination/connections of installed cables/circuits.

UEENEEM028A Maintain equipment in hazardous areas - gas

Atmospheres

KS01-EM028

A

Explosion protection installation and maintenance requirements

Evidence shall show an understanding of explosion protection installation and maintenance requirements to an extent indicated by the following aspects:

T1 Explosion-protection equipment — Ex certification schemes encompassing:

☐ Purpose and scope of certification schemes.

☐ Schemes accepted in Australia and New Zealand.

☐ Schemes commonly used in countries other than Australia and New Zealand.

☐ Processes for having equipment certified under the acceptable Ex schemes — scheme procedures; quality management requirements; conformance testing and assessment; and requirements for ongoing certification.

T2 Flameproof (Ex 'd') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the flameproof (Ex 'd') technique. (Examples of characteristics and design features are flame paths, integrity under pressure, pressure piling, and enclosure entries).

☐ Typical situations where the flameproof explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Flameproof technique;

☐ The use of Standards in determining the requirements to which the installation of flameproof explosion-protected apparatus shall comply.

T3 Increased safety (Ex 'e') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Increased safety (Ex 'e') technique (Examples of characteristics and design features are temperature rise, maximum power dissipation, protection devices, certified components, creepage and clearance distances, absence of sparking contacts and enclosure entries).

☐ Typical situations where the Increased safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Increased safety technique;

☐ The use of Standards in determining the requirements to which the installation of Increased safety explosion-protected apparatus shall comply.

T4 Non-sparking (Ex 'n') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Non-sparking (Ex 'n') technique (Examples of characteristics and design features are creepage and clearance distances and restricted

breathing).

☐ Typical situations where the Non-sparking explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Non-sparking technique; and

☐ The use of Standards in determining the requirements to which the installation of Non-sparking explosion-protected apparatus shall comply.

T5 Intrinsic safety (Ex 'i') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Intrinsic safety (Ex 'i') technique (Examples of characteristics and design features are field devices, cables, safe area devices, earthing, entity versus integrated system concept, simple devices and interface devices and their parameters, segregation, infallible components, current and voltage limiting, creepage and clearance distances).

☐ Typical situations where the Intrinsic safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Intrinsic safety;

☐ The use of Standards in determining the requirements to which the installation of Intrinsic safety explosion-protected apparatus shall comply.

T6 Pressurization (Ex 'p') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Pressurization (Ex 'p') technique (Examples of characteristics and design features are exclusion and dilution; purge periods, controlled shut down, monitoring and sources of internal release).

☐ Typical situations where the pressurization explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the pressurization technique;

☐ The use of Standards in determining the requirements to which the installation of pressurization explosion-protected apparatus shall comply.

T7 Enclosures for dusts (Ex 'tD') - explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the techniques for dusts (Examples of characteristics and design features are for enclosures; pressurization; encapsulation; and intrinsic safety).

☐ Typical situations where the each dust explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the each dust technique;

☐ The use of Standards in determining the requirements to which the installation of dust explosion-protected apparatus shall comply.

T8 Common characteristics of explosion-protection techniques encompassing:

☐ The purposes of 'temperature classification' and 'gas grouping/apparatus grouping'.

☐ Compliance plate markings.

☐ Limitations of non-metallic or specific alloy enclosures.

☐ The purpose of conformity and certification/approval for equipment used in hazardous areas.

☐ Environmental conditions that may impact on explosion-protection techniques.

☐ The principles and applications of other and mixed explosion-protection techniques (Other techniques include encapsulation Ex 'm'; oil-immersion Ex 'o'; powder-filling Ex 'q', ventilation Ex 'v' and special protection Ex 's').

☐ Features and purpose of conduit seals and cable termination devices designed for use in hazardous areas (These include conduit seals and barrier and compression glands for cables with or without armouring, screening and/or

drain wires).

T9 Preparation to install and maintain explosion-protected equipment in hazardous areas encompassing:

- ☐ OHS procedures to be followed when working in a hazardous area;
- the significance of information provided on the certification documentation and schedules for a given item of explosion-protected equipment;
- ☐ the typical contents of a verification dossier and their purpose; and
- ☐ limitations in the use of tools and testing devices in hazardous areas.

T10 The relationship between explosion-protected equipment, their certification documents and required locations given in specifications and layout drawings and/or written instructions encompassing:

- ☐ the purpose of markings on the compliance plate and certification documents for a given item of explosion-protected equipment;
- ☐ matching explosion-protected equipment with certification documents and the equipment specified for an installation; and
- ☐ the location the items of explosion-protected equipment for an installation from specifications and layout drawings and/or instructions.

T11 Installation Standards and requirements applicable to hazardous encompassing:

- ☐ the wiring systems permitted and not permitted in or above hazardous areas;
- ☐ equipment not permitted in or above hazardous areas;
- ☐ the regulations and Standards to which explosion-protected equipment and wiring must be installed in a hazardous area and how these are applied; and
- ☐ the documentation required as a record of the installation process, including certification documentation.

T12 Maintenance procedures in hazardous areas that will ensure the integrity of the explosion-protection technique encompassing:

- ☐ the purpose of a maintenance schedule;
- ☐ the purpose and extent of 'close', 'sample' and 'periodic' inspections;
- ☐ the features of each explosion-protection techniques that should be included in a maintenance schedule;
- ☐ the impact of environmental conditions on explosion-protected equipment, including corrosion and frequency of maintenance;
- ☐ the documentation requirements for recording the maintenance process and results;
- ☐ the use of Standards in determining the requirements with which the design of explosion-protected apparatus shall comply.

T13 Cable termination types suitable for use in hazardous areas encompassing:

- ☐ explosion protection features of cable terminations devices.
- ☐ selecting compliant cable termination devices.

T14 Terminating cables suitable for use in hazardous areas encompassing:

- ☐ installing conduit systems, where applicable, including seals to meet hazardous areas requirements. (Gases only.)
- ☐ terminating a cable with a barrier gland. (Gases only.)
- ☐ terminating a multipair, SWA, overall screened, individual screened cable into an enclosure.
- ☐ testing termination/connections of installed cables/circuits.

UEENEEM029A Maintain equipment in hazardous areas - dust

Atmospheres

KS01-EM029

A

Explosion protection installation and maintenance requirements

Evidence shall show an understanding of explosion protection installation and maintenance requirements to an extent indicated by the following aspects:

T1 Explosion-protection equipment — Ex certification schemes encompassing:

- ☐ Purpose and scope of certification schemes.
- ☐ Schemes accepted in Australia and New Zealand.
- ☐ Schemes commonly used in countries other than Australia and New Zealand.
- ☐ Processes for having equipment certified under the acceptable Ex schemes — scheme procedures; quality management requirements; conformance testing and assessment; and requirements for ongoing certification.

T2 Flameproof (Ex 'd') explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the flameproof (Ex 'd') technique. (Examples of characteristics and design features are flame paths, integrity under pressure, pressure piling, and enclosure entries).

Typical situations where the flameproof explosion-protection technique is used;

- ☐ Actions or conditions that would void the protection provided the Flameproof technique;
- ☐ The use of Standards in determining the requirements to which the installation of flameproof explosion-protected apparatus shall comply.

T3 Increased safety (Ex 'e') explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Increased safety (Ex 'e') technique (Examples of characteristics and design features are temperature rise, maximum power dissipation, protection devices, certified components, creepage and clearance distances, absence of sparking contacts and enclosure entries).
- ☐ Typical situations where the Increased safety explosion-protection technique is used;
- ☐ Actions or conditions that would void the protection provided the Increased

safety technique;

☐ The use of Standards in determining the requirements to which the installation of Increased safety explosion-protected apparatus shall comply.

T4 Non-sparking (Ex 'n') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Non-sparking (Ex 'n') technique (Examples of characteristics and design features are creepage and clearance distances and restricted breathing).

☐ Typical situations where the Non-sparking explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Non-sparking technique; and

☐ The use of Standards in determining the requirements to which the installation of Non-sparking explosion-protected apparatus shall comply.

T5 Intrinsic safety (Ex 'i') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Intrinsic safety (Ex 'i') technique (Examples of characteristics and design features are field devices, cables, safe area devices, earthing, entity versus integrated system concept, simple devices and interface devices and their parameters, segregation, infallible components, current and voltage limiting, creepage and clearance distances).

☐ Typical situations where the Intrinsic safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Intrinsic safety;

☐ The use of Standards in determining the requirements to which the installation of Intrinsic safety explosion-protected apparatus shall comply.

T6 Pressurization (Ex 'p') explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Pressurization (Ex 'p') technique (Examples of characteristics and design features are exclusion and dilution; purge periods, controlled shut down, monitoring and sources of internal release).
- ☐ Typical situations where the pressurization explosion-protection technique is used;
- ☐ Actions or conditions that would void the protection provided the pressurization technique;
- ☐ The use of Standards in determining the requirements to which the installation of pressurization explosion-protected apparatus shall comply.

T7 Enclosures for dusts (Ex 'tD') - explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the techniques for dusts (Examples of characteristics and design features are for enclosures; pressurization; encapsulation; and intrinsic safety).
- ☐ Typical situations where the each dust explosion-protection technique is used;
- ☐ Actions or conditions that would void the protection provided the each dust technique;
- ☐ The use of Standards in determining the requirements to which the installation of dust explosion-protected apparatus shall comply.

T8 Common characteristics of explosion-protection techniques encompassing:

- ☐ The purposes of 'temperature classification' and 'gas grouping/apparatus grouping'.
- ☐ Compliance plate markings.
- ☐ Limitations of non-metallic or specific alloy enclosures.
- ☐ The purpose of conformity and certification/approval for equipment used in hazardous areas.

☐ Environmental conditions that may impact on explosion-protection techniques.

☐ The principles and applications of other and mixed explosion-protection techniques (Other techniques include encapsulation Ex 'm'; oil-immersion Ex 'o'; powder-filling Ex 'q', ventilation Ex 'v' and special protection Ex 's').

☐ Features and purpose of conduit seals and cable termination devices designed for use in hazardous areas (These include conduit seals and barrier and compression glands for cables with or without armouring, screening and/or drain wires).

T9 Preparation to install and maintain explosion-protected equipment in hazardous areas encompassing:

☐ OHS procedures to be followed when working in a hazardous area; the significance of information provided on the certification documentation and schedules for a given item of explosion-protected equipment;

☐ the typical contents of a verification dossier and their purpose; and

☐ limitations in the use of tools and testing devices in hazardous areas.

T10 The relationship between explosion-protected equipment, their certification documents and required locations given in specifications and layout drawings and/or written instructions encompassing:

☐ the purpose of markings on the compliance plate and certification documents for a given item of explosion-protected equipment;

☐ matching explosion-protected equipment with certification documents and the equipment specified for an installation; and

☐ the location the items of explosion-protected equipment for an installation from specifications and layout drawings and/or instructions.

T11 Installation Standards and requirements applicable to hazardous encompassing:

☐ the wiring systems permitted and not permitted in or above hazardous areas;

- ☐ equipment not permitted in or above hazardous areas;
- ☐ the regulations and Standards to which explosion-protected equipment and wiring must be installed in a hazardous area and how these are applied; and
- ☐ the documentation required as a record of the installation process, including certification documentation.

T12 Maintenance procedures in hazardous areas that will ensure the integrity of the explosion-protection technique encompassing:

- ☐ the purpose of a maintenance schedule;
- ☐ the purpose and extent of 'close', 'sample' and 'periodic' inspections;
- ☐ the features of each explosion-protection techniques that should be included in a maintenance schedule;
- ☐ the impact of environmental conditions on explosion-protected equipment, including corrosion and frequency of maintenance;
- ☐ the documentation requirements for recording the maintenance process and results;
- ☐ the use of Standards in determining the requirements with which the design of explosion-protected apparatus shall comply.

T13 Cable termination types suitable for use in hazardous areas encompassing:

- ☐ explosion protection features of cable terminations devices.
- ☐ selecting compliant cable termination devices.

T14 Terminating cables suitable for use in hazardous areas encompassing:

- ☐ installing conduit systems, where applicable, including seals to meet hazardous areas requirements. (Gases only.)
- ☐ terminating a cable with a barrier gland. (Gases only.)
- ☐ terminating a multipair, SWA, overall screened, individual screened cable into an enclosure.
- ☐ testing termination/connections of installed cables/circuits.

UEENEEM030A Maintain equipment in hazardous areas – pressurisation

KS01-EM030A Explosion protection installation and maintenance requirements

Evidence shall show an understanding of explosion protection installation and maintenance requirements to an extent indicated by the following aspects:

T1 Explosion-protection equipment — Ex certification schemes encompassing:

- ☐ Purpose and scope of certification schemes.
- ☐ Schemes accepted in Australia and New Zealand.
- ☐ Schemes commonly used in countries other than Australia and New Zealand.
- ☐ Processes for having equipment certified under the acceptable Ex schemes — scheme procedures; quality management requirements; conformance testing and assessment; and requirements for ongoing certification.

T2 Flameproof (Ex 'd') explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the flameproof (Ex 'd') technique. (Examples of characteristics and design features are flame paths, integrity under pressure, pressure piling, and enclosure entries).
- ☐ Typical situations where the flameproof explosion-protection technique is used;

Actions or conditions that would void the protection provided the Flameproof technique;

- ☐ The use of Standards in determining the requirements to which the installation of flameproof explosion-protected apparatus shall comply.

T3 Increased safety (Ex 'e') explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Increased safety (Ex 'e') technique (Examples of characteristics and design features are temperature rise, maximum power dissipation, protection devices, certified components, creepage and clearance

distances, absence of sparking contacts and enclosure entries).

☐ Typical situations where the Increased safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Increased safety technique;

☐ The use of Standards in determining the requirements to which the installation of Increased safety explosion-protected apparatus shall comply.

T4 Non-sparking (Ex 'n') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Non-sparking (Ex 'n') technique (Examples of characteristics and design features are creepage and clearance distances and restricted breathing).

☐ Typical situations where the Non-sparking explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Non-sparking technique; and

☐ The use of Standards in determining the requirements to which the installation of Non-sparking explosion-protected apparatus shall comply.

T5 Intrinsic safety (Ex 'i') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Intrinsic safety (Ex 'i') technique (Examples of characteristics and design features are field devices, cables, safe area devices, earthing, entity versus integrated system concept, simple devices and interface devices and their parameters, segregation, infallible components, current and voltage limiting, creepage and clearance distances).

☐ Typical situations where the Intrinsic safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Intrinsic safety;

☐ The use of Standards in determining the requirements to which the installation of Intrinsic safety explosion-protected apparatus shall comply.

REQUIRED SKILLS AND KNOWLEDGE

T6 Pressurization (Ex 'p') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Pressurization (Ex 'p') technique (Examples of characteristics and design features are exclusion and dilution; purge periods, controlled shut down, monitoring and sources of internal release).

☐ Typical situations where the pressurization explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the pressurization technique;

☐ The use of Standards in determining the requirements to which the installation of pressurization explosion-protected apparatus shall comply.

T7 Enclosures for dusts (Ex 'tD') - explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the techniques for dusts (Examples of characteristics and design features are for enclosures; pressurization; encapsulation; and intrinsic safety).

☐ Typical situations where the each dust explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the each dust technique;

☐ The use of Standards in determining the requirements to which the installation of dust explosion-protected apparatus shall comply.

T8 Common characteristics of explosion-protection techniques encompassing:

☐ The purposes of 'temperature classification' and 'gas grouping/apparatus

grouping’.

- ☐ Compliance plate markings.

- ☐ Limitations of non-metallic or specific alloy enclosures.

- ☐ The purpose of conformity and certification/approval for equipment used in hazardous areas.

- ☐ Environmental conditions that may impact on explosion-protection techniques.

- ☐ The principles and applications of other and mixed explosion-protection techniques (Other techniques include encapsulation Ex ‘m’; oil-immersion Ex ‘o’; powder-filling Ex ‘q’, ventilation Ex ‘v’ and special protection Ex ‘s’).

- ☐ Features and purpose of conduit seals and cable termination devices designed for use in hazardous areas (These include conduit seals and barrier and compression glands for cables with or without armouring, screening and/or drain wires).

T9 Preparation to install and maintain explosion-protected equipment in hazardous areas encompassing:

- ☐ OHS procedures to be followed when working in a hazardous area;

- ☐ the significance of information provided on the certification documentation and schedules for a given item of explosion-protected equipment;

- ☐ the typical contents of a verification dossier and their purpose; and

- ☐ limitations in the use of tools and testing devices in hazardous areas.

T10 The relationship between explosion-protected equipment, their certification documents and required locations given in specifications and layout drawings and/or written instructions encompassing:

- ☐ the purpose of markings on the compliance plate and certification documents for a given item of explosion-protected equipment;

- ☐ matching explosion-protected equipment with certification documents and the equipment specified for an installation; and

☐ the location the items of explosion-protected equipment for an installation from specifications and layout drawings and/or instructions.

T11 Installation Standards and requirements applicable to hazardous encompassing:

- ☐ the wiring systems permitted and not permitted in or above hazardous areas;
- ☐ equipment not permitted in or above hazardous areas;
- ☐ the regulations and Standards to which explosion-protected equipment and wiring must be installed in a hazardous area and how these are applied; and
- ☐ the documentation required as a record of the installation process, including certification documentation.

T12 Maintenance procedures in hazardous areas that will ensure the integrity of the explosion-protection technique encompassing:

- ☐ the purpose of a maintenance schedule;
- ☐ the purpose and extent of 'close', 'sample' and 'periodic' inspections;
- ☐ the features of each explosion-protection techniques that should be included in a maintenance schedule;
- ☐ the impact of environmental conditions on explosion-protected equipment, including corrosion and frequency of maintenance;
- ☐ the documentation requirements for recording the maintenance process and results;
- ☐ the use of Standards in determining the requirements with which the design of explosion-protected apparatus shall comply.

T13 Cable termination types suitable for use in hazardous areas encompassing:

- ☐ explosion protection features of cable terminations devices.
- ☐ selecting compliant cable termination devices.

T14 Terminating cables suitable for use in hazardous areas encompassing:

- ☐ installing conduit systems, where applicable, including seals to meet hazardous

areas requirements. (Gases only.)

terminating a cable with a barrier gland. (Gases only.)

☐ terminating a multipair, SWA, overall screened, individual screened cable into an enclosure.

☐ testing termination/connections of installed cables/circuits.

UEENEEM047A Develop and manage maintenance programs for hazardous areas electrical equipment - coal mining

KS01-EM047

A

Hazardous areas maintenance management

Evidence shall show an understanding of hazardous areas maintenance management to an extent indicated by the following aspects:

T1 Explosion-protection equipment — Ex certification schemes encompassing:

☐ Purpose and scope of certification schemes.

☐ Schemes accepted in Australia and New Zealand.

☐ Schemes commonly used in countries other than Australia and New Zealand.

☐ Processes for having equipment certified under the acceptable Ex schemes — scheme procedures; quality management requirements; conformance testing and assessment; and requirements for ongoing certification.

T2 Flameproof (Ex 'd') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the flameproof (Ex 'd') technique. (Examples of characteristics and design features are flame paths, integrity under pressure, pressure piling, and enclosure entries).

☐ Typical situations where the flameproof explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Flameproof

technique;

☐ The use of Standards in determining the requirements to which the installation of flameproof explosion-protected apparatus shall comply.

T3 Increased safety (Ex 'e') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Increased safety (Ex 'e') technique (Examples of characteristics and design features are temperature rise, maximum power dissipation, protection devices, certified components, creepage and clearance distances, absence of sparking contacts and enclosure entries).

☐ Typical situations where the Increased safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Increased safety technique;

☐ The use of Standards in determining the requirements to which the installation of Increased safety explosion-protected apparatus shall comply.

T4 Non-sparking (Ex 'n') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Non-sparking (Ex 'n') technique (Examples of characteristics and design features are creepage and clearance distances and restricted breathing).

☐ Typical situations where the Non-sparking explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Non-sparking technique; and

☐ The use of Standards in determining the requirements to which the installation of Non-sparking explosion-protected apparatus shall comply.

T5 Intrinsic safety (Ex 'i') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Intrinsic safety (Ex 'i') technique (Examples of characteristics and design features are field devices, cables, safe area devices, earthing, entity versus integrated system concept, simple devices and interface devices and their parameters, segregation, infallible components, current and voltage limiting, creepage and clearance distances).

☐ Typical situations where the Intrinsic safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Intrinsic safety;

☐ The use of Standards in determining the requirements to which the installation of Intrinsic safety explosion-protected apparatus shall comply.

T6 Pressurization (Ex 'p') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Pressurization (Ex 'p') technique (Examples of characteristics and design features are exclusion and dilution; purge periods, controlled shut down, monitoring and sources of internal release).

☐ Typical situations where the pressurization explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the pressurization technique;

☐ The use of Standards in determining the requirements to which the installation of pressurization explosion-protected apparatus shall comply.

T7 Enclosures for dusts (Ex 'tD') - explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the techniques for dusts (Examples of characteristics and design features are for enclosures; pressurization; encapsulation; and intrinsic safety).

- ☐ Typical situations where the each dust explosion-protection technique is used;
- ☐ Actions or conditions that would void the protection provided the each dust technique;
- ☐ The use of Standards in determining the requirements to which the installation of dust explosion-protected apparatus shall comply.

T8 Common characteristics of explosion-protection techniques encompassing:

- ☐ The purposes of 'temperature classification' and 'gas grouping/apparatus grouping'.
- ☐ Compliance plate markings.
- ☐ Limitations of non-metallic or specific alloy enclosures.

The purpose of conformity and certification/approval for equipment used in hazardous areas.

- ☐ Environmental conditions that may impact on explosion-protection techniques.
- ☐ The principles and applications of other and mixed explosion-protection techniques (Other techniques include encapsulation Ex 'm'; oil-immersion Ex 'o'; powder-filling Ex 'q', ventilation Ex 'v' and special protection Ex 's').
- ☐ Features and purpose of conduit seals and cable termination devices designed for use in hazardous areas (These include conduit seals and barrier and compression glands for cables with or without armouring, screening and/or drain wires).

T9 Maintenance procedures in hazardous areas that will ensure the integrity of the explosion-protection technique encompassing:

- ☐ the purpose of a maintenance schedule;
- ☐ the purpose and extent of 'close', 'sample' and 'periodic' inspections;
- ☐ the features of each explosion-protection techniques that should be included in a maintenance schedule;
- ☐ the impact of environmental conditions on explosion-protected equipment,

including corrosion and frequency of maintenance;

- ☐ the documentation requirements for recording the maintenance process and results; and

- ☐ the use of Standards in determining the requirements with which the design of explosion-protected apparatus shall comply.

T10 The responsibilities of a person managing activities or a site related to a hazardous area, encompassing:

- ☐ OHS procedures that are to be established;

- ☐ responsibilities for ensuring that a hazardous area is safe; and

- ☐ responsibilities and processes for establishing and maintaining a verification dossier.

T11 Explosion-protection strategies in relation to a hazardous area, encompassing:

- ☐ the process of classifying a hazardous area;

- ☐ various ways in which electrical systems /apparatus can be treated to prevent them from becoming an ignition source; and

- ☐ the cost of the different ways of treating electrical systems/apparatus associated with hazardous areas.

T12 Requirements for the maintenance of electrical systems associated with hazardous areas, encompassing:

- ☐ the type and grades of inspection of hazardous areas;

- ☐ maintenance programs for electrical explosion-protected systems/apparatus;

And documentation requirements associated with maintenance procedures.

BAE 632 Electrical Wiring in Hazardous Areas

UEENEEM023A Install explosion-protected equipment and wiring systems

- coal mining

KS01-EM023

A

Explosion protection installation and maintenance requirements

Evidence shall show an understanding of explosion protection installation and maintenance requirements to an extent indicated by the following aspects:

T1 Explosion-protection equipment — Ex certification schemes encompassing:

- ☐ Purpose and scope of certification schemes.
- ☐ Schemes accepted in Australia and New Zealand.
- ☐ Schemes commonly used in countries other than Australia and New Zealand.
- ☐ Processes for having equipment certified under the acceptable Ex schemes — scheme procedures; quality management requirements; conformance testing and assessment; and requirements for ongoing certification.

T2 Flameproof (Ex 'd') explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the flameproof (Ex 'd') technique. (Examples of characteristics and design features are flame paths, integrity under pressure, pressure piling, and enclosure entries).
- ☐ Typical situations where the flameproof explosion-protection technique is used;
- ☐ Actions or conditions that would void the protection provided the Flameproof technique;
- ☐ The use of Standards in determining the requirements to which the installation of flameproof explosion-protected apparatus shall comply.

T3 Increased safety (Ex 'e') explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Increased safety (Ex 'e') technique (Examples of characteristics and design features are temperature rise, maximum power dissipation, protection devices, certified components, creepage and clearance distances, absence of sparking contacts and enclosure entries).

☐ Typical situations where the Increased safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Increased safety technique;

☐ The use of Standards in determining the requirements to which the installation of Increased safety explosion-protected apparatus shall comply.

T4 Non-sparking (Ex 'n') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Non-sparking (Ex 'n') technique (Examples of characteristics and design features are creepage and clearance distances and restricted breathing).

☐ Typical situations where the Non-sparking explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Non-sparking technique; and

☐ The use of Standards in determining the requirements to which the installation of Non-sparking explosion-protected apparatus shall comply.

T5 Intrinsic safety (Ex 'i') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Intrinsic safety (Ex 'i') technique (Examples of characteristics and design features are field devices, cables, safe area devices, earthing, entity versus integrated system concept, simple devices and interface devices and their parameters, segregation, infallible components, current and voltage limiting, creepage and clearance distances).

☐ Typical situations where the Intrinsic safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Intrinsic

safety;

☐ The use of Standards in determining the requirements to which the installation of Intrinsic safety explosion-protected apparatus shall comply.

T6 Pressurization (Ex 'p') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Pressurization (Ex 'p') technique (Examples of characteristics and design features are exclusion and dilution; purge periods, controlled shut down, monitoring and sources of internal release).

☐ Typical situations where the pressurization explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the pressurization technique;

The use of Standards in determining the requirements to which the installation of pressurization explosion-protected apparatus shall comply.

T7 Enclosures for dusts (Ex 'tD') - explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the techniques for dusts (Examples of characteristics and design features are for enclosures; pressurization; encapsulation; and intrinsic safety).

☐ Typical situations where the each dust explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the each dust technique;

☐ The use of Standards in determining the requirements to which the installation of dust explosion-protected apparatus shall comply.

T8 Common characteristics of explosion-protection techniques encompassing:

☐ The purposes of 'temperature classification' and 'gas grouping/apparatus grouping'.

☐ Compliance plate markings.

- ☐ Limitations of non-metallic or specific alloy enclosures.
- ☐ The purpose of conformity and certification/approval for equipment used in hazardous areas.
- ☐ Environmental conditions that may impact on explosion-protection techniques.
- ☐ The principles and applications of other and mixed explosion-protection techniques (Other techniques include encapsulation Ex 'm'; oil-immersion Ex 'o'; powder-filling Ex 'q', ventilation Ex 'v' and special protection Ex 's').
- ☐ Features and purpose of conduit seals and cable termination devices designed for use in hazardous areas (These include conduit seals and barrier and compression glands for cables with or without armouring, screening and/or drain wires).

T9 Preparation to install and maintain explosion-protected equipment in hazardous areas encompassing:

- ☐ OHS procedures to be followed when working in a hazardous area;
- ☐ the significance of information provided on the certification documentation and schedules for a given item of explosion-protected equipment;
- ☐ the typical contents of a verification dossier and their purpose; and
- ☐ limitations in the use of tools and testing devices in hazardous areas.

T10 The relationship between explosion-protected equipment, their certification documents and required locations given in specifications and layout drawings and/or written instructions encompassing:

- ☐ the purpose of markings on the compliance plate and certification documents for a given item of explosion-protected equipment;
- ☐ matching explosion-protected equipment with certification documents and the equipment specified for an installation; and
- ☐ the location the items of explosion-protected equipment for an installation from specifications and layout drawings and/or instructions.

T11 Installation Standards and requirements applicable to hazardous

encompassing:

- ☐ the wiring systems permitted and not permitted in or above hazardous areas;
- ☐ equipment not permitted in or above hazardous areas;
- ☐ the regulations and Standards to which explosion-protected equipment and wiring must be installed in a hazardous area and how these are applied; and
- ☐ the documentation required as a record of the installation process, including certification documentation.

T12 Maintenance procedures in hazardous areas that will ensure the integrity of the explosion-protection technique encompassing:

- ☐ the purpose of a maintenance schedule;
- ☐ the purpose and extent of 'close', 'sample' and 'periodic' inspections;
- ☐ the features of each explosion-protection techniques that should be included in a maintenance schedule;
- ☐ the impact of environmental conditions on explosion-protected equipment, including corrosion and frequency of maintenance;
- ☐ the documentation requirements for recording the maintenance process and results;
- ☐ the use of Standards in determining the requirements with which the design of explosion-protected apparatus shall comply.

T13 Cable termination types suitable for use in hazardous areas encompassing:

- ☐ explosion protection features of cable terminations devices.
- ☐ selecting compliant cable termination devices.

T14 Terminating cables suitable for use in hazardous areas encompassing:

- ☐ installing conduit systems, where applicable, including seals to meet hazardous areas requirements. (Gases only.)
- ☐ terminating a cable with a barrier gland. (Gases only.)

☐ terminating a multipair, SWA, overall screened, individual screened cable into an enclosure.

☐ testing termination/connections of installed cables/circuits.

UEENEEM025A Install explosion-protected equipment and wiring systems

- dust atmospheres

KS01-EM02

5A

Explosion protection installation and maintenance requirements

Evidence shall show an understanding of explosion protection installation and maintenance requirements to an extent indicated by the following aspects:

T1 Explosion-protection equipment — Ex certification schemes encompassing:

☐ Purpose and scope of certification schemes.

☐ Schemes accepted in Australia and New Zealand.

☐ Schemes commonly used in countries other than Australia and New Zealand.

☐ Processes for having equipment certified under the acceptable Ex schemes — scheme procedures; quality management requirements; conformance testing and assessment; and requirements for ongoing certification.

T2 Flameproof (Ex 'd') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the flameproof (Ex 'd') technique. (Examples of characteristics and design features are flame paths, integrity under pressure, pressure piling, and enclosure entries).

☐ Typical situations where the flameproof explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Flameproof technique;

☐ The use of Standards in determining the requirements to which the installation

of flameproof explosion-protected apparatus shall comply.

T3 Increased safety (Ex 'e') explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Increased safety (Ex 'e') technique (Examples of characteristics and design features are temperature rise, maximum power dissipation, protection devices, certified components, creepage and clearance distances, absence of sparking contacts and enclosure entries).
- ☐ Typical situations where the Increased safety explosion-protection technique is used;
- ☐ Actions or conditions that would void the protection provided the Increased safety technique;
- ☐ The use of Standards in determining the requirements to which the installation of Increased safety explosion-protected apparatus shall comply.

T4 Non-sparking (Ex 'n') explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Non-sparking (Ex 'n') technique (Examples of characteristics and design features are creepage and clearance distances and restricted breathing).
- ☐ Typical situations where the Non-sparking explosion-protection technique is used;
- ☐ Actions or conditions that would void the protection provided the Non-sparking technique; and
- ☐ The use of Standards in determining the requirements to which the installation of Non-sparking explosion-protected apparatus shall comply.

T5 Intrinsic safety (Ex 'i') explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Intrinsic safety (Ex 'i') technique (Examples of characteristics

and design features are field devices, cables, safe area devices, earthing, entity versus integrated system concept, simple devices and interface devices and their parameters, segregation, infallible components, current and voltage limiting, creepage and clearance distances).

☐ Typical situations where the Intrinsic safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Intrinsic safety;

☐ The use of Standards in determining the requirements to which the installation of Intrinsic safety explosion-protected apparatus shall comply.

T6 Pressurization (Ex 'p') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Pressurization (Ex 'p') technique (Examples of characteristics and design features are exclusion and dilution; purge periods, controlled shut down, monitoring and sources of internal release).

☐ Typical situations where the pressurization explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the pressurization technique;

The use of Standards in determining the requirements to which the installation of pressurization explosion-protected apparatus shall comply.

T7 Enclosures for dusts (Ex 'tD') - explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the techniques for dusts (Examples of characteristics and design features are for enclosures; pressurization; encapsulation; and intrinsic safety).

☐ Typical situations where the each dust explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the each dust

technique;

☐ The use of Standards in determining the requirements to which the installation of dust explosion-protected apparatus shall comply.

T8 Common characteristics of explosion-protection techniques encompassing:

☐ The purposes of 'temperature classification' and 'gas grouping/apparatus grouping'.

☐ Compliance plate markings.

☐ Limitations of non-metallic or specific alloy enclosures.

☐ The purpose of conformity and certification/approval for equipment used in hazardous areas.

☐ Environmental conditions that may impact on explosion-protection techniques.

☐ The principles and applications of other and mixed explosion-protection techniques (Other techniques include encapsulation Ex 'm'; oil-immersion Ex 'o'; powder-filling Ex 'q', ventilation Ex 'v' and special protection Ex 's').

☐ Features and purpose of conduit seals and cable termination devices designed for use in hazardous areas (These include conduit seals and barrier and compression glands for cables with or without armouring, screening and/or drain wires).

T9 Preparation to install and maintain explosion-protected equipment in hazardous areas encompassing:

☐ OHS procedures to be followed when working in a hazardous area;

☐ the significance of information provided on the certification documentation and schedules for a given item of explosion-protected equipment;

☐ the typical contents of a verification dossier and their purpose; and

☐ limitations in the use of tools and testing devices in hazardous areas.

T10 The relationship between explosion-protected equipment, their certification documents and required locations given in specifications and layout drawings and/or

written instructions encompassing:

- ☐ the purpose of markings on the compliance plate and certification documents for a given item of explosion-protected equipment;
- ☐ matching explosion-protected equipment with certification documents and the equipment specified for an installation; and
- ☐ the location the items of explosion-protected equipment for an installation from specifications and layout drawings and/or instructions.

T11 Installation Standards and requirements applicable to hazardous encompassing:

- ☐ the wiring systems permitted and not permitted in or above hazardous areas;
- ☐ equipment not permitted in or above hazardous areas;
- ☐ the regulations and Standards to which explosion-protected equipment and wiring must be installed in a hazardous area and how these are applied; and
- ☐ the documentation required as a record of the installation process, including certification documentation.

T12 Maintenance procedures in hazardous areas that will ensure the integrity of the explosion-protection technique encompassing:

- ☐ the purpose of a maintenance schedule;
- ☐ the purpose and extent of 'close', 'sample' and 'periodic' inspections;
- ☐ the features of each explosion-protection techniques that should be included in a maintenance schedule;
- ☐ the impact of environmental conditions on explosion-protected equipment, including corrosion and frequency of maintenance;
- ☐ the documentation requirements for recording the maintenance process and results;
- ☐ the use of Standards in determining the requirements with which the design of explosion-protected apparatus shall comply.

T13 Cable termination types suitable for use in hazardous areas encompassing:

- ☐ explosion protection features of cable terminations devices.
- ☐ selecting compliant cable termination devices.

T14 Terminating cables suitable for use in hazardous areas encompassing:

- ☐ installing conduit systems, where applicable, including seals to meet hazardous areas requirements. (Gases only.)
- ☐ terminating a cable with a barrier gland. (Gases only.)
- ☐ terminating a multipair, SWA, overall screened, individual screened cable into an enclosure.
- ☐ testing termination/connections of installed cables/circuits.

UEENEEM026A Install explosion-protected equipment and wiring systems
- pressurisation

KS01-EM02

6A

Explosion protection installation and maintenance requirements

Evidence shall show an understanding of explosion protection installation and maintenance requirements to an extent indicated by the following aspects:

T1 Explosion-protection equipment — Ex certification schemes encompassing:

- ☐ Purpose and scope of certification schemes.
- ☐ Schemes accepted in Australia and New Zealand.
- ☐ Schemes commonly used in countries other than Australia and New Zealand.
- ☐ Processes for having equipment certified under the acceptable Ex schemes — scheme procedures; quality management requirements; conformance testing and assessment; and requirements for ongoing certification.

T2 Flameproof (Ex 'd') explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the flameproof (Ex 'd') technique. (Examples of characteristics

and design features are flame paths, integrity under pressure, pressure piling, and enclosure entries).

☐ Typical situations where the flameproof explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Flameproof technique;

☐ The use of Standards in determining the requirements to which the installation of flameproof explosion-protected apparatus shall comply.

T3 Increased safety (Ex 'e') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Increased safety (Ex 'e') technique (Examples of characteristics and design features are temperature rise, maximum power dissipation, protection devices, certified components, creepage and clearance distances, absence of sparking contacts and enclosure entries).

Typical situations where the Increased safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Increased safety technique;

☐ The use of Standards in determining the requirements to which the installation of Increased safety explosion-protected apparatus shall comply.

T4 Non-sparking (Ex 'n') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Non-sparking (Ex 'n') technique (Examples of characteristics and design features are creepage and clearance distances and restricted breathing).

☐ Typical situations where the Non-sparking explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the

Non-sparking technique; and

☐ The use of Standards in determining the requirements to which the installation of Non-sparking explosion-protected apparatus shall comply.

T5 Intrinsic safety (Ex 'i') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Intrinsic safety (Ex 'i') technique (Examples of characteristics and design features are field devices, cables, safe area devices, earthing, entity versus integrated system concept, simple devices and interface devices and their parameters, segregation, infallible components, current and voltage limiting, creepage and clearance distances).

☐ Typical situations where the Intrinsic safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Intrinsic safety;

☐ The use of Standards in determining the requirements to which the installation of Intrinsic safety explosion-protected apparatus shall comply.

T6 Pressurization (Ex 'p') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Pressurization (Ex 'p') technique (Examples of characteristics and design features are exclusion and dilution; purge periods, controlled shut down, monitoring and sources of internal release).

☐ Typical situations where the pressurization explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the pressurization technique;

☐ The use of Standards in determining the requirements to which the installation

of pressurization explosion-protected apparatus shall comply.

T7 Enclosures for dusts (Ex 'tD') - explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the techniques for dusts (Examples of characteristics and design features are for enclosures; pressurization; encapsulation; and intrinsic safety).
- ☐ Typical situations where the each dust explosion-protection technique is used;
- ☐ Actions or conditions that would void the protection provided the each dust technique;
- ☐ The use of Standards in determining the requirements to which the installation of dust explosion-protected apparatus shall comply.

T8 Common characteristics of explosion-protection techniques encompassing:

- ☐ The purposes of 'temperature classification' and 'gas grouping/apparatus grouping'.
- ☐ Compliance plate markings.
- ☐ Limitations of non-metallic or specific alloy enclosures.
- ☐ The purpose of conformity and certification/approval for equipment used in hazardous areas.
- ☐ Environmental conditions that may impact on explosion-protection techniques.
- ☐ The principles and applications of other and mixed explosion-protection techniques (Other techniques include encapsulation Ex 'm'; oil-immersion Ex 'o'; powder-filling Ex 'q', ventilation Ex 'v' and special protection Ex 's').
- ☐ Features and purpose of conduit seals and cable termination devices designed for use in hazardous areas (These include conduit seals and barrier and compression glands for cables with or without armouring, screening and/or drain wires).

T9 Preparation to install and maintain explosion-protected equipment in hazardous areas encompassing:

- ☐ OHS procedures to be followed when working in a hazardous area;
- ☐ the significance of information provided on the certification documentation and schedules for a given item of explosion-protected equipment;
- ☐ the typical contents of a verification dossier and their purpose; and
- ☐ limitations in the use of tools and testing devices in hazardous areas.

T10 The relationship between explosion-protected equipment, their certification documents and required locations given in specifications and layout drawings and/or written instructions encompassing:

- ☐ the purpose of markings on the compliance plate and certification documents for a given item of explosion-protected equipment;
- ☐ matching explosion-protected equipment with certification documents and the equipment specified for an installation; and
- the location the items of explosion-protected equipment for an installation from specifications and layout drawings and/or instructions.

T11 Installation Standards and requirements applicable to hazardous encompassing:

- ☐ the wiring systems permitted and not permitted in or above hazardous areas;
- ☐ equipment not permitted in or above hazardous areas;
- ☐ the regulations and Standards to which explosion-protected equipment and wiring must be installed in a hazardous area and how these are applied; and
- ☐ the documentation required as a record of the installation process, including certification documentation.

T12 Maintenance procedures in hazardous areas that will ensure the integrity of the explosion-protection technique encompassing:

- ☐ the purpose of a maintenance schedule;
- ☐ the purpose and extent of 'close', 'sample' and 'periodic' inspections;
- ☐ the features of each explosion-protection techniques that should be included in

a maintenance schedule;

☐ the impact of environmental conditions on explosion-protected equipment, including corrosion and frequency of maintenance;

☐ the documentation requirements for recording the maintenance process and results;

☐ the use of Standards in determining the requirements with which the design of explosion-protected apparatus shall comply.

T13 Cable termination types suitable for use in hazardous areas encompassing:

☐ explosion protection features of cable terminations devices.

☐ selecting compliant cable termination devices.

T14 Terminating cables suitable for use in hazardous areas encompassing:

☐ installing conduit systems, where applicable, including seals to meet hazardous areas requirements. (Gases only.)

☐ terminating a cable with a barrier gland. (Gases only.)

☐ terminating a multipair, SWA, overall screened, individual screened cable into an enclosure.

☐ testing termination/connections of installed cables/circuits.

BAE633 Safety Audit in Hazardous Areas

UEENEEM036A Conduct a conformity assessment of explosion-protected equipment - gas atmospheres

KS01-EM036

A

Explosion-protected equipment conformity assessment

Evidence shall show an understanding of explosion-protected equipment conformity assessment to an extent indicated by the following aspects:

T1 Occupational Health and Safety responsibilities related to hazardous areas encompassing:

- ☐ the main features and purpose of a 'clearance to work' system (includes hot work permit systems).
- ☐ typical safety procedures that should be followed before entering a hazardous area;
- ☐ the purpose of gas detectors and their limitations;
- ☐ effects of temperature on gas and vapour detection;
- ☐ frequency of monitoring for presence of gas or vapours, i.e. effects of temperature rise;
- ☐ factors affecting the accuracy of gas detectors, for example, contamination, condensation, temperature;
- ☐ safety in use of gas detectors, for example, 'read and run concept'
- ☐ the safety precautions to be taken when working in a hazardous area.

T2 The roles of the parties involved in the safety of hazardous areas encompassing:

- ☐ common Acts and Regulations related to the safety of hazardous areas and the Authorities responsible for their implementation;
- ☐ where assistance and further information can be obtained to assist persons with hazardous area responsibilities, for example, Standard bodies, experienced consultants; and
- ☐ the hazardous area responsibilities of the owner of premises in which a hazardous area exists; the occupier of premises in which a hazardous area exists; enterprises and personnel engaged in installation and/or maintenance of explosion-protection systems; enterprises and personnel engaged in the classification of hazardous areas and/or design of explosion-protection systems; enterprises and personnel engaged in the overhaul, modification and/or assessment of explosion-protected equipment; enterprises and personnel engaged in the inspection of explosion-protection installations; manufacturers

of explosion-protected equipment; designated authorities; insurers.

T3 Properties of combustible substances and their potential to create an explosive hazard encompassing:

- ☐ condition in the workplace that will lead to an explosion;
- ☐ the terms 'combustion', 'ignition' and 'propagation';
- ☐ explosive range of substances encountered in the workplace i.e. LEL/UEL;
- ☐ explosive parameters of substances as given in tables of substance properties
- ☐ Note: Combustible materials are gases, vapours (from liquids), and dusts; flash point.
- ☐ the difference between gases and vapours; and
- ☐ the toxic nature of gases and vapours and potential harmful consequences.

T4 The nature of hazardous areas encompassing:

- ☐ the Standards definition of a 'hazardous area';
- ☐ the recommended methods for classifying the type and degree of explosion hazard in an area;
- ☐ hazardous area classifications as defined by Standards; and
- ☐ factors that are considered when a hazardous area is classified.
- ☐ the basics of how explosion-protection is achieved by the methods of exclusion, containment, energy limitation, dilution, avoidance of ignition source.

T5 Explosive-protected equipment encompassing:

- ☐ The principles of each explosion-protection technique, the methods used and how each technique works (Flameproof (Ex 'd'); Increased safety (Ex 'e'); Non-sparking (Ex 'n'); Intrinsic safety (Ex 'i') and Pressurization (Ex 'p') for gas atmospheres and Dust-exclusion enclosures (Ex 'tD'); Pressurization (Ex 'pD'); Encapsulation (Ex 'mD'); and Intrinsic safety (Ex 'iD') for dusts)
- ☐ How explosion-protected equipment is identified by the 'Ex' symbol marked

on the equipment, including old equipment and equipment certified in another country.

☐ Visible conditions or actions that would void the explosion-protection provided by a particular technique.

T6 Explosion-protection equipment — Ex certification schemes encompassing:

☐ Purpose and scope of certification schemes.

☐ Schemes accepted in Australia and New Zealand.

☐ Schemes commonly used in countries other than Australia and New Zealand.

☐ Processes for having equipment certified under the acceptable Ex schemes — scheme procedures; quality management requirements; conformance testing and assessment; and requirements for ongoing certification.

T7 Flameproof (Ex 'd') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the flameproof (Ex 'd') technique. (Examples of characteristics and design features are flame paths, integrity under pressure, pressure piling, and enclosure entries).

☐ Typical situations where the flameproof explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Flameproof technique;

☐ The use of Standards in determining the requirements to which the installation of flameproof explosion-protected apparatus shall comply.

T8 Increased safety (Ex 'e') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Increased safety (Ex 'e') technique (Examples of characteristics and design features are temperature rise, maximum power dissipation, protection devices, certified components, creepage and clearance

distances, absence of sparking contacts and enclosure entries).

☐ Typical situations where the Increased safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Increased safety technique;

☐ The use of Standards in determining the requirements to which the installation of Increased safety explosion-protected apparatus shall comply.

T9 Non-sparking (Ex 'n') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Non-sparking (Ex 'n') technique (Examples of characteristics and design features are creepage and clearance distances and restricted breathing).

☐ Typical situations where the Non-sparking explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Non-sparking technique; and

☐ The use of Standards in determining the requirements to which the installation of Non-sparking explosion-protected apparatus shall comply.

T10 Intrinsic safety (Ex 'i') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Intrinsic safety (Ex 'i') technique (Examples of characteristics and design features are field devices, cables, safe area devices, earthing, entity versus integrated system concept, simple devices and interface devices and their parameters, segregation, infallible components, current and voltage limiting, creepage and clearance distances).

☐ Typical situations where the Intrinsic safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Intrinsic safety;

☐ The use of Standards in determining the requirements to which the installation of Intrinsic safety explosion-protected apparatus shall comply.

T11 Pressurization (Ex 'p') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Pressurization (Ex 'p') technique (Examples of characteristics and design features are exclusion and dilution; purge periods, controlled shut down, monitoring and sources of internal release).

☐ Typical situations where the pressurization explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the pressurization technique;

☐ The use of Standards in determining the requirements to which the installation of pressurization explosion-protected apparatus shall comply.

T12 Enclosures for dusts (Ex 'tD') - explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the techniques for dusts (Examples of characteristics and design features are for enclosures; pressurization; encapsulation; and intrinsic safety).

☐ Typical situations where the each dust explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the each dust technique;

☐ The use of Standards in determining the requirements to which the installation of dust explosion-protected apparatus shall comply.

T13 Common characteristics of explosion-protection techniques encompassing:

☐ The purposes of 'temperature classification' and 'gas grouping/apparatus grouping'.

- ☐ Compliance plate markings.
- ☐ Limitations of non-metallic or specific alloy enclosures.
- ☐ The purpose of conformity and certification/approval for equipment used in hazardous areas.
- ☐ Environmental conditions that may impact on explosion-protection techniques.
- ☐ The principles and applications of other and mixed explosion-protection techniques (Other techniques include encapsulation Ex 'm'; oil-immersion Ex 'o'; powder-filling Ex 'q', ventilation Ex 'v' and special protection Ex 's').
- ☐ Features and purpose of conduit seals and cable termination devices designed for use in hazardous areas (These include conduit seals and barrier and compression glands for cables with or without armouring, screening and/or drain wires).

T14 The compliance certification and the 'Ex' scheme for recognition of certification encompassing:

- ☐ the purposes of certification of explosion-protected equipment;
- ☐ the parties involved in the assessment/testing and certification of explosion-protected equipment and their responsibilities; and
- ☐ the process for recognition of assessment/testing and certification of explosion-protected equipment from other countries.

T15 The preparation required to assess explosion-protected equipment for compliance with Standards encompassing:

- ☐ the special safety measures that should be taken when assessing/testing explosion-protected equipment;
- ☐ documentation required prior to conducting conformity assessment;
- ☐ tests necessary to establish that an item of explosion-protected equipment conforms with relevant Standards; and
- ☐ situations where testing is not applicable or required.

T16 Assessing and testing explosion-protected equipment encompassing:

- ☐ assessment and test requirements; and
- ☐ procedures for conducting a conformity assessment.

T17 Documentation used in assessing explosion-protected equipment for conformance to accepted Standards encompassing:

- ☐ The documentation and Standard(s) required to begin an assessment.
- ☐ The differences between the test requirements of Standards from other countries and the compliant/acceptable Standards against which the equipment is being assessed.
- ☐ Results given in equipment test reports.
- ☐ Conformity assessment processes and procedures.

T18 Assessing to a current acceptable Standard existing equipment that has been certified to previously acceptable Standards encompassing:

- ☐ processes and procedures used; and
- ☐ possible outcomes.

T19 A clause by clause assessment between the equipment manufacturing Standard(s) and the current acceptable Ex Standards encompassing:

- ☐ processes and procedures used; and
- ☐ differences between the Standards that may be detected.

UEENEEM057A Design explosion-protected electrical systems and installations - gas atmospheres

KS01-EM05

7A

Hazardous area electrical systems design

Evidence shall show an understanding of hazardous area electrical systems design to an extent indicated by the following aspects:

T1 Occupational Health and Safety responsibilities related to hazardous areas

encompassing:

- ☐ the main features and purpose of a 'clearance to work' system (includes hot work permit systems).
- ☐ typical safety procedures that should be followed before entering a hazardous area;
- ☐ the purpose of gas detectors and their limitations;
- ☐ effects of temperature on gas and vapour detection;
- ☐ frequency of monitoring for presence of gas or vapours, i.e. effects of temperature rise;
- ☐ factors affecting the accuracy of gas detectors, for example, contamination, condensation, temperature;
- ☐ safety in use of gas detectors, for example, 'read and run concept'
- ☐ the safety precautions to be taken when working in a hazardous area.

T2 The roles of the parties involved in the safety of hazardous areas

encompassing:

- ☐ common Acts and Regulations related to the safety of hazardous areas and the Authorities responsible for their implementation;
- ☐ where assistance and further information can be obtained to assist persons with hazardous area responsibilities, for example, Standard bodies, experienced

UEENEEM068A Assess the fitness-for-purpose of hazardous areas

explosion-protected equipment - gas atmospheres

KS01-EM068

A

Explosion-protected equipment fitness-for-purpose

Evidence shall show an understanding of explosion-protected equipment

fitness-for-purpose to an extent indicated by the following aspects:

T1 Preparation to install and maintain explosion-protected equipment in

hazardous areas encompassing:

- ☐ OHS procedures to be followed when working in a hazardous area;
- ☐ the significance of information provided on the certification documentation and schedules for a given item of explosion-protected equipment;
- ☐ the typical contents of a verification dossier and their purpose; and
- ☐ limitations in the use of tools and testing devices in hazardous areas.

T2 The relationship between explosion-protected equipment, their certification documents and required locations given in specifications and layout drawings and/or written instructions encompassing:

the purpose of markings on the compliance plate and certification documents for a given item of explosion-protected equipment;

- ☐ matching explosion-protected equipment with certification documents and the equipment specified for an installation; and
- ☐ the location the items of explosion-protected equipment for an installation from specifications and layout drawings and/or instructions.

T3 Installation Standards and requirements applicable to hazardous encompassing:

- ☐ the wiring systems permitted and not permitted in or above hazardous areas;
- ☐ equipment not permitted in or above hazardous areas;
- ☐ the regulations and Standards to which explosion-protected equipment and wiring must be installed in a hazardous area and how these are applied; and
- ☐ the documentation required as a record of the installation process, including certification documentation.

T4 Maintenance procedures in hazardous areas that will ensure the integrity of the explosion-protection technique encompassing:

- ☐ the purpose of a maintenance schedule;
- ☐ the purpose and extent of 'close', 'sample' and 'periodic' inspections;

- ☐ the features of each explosion-protection techniques that should be included in a maintenance schedule;
- ☐ the impact of environmental conditions on explosion-protected equipment, including corrosion and frequency of maintenance;
- ☐ the documentation requirements for recording the maintenance process and results;
- ☐ the use of Standards in determining the requirements with which the design of explosion-protected apparatus shall comply.

T5 Cable termination types suitable for use in hazardous areas encompassing:

- ☐ explosion protection features of cable terminations devices.
- ☐ selecting compliant cable termination devices.

T6 The relationship between the documentation held in a verification dossier and the installed equipment encompassing:

- ☐ consistency between the location and type of equipment with the area classification details in the verification dossier; and
- ☐ equipment certification and any attached conditions that relate to the equipment as it is installed.

T7 Inspecting a hazardous area installation encompassing:

- ☐ typical processes for undertaking the inspection of a hazardous area installation;
- ☐ requirements applicable to a given installation; and
- ☐ reporting of an inspection of a hazardous area installation.

T8 Documentation used in assessing explosion-protected equipment for conformance to accepted Standards encompassing:

- ☐ The documentation and Standard(s) required to begin an assessment.
- ☐ The differences between the test requirements of Standards from other countries and the compliant/acceptable Standards against which the equipment

is being assessed.

- ☐ Results given in equipment test reports.

- ☐ Conformity assessment processes and procedures.

T9 Assessing to a current acceptable Standard existing equipment that has been certified to previously acceptable Standards encompassing:

- ☐ processes and procedures used; and

- ☐ possible outcomes.

T10 A clause by clause assessment between the equipment manufacturing Standard(s) and the current acceptable Ex Standards encompassing:

- ☐ processes and procedures used; and

- ☐ differences between the Standards that may be detected.

T11 Techniques used in fitness-for purpose assessment of equipment for use in hazardous areas encompassing:

- ☐ Processes for verifying that a design specification meets the integrity of the equipment, showing the equipment is fit-for-purpose and is safe to use:

- ☐ Standards against which fitness-for-purpose assessment is made;

- ☐ the need to maintain the accuracy/calibration of measuring/test devices/tools;

- ☐ assessment and measurements/tests requirements for determining that an item of explosion-protected equipment complies with the relevant Standards and meets the certification requirements;

- ☐ testing that is/is not required to determine compliance of the equipment being assessed; and

- ☐ development of different tests to those given in Standards and justification as to how they achieve the same result.

- ☐ Typical specification for the equipment to be assessed as fit-for-purpose.

T12 Processes used in auditing hazardous areas encompassing:

☐ Requirements to retain hazardous areas documentation on site.

☐ Components of an audit:

☐ authenticity of documentation;

hazardous areas delineations shown in site diagrams;

☐ location and operating parameters of equipment shown in certification documents;

☐ compliance of equipment location;

☐ compliance of wiring systems; and

☐ alignment of hazardous areas documentation to as- built installation.

☐ Reporting non-conformance of an installation.

BAE 634 Explosion Protection Equipments & Methods

UEENEEM080A Report on the integrity of explosion-protected equipment in a hazardous area

KS01-EM080A Hazardous areas and explosion-protection principles

Evidence shall show an understanding of hazardous areas and explosion-protection principles (including working safely in hazardous areas), principles of the following explosion-protection techniques and visible conditions of explosion-protection equipment that indicate the protection is void and changes in the nature of the explosion hazard that may render the explosion-protection unsafe. to an extent indicated by the following aspects:

T1 Occupational Health and Safety responsibilities related to hazardous areas encompassing:

the main features and purpose of a 'clearance to work' system (includes hot work permit systems).

☐ typical safety procedures that should be followed before entering a hazardous area;

☐ the purpose of gas detectors and their limitations;

- ☐ effects of temperature on gas and vapour detection;
- ☐ frequency of monitoring for presence of gas or vapours, i.e. effects of temperature rise;
- ☐ factors affecting the accuracy of gas detectors, for example, contamination, condensation, temperature;
- ☐ safety in use of gas detectors, for example, 'read and run concept'
- ☐ the safety precautions to be taken when working in a hazardous area.

T2 The roles of the parties involved in the safety of hazardous areas encompassing:

- ☐ common Acts and Regulations related to the safety of hazardous areas and the Authorities responsible for their implementation;
- ☐ where assistance and further information can be obtained to assist persons with hazardous area responsibilities, for example, Standard bodies, experienced consultants; and
- ☐ the hazardous area responsibilities of the owner of premises in which a hazardous area exists; the occupier of premises in which a hazardous area exists; enterprises and personnel engaged in installation and/or maintenance of explosion-protection systems; enterprises and personnel engaged in the classification of hazardous areas and/or design of explosion-protection systems; enterprises and personnel engaged in the overhaul, modification and/or assessment of explosion-protected equipment; enterprises and personnel engaged in the inspection of explosion-protection installations; manufacturers of explosion-protected equipment; designated authorities; insurers.

T3 Properties of combustible substances and their potential to create an explosive hazard encompassing:

- ☐ condition in the workplace that will lead to an explosion;
- ☐ the terms 'combustion', 'ignition' and 'propagation';

- ☐ explosive range of substances encountered in the workplace i.e. LEL/UEL;

- ☐ explosive parameters of substances as given in tables of substance properties

Note: Combustible materials are gases, vapours (from liquids), and dusts; flash point.

- ☐ the difference between gases and vapours; and

- ☐ the toxic nature of gases and vapours and potential harmful consequences.

T4 The nature of hazardous areas encompassing:

- ☐ the Standards definition of a 'hazardous area';

- ☐ the recommended methods for classifying the type and degree of explosion hazard in an area;

- ☐ hazardous area classifications as defined by Standards; and

factors that are considered when a hazardous area is classified.

- ☐ the basics of how explosion-protection is achieved by the methods of exclusion, containment, energy limitation, dilution, avoidance of ignition source.

T5 Explosive-protected equipment encompassing:

- ☐ The principles of each explosion-protection technique, the methods used and how each technique works (Flameproof (Ex 'd'); Increased safety (Ex 'e');

Non-sparking (Ex 'n'); Intrinsic safety (Ex 'i') and Pressurization (Ex 'p') for gas atmospheres and Dust-exclusion enclosures (Ex 'tD'); Pressurization (Ex 'pD');

Encapsulation (Ex 'mD'); and Intrinsic safety (Ex 'iD') for dusts)

- ☐ How explosion-protected equipment is identified by the 'Ex' symbol marked on the equipment, including old equipment and equipment certified in another country.

- ☐ Visible conditions or actions that would void the explosion-protection provided by a particular technique.

T6 Explosion-protection visual checks encompassing:

- ☐ occupational, health and safety procedures to be followed before entering hazardous areas; and while conducting visual inspection.

- ☐ Visible defects in explosion-protected equipment and wiring.
- ☐ Conditions that may indicate a change in a given explosion hazard.
- ☐ Reporting defects in explosion-protected equipment and wiring - the purpose of a verification dossier; and various ways for reporting defects in explosion-protected equipment and wiring.
- ☐ procedures to be followed in the event of a change in the explosion hazard.

UEENEEM065A Conduct audit of hazardous areas installations - gas

Atmospheres

KS01-EM065

A

Hazardous areas installation auditing

Evidence shall show an understanding of hazardous areas installation auditing to an extent indicated by the following aspects:

T1 Occupational Health and Safety responsibilities related to hazardous areas encompassing:

- ☐ the main features and purpose of a 'clearance to work' system (includes hot work permit systems).
- ☐ typical safety procedures that should be followed before entering a hazardous area;
- ☐ the purpose of gas detectors and their limitations;
- ☐ effects of temperature on gas and vapour detection;
- ☐ frequency of monitoring for presence of gas or vapours, i.e. effects of temperature rise;
- ☐ factors affecting the accuracy of gas detectors, for example, contamination, condensation, temperature;
- ☐ safety in use of gas detectors, for example, 'read and run concept'

☐ the safety precautions to be taken when working in a hazardous area.

T2 The roles of the parties involved in the safety of hazardous areas

encompassing:

☐ common Acts and Regulations related to the safety of hazardous areas and the Authorities responsible for their implementation;

☐ where assistance and further information can be obtained to assist persons with hazardous area responsibilities, for example, Standard bodies, experienced consultants; and

☐ the hazardous area responsibilities of the owner of premises in which a hazardous area exists; the occupier of premises in which a hazardous area exists; enterprises and personnel engaged in installation and/or maintenance of explosion-protection systems; enterprises and personnel engaged in the classification of hazardous areas and/or design of explosion-protection systems; enterprises and personnel engaged in the overhaul, modification and/or assessment of explosion-protected equipment; enterprises and personnel engaged in the inspection of explosion-protection installations; manufacturers of explosion-protected equipment; designated authorities; insurers.

T3 Properties of combustible substances and their potential to create an explosive hazard encompassing:

☐ condition in the workplace that will lead to an explosion;

☐ the terms 'combustion', 'ignition' and 'propagation';

☐ explosive range of substances encountered in the workplace i.e. LEL/UEL;

☐ explosive parameters of substances as given in tables of substance properties

☐ Note: Combustible materials are gases, vapours (from liquids), and dusts; flash point.

☐ the difference between gases and vapours; and

☐ the toxic nature of gases and vapours and potential harmful consequences.

T4 The nature of hazardous areas encompassing:

- ☐ the Standards definition of a 'hazardous area';
- ☐ the recommended methods for classifying the type and degree of explosion hazard in an area;
- ☐ hazardous area classifications as defined by Standards; and
- ☐ factors that are considered when a hazardous area is classified.
- ☐ the basics of how explosion-protection is achieved by the methods of exclusion, containment, energy limitation, dilution, avoidance of ignition source.

T5 Explosive-protected equipment encompassing:

- ☐ The principles of each explosion-protection technique, the methods used and how each technique works (Flameproof (Ex 'd'); Increased safety (Ex 'e'); Non-sparking (Ex 'n'); Intrinsic safety (Ex 'i') and Pressurization (Ex 'p') for gas atmospheres and Dust-exclusion enclosures (Ex 'tD'); Pressurization (Ex 'pD'); Encapsulation (Ex 'mD'); and Intrinsic safety (Ex 'iD') for dusts)
- ☐ How explosion-protected equipment is identified by the 'Ex' symbol marked on the equipment, including old equipment and equipment certified in another country.
- ☐ Visible conditions or actions that would void the explosion-protection provided by a particular technique.

T6 Explosion-protection equipment — Ex certification schemes encompassing:

- ☐ Purpose and scope of certification schemes.
- ☐ Schemes accepted in Australia and New Zealand.
- ☐ Schemes commonly used in countries other than Australia and New Zealand.
- ☐ Processes for having equipment certified under the acceptable Ex schemes — scheme procedures; quality management requirements; conformance testing and assessment; and requirements for ongoing certification.

T7 Flameproof (Ex 'd') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the flameproof (Ex 'd') technique. (Examples of characteristics and design features are flame paths, integrity under pressure, pressure piling, and enclosure entries).

☐ Typical situations where the flameproof explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Flameproof technique;

☐ The use of Standards in determining the requirements to which the installation of flameproof explosion-protected apparatus shall comply.

T8 Increased safety (Ex 'e') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Increased safety (Ex 'e') technique (Examples of characteristics and design features are temperature rise, maximum power dissipation, protection devices, certified components, creepage and clearance distances, absence of sparking contacts and enclosure entries).

☐ Typical situations where the Increased safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Increased safety technique;

☐ The use of Standards in determining the requirements to which the installation of Increased safety explosion-protected apparatus shall comply.

T9 Non-sparking (Ex 'n') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Non-sparking (Ex 'n') technique (Examples of characteristics and design features are creepage and clearance distances and restricted

breathing).

- ▣ Typical situations where the Non-sparking explosion-protection technique is used;

- ▣ Actions or conditions that would void the protection provided the Non-sparking technique; and

- ▣ The use of Standards in determining the requirements to which the installation of Non-sparking explosion-protected apparatus shall comply.

T10 Intrinsic safety (Ex 'i') explosion-protection technique encompassing:

- ▣ The purpose and characteristics of the design features of apparatus and circuits protected by the Intrinsic safety (Ex 'i') technique (Examples of characteristics and design features are field devices, cables, safe area devices, earthing, entity versus integrated system concept, simple devices and interface devices and their parameters, segregation, infallible components, current and voltage limiting, creepage and clearance distances).

- ▣ Typical situations where the Intrinsic safety explosion-protection technique is used;

- ▣ Actions or conditions that would void the protection provided the Intrinsic safety;

- ▣ The use of Standards in determining the requirements to which the installation of Intrinsic safety explosion-protected apparatus shall comply.

T11 Pressurization (Ex 'p') explosion-protection technique encompassing:

- ▣ The purpose and characteristics of the design features of apparatus and circuits protected by the Pressurization (Ex 'p') technique (Examples of characteristics and design features are exclusion and dilution; purge periods, controlled shut down, monitoring and sources of internal release).

- ▣ Typical situations where the pressurization explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the pressurization technique;

☐ The use of Standards in determining the requirements to which the installation of pressurization explosion-protected apparatus shall comply.

T12 Enclosures for dusts (Ex 'tD') - explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the techniques for dusts (Examples of characteristics and design features are for enclosures; pressurization; encapsulation; and intrinsic safety).

☐ Typical situations where the each dust explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the each dust technique;

☐ The use of Standards in determining the requirements to which the installation of dust explosion-protected apparatus shall comply.

T13 Common characteristics of explosion-protection techniques encompassing:

☐ The purposes of 'temperature classification' and 'gas grouping/apparatus grouping'.

☐ Compliance plate markings.

☐ Limitations of non-metallic or specific alloy enclosures.

☐ The purpose of conformity and certification/approval for equipment used in hazardous areas.

☐ Environmental conditions that may impact on explosion-protection techniques.

☐ The principles and applications of other and mixed explosion-protection techniques (Other techniques include encapsulation Ex 'm'; oil-immersion Ex 'o'; powder-filling Ex 'q', ventilation Ex 'v' and special protection Ex 's').

☐ Features and purpose of conduit seals and cable termination devices designed or use in hazardous areas (These include conduit seals and barrier and compression glands for cables with or without armouring, screening and/or

drain wires).

T14 Preparation to install and maintain explosion-protected equipment in hazardous areas encompassing:

- ☐ OHS procedures to be followed when working in a hazardous area;
- ☐ the significance of information provided on the certification documentation and schedules for a given item of explosion-protected equipment;
- ☐ the typical contents of a verification dossier and their purpose; and
- ☐ limitations in the use of tools and testing devices in hazardous areas.

T15 The relationship between explosion-protected equipment, their certification documents and required locations given in specifications and layout drawings and/or written instructions encompassing:

- ☐ the purpose of markings on the compliance plate and certification documents for a given item of explosion-protected equipment;
- ☐ matching explosion-protected equipment with certification documents and the equipment specified for an installation; and
- ☐ the location the items of explosion-protected equipment for an installation from specifications and layout drawings and/or instructions.

T16 Installation Standards and requirements applicable to hazardous encompassing:

- ☐ the wiring systems permitted and not permitted in or above hazardous areas;
- ☐ equipment not permitted in or above hazardous areas;
- ☐ the regulations and Standards to which explosion-protected equipment and wiring must be installed in a hazardous area and how these are applied; and
- ☐ the documentation required as a record of the installation process, including certification documentation.

T17 Processes used in auditing hazardous areas encompassing:

- ☐ Requirements to retain hazardous areas documentation on site.

☐ Components of an audit:

☐ authenticity of documentation;

☐ hazardous areas delineations shown in site diagrams;

☐ location and operating parameters of equipment shown in certification documents;

☐ compliance of equipment location;

☐ compliance of wiring systems; and

☐ alignment of hazardous areas documentation to as-built installation.

☐ Reporting non-conformance of an installation.

BAE 635 Testing in Hazardous Areas

UEENEEM039A Conduct testing of hazardous areas installations - gas

Atmospheres

KS01-EM03

9A

Hazardous area installations testing

Evidence shall show an understanding of hazardous area installations testing to an extent indicated by the following aspects:

T1 Explosion-protection equipment — Ex certification schemes encompassing:

☐ Purpose and scope of certification schemes.

☐ Schemes accepted in Australia and New Zealand.

☐ Schemes commonly used in countries other than Australia and New Zealand.

☐ Processes for having equipment certified under the acceptable Ex schemes — scheme procedures; quality management requirements; conformance testing and assessment; and requirements for ongoing certification.

T2 Flameproof (Ex 'd') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits

protected by the flameproof (Ex 'd') technique. (Examples of characteristics and design features are flame paths, integrity under pressure, pressure piling, and enclosure entries).

☐ Typical situations where the flameproof explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Flameproof technique;

☐ The use of Standards in determining the requirements to which the installation of flameproof explosion-protected apparatus shall comply.

T3 Increased safety (Ex 'e') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Increased safety (Ex 'e') technique (Examples of characteristics and design features are temperature rise, maximum power dissipation, protection devices, certified components, creepage and clearance distances, absence of sparking contacts and enclosure entries).

Typical situations where the Increased safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Increased safety technique;

☐ The use of Standards in determining the requirements to which the installation of Increased safety explosion-protected apparatus shall comply.

T4 Non-sparking (Ex 'n') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Non-sparking (Ex 'n') technique (Examples of characteristics and design features are creepage and clearance distances and restricted breathing).

☐ Typical situations where the Non-sparking explosion-protection technique is

used;

☐ Actions or conditions that would void the protection provided the

Non-sparking technique; and

☐ The use of Standards in determining the requirements to which the installation of Non-sparking explosion-protected apparatus shall comply.

T5 Intrinsic safety (Ex 'i') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Intrinsic safety (Ex 'i') technique (Examples of characteristics and design features are field devices, cables, safe area devices, earthing, entity versus integrated system concept, simple devices and interface devices and their parameters, segregation, infallible components, current and voltage limiting, creepage and clearance distances).

☐ Typical situations where the Intrinsic safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Intrinsic safety;

☐ The use of Standards in determining the requirements to which the installation of Intrinsic safety explosion-protected apparatus shall comply.

T6 Pressurization (Ex 'p') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Pressurization (Ex 'p') technique (Examples of characteristics and design features are exclusion and dilution; purge periods, controlled shut down, monitoring and sources of internal release).

☐ Typical situations where the pressurization explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the pressurization technique;

☐ The use of Standards in determining the requirements to which the installation of pressurization explosion-protected apparatus shall comply.

T7 Enclosures for dusts (Ex 'tD') - explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the techniques for dusts (Examples of characteristics and design features are for enclosures; pressurization; encapsulation; and intrinsic safety).

☐ Typical situations where the each dust explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the each dust technique;

☐ The use of Standards in determining the requirements to which the installation of dust explosion-protected apparatus shall comply.

T8 Common characteristics of explosion-protection techniques encompassing:

☐ The purposes of 'temperature classification' and 'gas grouping/apparatus grouping'.

☐ Compliance plate markings.

☐ Limitations of non-metallic or specific alloy enclosures.

☐ The purpose of conformity and certification/approval for equipment used in hazardous areas.

☐ Environmental conditions that may impact on explosion-protection techniques.

☐ The principles and applications of other and mixed explosion-protection techniques (Other techniques include encapsulation Ex 'm'; oil-immersion Ex 'o'; powder-filling Ex 'q', ventilation Ex 'v' and special protection Ex 's').

☐ Features and purpose of conduit seals and cable termination devices designed for use in hazardous areas (These include conduit seals and barrier and compression glands for cables with or without armouring, screening and/or drain wires).

T9 Preparation to install and maintain explosion-protected equipment in

hazardous areas encompassing:

- ☐ OHS procedures to be followed when working in a hazardous area;
- ☐ the significance of information provided on the certification documentation and schedules for a given item of explosion-protected equipment;
- ☐ the typical contents of a verification dossier and their purpose; and
- ☐ limitations in the use of tools and testing devices in hazardous areas.

T10 The relationship between explosion-protected equipment, their certification documents and required locations given in specifications and layout drawings and/or written instructions encompassing:

- ☐ the purpose of markings on the compliance plate and certification documents for a given item of explosion-protected equipment;
- ☐ matching explosion-protected equipment with certification documents and the equipment specified for an installation; and
- the location the items of explosion-protected equipment for an installation from specifications and layout drawings and/or instructions.

T11 Installation Standards and requirements applicable to hazardous encompassing:

- ☐ the wiring systems permitted and not permitted in or above hazardous areas;
- ☐ equipment not permitted in or above hazardous areas;
- ☐ the regulations and Standards to which explosion-protected equipment and wiring must be installed in a hazardous area and how these are applied; and
- ☐ the documentation required as a record of the installation process, including certification documentation.

T12 Cable termination types suitable for use in hazardous areas encompassing:

- ☐ explosion protection features of cable terminations devices.
- ☐ selecting compliant cable termination devices.

T13 Terminating cables suitable for use in hazardous areas encompassing:

☐ installing conduit systems, where applicable, including seals to meet hazardous areas requirements. (Gases only.)

☐ terminating a cable with a barrier gland. (Gases only.)

☐ terminating a multipair, SWA, overall screened, individual screened cable into an enclosure.

☐ testing termination/connections of installed cables/circuits.

T14 Preparation for conducting installation testing in a hazardous area encompassing:

☐ OHS procedures to be followed for working in a hazardous area; and

☐ procedures for determining whether a given hazardous area is safe to conduct electrical testing.

T15 Characteristics and limitations of testing equipment used to test installation in hazardous areas encompassing:

☐ testing devices required to test an installation in a hazardous area; and

☐ the suitability of testing device for use in a hazardous area.

T16 Documentation of results of hazardous area installation tests encompassing:

☐ test results that should be recorded in a verification dossier; and

☐ procedures and options for dealing with test results that show non-conformance.

UEENEEM052A Classify hazardous areas - gas atmospheres

KS01-EM052A Hazardous areas classification

Evidence shall show an understanding of processes involved in gathering and analysing technical data to classify non-specific hazardous areas. The following aspects indicate the extent of understanding required.

T1 Occupational Health and Safety responsibilities related to hazardous areas encompassing:

- ☐ the main features and purpose of a 'clearance to work' system (includes hot work permit systems).
- ☐ typical safety procedures that should be followed before entering a hazardous area;
- ☐ the purpose of gas detectors and their limitations;
- ☐ effects of temperature on gas and vapour detection;
- ☐ frequency of monitoring for presence of gas or vapours, i.e. effects of temperature rise;
- ☐ factors affecting the accuracy of gas detectors, for example, contamination, condensation, temperature;
- ☐ safety in use of gas detectors, for example, 'read and run concept'
- ☐ the safety precautions to be taken when working in a hazardous area.

T2 The roles of the parties involved in the safety of hazardous areas encompassing:

- ☐ common Acts and Regulations related to the safety of hazardous areas and the Authorities responsible for their implementation;
- ☐ where assistance and further information can be obtained to assist persons with hazardous area responsibilities, for example, Standard bodies, experienced consultants; and
- ☐ the hazardous area responsibilities of the owner of premises in which a hazardous area exists; the occupier of premises in which a hazardous area exists; enterprises and personnel engaged in installation and/or maintenance of explosion-protection systems; enterprises and personnel engaged in the classification of hazardous areas and/or design of explosion-protection systems; enterprises and personnel engaged in the overhaul, modification and/or assessment of explosion-protected equipment; enterprises and personnel engaged in the inspection of explosion-protection installations; manufacturers of explosion-protected equipment; designated authorities; insurers.

T3 Properties of combustible substances and their potential to create an explosive hazard encompassing:

- ☐ condition in the workplace that will lead to an explosion;
- ☐ the terms 'combustion', 'ignition' and 'propagation';
- ☐ explosive range of substances encountered in the workplace i.e. LEL/UEL;
- ☐ explosive parameters of substances as given in tables of substance properties

Note: Combustible materials are gases, vapours (from liquids), and dusts; flash point.

- ☐ the difference between gases and vapours; and
- ☐ the toxic nature of gases and vapours and potential harmful consequences.

T4 The nature of hazardous areas encompassing:

- ☐ the Standards definition of a 'hazardous area';
- ☐ the recommended methods for classifying the type and degree of explosion hazard in an area;
- ☐ hazardous area classifications as defined by Standards; and
- ☐ factors that are considered when a hazardous area is classified.
- ☐ the basics of how explosion-protection is achieved by the methods of exclusion, containment, energy limitation, dilution, avoidance of ignition source.

T5 The process of classifying hazardous areas encompassing:

- ☐ methods by which an area can be classified;
- ☐ the characteristics/attributes of an area that should be considered in the classification process, for example, type of process, nature of plant, source and nature of release;
- ☐ the requirements and Standards for classifying a hazardous area; and
- ☐ the responsibilities of the owner/occupiers for classification of a hazardous area.

T6 The likelihood (zoning) or risk assessment method of an explosive hazard encompassing:

- ☐ ignition properties of materials relevant to determining the likelihood and extent of

an explosive hazard;

☐ sources for obtaining data on ignition properties of materials under the conditions in which they could be present in a given process;

☐ methods for assessment and calculation of factors such as release rate , ventilation and dispersion characteristics; and and

☐ means for reducing hazard risk.

T7 The extent of an explosive hazard and classifying an area accordingly encompassing:

☐ the extent of zones for an area given data on the likelihood of the explosive hazard for that area;

☐ requirements for documenting the classification of a hazardous area; and

☐ the extent of the zones, temperature classes and gas groups on site drawings in a hazardous area.

BAE 636 Inspection in Hazardous Area

UEENEEM078A Manage compliance of hazardous areas

KS01-EM078A Hazardous areas compliance requirements

Evidence shall show an understanding of hazardous areas compliance requirements to an extent indicated by the following aspects:

T1 Occupational Health and Safety responsibilities related to hazardous areas encompassing:

☐ the main features and purpose of a 'clearance to work' system (includes hot work permit systems).

☐ typical safety procedures that should be followed before entering a hazardous area;

☐ the purpose of gas detectors and their limitations;

☐ effects of temperature on gas and vapour detection;

☐ frequency of monitoring for presence of gas or vapours, i.e. effects of temperature

rise;

- ▣ factors affecting the accuracy of gas detectors, for example, contamination, condensation, temperature;

- ▣ safety in use of gas detectors, for example, 'read and run concept' the safety precautions to be taken when working in a hazardous area.

T2 The roles of the parties involved in the safety of hazardous areas encompassing:

- ▣ common Acts and Regulations related to the safety of hazardous areas and the Authorities responsible for their implementation;

- ▣ where assistance and further information can be obtained to assist persons with hazardous area responsibilities, for example, Standard bodies, experienced consultants; and

- ▣ the hazardous area responsibilities of the owner of premises in which a hazardous area exists; the occupier of premises in which a hazardous area exists; enterprises and personnel engaged in installation and/or maintenance of explosion-protection systems; enterprises and personnel engaged in the classification of hazardous areas and/or design of explosion-protection systems; enterprises and personnel engaged in the overhaul, modification and/or assessment of explosion-protected equipment; enterprises and personnel engaged in the inspection of explosion-protection installations; manufacturers of explosion-protected equipment; designated authorities; insurers.

T3 Properties of combustible substances and their potential to create an explosive hazard encompassing:

- ▣ condition in the workplace that will lead to an explosion;

- ▣ the terms 'combustion', 'ignition' and 'propagation';

- ▣ explosive range of substances encountered in the workplace i.e. LEL/UEL;

- ▣ explosive parameters of substances as given in tables of substance properties

Note: Combustible materials are gases, vapours (from liquids), and dusts; flash point.

- ☐ the difference between gases and vapours; and

- ☐ the toxic nature of gases and vapours and potential harmful consequences.

T4 The nature of hazardous areas encompassing:

- ☐ the Standards definition of a 'hazardous area';

- ☐ the recommended methods for classifying the type and degree of explosion hazard in an area;

- ☐ hazardous area classifications as defined by Standards; and

- ☐ factors that are considered when a hazardous area is classified.

- ☐ the basics of how explosion-protection is achieved by the methods of exclusion, containment, energy limitation, dilution, avoidance of ignition source.

T5 The responsibilities of a person managing activities or a site related to a hazardous area, encompassing:

- ☐ OHS procedures that are to be established;

- ☐ responsibilities for ensuring that a hazardous area is safe; and

- ☐ responsibilities and processes for establishing and maintaining a verification dossier.

T6 Explosion-protection strategies in relation to a hazardous area, encompassing:

- ☐ the process of classifying a hazardous area;

- ☐ various ways in which electrical systems /apparatus can be treated to prevent them from becoming an ignition source; and

- ☐ the cost of the different ways of treating electrical systems/apparatus associated with hazardous areas.

T7 Requirements for the maintenance of electrical systems associated with hazardous areas, encompassing:

- ☐ the type and grades of inspection of hazardous areas;

- ☐ maintenance programs for electrical explosion-protected systems/apparatus; and

documentation requirements associated with maintenance procedures.

UEENEEM042A Conduct visual inspection of hazardous areas installations

KS01-EM04

2A

Hazardous areas visual inspection

Evidence shall show an understanding of the purpose and process of hazardous areas

visual inspections to an extent indicated by the following aspects:

T1 Occupational, health and safety procedures encompassing:

☐ occupational, health and safety procedures to be followed before entering

hazardous areas; and

occupational, health and safety procedures to be followed while conducting

visual inspection.

T2 Requirements for a verification dossier and relationship to as-built electrical installation.

T3 Purpose, scope and limitations of visual inspections.

T4 Documentation requirements resulting from a visual inspection.

UEENEEM044A Conduct detailed inspection of hazardous areas installations - gas atmospheres

KS01-EM044

A

Hazardous areas detailed inspection techniques

Evidence shall show an understanding of hazardous areas detailed inspection

techniques to an extent indicated by the following aspects:

T1 Explosion-protection equipment — Ex certification schemes encompassing:

☐ Purpose and scope of certification schemes.

☐ Schemes accepted in Australia and New Zealand.

☐ Schemes commonly used in countries other than Australia and New Zealand.

☐ Processes for having equipment certified under the acceptable Ex schemes — scheme procedures; quality management requirements; conformance testing and assessment; and requirements for ongoing certification.

T2 Flameproof (Ex 'd') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the flameproof (Ex 'd') technique. (Examples of characteristics and design features are flame paths, integrity under pressure, pressure piling, and enclosure entries).

☐ Typical situations where the flameproof explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Flameproof technique;

☐ The use of Standards in determining the requirements to which the installation of flameproof explosion-protected apparatus shall comply.

T3 Increased safety (Ex 'e') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Increased safety (Ex 'e') technique (Examples of characteristics and design features are temperature rise, maximum power dissipation, protection devices, certified components, creepage and clearance distances, absence of sparking contacts and enclosure entries).

☐ Typical situations where the Increased safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Increased safety technique;

☐ The use of Standards in determining the requirements to which the installation

of Increased safety explosion-protected apparatus shall comply.

T4 Non-sparking (Ex 'n') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Non-sparking (Ex 'n') technique (Examples of characteristics and design features are creepage and clearance distances and restricted breathing).

☐ Typical situations where the Non-sparking explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Non-sparking technique; and

☐ The use of Standards in determining the requirements to which the installation of Non-sparking explosion-protected apparatus shall comply.

T5 Intrinsic safety (Ex 'i') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Intrinsic safety (Ex 'i') technique (Examples of characteristics and design features are field devices, cables, safe area devices, earthing, entity versus integrated system concept, simple devices and interface devices and their parameters, segregation, infallible components, current and voltage limiting, creepage and clearance distances).

☐ Typical situations where the Intrinsic safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Intrinsic safety;

☐ The use of Standards in determining the requirements to which the installation of Intrinsic safety explosion-protected apparatus shall comply.

T6 Pressurization (Ex 'p') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits

protected by the Pressurization (Ex 'p') technique (Examples of characteristics and design features are exclusion and dilution; purge periods, controlled shut down, monitoring and sources of internal release).

- ☐ Typical situations where the pressurization explosion-protection technique is used;

- ☐ Actions or conditions that would void the protection provided the pressurization technique;

- ☐ The use of Standards in determining the requirements to which the installation of pressurization explosion-protected apparatus shall comply.

T7 Enclosures for dusts (Ex 'tD') - explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the techniques for dusts (Examples of characteristics and design features are for enclosures; pressurization; encapsulation; and intrinsic safety).

- ☐ Typical situations where the each dust explosion-protection technique is used;

- ☐ Actions or conditions that would void the protection provided the each dust technique;

- ☐ The use of Standards in determining the requirements to which the installation of dust explosion-protected apparatus shall comply.

REQUIRED SKILLS AND KNOWLEDGE

T8 Common characteristics of explosion-protection techniques encompassing:

- ☐ The purposes of 'temperature classification' and 'gas grouping/apparatus grouping'.

- ☐ Compliance plate markings.

- ☐ Limitations of non-metallic or specific alloy enclosures.

- ☐ The purpose of conformity and certification/approval for equipment used in hazardous areas.

- ☐ Environmental conditions that may impact on explosion-protection techniques.

☐ The principles and applications of other and mixed explosion-protection techniques (Other techniques include encapsulation Ex 'm'; oil-immersion Ex 'o'; powder-filling Ex 'q', ventilation Ex 'v' and special protection Ex 's').

☐ Features and purpose of conduit seals and cable termination devices designed for use in hazardous areas (These include conduit seals and barrier and compression glands for cables with or without armouring, screening and/or drain wires).

T9 Preparation to install and maintain explosion-protected equipment in hazardous areas encompassing:

- ☐ OHS procedures to be followed when working in a hazardous area;
- ☐ the significance of information provided on the certification documentation and schedules for a given item of explosion-protected equipment;
- ☐ the typical contents of a verification dossier and their purpose; and
- ☐ limitations in the use of tools and testing devices in hazardous areas.

T10 The relationship between explosion-protected equipment, their certification documents and required locations given in specifications and layout drawings and/or written instructions encompassing:

- ☐ the purpose of markings on the compliance plate and certification documents for a given item of explosion-protected equipment;
- ☐ matching explosion-protected equipment with certification documents and the equipment specified for an installation; and
- ☐ the location the items of explosion-protected equipment for an installation from specifications and layout drawings and/or instructions.

T11 Installation Standards and requirements applicable to hazardous encompassing:

- ☐ the wiring systems permitted and not permitted in or above hazardous areas;
- ☐ equipment not permitted in or above hazardous areas;

- ☐ the regulations and Standards to which explosion-protected equipment and wiring must be installed in a hazardous area and how these are applied; and
- ☐ the documentation required as a record of the installation process, including certification documentation.

T12 Maintenance procedures in hazardous areas that will ensure the integrity of the explosion-protection technique encompassing:

- ☐ the purpose of a maintenance schedule;
- ☐ the purpose and extent of 'close', 'sample' and 'periodic' inspections;
- ☐ the features of each explosion-protection techniques that should be included in a maintenance schedule;
- ☐ the impact of environmental conditions on explosion-protected equipment, including corrosion and frequency of maintenance;
- ☐ the documentation requirements for recording the maintenance process and results;
- ☐ the use of Standards in determining the requirements with which the design of explosion-protected apparatus shall comply.

T13 Cable termination types suitable for use in hazardous areas encompassing:

- ☐ explosion protection features of cable terminations devices.
- ☐ selecting compliant cable termination devices.

T14 Terminating cables suitable for use in hazardous areas encompassing:

- ☐ installing conduit systems, where applicable, including seals to meet hazardous areas requirements. (Gases only.)
- ☐ terminating a cable with a barrier gland. (Gases only.)
- ☐ terminating a multipair, SWA, overall screened, individual screened cable into an enclosure.
- ☐ testing termination/connections of installed cables/circuits.

T15 The relationship between the documentation held in a verification dossier and

the installed equipment encompassing:

☐ consistency between the location and type of equipment with the area

classification details in the verification dossier; and

☐ equipment certification and any attached conditions that relate to the equipment as it is installed.

T16 Inspecting a hazardous area installation encompassing:

☐ typical processes for undertaking the inspection of a hazardous area installation;

☐ requirements applicable to a given installation; and

☐ reporting of an inspection of a hazardous area installation.

BAE 637 Chemical Hazardous Management

1. INTRODUCTION.....	
1.1 What are hazardous chemicals?	
1.2 Who has health and safety duties in relation to hazardous chemicals?	
1.3 What is required to manage the risks associated with hazardous chemicals?	
1.4 Prohibited and restricted hazardous chemicals	
1.5 Exposure standards	
1.6 Preparing a register and manifest of hazardous chemicals.....	
2. IDENTIFYING HAZARDS.....	
2.1 How to identify which chemicals are hazardous.....	
2.2 Safety Data Sheets (SDS)	
2.3 Labels	
2.4 Other sources of information	
3. ASSESSING RISKS	
3.1 Decide who should do the assessment	
3.2 Decide what sort of risk assessment is appropriate	
3.3 Things to consider in assessing health risks.....	
3.4 How to assess physicochemical risks.....	
4. CONTROLLING RISKS.....	
4.1 The hierarchy of control.....	
4.2 <i>Specific control</i> measures	
4.3 Maintaining control measures.....	
4.4 Providing information, training, instruction and supervision	
5. MONITORING AND REVIEW	
5.1 Health monitoring	
5.2 Reviewing control measures.....	
6. EMERGENCY PREPAREDNESS	
6.1 Emergency plan	
6.2 Emergency equipment and safety equipment.....	

6.3	Fire protection systems
6.4	Monitors and alarms
6.5	Automatic sprinkler systems
6.6	Water supply

BAE 638 Environmental Engineering in Hazardous Areas

HAZARDOUS MATERIALS AND HAZARDOUS WASTE MANAGEMENT

NOISE

SOCIOECONOMICS

TRANSPORTATION

UTILITIES

ENVIRONMENTAL JUSTICE

SUBSISTENCE

Mercury in the Environment

Health Hazards

MINE HEALTH AND SAFETY ACT

PIPELINE SAFETY REGULATIONS

Diploma in Renewable Energy Engineering

This course provides the necessary knowledge and skills required to assess, plan, select and design the renewable energy engineering.

It integrates renewable energy principles, electrical/ mechanical and civil engineering principles in renewable contexts.

The program will equip graduates with the knowledge and ability to design and apply a range of technologies in the renewable energy spectrum, with specialisation in either electrical and mechanical/civil engineering. These specialisations reflect the diverse opportunities within the industry, from the process of conversion and storage of energy to infrastructure and associated civil engineering activities. The program will provide educational and career pathways to students from multiple industry backgrounds across a range of different career aspirations.

Pre-requisites

- AGTI, BE Degree in any discipline
- B.Sc Degree
- B C Sc, B C Tech degrees

List of subjects

RE001- Foundation Studies in Renewable Energy and Sustainability

RE002- Grid Connected Photovoltaic Power Systems

RE003- Solar and Thermal Energy Systems

RE004- Energy Storage Systems

RE005- Renewable Energy Resource Analysis

RE006- Wind Energy Conversion Systems

RE007- Energy System Efficiency

Duration of the course

(A) Publics Seminar Mode

Part 1-

Day 1 Morning

RE001- Foundation Studies in Renewable Energy and Sustainability

Day 1 Afternoon

RE002- Grid Connected Photovoltaic Power Systems

Day 2 Morning

RE003- Solar and Thermal Energy Systems

Day 2 Afternoon

RE004- Energy Storage Systems

Part 2-**Day 3 Morning**

RE005- Renewable Energy Resource Analysis

Day 3 Afternoon

RE006- Wind Energy Conversion Systems

RE007- Energy System Efficiency

The participants who attends the session will receive the Certificate of Attendances

(B) Formal Attendance Mode

One year

RE001- Foundation Studies in Renewable Energy and Sustainability

In this subject you will learn about the areas of renewable energy technologies and sustainability. On completing this subject you will be able to:

- ☐ ☐ investigate the factual basis behind climate change and its impact on Earth;
- ☐ ☐ utilise Engineering Principles to evaluate both non-renewable and renewable energy systems;
- ☐ ☐ analyse the principles and benefits of renewable energy technologies; and
- ☐ ☐ propose principles of sustainable living and how society can move to a sustainable post-carbon economy.

RE002- Grid Connected Photovoltaic Power Systems

In this subject you will learn the basics about photovoltaics and grid design. On completing this subject you will be able to:

- ☐ ☐ perform calculations relating to solar geometry and available solar energy;

□□design and cost a grid connected photovoltaic power system to suit a client's load requirement, location and budget, in accordance with workplace health and safety, Australian and industry standards; and

□□provide advice to clients on selection of a grid connect photovoltaic power system.

RE003- Solar and Thermal Energy Systems

In this subject you will learn about solar and thermal energy systems. On completing this subject you will be able to:

□□analyse relevant background issues in solar and waste heat based heating, cooling and mechanical power generation systems;

□□perform heating load calculations for domestic, commercial and industrial applications;

□□identify the solar/-thermal environment for any terrestrial location;

□□examine the various generic types of solar thermal collectors, together with limitations and typical applications of each type;

□□identify various methods of thermal energy storage, together with typical applications;

□□identify various methods of cooling and mechanical power generation using solar and/or waste heat, together with typical applications; and

□□perform calculations aimed at sizing components of heating, cooling and mechanical power generation systems powered from solar or waste heat.

RE004- Energy Storage Systems

In this subject you will learn about energy storage systems. On completing this subject you will be able to:

□□establish a rationale for energy storage technology in energy systems;

□□investigate the application of energy storage in renewable and non-renewable energy systems;

□□relate physical principles associated with energy storage systems;

□□perform calculations related to development of energy storage systems;

□□assess the environmental impacts and benefits of energy storage; and

□□ design and cost a small-scale energy storage system to suit a given engineering requirement.

RE005- Renewable Energy Resource Analysis

In this subject you will learn about renewable energy resource analysis. On completing this subject you will be able to:

□□ undertake calculations on energy generation and consumption, and relate findings to behavioural trends;

□□ explain contemporary thermodynamic power cycles and relate scope of fossil fuel consumption;

□□ investigate renewable energy initiatives and technologies, including solar, wind, hydro and biomass initiatives and technologies;

□□ investigate regional approaches to using renewable energy sources, including geo-thermal and ocean energy; and

□□ analyse and critique concepts related to the hydrogen economy, and explain physical and political constraints associated with its practical operation.

RE006- Wind Energy Conversion Systems

In this subject you will learn about wind energy conversion systems. On completing this subject you will be able to:

□□ undertake various kinematic, power, wind and site related calculations;

□□ use instruments, internet resources, site features to undertake wind energy calculations;

□□ analyse WECS turbine construction and characteristics;

□□ select and position a tower to suit anemometer and turbine and undertake basic DC wiring of a system;

□□ use site and turbine data to fully design and evaluate energy yield with payback; and

□□ identify workplace health and safety considerations related to the design and construction of wind conversion systems.

RE007- Energy System Efficiency

In this subject you will learn about the efficiency of energy systems. On completing this subject you will be able to:

□□perform calculations related to energy conversion and energy auditing, and outline their underlying principles;

□□outline the economic and environmental benefits of energy efficiency; explain current methods employed to improve energy efficiency in all areas of the energy supply sector; and

□□explain the principles of distributed generation systems in relationship efficiency and renewable energy systems.

Advanced Diploma in Electro-Mechanical Engineering (Renewable Energy Construction) (International)

The program will provide broad trans-disciplinary knowledge and skills across the range of Engineering disciplines required to design and implement complex custom distributed energy generation solutions. At the same time students will have an opportunity to acquire in-depth knowledge and skills in either Electrical, Mechanical/Civil Engineering through the selection of a specialisation.

Semester (1)

RE008-Mathematics & Physics (I)

RE009-Mathematics & Physics (II)

RE010-Engineering Materials

RE011-Civil & Mechanical Engineering

Semester (2)

RE012-Electrical Engineering

RE013-Electrical Machines

RE014-Electronics Control

RE015-Electrical Project

Final Project

RE016-Design & Management

RE008-Mathematics & Physics (I)

In this subject you will learn basic principles of mathematics and physics for engineer
You will develop knowledge relating to:

Mathematics:

- Essential algebra
- The number system
- Functions and relations
- Introductory Calculus

Physics:

- Common topics:
- SI units (International System of Units)
- Vectors and scalars

Statics:

- Equilibrium of static forces

Kinematics:

- Motion in one-dimension
- Motion in two-dimensions
- Newton's Laws of Motion
- Work and energy
- Momentum and collisions
- Rotational mechanics

Wave Mechanics:

- Types of waves
 - Sound waves
 - Oscillations
 - Water waves.
-

Mathematics:

- Ordinary differential equations
- Techniques of integration
- Optimisation
- Riemann integral
- Lines and planes
- Vectors and scalars
- Graphs illustrating various functions

Physics:

- Thermal physics
- Fluid mechanics and hydrostatics
- Electrostatics

Electromagnetism:

- Current electricity.
-

RE009 Mathematics & Physics (II)

In this subject you will build upon previous study and gain further knowledge and expertise in applied mathematics and physics. You will develop specific knowledge and skills relating to:

Mathematics:

- Sequences, series and approximations
- Statistics
- Partial Differential Equations
- Matrices

Physics:

- Particle physics and cosmology
 - Electromagnetic waves and the EM Spectrum
 - Nature of light
 - Reflection, refraction and diffraction of light and lenses.
-

In this subject you will gain advanced skills in mathematics and physics. You will develop specialised knowledge and skills relating to:

Mathematics

- Functions and Coordinates
- Eigenvectors and Eigenvalues
- Introduction to Comsol Simulation Program

Physics

- Elements and compounds
 - Quantum Mechanics
 - Nuclear Physics.
-

RE012-Electrical Engineering

In this subject you will learn about basic principles of electrical engineering. You will develop a range of foundation knowledge and skills relating to:

- Notation and units
- Circuit topologies

Direct current (DC) circuit principles:

- Voltage, current, power, resistance, conductance
- Ohm's Law; Kirchhoff voltage and current laws
- Series and parallel configurations
- Linearity and Superposition
- Thévenin and Norton equivalent circuits (simple cases)
- Nodal and mesh analysis (simple cases)
- Maximum power transfer
- Capacitors
- Passive and switched resistor-capacitor (RC) circuits
- Inductors
- Passive and switched resistor-inductor (RL) circuits
- Diodes

Alternating current (AC) circuit principles:

- Amplitude, frequency and phase
 - Voltage
 - Current and power in resistors, inductors & capacitors
 - Time domain analysis of ac circuits
 - Review of complex numbers
 - Phasors and phasor notation
 - Complex impedance and admittance
 - Thévenin and Norton equivalents (simple cases)
 - AC power (real, reactive, complex)
 - Root-mean-square (RMS) values
 - Maximum power transfer.
-

In this subject you will build on basic engineering knowledge gained in previous and develop further knowledge and skills relating to electrical engineering:

Circuit analysis:

- DC and AC Network theorems (Kirchhoff's, Superposition)
- Resonance
- Magnetically coupled circuits

Communications and signalling processing and applications:

- Analogue and digital communications principles
- Filters
- Amplifiers and attenuators
- Communication protocols

Analogue and digital communication systems and control circuits:

- Telemetry and monitoring systems
 - Control systems and applications.
-

RE010-Engineering Materials

In this subject you will learn about the structure, properties and usage of a variety of materials used in engineering applications. You will develop specialised knowledge relating to:

- Material structure and properties
 - Mechanical properties
 - Metals - ferrous and non-ferrous
 - Polymers
 - Ceramics
 - Composites, concrete, other
 - Basic destructive testing
 - Steel – FeC (Iron/Carbon), heat treatment
 - Casting - perm/non-perm
 - Forming - hot, cold
 - Processes - PowderM, welding, Rapid Proto
 - Polymer processes - IM, BM, extrus, thermoset, composites
 - Joining - fasteners, weld, non-fusion
 - Corrosion
 - Surface treatments - plating, coatings, peening, anodising
 - Non-destructive testing
 - Quality assurance and control, certified testing, safety, materials safety data sheets (MSDS)
 - Economic and environmental issues - production/recycling.
-

RE011-Civil & Mechanical Engineering

In this subject you will learn the basics about mechanical and civil engineering principles. You will develop knowledge and applied skills relating to:

- Reactions at beam supports
 - Force couples
 - Shear and bending in beams
 - Analysis of trusses
 - Axial tension and compression
 - Direct shear
 - Bolted connections
 - Welded connections
 - Concrete structures
 - Torsion
 - Thermal stresses
 - Basic properties of fluids
 - Fluid system components (friction and losses)
 - Fluid statics (storage of energy)
 - Fluid flow (hydro systems)
 - Fluid power (wind and wave)
 - Forces developed by flowing fluids (turbines).
-

In this subject you will learn about advanced mechanical and civil engineering principles. You will develop specialised knowledge and skills relating to:

- Dynamics of motion
 - Momentum, Energy and Power
 - Mechanical Vibration
 - Balance and reaction of rotating masses
 - Stress and Strain
 - Strain Energy and dynamic loads
 - Centroid and second moment of area
 - Bending and sheer in beams and shafts
 - Combined Stress
 - Beam Deflection
 - Concrete Structures
 - Reynolds number and flow regime
 - Head loss in pipes and fittings
 - Pipe flow series and parallel
 - Fluid machinery (Wind and wave energy)
 - Pumping Systems (Hydro energy storage systems).
-

RE013 Electrical Machines

In this subject you will learn basic principles of electrical machinery. You will develop specialised knowledge and skills relating to:

Transformers:

- Transformer Principles and Construction
- Efficiency
- Impedance
- Equivalent circuit
- Polarity
- Vector groups
- Parallel operations
- Special Transformers (Auto and Instrument etc)

Induction Motors:

- Principle of Induction Motor
- Construction and operation of Squirrel Cage Induction Motors (SCIM) and Wound Rotor Induction Motors (WRIM)
- Operation and characteristics
- Induction Generator
- Single Phase Induction Motor

Synchronous Machines:

- Principles of operation
- Characteristics
- Motors
- Alternators

DC Machines:

- Principles of operation
- Shunt Series Compound Machines
- Characteristics

Single Phase and Special Motors:

- Split Phase motor
 - Capacitor Start/Run motor
-

- Shaded Pole motor
- Universal motor
- Hysteresis motor
- Stepper motors
- Brushless DC motors
- Permanent magnet motors
- Variable reluctance motors
- Stepper motors
- Brushless DC motors

Electronic Control of Motors

- DC Motors
 - AC Motors.
-

RE014-Electronics Control

In this subject you will learn about electronics and power control. You will develop specialised knowledge and skills relating to:

Semiconductors, diodes, transistors and integrated circuits:

- Semiconductor materials and junctions
- Diode construction, operation, ratings and applications
- Transistor construction, operation, ratings and applications
- Integrated circuit construction, operation, ratings and applications especially as related to operational amplifiers

Linear regulated dc power supplies:

- Basic power supplies (ac to dc and dc to dc), circuits and applications
- Regulation requirements and applications

Switching power control circuits:

- Basic types, operation
- Critical issues, solutions and applications

Digital electronics

- Digital logic, circuits and power control applications

Power Inverters (DC to AC):

- Basic types, operation
 - Critical issues, solutions and applications.
-

RE015-Electrical Practice

In this subject you will learn about the practices of an engineering professional within a multidisciplinary framework. You will develop basic knowledge and skills relating to electrical and other engineering specialisations, including:

Introduction to the Regulatory System:

- Electricity Act
- Electricity Regulation Australian
- Standards State Regulators
- Workplace Health and Safety
- Engineers Code of Ethics

Drawings And Specifications:

- Drawing Interpretation
- Overview of Computer Aided Design (CAD)
- Writing a Specification

Generation and Distribution:

- Generating Plant
- Transmission Grid
- Substations

Fasteners and Fastening Methods:

- Methods of securing electrical equipment to various surfaces

Wiring Systems:

- Load Calculations
- Max. Demand
- Cables and Systems
- AS3008

Control and Protection:

- Earthing
- Protection for safety
- Faults and overloads
- Protective devices and methods

Illumination:

- Basic Lighting Concepts
- Vision and Colour
- Lamps and luminaires
- Control
- Photometric calculations

Emergency Systems:

- Batteries
 - Emergency Lighting
 - Fire/Smoke detection systems.
-

RE016-Design & Management

In this subject you will learn the fundamentals of engineering management. You will develop foundation knowledge and skills relating to:

Foundation Engineering Management:

- Management past and present
- Management versus leadership
- Managing technology
- Management processes
- Management decision making / problem solving

Engineering in society:

- Role and social responsibilities of engineering
- Engineering ethics / professional practice
- Sustainability management
- Managing innovation
- Engineers in business
- People and organisations:
- Leadership
- Culture in organisations
- Human resource management
- Building interpersonal and communication skills
- Workplace health and safety
- Organisational structures

Managing projects:

- Project team dynamics
 - Project lifecycle and phases
 - Client management and contracts
 - Project scoping and planning
 - Project resources (human, financial, physical etc.)
 - Project task analysis and budgeting
 - Project task control
 - Project finalisation
-

Advanced Study

Bachelor of Engineering (Renewable Energy Engineering)

Associate Degree in Applied Engineering (Renewable Energy Engineering)

(4 points / unit x 15 units = 60 points)

Year 1	BE (RE)Units of UNSW
RE101	Mathematics 1A (MATH1131)
RE102	Mathematics 1B (MATH1231)
RE103	Physics 1A (PHYS1121)
RE104	Physics 1B (PHYS1221)
RE105	Engineering Design (ENGG1000)
RE106	Electronics & Telecomm Engineering (1) (ELEC1111)
RE107	Sustainable Energy (SOLA1070)

Year 2	BE (RE)Units of UNSW
RE201	Electronics & Telecomm Engineering (2) (ELEC1111)
RE202	Numerical Methods & Statistics (MATH2089)
RE203	Engineering Materials and Chemistry (MATS1101)
RE204	Project in PV and Solar Energy (SOLA2051)
RE205	Sustainable & Renewable. Energy. Technology (SOLA2053)
RE206	Introduction to Electronics Devices (SOLA2060)
RE207	Applied Photo Voltaics (SOLA2540)
RE208	Project Presentation

Bachelor of Applied Engineering (Renewable Energy Engineering)

(4 points / unit x 15 units = 60 points+ Thesis)

Year 3	BE (RE)Units of UNSW
RE301	Low Energy Buildings and PV (SOLA3010)
RE302	PV Technology & Manufacturing (SOLA3020)
RE303	Software Engineering (COMP3111)
RE304	Analogue Electronics (ELEC2133)
RE305	Power Electronics (ELEC4614)

RE306	Electromagnetic Engineering (ELEC3115)
RE307	Circuits and Signals (ELEC2134)
RE308	Control Systems (ELEC3114)

Year 4	BE (RE)Units of UNSW
RE401	Fluid Mechanics (MMAN2600)
RE402	Thermodynamics (MMAN2700)
RE403	Computational Fluid Dynamics (MECH9620)
RE404	Strategic Leadership & Ethics (ELEC4122)
RE405	Grid-Connect PV System (SOLA4012)
RE406	Wind Energy Converters (SOLA5053)
RE407	Semiconductor Devices (SOLA5055)
RE408	Thesis

Total 120 Points + Thesis for award of Bachelor of Engineering (Renewable Energy Engineering)

PATHWAY (1)

PUBLIC SEMINAR + ASSIGNMENT ---Diploma in Renewable Energy Engineering-
-----then continue ---- BE (RE)

OR

Diploma in Renewable Energy Engineering (International)

-----then continue ---- BE (RE)

PATHWAY (2)

PUBLIC SEMINAR + ASSIGNMENT --- Diploma in Renewable Energy Engineering

OR

Diploma in Renewable Energy Engineering (International)

Then continue to do Advanced Diploma in Electro-Mechanical Engineering
(Renewable Energy Construction)

Then do the advanced units in BE (RE) & complete BE (RE)

Detailed description of subjects in BE (Renewable Energy Engineering)

RE101-Mathematics 1A - MATH1131

Description

- Complex numbers, vectors and vector geometry, linear equations, matrices and matrix algebra, determinants. Functions, limits, continuity and differentiability, integration, polar coordinates, logarithms and exponentials, hyperbolic functions. Introduction to computing and the Maple symbolic algebra package.

Assumed knowledge: HSC Mathematics Extension 1. Students will be expected to have achieved a combined mark of at least 100 in Mathematics and Mathematics Extension 1

RE102-Mathematics 1B - MATH1231.

Description

- Vector spaces, linear transformations, eigenvalues and eigenvectors. Introduction to probability and statistics. Integration techniques, solution of ordinary differential equations, sequences, series, applications of integration.

RE103-Physics 1A - PHYS1121.

Description

- This course provides an introduction to Physics. It is a calculus based course. The course is examined at two levels, with Physics 1A being the lower of the two levels.
Mechanics: particle kinematics in one dimension, motion in two and three dimensions, particle dynamics, work and energy, momentum and collisions.
Thermal physics: temperature, kinetic theory and the ideal gas, heat and the first law of thermodynamics. Waves: oscillations, wave motion, sound waves.

RE104-Physics 1B - PHYS1221

Description

- This is the second of the two introductory courses in Physics. It is a calculus based course. The course is examined at two levels, with Physics 1A being the lower of the two levels.

Electricity and Magnetism: electrostatics, Gauss's law, electric potential, capacitance and dielectrics, magnetic fields and magnetism, Ampere's and Biot-Savart law, Faraday's law,

induction and inductance. Physical Optics: light, interference, diffraction, gratings and spectra, polarization. Introductory quantum theory and the wave nature of matter. Introductory solid state and semiconductor physics: simple energy band picture.

RE105-Introduction to Engineering Design and Innovation - ENGG1000

Description

- In this course, students will experience first hand one of the major things that engineers do: designing and building creative solutions to problems. They will learn to think the way that engineers think, coming up with good solutions to problems despite being limited by budget, time and resources, the requirement to also meet environmental and social objectives and of course the limitations of the laws of physics. This will help them to appreciate the central ideas of engineering design as an on-time, on-budget and fit for purpose solution to a poorly specified, open-ended problem. They will be assigned to a team to work over a ten week period to solve a practical problem. The projects on offer change from year to year. In doing all this they will start to build key skills for engineers that will be called upon repeatedly in their academic and professional lives, including concept development, critical thinking and evaluation skills, clear communication, research and information literacy skills and the skills involved in successfully functioning within a team environment to complete a given task.

RE106-Electrical and Telecommunications Engineering - ELEC1111

Description

- An introduction to the art and science of Electrical Engineering and Telecommunications, and the systems approach to engineering design. Examples of electrical and electronic devices, circuits and analogue and digital systems. Analogue circuit analysis. Digital electronics and combinatorial logic. Transformers, power sources and electrical energy systems including DC and AC motors. Feedback control. Telecommunications systems, including frequency, spectra, modulation and Internet systems. Safety standards.

RE107-Sustainable Energy - SOLA1070

Description

- Students will be introduced to the concept of energy in its different forms through a range of lectures and demonstrations. These demonstrations will also introduce the concepts of energy storage, energy efficiency, energy conversion and sustainability. An overview is given of issues surrounding sustainable energy for future generations. The status and impact of

present day sources of energy are covered, including the sustainability of fossil fuel reserves and the impact of pollution and greenhouse gas emissions on the environment. Energy efficiency, as an important way to conserve our natural fuel reserves and reduce environmental and financial costs, is covered. Building design, appliance efficiency and other issues related to the smart and efficient use of energy are covered. Trends in the renewable energy industry are considered. An overview is given of renewable energy sources, their harnessing and their conversion into electricity via various technologies. In particular, an overview is given of solar cells and their applications with emphasis on visual presentations and interesting case histories, including some fascinating mistakes and disasters. Students will also explore the design and fabrication of silicon solar cells while working as engineers on the "Virtual Solar Cell Production Line".

RE201-Electrical and Telecommunications Engineering (2)- ELEC1111

Description

- An introduction to the art and science of Electrical Engineering and Telecommunications, and the systems approach to engineering design. Examples of electrical and electronic devices, circuits and analogue and digital systems. Analogue circuit analysis. Digital electronics and combinatorial logic. Transformers, power sources and electrical energy systems including DC and AC motors. Feedback control. Telecommunications systems, including frequency, spectra, modulation and Internet systems. Safety standards.

RE202-Numerical Methods and Statistics - MATH2089

Description

- Numerical Methods: Numerical differentiation, integration, interpolation and curve fitting (regression analysis). Solution of linear and non-linear algebraic equations. Matrix operations, and applications to solution of systems of linear equations, elimination and tridiagonal matrix algorithms. Introduction to numerical solution of ordinary and partial differential equations.
Statistics: Exploratory data analysis. Probability and distribution theory including binomial, Poisson and normal. Large sample theory including the Central Limit Theorem. Statistical inference including estimation, confidence intervals and hypothesis testing. One-sample and two-sample tests. Linear regression. Analysis of variance. Design and analysis of experiments. Applications will be drawn from mechanical, mining, photovoltaic and chemical engineering and surveying. Matlab will be used in this course.

RE203-Engineering Materials and Chemistry - MATS1101

Description

- The course covers: stoichiometry, atomic and molecular structure, states of matter, equilibrium, oxidation and reduction, electrochemistry; an introduction to organic chemistry and polymers; microstructure and structure-property relationships of the main types of engineering materials (metals, ceramics, polymers and composites); micromechanisms of elastic and plastic deformation; fracture mechanisms for ductile, brittle, creep and fatigue modes of failure in service; corrosion; metal forming by casting and wrought processes; phase equilibria of alloys; microstructural control by thermomechanical processing and application to commercial engineering materials.

RE204-Project in Photovoltaics and Solar Energy 1 - SOLA2051

Description

- .The main emphasis of the second year group project course is hands-on project engineering. The course has a lecture component covering project engineering, report writing, presentation skills, occupational health and safety, and theoretical principles specific to the project work to be undertaken. The project comprises a research component, a planning and design component, a significant hands-on component, and a presentation/reporting component.

RE205-Sustainable & Renewable Energy Technologies - SOLA2053

Description

- This course includes an introduction to issues in sustainable and renewable energy, including environmental impact, resource depletion, basic engineering economic analysis, embodied energy, payback times and the integration of renewable energy sources with conventional infrastructure. The course reviews key concepts such as basic thermodynamics, heat transfer and fluid dynamics to allow analysis of the physical operation of energy generation systems, with key renewable energy sources and generation systems examined including wind, biomass, solar thermal, hydroelectric, geothermal, tidal and wave energy. The course emphasises engineering problem solving, design skills and creative thinking.

RE206-Introduction to Electronic Devices - SOLA2060

Description

- Operation, circuit characteristics, basic design principles and applications of a range of semiconductor devices. Material covered includes pn junction theory, bipolar junction transistors, avalanche diodes, MOSFET's, basic digital circuits, solar cells, light emitting diodes, semiconducting lasers and photodetectors.

RE207-Applied Photovoltaics - SOLA2540

Description

- Photovoltaic (PV) devices convert sunlight directly to electricity with low levels of greenhouse gas emissions per kWh of electricity produced. This course covers factors important to the operation, design and construction of solar cells and PV system design. Students will learn principle of operation of solar cells, loss mechanisms and design features to improve efficiency of solar cells and modules. In addition, students are introduced to application and design of PV systems. System design is focused on stand-alone PV systems but other specific applications such as Remote Area Power Supply systems and Grid-Connected PV systems are also discussed. Importantly, simulation and laboratory exercises are used to reinforce an understanding of modelling and characterisation of solar cells and PV modules.

RE301-Low Energy Buildings and Photovoltaics - SOLA3010

Description

- There is currently significant interest in reducing energy use and greenhouse gas production in buildings by designing buildings that are climate-appropriate, implementing energy efficiency measures and producing energy from renewable sources. Prediction of building thermal, lighting performance and solar access, and techniques for energy efficient design will be introduced, with a focus on residential buildings. A competency in the use of building energy simulation software will be developed.

Photovoltaics (PV) is one of the few renewable electricity generation options that can be readily used in urban areas and has no environmental impacts at the site. This course will examine the integration of PV modules into the building envelope. Technical issues associated with the use of PV in buildings and the urban environment, such as heat transfer

processes, partial shading, and mismatch and system siting, sizing and configuration will be investigated. System performance assessment and prediction will be introduced.

RE302-Photovoltaic Technology and Manufacturing - SOLA3020

Description

- Sufficient theory relating to the operating principles of solar cells is covered to give an appreciation of the strengths and weaknesses of the dominant commercial cell technologies. Trends in commercial cell technology and the corresponding manufacturing processes and environment are considered. The impact of various processing and device parameters on performance, yields and product reliability are studied. Insight is given into complete production processes for both screen-printed solar cells and buried contact solar cells. In-line quality control techniques are studied with laboratory classes used to give students first-hand experience in their use as well as exposing them to manufacturing processes. Students will also be given the opportunity to take control of the "virtual production line" to adjust the equipment controls and processing parameters to try and optimize performance and maximize yields, etc. In-line quality control procedures are available to the student to aid in this optimization and will prove to be particularly useful in identifying and rectifying computer generated faults associated with the production. Other laboratory work focuses on the use, measurement and analysis of encapsulated modules of cells. Modules with a range of faults are examined and techniques for fault diagnosis developed.
- Solar cells harness the energy of sunlight and convert it directly into electricity. This course covers factors important in the understanding, design and characterisation of solar cells. It will extend students' existing semiconductor device understanding and provide a sound basis in key practical processes such as solid state diffusion and device contacting. Students are introduced to a range of laboratory-based and commercial solar cell technologies in this course including silicon (wafer-based) technologies, thin film technologies, multi-junction, concentrator and third generation concepts and technologies. Simulation exercises, using the PC1D program, are used to reinforce an understanding of device physics and the different solar cell technologies. In addition, students will learn about characterisation techniques that will enable them to study solar cells with regard to their effects on spectral response, temperature sensitivity, resistive losses, current generation and open-circuit voltages.

RE303-Software Construction: Techniques and Tools - COMP2041

Description

- Software system decomposition and design. Overview of the software development life-cycle. Command languages. Version control and configuration management, programming for reliability. Testing and debugging techniques. Profiling and code improvement techniques. Practical work involving programming-in-the-large.

RE304-Analogue Electronics - ELEC2133

Description

- Device physics of diodes, BJTs and MOSFETs. Nonlinear transistor models: Ebers-Moll, transport. Full and simplified models of BJTs and MOSFETs (inc. small-signal models). Zener and Schottky diodes. DC biasing, biasing using current sources, operating point, large-signal analysis. Linearisation, small-signal analysis. Input- and output impedances, power gain. Two-ports. Feed-back, effects of feed-back; stability and compensation techniques. Circuits with non-ideal op-amps. Common base, emitter and collector amplifiers; differential pairs. Multistage amplifiers, cascades, cascodes. AC response of 1-stage amplifiers, Miller effect. Non-linear circuits: oscillator, Schmitt trigger. A-D and D-A converter principles
- Non-ideal effects in electronic circuits and systems: Noise; device noise, external noise, CMRR, PSRR, mixed A/D. Distortion; non-linearity, dynamic range, saturation. Stability and performance sensitivity to parameter variations. Some simple design for stability and performance. Design optimisation. Power-supply distribution and decoupling. Mixed analogue/digital system design, including grounding and shielding. Device modelling in SPICE. Data sheet interpretation. Design of analogue and digital circuits and system components: Non-linear circuits; oscillators, PLLs, multipliers, AGCs, schmitt triggers. Introduction to filter design; active filters; op-amp. Sensors and actuators, PTAT; instrumentation amplifiers and signal conditioning. Low-level design and optimisation of digital CMOS gates. Gate delay, power dissipation, noise margins, fan-out. Introduction to integrated circuit design. Thermal consideration, power supplies, reliability, uC watchdogs

RE305-Power Electronics - ELEC4614

Description

- Power semiconductor switching devices and their limitations; Switching characteristics, protection and limitations of various types of power semiconductor switches; Elementary concepts in power electronics; Application of power electronic converters in energy conversion, utility applications and power supplies and utilizations; Diode rectifier circuits, multi-pulse rectifiers, input and output waveform characterization, filter design. Non isolated DC-DC converters, circuits topologies, characteristics with continuous and discontinuous conduction, circuit design and control considerations, Quadrant operation; Isolated DC-DC converters, transformer design issues, core resetting; Single-phase and three-phase DC-AC inverters, modulation strategies, output waveform analysis and filter design; Utility interfaces; High power applications; Converter system implementation

RE306-Electromagnetic Engineering - ELEC3115

Description

- Review of vector calculus, Electric Fields: Coulomb's and Gauss's laws and Maxwell's equations, Electric potential, Laplace's and Poisson's equations; Magnetic Fields: Biot-Savart law, Vector potential and Ampere's law and Maxwell's equations; Application of Gauss's law; Solution of Poisson's and Laplace's equations for electric field; Boundary value problems and method of images; Dielectric materials, capacitance, electrostatic energy and forces, losses; Field and current density, conductance; Application of Ampere's law; Magnetic materials, inductance, coupling in magnetic circuits; Magnetic energy and forces. Application of Faraday's law, transformers; Skin effect and skin depth, hysteresis and eddy current losses. Electromagnetic spectrum. Time-varying fields and Maxwell's equations: forms, boundary conditions. Plane electromagnetic waves in lossless/lossy media: polarization, group velocity dispersion, energy flows, Poynting vector, reflection/refraction at boundary. Transmission lines: wave characteristics, impedance and matching. Waveguides: modal analysis of rectangular metallic waveguides. Antennas: antenna patterns and parameters, linear dipole, antenna array.

RE307-Circuits and Signals - ELEC2134

Description

- Circuit elements - energy storage and dynamics. Ohm's Law, Kirchhoff's Laws, simplifying networks of series/parallel circuit elements. Nodal analysis. Thivenin and Norton equivalents, superposition. Operational amplifiers. Transient response in first-order RLC circuits. Solutions via solving differential equations. Transient response in second-order RLC circuits. State equations, zero input response, zero state response. Using MATLAB to solve state equations. Sinusoidal signal: frequency, angular frequency, peak value, RMS value, and phase. DC vs AC, average vs RMS values. AC circuits with sinusoidal inputs in steady state. Use of phasor and complex impedance in AC circuit analysis. AC power (real, reactive, apparent), power factor, leading/lagging. Resonance. Transformers and coupled coils. Laplace transforms of signals and circuits. Network functions and frequency response. Periodic signals and Fourier series. Introduction to filter design. Introduction to nonlinear circuits and small signal analysis.

RE308-Control Systems - ELEC3114

Description

- Recognition of what a control system is, and the distinction between simple and complex control systems. Analysis and design tools for dealing with simple control systems up to second order: Differential equations, Laplace transforms, transfer functions, poles and zeros, state space models, modeling, first and second order systems, stability, steady-state errors, root locus, Bode and Nyquist plots, transient response analysis and design, PID control, lead-lag compensation, simple frequency response techniques. Stabilising feedback control for transfer function and state-space models.

RE401-Fluid Mechanics - MMAN2600

Description

- Fluid properties. Fluids in static equilibrium. Buoyancy. Pressures in accelerating fluid systems. Steady flow energy equations. Flow measurement. Momentum analysis. Dimensional analysis and similarity. Pipe flow. Incompressible laminar and turbulent flow in pipes; friction factor. Laminar flow between parallel plates and in ducts. Elementary boundary layer flow; skin friction and drag. Pumps and turbines. Pump and pipeline system characteristics.

RE402-Thermodynamics - MMAN2700

Description

- Thermodynamic concepts, systems, property, state, path, process. Work and heat. Properties of pure substances, tables of properties and equations of state. First law of thermodynamics. Analysis of closed and open systems. Second law of thermodynamics, Carnot cycle, Clausius inequality, entropy, irreversibility, isentropic efficiencies. Air-standard cycles. Vapour cycles.

RE403-Computational Fluid Dynamics - MECH9620

Description

- Incompressible flow: primitive equations, stream function, vorticity equations. The conservative property. Stability analysis. Explicit, implicit methods. Upwind differences. SOR methods. Fourier series methods. Pressure, temperature solutions. Solving the primitive equations.

RE404-Strategic Leadership & Ethics - ELEC4122

Description

- Theories of leadership; leadership of teams. Organisational behaviour. Strategic planning. Uncertainty and risk. The interaction of laws with engineering projects and innovations. The role of engineering in society; assessment of innovation in processes and products. Engineering ethics principles and practice: an introduction to ethical systems; the application of ethical frameworks to engineering practice with particular reference to electrical engineering and computing; codes of ethics in the professions; social, political, environmental and economic considerations.

RE405-Grid-Connected Photovoltaic Systems - SOLA4012

Description

- This course familiarizes students with issues relevant to the use of photovoltaics in systems connected to the electricity distribution network with the aim of attaining competency in design and specification. The types of systems considered include residential, building

integrated, distributed grid-support and central station. System components, design, operation, safety, standards and economics are addressed making extensive use of past field experience and site visits where appropriate.

RE406-Wind Energy Converters - SOLA5053

Description

- This course will cover the principles of wind energy and wind power, as well as the design and operation of different types of wind energy converters. It will include machines for water pumping, remote area power supply and grid electricity generation. It will cover issues of site selection, monitoring and analysing wind data, estimating output from wind generators, integrating wind generators into hybrid power systems or the grid, economics, standards and environmental impacts.

RE407-Semiconductor Devices - SOLA5055

.Description

- This course describes the operating principles of modern semiconductor devices, relates terminal properties to their internal structure, and gives an understanding of how terminal properties will change with operating conditions. Devices covered include p-n junction diodes, solar cells, bipolar junction transistors, field effect transistors (MOSFETs), light-emitting diodes and semiconductor lasers, with emphasis on photovoltaic (semiconductor solar cells) and photonic (semiconductor LEDs and lasers) applications. This course may be taught concurrently with SOLA9005.

MASTER OF SCIENCE (RENEWABLE ENERGY) LEARNING SUPPORT WEBSITE

www.mongroupsdney1.com/redegree.pdf

Part (1) Preliminary Course

ENEGY101A FOUNDATION STUDIES IN RENEWABLE ENERGY AND SUSTAINABILITY

RE001 Audio.zip (398.77MB)

http://www.filefactory.com/file/bivi3ahp1dj/n/RE001_Audio.zip

RE001+ENERGY 101A.pptx (209.26MB)

http://www.filefactory.com/file/2uf9ao1a2vlb/n/RE001+ENERGY_101A.pptx

AEEGY202A RENEWABLE ENERGY RESOURCES ANALYSIS

AEEGY202A+RE005 Part 1.ppt (53.86MB)

http://www.filefactory.com/file/77y5i78hdzcn/n/AEEGY202A+RE005_Part_1.ppt

AEEGY202A+RE005 Part 1 Audio.zip (41.66MB)

http://www.filefactory.com/file/3bpvzmy8xbzd/n/AEEGY202A+RE005_Part_1_Audio.zip

AEEGY202A+RE005 Part 2.pptx (39.15MB) (A)

http://www.filefactory.com/file/64zy2zn488hz/n/AEEGY202A+RE005_Part_2.pptx

AEEGY202A+RE005 Part 2 Audio.zip (45.64MB) (A)

http://www.filefactory.com/file/28ezfxr81nrd/n/AEEGY202A+RE005_Part_2_Audio.zip

AEEGY202A+RE005 Part 2B.pptx (93.09MB)

http://www.filefactory.com/file/64klwvxw0ihr/n/AEEGY202A+RE005_Part_2B.pptx

AEEGY202A+RE005 Part 2B Audio.zip (81.25MB)

http://www.filefactory.com/file/5bj0lat5uj9n/n/AEEGY202A+RE005_Part_2B_Audio.zip

AEEGY202A+RE005 Part 3.pptx (118.93MB)

http://www.filefactory.com/file/2p5ermf05afl/n/AEEGY202A+RE005_Part_3.pptx

AEEGY202A+RE005 Part 3 Audio.zip (64.72MB)

http://www.filefactory.com/file/4i49w8o1jl9h/n/AEEGY202A+RE005_Part_3_Audio.zip

AEEGY202A+RE005 Part 4.pptx (123.38MB)

http://www.filefactory.com/file/sbvdq1ehtr9/n/AEEGY202A+RE005_Part_4.pptx

AEEGY202A+RE005 Part 4 Audio.zip (59.74MB)

http://www.filefactory.com/file/9y5u1pmai6v/n/AEEGY202A+RE005_Part_4_Audio.zip

AEEGY202A+RE005 Part 5.pptx (198.14MB)

http://www.filefactory.com/file/56apturehrt/n/AEEGY202A+RE005_Part_5.pptx

AEEGY202A+RE005 Part 5 Audio.zip (109.2MB)

http://www.filefactory.com/file/4ta6mux5uzk7/n/AEEGY202A+RE005_Part_5_Audio.zip

AEEGY202A+RE005 Part 5a.pptx (181.83MB)

http://www.filefactory.com/file/4o9g6qr2xr0r/n/AEEGY202A+RE005_Part_5a.pptx

AEEGY202A+RE005 Part 5a Audio.zip (82.43MB)

http://www.filefactory.com/file/13akyrzczg9tf/n/AEEGY202A+RE005_Part_5a_Audio.zip

AEEGY202A+RE005 Part 6.pptx (140.55MB)

http://www.filefactory.com/file/6ecfxxbaih11/n/AEEGY202A+RE005_Part_6.pptx

AEEGY202A+RE005 Part 7.pptx (37.26MB)

http://www.filefactory.com/file/6kw4yv0yd4lh/n/AEEGY202A+RE005_Part_7.pptx

AEEGY202A+RE005 Part 7 Audio.zip (12.28MB)

http://www.filefactory.com/file/44xii255egpr/n/AEEGY202A+RE005_Part_7_Audio.zip

AEEGY202A+RE005 Part 6 Audio.zip (56.4MB)

http://www.filefactory.com/file/31cfsc70cgn7/n/AEEGY202A+RE005_Part_6_Audio.zip

AEEGY 203A WIND ENERGY CONVERSION SYSTEM

AEEGY202A+RE005 Part 4.pptx (123.38MB)

http://www.filefactory.com/file/sbvdq1ehtr9/n/AEEGY202A+RE005_Part_4.pptx

AEEGY 201A ENERGY STORAGE SYSTEM

AEEGY201A-RE004 Part 1.pptx (84.17MB)

http://www.filefactory.com/file/3zjf4agidtd1/n/AEEGY201A-RE004_Part_1.pptx

AEEGY201A-RE004 Part 1 Audio.zip (98.34MB)

http://www.filefactory.com/file/2cq8kk74lcch/n/AEEGY201A-RE004_Part_1_Audio.zip

AEEGY201A-RE004 Part 2 Audio.zip (78.24MB)

http://www.filefactory.com/file/59f24emes5d5/n/AEEGY201A-RE004_Part_2_Audio.zip

AEEGY201A-RE004 Part 2.pptx (81.12MB)

http://www.filefactory.com/file/593fqr2l92gl/n/AEEGY201A-RE004_Part_2.pptx

AEEGY201A-RE004 Part 3.pptx (122.11MB)

http://www.filefactory.com/file/3sb7u9ni7bx1/n/AEEGY201A-RE004_Part_3.pptx

AEEGY201A-RE004 Part 3 Audio.zip (54.66MB)

http://www.filefactory.com/file/99lsa2qr9j1/n/AEEGY201A-RE004_Part_3_Audio.zip

AEEGY 102A SOLAR AND THERMAL ENERGY SYSTEM

AEEGY102A-Solar & Thermal Energy System-RE003 Part 1.pptx (86.74MB)

http://www.filefactory.com/file/4pfhys6r4f5v/n/AEEGY102A-Solar_&_Thermal_Energy_System-RE003_Part_1.pptx

AEEGY102A Solar & thermal Energy system-RE003 Audio Part 1.zip (78.57MB)

http://www.filefactory.com/file/3g7xyhh758iv/n/AEEGY102A_Solar_&_thermal_Energy_system-RE003_Audio_Part_1.zip

AEEGY102A Solar & thermal Energy system-RE003 Audio Part 2.zip (114.71MB)

http://www.filefactory.com/file/6jd6ba68kmt/n/AEEGY102A_Solar_&_thermal_Energy_system-RE003_Audio_Part_2.zip

AEEGY102A Solar & thermal Energy system-RE003 Audio Part 3.zip (101.76MB)

http://www.filefactory.com/file/6fpzm5yhalkb/n/AEEGY102A_Solar_&_thermal_Energy_system-RE003_Audio_Part_3.zip

AEEGY 101A GRID CONNECTED PHOTOVOLTAICS POWER SYSTEM

AEEGY101A Grid Connected Inverter-RE001 Part 1.pptx (200.1MB)

http://www.filefactory.com/file/7gj00wjnbhgl/n/AEEGY101A_Grid_Connected_Inverter-RE001_Part_1.pptx

AEEGY101A Grid Connected Inverter-RE001 Part 2.pptx (42.84MB)

http://www.filefactory.com/file/2inbe45j7daf/n/AEEGY101A_Grid_Connected_Inverter-RE001_Part_2.pptx

AEEGY101A Grid Connected PV Power System-RE002 Audio 1.zip (87.52MB)

http://www.filefactory.com/file/zugaz0yoa7z/n/AEEGY101A_Grid_Connected_PV_Power_System-RE002_Audio_1.zip

AEEGY101A Grid Connected PV Power System-RE002 Audio 2.zip (146.66MB)

http://www.filefactory.com/file/3rnl5ra5u1yp/n/AEEGY101A_Grid_Connected_PV_Power_System-RE002_Audio_2.zip

AEEGY101A Grid Connected PV Power System-RE002 Audio 3.zip (37.72MB)

http://www.filefactory.com/file/4t3e8rcrczcpp/n/AEEGY101A_Grid_Connected_PV_Power_System-RE002_Audio_3.zip

AEEGY 204 A ENERGY EFFICIENCY

AEEGY204A-Energy Efficcy.pptx (308.2MB)

http://www.filefactory.com/file/4m2zxs94ooyh/n/AEEGY204A-Energy_Efficcy.pptx

AEEGY204A-Energy Syst Efficcy-RE007 Audio.zip (283.59MB)

http://www.filefactory.com/file/64pi797xv52t/n/AEEGY204A-Energy_Syst_Efficcy-RE007_Audio.zip

ENERGY101A FOUNDATION STUDIES IN RENEWABLE ENERGY AND SUSTAINABILITY

Course Outline

In this subject you will learn about the areas of renewable energy technologies and sustainability. You will develop foundation knowledge relating to:

- Defining sustainability and renewable energy
- Non-technical issues in sustainability and renewable energy
- Energy basics efficiency and calculations
- Solar energy systems
- Wind energy systems
- Hydro energy systems
- Biomass energy systems
- Ocean energy systems
- Principles of sustainable living
- Moving to a sustainable economy.

Prescribed Texts:

Mackay, D.J.C. 2008, *Sustainable Energy without the Hot Air*, UIT, Cambridge, England

Study Guide

WEEK NO:	TOPICS AND ACTIVITIES
Orientation Week	Orientation activities Review of syllabus and assessment activities.
Week 1	<ul style="list-style-type: none"> • Introduction to the Subject. • The cause of Climate Change. • Global and Australian Figures. • Climate Change - The Impacts and the imperative for change. Reading List: <ul style="list-style-type: none"> • <i>Sustainable Energy Without the Hot air</i>, pp. 5-18 • <i>ZCA Stationary Energy Plan</i>, pp. 2-3
Week 2	<ul style="list-style-type: none"> • Energy use in Australia. • Energy conversion and efficiency. • Primary, Secondary and End Use energy. Reading List: <ul style="list-style-type: none"> • Dept. of Energy Resources and Tourism, <i>Energy in Australia 2012</i>, pp. 15-28
Week 3	<ul style="list-style-type: none"> • Coal, Oil, Gas and Nuclear Energy Systems. Reading List: <ul style="list-style-type: none"> • Course notes
Week 4	<ul style="list-style-type: none"> • Solar Energy Systems – The Solar Resource – Photovoltaics. Reading List: <ul style="list-style-type: none"> • <i>Sustainable Energy Without the Hot air</i>, pp. 38-49
Week 5	Field Trip <ul style="list-style-type: none"> • Solar Energy Systems - Solar Hot Water, Solar Air conditioning and Solar Thermal Electricity. Reading List: <ul style="list-style-type: none"> • <i>Sustainable Energy Without the Hot air</i>, pp. 38-49 • <i>ZCA Solar Thermal Power Basics and Solar Thermal Power fact sheets</i>
Week 6	<ul style="list-style-type: none"> • Wind Energy Systems – size of the resource, principles of operation, World and Australian wind energy. Reading List: <ul style="list-style-type: none"> • <i>Sustainable Energy Without the Hot air</i>, pp. 32-34, 186-189 • <i>Clean Energy Council Fact sheet on Wind Energy</i> Assessment 1 due: Individual written report - 10%
Week 7	
Week 8	<ul style="list-style-type: none"> • Hydro Energy Systems – size of the resource, principles of operation, World and Australian Hydro energy. Reading List:

WEEK NO:	TOPICS AND ACTIVITIES
	<ul style="list-style-type: none"> • <i>Sustainable Energy Without the Hot air</i>, pp. 55-56 and pp. 190-194 • <i>Clean Energy Council Fact sheet on Hydro Electricity</i> Assessment 2 due: Written report on field trip - 5%
Week 9	<ul style="list-style-type: none"> • Biomass • Geothermal Reading List <ul style="list-style-type: none"> • <i>Clean Energy Council Fact sheet on Geothermal Energy</i> • <i>Clean Energy Council Fact sheet on Bio Energy</i> • <i>Sustainable Energy Without the Hot air</i>, pp. 96-99
Week 10	<ul style="list-style-type: none"> • Ocean Energy – Wave and tidal Reading List: <ul style="list-style-type: none"> • <i>Sustainable Energy Without the Hot air</i>, pp. 73-75; pp. 81-87; pp. 307-321 • <i>Clean Energy Council Fact sheet on Marine Energy</i>
Week 11	<ul style="list-style-type: none"> • The imperative for Sustainability • Moving to Renewable Energy Reading List: <ul style="list-style-type: none"> • <i>Less is More</i>, pp. 205-235
Week 12	<ul style="list-style-type: none"> • Sustainable Building Design • Sustainable Food and Farming Reading List: <ul style="list-style-type: none"> • <i>Sustainable Energy Without the Hot air</i>, pp. 76-80 • www.yourhome.gov.au <i>Technical Manual</i>, pp. 69-127
Week 13	<ul style="list-style-type: none"> • Sustainable Transport • Sustainable Mining and Manufacturing Reading List: <ul style="list-style-type: none"> • <i>Sustainable Energy Without the Hot air</i>, pp. 29-31; 35-37; 118-139; 88-95 and 322-326 • <i>ZCA Stationary Energy Plan</i>, pp. 16-19 Assessment 3 due: Collaborative written report – 30% Assessment 4: Presentation based on collaborative written report – 10%
Week 14	Study Week
Week 15	Examination Week B: Assessment 5: Written examination - 45%

Lesson Power Points

<http://www.filefactory.com/file/29b5cgy28f4p/RE001%2BENERGY%20101A.pdf>

Password- Joe2013

Textbook

Prescribed Texts:

Mackay, D.J.C. 2008, *Sustainable Energy without the Hot Air*, UIT, Cambridge, England

http://www.filefactory.com/file/1ptdekissa69/Sustainable_energy_without_hot_air_pdf

Password- Joe2013

Tutorial Exercises

Further Readings

[K131](#)

http://www.filefactory.com/file/7hvv22gtz2lx/n/K131_zip

http://www.filefactory.com/file/1mr75xfm92ux/n/K032_zip

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AEEGY 101A Grid Connected Photovoltaics Power System

Course

Outline

In this subject you will learn the basics about photovoltaics and grid design. You will develop knowledge and applied skills relating to:

- Solar geometry
- Solar radiation terms and measurements
- Photovoltaic cell and module characteristics
- Manufacture of photovoltaic modules
- Photovoltaic array design and characteristics
- Effects of tilt, orientation, temperature and shading
- Workplace health and safety standards, Australian and industry standards
- Inverter principles and requirements for grid-connected inverters in Australia
- Inverter and Array matching
- Wiring, Protection and Earthing
- Metering and Tariff arrangements
- Installation and Commissioning
- Maintenance.

Study Guide

Lesson Power Points

<http://www.filefactory.com/file/5u2urjc3d0hx/AEEGY101A%20Grid%20Connected%20Inverter-RE001%20Part%201.pdf>

Password- Joe2013

Textbook

Prescribed Texts:

Stapleton G & Neill S 2012, *Grid-Connected Solar Electric Systems*, Earthscan, Abingdon, Oxon

http://www.filefactory.com/file/14nwysld3g7t/Grid_Connected_Electrical_System_Te xtbook_pdf

http://www.filefactory.com/file/4lmpmse2xmp1/Applied_Photovoltaics_pdf

http://www.filefactory.com/file/55cxpfou1kwt/Control_of_Power_Inverters_in_Renewable_Energy_and_Smart_Grid_Integration_pdf

Password- Joe2013

Tutorial Exercises

http://www.filefactory.com/file/59rpcqog18ux/n/K035_Answer_sheet_doc

http://www.filefactory.com/file/6uye10nst3ad/n/K035_Test_pdf

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Further Readings

K035Inverter K035PV_Inverter

Stage 4 Part 17.zip

http://www.filefactory.com/file/c0cc76b/n/Stage_4_Part_17.zip

K035_Tutorials.zip

Stage 4 Part 16.zip

http://www.filefactory.com/file/c0cc703/n/Stage_4_Part_16.zip

Renewable Energy-K025+K035.zip

http://www.filefactory.com/file/c0b7c5e/n/Renewable_Energy-K025_K035.zip

Video Lessons

[K035 Lesson 1-Inverter principle.zip](#)

http://www.filefactory.com/file/c0b6a01/n/K035_Lesson_1-Inverter_principle.zip

[K035 Lesson 2-Modified sine wave inverter.zip](#)

http://www.filefactory.com/file/c0b6a26/n/K035_Lesson_2-Modified_sine_wave_inverter.zip

[K035 Lesson 3-Pulse width modulation.zip](#)

http://www.filefactory.com/file/c0b6a33/n/K035_Lesson_3-Pulse_width_modulation.zip

[K035 Lesson 4-PV Inverter.zip](#)

http://www.filefactory.com/file/c0b6a6c/n/K035_Lesson_4-PV_Inverter.zip

[K035 Lesson-5 MOSFET Driver.zip](#)

http://www.filefactory.com/file/c0b5978/n/K035_Lesson-5_MOSFET_Driver.zip

[K035 Lesson-6 PWM Inverter.zip](#)

http://www.filefactory.com/file/c0b6ac2/n/K035_Lesson-6_PWM_Inverter.zip

[K035 Lesson-7 Grid Connected Inverter.zip](#)

http://www.filefactory.com/file/c108253/n/K035_Lesson-7_Grid_Connected_Inverter.zip

[K035 Lesson-8 Inverter Power Flow Model.zip](#)

http://www.filefactory.com/file/c0b6aff/n/K035_Lesson-8_Inverter_Power_Flow_Model.zip

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Online Practicals

Practicals Work performance and practical instruction

Click [HERE](#) to download practicals

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OTHER RESOURCES

K025 Resources

[Stage 2 Part 5.zip](#)

http://www.filefactory.com/file/c0cc187/n/Stage_2_Part_5.zip

Protection_1

Protection_2

PV_System_installation_Overview_-_PV_Power_Systems

PVSoftware

Regulatory_Requirement

SPS_Components

[Stage 2 Part 2A.zip](#)

http://www.filefactory.com/file/c0cca4a/n/Stage_2_Part_2A.zip

Electrical_safe_working

Electrical_trade_review_questions_and_answers

ELV_Accessories_-_SPS_Components

ELV_Cable_termination

[Stage 3 Part 1B.zip](#)

http://www.filefactory.com/file/c0ccc42/n/Stage_3_Part_1B.zip

Cable_CktProt_E_Accessories

Cable_Conduit_E_Accessories

AEEGY 102A Solar and Thermal Energy Systems

Course Outline

In this subject you will learn about solar and thermal energy systems. You will develop specialised knowledge and applied skills relating to:

- Solar energy utilisation - introduction and overview
- Heating load calculations
- Thermal environment – solar radiation, shading and energy conservation
- Solar collectors
- Collector requirements for some specific applications
- Thermal energy storage
- Solar cooling
- Mechanical Power generation
- Sizing of heating, cooling and mechanical power generation components
- Ancillary equipment
- Equipment specification and installation
- Performance analysis.

Study Guide

Lesson Power Points

Part 1

<http://www.filefactory.com/file/c9acnzqhs13/AEEGY102A%2BRE003%20Part%202-ME108.pdf>

Part 2

http://www.filefactory.com/file/2i3h1v6qqkuv/AEEGY102A%2BRE003%20Part%203-Fact_sheet_-_Geothermal_Energy.pdf

Part 3

<http://www.filefactory.com/file/57k90jem46f/AEEGY102A-Solar%20%26amp%3B%20Thermal%20Energy%20System-RE003%20Part%201.pdf>

Password- Joe2013

Textbook

Prescribed Texts

The German Solar Energy Society, 2009 *Planning and Installing Solar Thermal Systems*, Earthscan (UK) All Chapters

http://www.filefactory.com/file/39q0d0rb9t7h/185936187-Planning-and-Installing-Solar-Thermal-Systems_pdf

Password- Joe2013

Tutorial Exercises

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Further Readings

K025_Note_1

K025_Note_2

Stage 2 Part 4.zip

http://www.filefactory.com/file/c0ccb53/n/Stage_2_Part_4.zip

K025 Resources

ELV_Accessories_-_SPS_Components

ELV_Cable_termination

Stage 2 Part 2A.zip

http://www.filefactory.com/file/c0cca4a/n/Stage_2_Part_2A.zip

PV_System_installation_Overview_-_PV_Power_Systems

SPS_Components

PVSoftware

Stage 2 Part 5.zip

http://www.filefactory.com/file/c0cc187/n/Stage_2_Part_5.zip

System_Installation_Examples_-_NUER02_version

Stage 2 Part 6.zip

http://www.filefactory.com/file/c0cccc0/n/Stage_2_Part_6.zip

[Renewable Energy-K025+K035.zip](#)

http://www.filefactory.com/file/c0b7c5e/n/Renewable_Energy-K025_K035.zip

Lesson 1	Lesson 2	Lesson 3	Lesson 4	Lesson 5	Lesson 6
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Online Practicals

Practicals Work performance and practical instruction

Click [HERE](#) to download practicals

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AEEGY 201A Energy Storage System

Course Outline

In this subject you will learn about energy storage systems. You will develop specialised knowledge and skills relating to:

- The need for and benefits of energy storage technologies
 - Current energy storage technologies and their application
 - Environmental impacts and benefits of energy storage systems
 - Designing an energy storage system for specific engineering applications
 - Costing and payback of energy storage systems
 - Designing and building a small scale energy storage system.
-

Study Guide

Lesson Power Points

Part 1

<http://www.filefactory.com/file/68whdsdbwtfh/AEEGY201A-RE004%20Part%201.pdf>

Part 2

<http://www.filefactory.com/file/gh1dls7edlp/AEEGY201A-RE004%20Part%202.pdf>

Part 3

<http://www.filefactory.com/file/48jt93opz4b5/AEEGY201A-RE004%20Part%203.pdf>

Password- Joe2013

Textbook

Prescribed Texts:

Brunet, Y, 2010, *Energy Storage*, John Wiley & Sons UK.

<http://www.filefactory.com/file/56ymtb4pptz1/Energy%20Storage.pdf>

Other Related book

http://www.filefactory.com/file/2wpc2idmobv9/Energy_Stroage_pdf

http://www.filefactory.com/file/3poecuxu7yxb/energy-in-australia-2012_pdf

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Tutorial Exercises

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Further Readings

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Online Practicals

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AEEGY202A Renewable Energy Resources Analysis

Course Outline

In this subject you will learn about renewable energy resource analysis. You will develop specialised knowledge and skills relating to:

- National and international trends in renewable energy resource analysis
- Energy history
- Australian Renewable Energy reserves
- Energy and power conversion
- Behavioural trends and misconceptions
- Power Cycles
- Oil, coal and natural gas
- Solar photovoltaics
- Solar thermal
- Wind Energy
- Hydro-power
- Bio-mass
- Geo-thermal
- Ocean energy
- Hydrogen Economy
- Limitations in existing infrastructure.

Study Guide

Lesson Power Points

Part 1

<http://www.filefactory.com/file/2248bo0gcbor/AEEGY202A%2BRE005%20Part%201.pdf>

Part 2

<http://www.filefactory.com/file/5us491ooh1cl/AEEGY202A%2BRE005%20Part%201.pdf>

Part 3

<http://www.filefactory.com/file/5e3gt7cv1rid/AEEGY202A%2BRE005%20Part%202.pdf>

Part 4

<http://www.filefactory.com/file/5ld0bqgs3049/AEEGY202A%2BRE005%20Part%202.pdf>

Part 5

<http://www.filefactory.com/file/47m4fhje9k73/AEEGY202A%2BRE005%20Part%203.pdf>

Part 6

<http://www.filefactory.com/file/5mfsxsln72ll/AEEGY202A%2BRE005%20Part%203.pdf>

Part 7

<http://www.filefactory.com/file/26efv2p36hpf/AEEGY202A%2BRE005%20Part%204.pdf>

Part 8

<http://www.filefactory.com/file/4szjlkhva34t/AEEGY202A%2BRE005%20Part%204.pdf>

Part 9

<http://www.filefactory.com/file/5n4ixwsih1vb/AEEGY202A%2BRE005%20Part%205.pdf>

Part 10

<http://www.filefactory.com/file/7jb0atgu4xst/AEEGY202A%2BRE005%20Part%205.pdf>

Part 11

<http://www.filefactory.com/file/3vix5oofhjex/AEEGY202A%2BRE005%20Part%205a.pdf>

Part 12

<http://www.filefactory.com/file/4jt03kopqyhp/AEEGY202A%2BRE005%20Part%205a.pdf>

Part 13

<http://www.filefactory.com/file/23v9r0ymiy8n/AEEGY202A%2BRE005%20Part%206.pdf>

Part 14

<http://www.filefactory.com/file/2yyceyvo1knh/AEEGY202A%2BRE005%20Part%206.pdf>

Part 15

<http://www.filefactory.com/file/2qiuhz8imqjf/AEEGY202A%2BRE005%20Part%207.pdf>

Part 16

<http://www.filefactory.com/file/33va2juvew5b/AEEGY202A%2BRE005%20Part%207.pdf>

Password- Joe2013

Textbook

Prescribed Text:

Boyle, G 2004, *Renewable Energy: Power for a sustainable future* 2nd or latest edition Oxford University Press

<http://www.filefactory.com/file/11jwo86pxn0j/Renewable%20Energy-Power%20for%20sustainable%20Future.pdf>

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Tutorial Exercises

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Further Readings

[K131](#) + EE 308

http://www.filefactory.com/file/7hvv22gtz2lx/n/K131_zip

[Additional 3.zip](#)

http://www.filefactory.com/file/c0cb6a8/n/Additional_3.zip

[Additional 1.zip](#)

http://www.filefactory.com/file/c0cc0f7/n/Additional_1.zip

http://www.filefactory.com/file/1mr75xfm92ux/n/K032_zip

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Online Practicals

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AEEGY 203A Wind Energy Conversion System

Course Outline

In this subject you will learn about wind energy conversion systems. You will develop specialised knowledge and skills relating to:

- Introduction to wind as a natural resource
- Energy, power and wind
- Wind characteristics
- Data acquisition methods
- Site characteristics
- Correlation, wind and site
- Predicting energy output
- Turbines, types and construction
- Wind Energy Conversion Systems (WECS) sizing
- Retrospective performance.

Study Guide

Lesson Power Points

<http://www.filefactory.com/file/3hyoby6eqe3p/AEEGY%20203A%20%20Wind%20Energy-RE006.pdf>

Password- Joe2013

Textbook

Prescribed Texts:

Boyle, G, 2004, *Renewable Energy: Power for a sustainable future*. 2nd edition, Oxford University Press

<http://www.filefactory.com/file/11jwo86pxn0j/Renewable%20Energy-Power%20for%20sustainable%20Future.pdf>

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Tutorial Exercises

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Further Readings

ME 202 Introduction to Aero Dynamics

http://www.filefactory.com/file/401s96o982uf/n/ME_202_Introduction_to_Aero_Dynamics_pdf

ME 234 Wind Turbines

http://www.filefactory.com/file/30w0u2u36a19/n/ME_234_wind-turbines_pdf

[Aerodynamics Part 1](#)

http://www.filefactory.com/file/7axzc9j37g91/n/ME202_Part_1_zip

[Aerodynamics Part 2](#)

http://www.filefactory.com/file/2tlei8t6e4xn/n/ME202_Part_2_zip

[Aerodynamics Part 3](#)

http://www.filefactory.com/file/6mt5m5wi6dfn/n/ME202_Part_3_zip

[Wind Turbine Part 1](#)

http://www.filefactory.com/file/1f2dio8ik4zd/n/ME_234_Part_1_zip

[Wind Turbine Part 2](#)

http://www.filefactory.com/file/olr2lwjdpc5/n/ME_234_Part_2_zip

[Wind Turbine Part 3](#)

http://www.filefactory.com/file/117k3a3shh4f/n/ME_234_Part_3_zip

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AEEGY 204 A Energy Efficiency

Course Outline

In this subject you will learn about the efficiency of energy systems. You will develop specific knowledge and skills relating to:

- Energy conversion efficiencies of conventional and renewable energy systems
- Energy auditing
- Economic and environmental benefits of energy efficiency
- Energy efficiency of various energy loads
- Cogeneration (CHP)
- Pros and cons of distributed generation in terms of energy efficiency
- Ways to improve energy efficiency at the generation point and in the distribution system
- Ways to improve energy efficiency at the load points.

Study Guide

Lesson Power Points

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Textbook

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Tutorial Exercises

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Further Readings

1	Building Design+Material Science-K041+E047.zip http://www.filefactory.com/file/c0b645d/n/Building_Design_Material_Science-K041_E047.zip
2	Stage 3 Part 7.zip http://www.filefactory.com/file/c0ccfc7/n/Stage_3_Part_7.zip HazardLightingPanel K041 Building Design 1 K041 Building Design 2 K041Airconditioning K041Energy Management Textbook Stage 3 Part 3.zip http://www.filefactory.com/file/c0ccd44/n/Stage_3_Part_3.zip E047 Mech
3	As 1

4	As 2
5	<p><u>Renewable Energy+ Energy Efficiency</u></p> <p><u>K041 Lesson 1-Solar Design.zip</u></p> <p>http://www.filefactory.com/file/c0b6a9f/n/K041_Lesson_1-Solar_Design.zip</p> <p><u>K041 Lesson 2-Basic psychrometric chart.zip</u></p> <p>http://www.filefactory.com/file/c0b6bc9/n/K041_Lesson_2-Basic_psychrometric_chart.zip</p> <p><u>K041 Lesson 3-Total heat resistance.zip</u></p> <p>http://www.filefactory.com/file/c0b6b18/n/K041_Lesson_3-Total_heat_resistance.zip</p> <p><u>K041 Lesson 4-U value Heat conductance calculation.zip</u></p> <p>http://www.filefactory.com/file/c0b6b57/n/K041_Lesson_4-U_value_Heat_conductance_calculation.zip</p> <p><u>K041 Lesson 5-Glazing+Net Heat gain heat loss.zip</u></p> <p>http://www.filefactory.com/file/c0b6cc2/n/K041_Lesson_5-Glazing_Net_Heat_gain_heat_loss.zip</p> <p><u>K041 Lesson 6-Shading.zip</u></p> <p>http://www.filefactory.com/file/c0b6cd7/n/K041_Lesson_6-Shading.zip</p> <p><u>K041 Lesson 7-Insulation+ Thermal mass.zip</u></p> <p>http://www.filefactory.com/file/c0b6c06/n/K041_Lesson_7-</p>

Insulation_Thermal_mass.zip

[K041 Lesson 8-Thermal mass insulation.zip](#)

http://www.filefactory.com/file/c0b6c30/n/K041_Lesson_8-Thermal_mass_insulation.zip

[K041 Lesson 9-Airconditioning load calculation.zip](#)

http://www.filefactory.com/file/c0b6dc8/n/K041_Lesson_9-Airconditioning_load_calculation.zip

[K041 Lesson 10-Heat gain per day.zip](#)

http://www.filefactory.com/file/c0b6dfe/n/K041_Lesson_10-Heat_gain_per_day.zip

[K041 Lesson 11-Ventilation.zip](#)

http://www.filefactory.com/file/c0b6d13/n/K041_Lesson_11-Ventilation.zip

[K041 Lesson 12-Building heating load](#)

http://www.filefactory.com/file/c0b6d47/n/K041_Lesson_12-Building_heating_load_calculation.zip

[K041 Lesson 14-Design for Australian climate.zip](#)

http://www.filefactory.com/file/c0b6d76/n/K041_Lesson_14-Design_for_Australian_climate.zip

[K041 Lesson 15-Domestic solar hot water system.zip](#)

http://www.filefactory.com/file/c0b6eaf/n/K041_Lesson_15-

	<p>Domestic_solar_hot_water_system.zip</p> <p>K041 Lesson 16-Energy efficiency+Lighting.zip</p> <p>http://www.filefactory.com/file/c0b6e0f/n/K041_Lesson_16-Energy_efficiency_Lighting.zip</p> <p>K041 Lesson 17-Illumination+Smoke alarm.zip</p> <p>http://www.filefactory.com/file/c0b6fc5/n/K041_Lesson_17-Illumination_Smoke_alarm.zip</p> <p>K041 Lesson 18-Water supply.zip</p> <p>http://www.filefactory.com/file/c0b61ec/n/K041_Lesson_18-Water_supply.zip</p> <p>K041 Lesson 19-Ventilation+Lighting control.zip</p> <p>http://www.filefactory.com/file/c0b6058/n/K041_Lesson_19-Ventilation+Lighting_control.zip</p> <p>K041 Lesson 20-Electrical system design.zip</p> <p>http://www.filefactory.com/file/c0b6085/n/K041_Lesson_20-Electrical_system_design.zip</p> <p>K041 Lesson 21-Building materials.zip</p> <p>http://www.filefactory.com/file/c0b61b8/n/K041_Lesson_21-Building_materials.zip</p>
6	Click HERE to download other Exercises
7	EE07 & EE011 units mapping for Theory study & Exercises

	UEENEEK041B_E047B_Tutorials Energy_survey_assignment in Stage 3 Part 8.zip http://www.filefactory.com/file/c0ccf09/n/Stage_3_Part_8.zip
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf
9	E07 & EE011 units mapping for Theory study & Exercises Assignment + Project work
10	K041 Text book http://www.filefactory.com/file/61dmv976e7tl/n/K041Textbook1_zip http://www.filefactory.com/file/4lsx0pk00guj/n/K041Textbook2_zip http://www.filefactory.com/file/2kwcxkrnasyf/n/K041Textbook3_zip

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Online Practicals

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Part (2) Qualified (1) Course

ENMAT 101A Engineering Materials & Processes

Course Outline

In this subject you will learn about the structure, properties and usage of a variety of materials used in engineering applications. You will develop specialised knowledge relating to:

- Material structure and properties
- Mechanical properties
- Metals - ferrous and non-ferrous
- Polymers
- Ceramics
- Composites, concrete, other
- Basic destructive testing
- Steel – FeC (Iron/Carbon), heat treatment
- Casting - perm/non-perm
- Forming - hot, cold
- Processes - PowderM, welding, Rapid Proto
- Polymer processes - IM, BM, extrus, thermoset, composites
- Joining - fasteners, weld, non-fusion
- Corrosion
- Surface treatments - plating, coatings, peening, anodising
- Non-destructive testing
- Quality assurance and control, certified testing, safety, materials safety data sheets (MSDS)
- Economic and environmental issues - production/recycling.

Study Guide

WEEK	LECTURES / EXAMINATIONS	LABORATORY	QUIZ
Orientation Week	Orientation activities Review of syllabus and assessment activities. Laboratory orientation. Academic Foundations: Note taking; study skills; introduction to conducting research.		
Week 1	Lecture (2 hrs): Readings: Ch 1: Engineering materials; Ch 2: Properties of materials.	Laboratory 1 (2 hrs): Hardness test	
Week 2	Lecture (2 hrs): Readings: Ch 3: Mechanical testing; Ch 4: The crystal structure of metals.	Laboratory 2 (2 hrs): Tensile Test	
Week 3	Lecture (2 hrs): Readings: Ch 5: Casting process; Ch 6: Mechanical deformation of metals; Ch 7: The mechanical shaping of metals.	Laboratory 3 (2 hrs): Metal Casting	10101
Week 4	Lecture (2 hrs): Readings: Ch 8: Alloys; Ch 9: Equilibrium diagrams; Ch 10: Practical microscopy	Laboratory 4 (2 hrs): Microscopy, Weld samples	10102
Week 5	Lecture (2hrs): Readings: Ch 11: Iron and steel; Ch 12: The heat-treatment of plain-carbon steels	Laboratory 5 (2 hrs): Torsion, Bending Tests	10103
Week 6	Lecture (2hrs): Readings: Ch 13: Alloy steels; Ch 14: The surface hardening of steels; Ch 15: Cast iron.	Laboratory 6 (2 hrs): Heat Treatment	
Week 7	Examination Week A: Assessment 2: Short answer test on content from weeks 1 to 5 (Ch 1 to Ch 15) 15%.	Assessment 3 due: Portfolio of Laboratory Reports 1, 2, 3 & 4 - 15%	
Week 8	Lecture (2hrs): Readings: Ch 16: Copper and its alloys; Ch 17: Aluminium and its alloys; Ch 18: Other non-ferrous metals and their alloys.	Laboratory 7 (2 hrs): Polymer tensile test,	10105

WEEK	LECTURES / EXAMINATIONS	LABORATORY	QUIZ
Week 9	Lecture (2hrs): Readings: Ch 19: Plastics materials and rubbers; Ch 20: Properties of plastics.	Site Visit: e.g. Rolling Mill, Materials process/testing	
Week 10	Lecture (2hrs): Readings: Ch 21: Ceramics; Ch 22: Glasses; Ch 23: Composite materials.	Demo: Epoxy FRC, thermoforming	10106
Week 11	Lecture (2hrs): Readings: Ch 24: Fibre-reinforced composite materials; Ch 25: Methods of joining materials.	Laboratory 8 (2 hrs): Dye, Mag, Ultrasound	10104
Week 12	Lecture (2hrs): Readings: Ch 26: Causes of failure; NDT; Material Standards.	Laboratory 9 (2 hrs): Product Study	10107
Week 13	Lecture (2 hrs): Readings: Ch 27 Choice of Materials and Processes; Design. Economic, Environmental, Social Issues.	Assessment 4 due: Collaborative Report (Product Study) 15%	10108
Week 14	Study Week		
Week 15	Examination Week B: Assessment 5: Written examination: 30%	Assessment 3 due: Portfolio of Laboratory Reports 5, 6, 7, 8 & 9 - 15%	

Lesson Power Points

E081 Material Science

http://www.filefactory.com/file/pq2r36bvgnv/n/E081_Material_Science1_pdf

Non Metallic Materials

http://www.filefactory.com/file/2czhyovkn32x/n/Materials_ppt

Password- Joe2013

Textbook

Prescribed Text:

Higgins, R. & Bolton, W., 2010, *Materials for Engineers and Technicians*, 5th Edition, Butterworth Heinemann, Oxford UK. ISBN 9781856177696.

http://www.filefactory.com/file/724kx95f2ayf/27767685-Materials-Engineers-Technicians_pdf

Password- Joe2013

Tutorial Exercises

Password- joe2013

Further Readings

Engineering Mechanics

http://www.filefactory.com/file/63sqtnrqf55/n/ME_103_Engineering_Mechanics_zip

Chemical Thermodynamics

http://www.filefactory.com/file/5ussq0pnpi4t/n/ME_207_Chemical_thermodynamics_pdf

Introduction-to-polymer-science-and-technology

http://www.filefactory.com/file/6epib0ijvbjt/n/ME_209_Introduction-to-polymer-science-and-technology_pdf

http://www.filefactory.com/file/7dhamrs5c3z7/n/ME207_zip

[ME 305+ ME 209](#)

http://www.filefactory.com/file/76fbf48z2h7j/n/ME305_ME209_zip

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Online Practicals

Password- joe2013

ENELE 101A Principle of Electrical Engineering

Course Outline

In this subject you will learn about basic principles of electrical engineering. You will develop a range of foundation knowledge and skills relating to:

- Notation and units
- Circuit topologies

Direct current (DC) circuit principles:

- Voltage, current, power, resistance, conductance
- Ohm's Law; Kirchhoff voltage and current laws
- Series and parallel configurations
- Linearity and Superposition
- Thévenin and Norton equivalent circuits (simple cases)
- Nodal and mesh analysis (simple cases)
- Maximum power transfer
- Capacitors
- Passive and switched resistor-capacitor (RC) circuits
- Inductors
- Passive and switched resistor-inductor (RL) circuits
- Diodes

Alternating current (AC) circuit principles:

- Amplitude, frequency and phase
- Voltage
- Current and power in resistors, inductors & capacitors
- Time domain analysis of ac circuits
- Review of complex numbers
- Phasors and phasor notation
- Complex impedance and admittance
- Thévenin and Norton equivalents (simple cases)
- AC power (real, reactive, complex)
- Root-mean-square (RMS) values
- Maximum power transfer.

Study Guide

WEEK NO:	TOPICS AND ACTIVITIES
Orientation Week	Orientation activities Review of syllabus and assessment activities.
Week 1	Introduction to DC Circuits Reading List: Chapter 1 Sections: 1.1 – 1.5 Chapter 2 Sections: 2.1 – 2.6 & 2.9 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 2	Kirchhoff Voltage & Current Laws Reading List: Chapter 3 Sections: 3.1 – 3.6 & 3.10 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 3	Node & Mesh Analysis Reading List: Chapter 4 Sections: 4.1 – 4.3, 4.5, 4.6, 4.8, 4.13 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 4	Superposition Principle & Source Transformation Thévenin & Norton Equivalent DC Circuits Reading List: Chapter 5 Sections: 5.1 – 5.6 & 5.11 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 5	Capacitors & Inductors Reading List: Chapter 7 Sections: 7.1 – 7.8 & 7.13 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 6	Passive & Switched RL & RC Circuits Reading List: Chapter 8 Sections: 8.1 – 8.4, 8.6 & 8.12 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 7	Examination Week A: Assessment 1: Written examination - 25%

WEEK NO:	TOPICS AND ACTIVITIES
Week 8	Diodes in DC Circuits Introduction to AC Circuits Reading List: Chapter 10 Sections: 10.1 & 10.2 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 9	AC Steady-State Analysis Reading List: Chapter 10 Sections: 10.3 & 10.4 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 10	Complex Numbers & Phasor Notation Reading List: Chapter 10 Sections: 10.5 – 10.6 & 10.11 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 11	Impedance & Admittance Thevenin & Norton Equivalent AC Circuits Reading List: Chapter 10 Section: 10.7 & 10.10 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ. Assessment 2 Due: Portfolio and/or written report on practicum work and experiments (Laboratory Workbook) – 25%
Week 12	AC Power Reading List: Chapter 11 Sections: 11.1 – 11.6 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 13	Power Superposition & Maximum Power Reading List: Chapter 11 Sections: 11.7 – 11.8 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 14	Study Week
Week 15	Examination Week B: Assessment 3: Written examination – 50%

[Lesson Power Points](#)

[Week 1 Lesson](#)

[Week 2 Lesson](#)

[Week 3 Lesson](#)

Week 3A Lesson

Video- <http://www.filefactory.com/file/cf8739b/n/E003+E004.zip>

Circuit Analysis

Advanced Circuit Analysis

Electro-magnetics+Electronics

Advanced Circuits+Electromagnetics+Electronics

Electrical Circuits 1

Engineering Circuit Analysis

Electrical Measurement

Folder				Electrical Circuit
				<u>Instruction</u> Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	27	to	52	Circuit theorem
	54	to	71	Sinusoids & phasors
	73	to	81	Frequency response

Folder				Engineering Circuit Analysis
				<u>Instruction</u> Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
2/ 3				Basic circuits Examples 2.2, 2.3, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9, 3.10, 3.11, 3.12
4				Basic Nodal and Mesh analysis Example 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 4.9, 4.10, 4.11, 4.12
5				Linear and Superposition/ Source

				Transformation Example 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7, 5.8, 5.9, 5.10, 5.11
8				RL/ RC Circuits Example 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, 8.8, 8.9, 8.10, 8.11
9				RLC Circuits Example 9.1, 9.2, 9.3, 9.4, 9.5, 9.6, 9.7, 9.8, 9.9
10				Sinusoidal steady state analysis Example 10.1, 10.2, 10.3, 10.4, 10.5, 10.6, 10.7, 10.8
11				AC Power Circuit Analysis Example 11.1, 11.2, 11.3, 11.4, 11.5
12				Polyphase Circuits Example 12.1, 12.2, 12.3, 12.4, 12.5, 12.6
13				Magnetically coupled circuits Example 13.1, 13.2, 13.3, 13.4, 13.5, 13.6, 13.7, 13.8
14				Complex Frequency / Laplace Transform Example 14.1, 14.2, 14.3, 14.4, 14.5, 14.6, 14.7, 14.8, 14.11
				Laplace Transform Table 14.1, 14.2
15				Circuit analysis in “ S “ domain Example 15.1, 15.2, 15.3, 15.4, 15.5, 15.6, 15.7 Pole/ Zero constellation Example 15.12, 15.13
16				Frequency Response Example 16.1, 16.2
17				Two ports network Example 17.1, 17.2, 17.3, 17.4, 17.5
18				Fourier Circuit Analysis Example 18.1 Use of symmetry theory Table 18.1 Example 18.2, 18.3
Exercise	Q328	to	Q367	of Assignment Number (23)

Folder				EE404 Electrical Measurement
				<u>Instruction</u> Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary

6	197			Measurement of inductance and capacitance
7	270			Measurement of resistance
9	352			Magnetic measurement
11	437			High voltage measurement and tesating
12	480			Location of cable fault
20	730			Measurement of power
21	771			Measurement of energy

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Textbook

Prescribed Text:

Dorf, R & Svoboda, J 2010, *Introduction to Electric Circuits*, 8th or latest edition, John Wiley & Sons, Hoboken, NJ.

http://www.filefactory.com/file/626gk4lkg37z/Introduction_to_Electric_Circuits_8th_Edition_by_Richard_C_Dorf_amp_James_A_Svoboda_pdf

http://www.filefactory.com/file/7kaiz26cy6vf/LabView_pdf

http://www.filefactory.com/file/2rrdma1udpkv/Principles_and_Applications_of_Electrical_Engineering_pdf

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Tutorial Exercises

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Further Readings

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Online Practicals

Practicals [Work performance and practical instruction](#)

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ENELE201A Advanced Electrical Engineering

Course Outline

In this subject you will build on basic engineering knowledge gained in previous sub and develop further knowledge and skills relating to electrical engineering:

Circuit analysis:

- DC and AC Network theorems (Kirchhoff's, Superposition)
- Resonance
- Magnetically coupled circuits

Communications and signalling processing and applications:

- Analogue and digital communications principles
- Filters
- Amplifiers and attenuators
- Communication protocols

Analogue and digital communication systems and control circuits:

- Telemetry and monitoring systems
- Control systems and applications.

Study Guide

Lesson Power Points

Electromagnetics

Electromagnetics 1

http://www.filefactory.com/file/f8hx3kz5gd1/n/BAE407_Wk_1_zip

Electromagnetics 2

http://www.filefactory.com/file/40r0fd3sta2p/n/BAE407_Wk_2_zip

Electromagnetics 3

http://www.filefactory.com/file/snre8qvw3j5/n/BAE407_Wk_3_zip

Circuits

Circuit 1

http://www.filefactory.com/file/65j9pisrtg0j/n/BAE405_Wk_1_zip

Circuit 2

http://www.filefactory.com/file/1o71eepje7up/n/BAE405_Wk_2_zip

Circuit 3

http://www.filefactory.com/file/1mm2f82zqhix/n/BAE405_Wk_3_zip

http://www.filefactory.com/file/3spcgz270krb/BAE405_Wk_3a.zip

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Textbook

Prescribed Texts:

Rizzoni, G & Hartley, T 2007, *Principles and Applications of Electrical Engineering*, 5th or latest edition, McGraw-Hill Companies Inc. USA

Recommended Readings:

Nahvi, M (Ed) & Edminister, J (Ed) 2011, *Schaum's Outline of Electric Circuits*, McGraw-Hill Companies Inc. USA

All About Circuits 2012, viewed 8 May 2012, <http://www.allaboutcircuits.com/>

http://www.filefactory.com/file/70zpg419d9mf/_Rizzoni_G_Principles_and_Applications_of_Electr_Bookos_org_pdf

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Tutorial Exercises

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Further Readings

Stage 2 Part 3.zip

http://www.filefactory.com/file/c0ccb1f/n/Stage_2_Part_3.zip

E025_Circuits_1 E025_Circuits_2

Stage 3 Part 2.zip

http://www.filefactory.com/file/c0ccdbc/n/Stage_3_Part_2.zip

E025_Tutorial

Stage 2 Part 2A.zip

http://www.filefactory.com/file/c0cca4a/n/Stage_2_Part_2A.zip

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Online Practicals

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ENELE202A Principle of Electrical Machines

Course Outline

In this subject you will learn basic principles of electrical machinery. You will develop specialised knowledge and skills relating to:

Transformers:

- Transformer Principles and Construction
- Efficiency
- Impedance
- Equivalent circuit
- Polarity
- Vector groups
- Parallel operations
- Special Transformers (Auto and Instrument etc)

Induction Motors:

- Principle of Induction Motor
- Construction and operation of Squirrel Cage Induction Motors (SCIM) and Wound Rotor Induction Motors (WRIM)
- Operation and characteristics
- Induction Generator
- Single Phase Induction Motor

Synchronous Machines:

- Principles of operation
- Characteristics
- Motors
- Alternators

DC Machines:

- Principles of operation
- Shunt Series Compound Machines
- Characteristics

Single Phase and Special Motors:

- Split Phase motor
- Capacitor Start/Run motor

- Shaded Pole motor
- Universal motor
- Hysteresis motor
- Stepper motors
- Brushless DC motors
- Permanent magnet motors
- Variable reluctance motors
- Stepper motors
- Brushless DC motors

Electronic Control of Motors

- DC Motors
- AC Motors.

Study Guide

Lesson Power Points

AC MACHINES

[Elect Machine-G043+G044+G045.zip](#)

http://www.filefactory.com/file/c0b6668/n/Elect_Machine-G043_G044_G045.zip

[G043 G045 7762AF Notes](#)

[G043 G045 Part 1 7762AF Notes](#)

Induction and synchronous machines & control

[G043+G045 Lesson 1 AC Machine Introduction.zip](#)

http://www.filefactory.com/file/c0bf660/n/G043_G045_Lesson_1_AC_Machine_Introduction.zip

[G043+G045 Lesson 2 Slip+Equivalent Ckt.zip](#)

http://www.filefactory.com/file/c0bf7b9/n/G043_G045_Lesson_2_Slip_Equivalent_Ckt.zip

[G043+G045 Lesson 3 Power Transfer.zip](#)

http://www.filefactory.com/file/c0bf773/n/G043_G045_Lesson_3_Power_Transfer.zip

[G043+G045 Lesson 4 Test for equivalent ckt.zip](#)

http://www.filefactory.com/file/c0b03f9/n/G043_G045_Lesson_4_Test_for_equivalent_ckt.zip

[G043+G045 Lesson 5 Equivalent Ckt Problems.zip](#)

http://www.filefactory.com/file/c0bf842/n/G043_G045_Lesson_5_Equivalent_Ckt_Problems.zip

[G043+G045 Lesson 6 Motor starting and control.zip](#)

http://www.filefactory.com/file/c0bf90e/n/G043_G045_Lesson_6_Motor_starting_and_control.zip

[G043+G045 Lesson 7 Synchronous machine introduction.zip](#)

http://www.filefactory.com/file/c0bf92d/n/G043_G045_Lesson_7_Synchronous_machine_introduction.zip

[G043+G045 Lesson 8 Synchronous machine ckt problems.zip](#)

http://www.filefactory.com/file/c0bf955/n/G043_G045_Lesson_8_Synchronous_machine_ckt_problems.zip

[G043+G045 Lesson 9 Synchronous machine starting.zip](#)

http://www.filefactory.com/file/c0b0342/n/G043_G045_Lesson_9_Synchronous_machine_starting.zip

[G043+G045 Lesson 10 Single phase motor.zip](#)

http://www.filefactory.com/file/c0b0362/n/G043_G045_Lesson_10_Single_phase_motor.zip

[G043+G045 Lesson 11 Factors affecting motor operation.zip](#)

http://www.filefactory.com/file/c0b037b/n/G043_G045_Lesson_11_Factors_affecting_motor_operation.zip

[Induction and synchronous machines & control](#)

DC MACHINES

1 [Elect Fundamental E029+G012+G001+G002+G060.zip](#)

http://www.filefactory.com/file/c0b6601/n/Elect_Fundamental_E029_G012_G001_G002_G060.zip

[Elect Machine-G043+G044+G045.zip](#)

http://www.filefactory.com/file/c0b6668/n/Elect_Machine-G043_G044_G045.zip

2	E029 Motor Control 1 E029 Motor Control 2 E047Mech G044 7762AC1 G044 7762AC2
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TRANSFORMERS

Power Transformer+Line-G040.zip http://www.filefactory.com/file/c0b7bd2/n/Power_Transformer_Line-G040.zip
G040 7762AD Notes
As 1
As 2
G040 Lesson 1 Power transformer rating 1.zip http://www.filefactory.com/file/c0bcff1/n/G040_Lesson_1_Power_transformer_rating_1.zip G040 Lesson 1 Power transformer rating 2.zip http://www.filefactory.com/file/c0bcf9b/n/G040_Lesson_1_Power_transformer_rating_2.zip G040 Lesson 2 Open circuit short circuit test.zip http://www.filefactory.com/file/c0bc0b9/n/G040_Lesson_2_Open_circuit_short_circuit_test.zip G040 Lesson 3 Transformer regulation.zip http://www.filefactory.com/file/c0bc0d1/n/G040_Lesson_3_Transformer_regulation.zip G040 Lesson 4 Power transformer connection.zip http://www.filefactory.com/file/c0bc09a/n/G040_Lesson_4_Power_transformer_connection.zip G040 Lesson 5 Maximum efficiency.zip http://www.filefactory.com/file/c0bc1db/n/G040_Lesson_5_Maximum_efficiency.zip G040 Lesson 6 Transformer parallel operation.zip http://www.filefactory.com/file/c0bc164/n/G040_Lesson_6_Transformer_parallel_operation.zip G040 Lesson 7 Harmonic in transformer.zip http://www.filefactory.com/file/c0bc2ab/n/G040_Lesson_7_Harmonic_in_transformer.zip G040 Lesson 8 Transformer problem + auto transformer.zip http://www.filefactory.com/file/c0bc2cb/n/G040_Lesson_8_Transformer_problem_auto_transformer.zip

[G040 Lesson 9 Transformer rating cooling connection tap changing.zip](#)

http://www.filefactory.com/file/c0bc294/n/G040_Lesson_9_Transformer_rating_cooling_connection_tap_changing.zip

[G040 Lesson 10 Phase shift transformer.zip](#)

http://www.filefactory.com/file/c0bc2f5/n/G040_Lesson_10_Phase_shift_transformer.zip

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Textbook

Prescribed Texts:

Wildi, T 2006, *Electrical Machines, Drives and Power Systems* 6th or latest edition. Pearson Prentice Hall, Australia

http://www.filefactory.com/file/7hcvfk7cai6b/Electrical_Machines_drive_power_system.pdf

http://www.filefactory.com/file/2ua3qpynkv43/ENELE202A-Principle_of_Elect_Machine.pdf

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Tutorial Exercises

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Further Readings

Subjects	Points	Competency Units
Advanced Electro-magnetics Field & Materials		Electromagnetism

[Advanced Electro-magnetics](#)

[Field & Materials](#)

Readings

[Electro-magnetics Field](#)

[Electromagnetism](#)

[Electro-magnetism](#)

[Examples](#)

Electro-mechanics (2 pt)

Part (1) Overview Knowledge of the subject

Folder					Advanced Engineering Mathematics
					Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
File name		Chapter		Page	Topics
					Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
Theory					
chap01_emd.pdf				All	Electro-mechanic - 1.0.1 Scope of application <ul style="list-style-type: none"> Electro-magnetic theory 1.1.1a Magnetic field system, Table 1.1 1.1.1.b Electric field system Table 1.2
chap02_emd.pdf				All	Lumped electro-mechanical elements
chap03_sec_emd.pdf				All	Lumped parameter-electro-mechanic
chap04_sec_emd.pdf				All	Rotating machines
chap05_sec_emd.pdf				All	Lumped parameter-electro mechanical dynamics
Problems					
chap02_prb_emd.pdf				All	Example problems
chap03_prb_emd.pdf				All	Example problems
chap04_prb_emd.pdf				All	Example problems
chap05_prb_emd.pdf				All	Example problems
emdsoln_01.pdf				All	Solutions for all example problems

Electrical Machines Machine Principle

Folder				Electrical Machines
File				Electrical Machines
				Instruction

				Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	45			DC Generator, Example problems
	58			DC Motors, Example problems
	121			Efficiency & heating of electrical machines, Example problems
	131			Three phase transformer, Example problems
	142			Three phase induction motors, Example problems
	177			Synchronous generators, Example problems
	194			Synchronous motors, Example problems
	229			Basic of industrial motor control, Example problems

Machine Principle

Folder				Machine Principle
				<u>Instruction</u> Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
2	114			Rotating machines
3	116			Machinery mounting
4	118			Balancing
6	124			Bearing
7	139			Power transmission

Advanced Electro-magnetics Field & Materials

Folder					Advanced Electro-magnetic Field & Materials					
File										
					<u>Instruction</u> Study the notes, calculate the example problems then do the exercises numbers as indicated					
File name			Chapter			Page		Topics		

				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
Pre-readings				
em01.pdf	1		All	Electric field
em02.pdf	2		All	Electrostatic potential
em03.pdf	3		All	Dipole and quadrature pole movements
em04.pdf	4		All	Batteries, resistors, ohm laws
em05.pdf	5		All	Capacitors
em06.pdf	6		All	Magnetic effect of an electric current
em07.pdf	7		All	Force on current in a magnetic field
em08.pdf	8		All	Electro-dynamics of moving bodies
em09.pdf	9		All	Magnetic potential
em10.pdf	10		All	Electro-magnetic Induction
em11.pdf	11		All	Dimensions
em12.pdf	12		All	Properties of magnetic materials
em13.pdf	13		All	Alternating current
em14.pdf	14		All	Laplace transform
em15.pdf	15		All	Maxwell Equation
em16.pdf	16		All	CGS Electricity & Magnetism
em17.pdf	17		All	Magnetic dipole movement
Highlight Points				
Lecture1.pdf			All	Outlines
Lecture 2.pdf			All	Electric field
Lecture 3.pdf			All	Electrostatic Energy
Lecture 4.pdf			All	Laplace's equation (1)
Lecture 5.pdf			All	Laplace's equation (2)
Lecture 6.pdf			All	Remarks on units
Lecture 7.pdf			All	Green's functions
Lecture 8.pdf			All	Multipole expansion
Lecture 9.pdf			All	Electro-static in matter
Lecture 10.pdf			All	Boundary condition
Lecture 11.pdf			All	Magneto statics (1)
Lecture 12.pdf			All	Magneto statics (2)
Lecture 13.pdf			All	Macroscopic magneto statics

Lecture 14.pdf		All	Maxwell's equation
Lecture 15.pdf		All	DISC movement
Lecture 16.pdf		All	Electro-magnetic plane waves
Lecture 17.pdf		All	Reflection & refraction
Lecture 18.pdf		All	Casual relation between D & E
Lecture 19.pdf		All	Wave guides and load cavities
Lecture 20.pdf		All	Electromagnetic radiation and scattering (1)
Lecture 21.pdf		All	Electromagnetic radiation and scattering (2)
Lecture 22.pdf		All	Scattering by small di-electric sphere
Lecture 27.pdf		All	Electro-magnetism
Lecture 28.pdf		All	Electro magnetic fields and moving charges
Formulas			
CW950212_1.pdf		All	Multipole expansion
CW950320_1.pdf		All	Magnetic constants and materials
CW950329_1.pdf		All	Ampere law
CW950128_3.pdf		All	Brief history of electro magnetism
CW950219_2.pdf		All	Gauss's law
CW950313_2.pdf		All	Numerical solutions to Laplace's equation
CW960430_2.pdf		All	Small current loop
CW970129_3.pdf		All	Curvilinear co-ordinate system
CW970210_1.pdf		All	Problems
CW970303_1.pdf		All	Dielectric tensors and constants
CW970317_2.pdf		All	Analytic solution to Laplace equation
CW970606_1.pdf		All	Magnetostatic boundary condition
CW970606_1.pdf		All	Electrostatic boundary condition
Symbols			
CW970606_3.pdf		All	Electromagnetic field
CW980205_2.pdf		All	The gradient vector
Di-electric.pdf		All	Maxwell's equation
Propagation.pdf		All	Electro-magnetic wave propagation

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Online Practicals

Practicals Work performance and practical instruction

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ENELE 203A Electronics and Power Control

Course Outline

In this subject you will learn about electronics and power control. You will develop specialised knowledge and skills relating to:

Semiconductors, diodes, transistors and integrated circuits:

- Semiconductor materials and junctions
- Diode construction, operation, ratings and applications
- Transistor construction, operation, ratings and applications
- Integrated circuit construction, operation, ratings and applications especially as related to operational amplifiers

Linear regulated dc power supplies:

- Basic power supplies (ac to dc and dc to dc), circuits and applications
- Regulation requirements and applications

Switching power control circuits:

- Basic types, operation
- Critical issues, solutions and applications

Digital electronics

- Digital logic, circuits and power control applications

Power Inverters (DC to AC):

- Basic types, operation
- Critical issues, solutions and applications.

Study Guide

Lesson Power Points

POWER ELECTRONICS

[Power Electronics -H025+H026.zip](#)

http://www.filefactory.com/file/c0b6857/n/Power_Electronics_-H025_H026.zip

H025_Operational_Amplifier
H026_3_Ph_Power_Control_Electronics_1
H026_3_Ph_Power_Control_Electronics_2
H026_3_Ph_Power_Control_Electronics_3
H026_3_Ph_Power_Control_Electronics_4
In

[Stage 3 Part 6.zip](#)

http://www.filefactory.com/file/c0cce63/n/Stage_3_Part_6.zip

[Operational amplifier+ single phase power control equipments](#)

[H025_Lesson_1-Differential_Amplifier.zip](#)

http://www.filefactory.com/file/c20fef9/n/H025_Lesson_1-Differential_Amplifier.zip

[H025_Lesson_2-Comparator.zip](#)

http://www.filefactory.com/file/c0b072e/n/H025_Lesson_2-Comparator.zip

[H025_Lesson_3-Timer_IC.zip](#)

http://www.filefactory.com/file/c0b077e/n/H025_Lesson_3-Timer_IC.zip

[H025_Lesson_4-Op_Amp_Circuit_1_2.zip](#)

http://www.filefactory.com/file/c0b08c8/n/H025_Lesson_4-Op_Amp_Circuit_1_2.zip

[H025_Lesson_5-Op_amp_characteristics+Band_widthe_compensation.zip](#)

http://www.filefactory.com/file/c0b09da/n/H025_Lesson_5-Op_amp_characteristics_Band_widthe_compensation.zip

[H025_Lesson_6-Op_amp_diode_characteristics.zip](#)

http://www.filefactory.com/file/c0b09e1/n/H025_Lesson_6-Op_amp_diode_characteristics.zip

[H025_Lesson_7-Sine_&_square_wave_oscillators.zip](#)

http://www.filefactory.com/file/c0b090a/n/H025_Lesson_7-Sine_square_wave_oscillators.zip

[H025_Lesson_8-Op_amp_ckt-Integrator+Differentiator.zip](#)

http://www.filefactory.com/file/c0b0909/n/H025_Lesson_8-Op_amp_ckt-Integrator_Differentiator.zip

[H025_Lesson_9-Active_filter.zip](#)

http://www.filefactory.com/file/c0b0916/n/H025_Lesson_9-Active_filter.zip

[H025_Lesson_10-Multistage_Op_amp_ckt.zip](#)

http://www.filefactory.com/file/c0b0948/n/H025_Lesson_10-Multistage_Op_amp_ckt.zip

[H025 Lesson 11-Transducers.zip](#)

http://www.filefactory.com/file/c0b0978/n/H025_Lesson_11-Transducers.zip

[H025 Lesson 12-Introduction to control.zip](#)

http://www.filefactory.com/file/c0b0986/n/H025_Lesson_12-Introduction_to_control.zip

[Operational amplifier+ single phase power control equipments](#)

[Power Electronics -H025+H026.zip](#)

http://www.filefactory.com/file/c0b6857/n/Power_Electronics_-H025_H026.zip

[Three phase power control equipments](#)

[H026 Lesson 1-Single &Three phase power control.zip](#)

http://www.filefactory.com/file/c0b1ac9/n/H026_Lesson_1-Single_Three_phase_power_control.zip

[H026 Lesson 2-Solid state switching devices.zip](#)

http://www.filefactory.com/file/c0b1af2/n/H026_Lesson_2-Solid_state_switching_devices.zip

[H026 Lesson 3-Inverter Converter.zip](#)

http://www.filefactory.com/file/c0b1a59/n/H026_Lesson_3-Inverter_Converter.zip

[H026 Lesson 4-Power Diodes.zip](#)

http://www.filefactory.com/file/c0b1a8f/n/H026_Lesson_4-Power_Diodes.zip

[H026 Lesson 5-AC Motor speed control.zip](#)

http://www.filefactory.com/file/c0b1ba7/n/H026_Lesson_5-AC_Motor_speed_control.zip

[H026 Lesson 6-Current fed inverter.zip](#)

http://www.filefactory.com/file/c0b1b0d/n/H026_Lesson_6-Current_fed_inverter.zip

[Three phase power control equipments](#)

ANALOG ELECTRONICS

[H045 Lesson 1 Op-amp.zip](#)

http://www.filefactory.com/file/c0b1b3a/n/H045_Lesson_1_Op-amp.zip

[H045 Lesson 1 Op-amp](#)

[H045 Lesson 2 DC Non idealities.zip](#)

http://www.filefactory.com/file/c0b1b5b/n/H045_Lesson_2_DC_Non_idealities.zip

[H045 Lesson 3 Bias compensation.zip](#)

http://www.filefactory.com/file/c0b1b86/n/H045_Lesson_3_Bias_compensation.zip

[H045 Lesson 4 Slew rate.zip](#)

http://www.filefactory.com/file/c0b1ca0/n/H045_Lesson_4_Slew_rate.zip

[H045 Lesson 5 AC Noise.zip](#)

http://www.filefactory.com/file/c0b1cb2/n/H045_Lesson_5_AC_Noise.zip

[H045 Lesson 5 AC Noise](#)

<http://uploading.com/files/6dmm1ccf/H045%2BLesson%2B5%2BAC%2BNoise.zip/>

[H045 Lesson 6 Source noise resistance.zip](#)

http://www.filefactory.com/file/c268af2/n/H045_Lesson_6_Source_noise_resistance.zip

[H045 Lesson 7 Signal to noise ratio.zip](#)

http://www.filefactory.com/file/c0b1cff/n/H045_Lesson_7_Signal_to_noise_ratio.zip

[H045 Lesson 8 Frequency compensation.zip](#)

http://www.filefactory.com/file/c0b1c0e/n/H045_Lesson_8_Frequency_compensation.zip

[H045 Lesson 9 Stability analysis.zip](#)

http://www.filefactory.com/file/c0b1c95/n/H045_Lesson_9_Stability_analysis.zip

[H045 Lesson 10 Feedforward compensation.zip](#)

http://www.filefactory.com/file/c0b1c56/n/H045_Lesson_10_Feedforward_compensation.zip

[Analogue Electronics](#)

[H045 Lesson 1 Op-amp.zip](#)

http://www.filefactory.com/file/c0b1b3a/n/H045_Lesson_1_Op-amp.zip

[H045 Lesson 2 DC Non idealities.zip](#)

http://www.filefactory.com/file/c0b1b5b/n/H045_Lesson_2_DC_Non_idealities.zip

[H045 Lesson 3 Bias compensation.zip](#)

http://www.filefactory.com/file/c0b1b86/n/H045_Lesson_3_Bias_compensation.zip

[H045 Lesson 4 Slew rate.zip](#)

http://www.filefactory.com/file/c0b1ca0/n/H045_Lesson_4_Slew_rate.zip

[H045 Lesson 5 AC Noise.zip](#)

http://www.filefactory.com/file/c0b1cb2/n/H045_Lesson_5_AC_Noise.zip

[H045 Lesson 6 Source noise resistance.zip](#)

http://www.filefactory.com/file/c268af2/n/H045_Lesson_6_Source_noise_resistance.zip

[H045 Lesson 7 Signal to noise ratio.zip](#)

http://www.filefactory.com/file/c0b1cff/n/H045_Lesson_7_Signal_to_noise_ratio.zip

[H045 Lesson 8 Frequency compensation.zip](#)

http://www.filefactory.com/file/c0b1c0e/n/H045_Lesson_8_Frequency_compensation.zip

[H045 Lesson 9 Stability analysis.zip](#)

http://www.filefactory.com/file/c0b1c95/n/H045_Lesson_9_Stability_analysis.zip

[H045 Lesson 10 Feedforward compensation.zip](#)

http://www.filefactory.com/file/c0b1c56/n/H045_Lesson_10_Feedforward_compensation.zip

AMPLIFIER

http://www.filefactory.com/file/c0cb6a8/n/Additional_3.zip

DC Power Supply

<http://www.filefactory.com/file/4f92zgjjzg7j/DC%20Power%20Supply.pdf>

Password- Joe2013

Textbook

Prescribed Texts:

Meade, R, Diffenderfer, R 2006, *Foundations of Electronics: Circuits and Devices* (Conventional Flow), 5th or latest edition, Delmar Cengage Learning, USA

<http://www.filefactory.com/file/2yu0qvkoqppn/Electronic%20Devices.pdf>

Password- Joe2013

Tutorial Exercises

Password- joe2013

Further Readings

Analog & Digital Electronics 1

<http://www.filefactory.com/file/27alnx6skg2x/BAE408Wk1.zip>

Analog & Digital Electronics 2

http://www.filefactory.com/file/3vpyub43h53p/n/BAE408Wk2_zip

Analog & Digital Electronics 3

http://www.filefactory.com/file/4c6snjh05cel/n/BAE408Wk3_zip

Control 1

http://www.filefactory.com/file/4lahmzh0qf3b/n/BAE502_Wk_1_zip

Control 2

http://www.filefactory.com/file/46t9zbh859rl/BAE502_Wk_2.zip

Control 3

http://www.filefactory.com/file/15qea45hhvxx/n/BAE502_Wk_3_zip

Control 4

http://www.filefactory.com/file/22cy88iyi78f/n/BAE503Wk1PPT_zip

Control 5

http://www.filefactory.com/file/2d82bvgvzgx3/n/BAE503Wk2PPT_zip

Control 6

http://www.filefactory.com/file/3v7x6hmksvnf/n/BAE503Wk3PPT_zip

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Online Practicals

Practicals Work performance and practical instruction

Click HERE to download practicals

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ENPRA101A Engineering Practice

Course Outline

In this subject you will learn about the practices of an engineering professional within a multidisciplinary framework. You will develop basic knowledge and skills relating to electrical and other engineering specialisations, including:

Introduction to the Regulatory System:

- Electricity Act
- Electricity Regulation Australian
- Standards State Regulators
- Workplace Health and Safety
- Engineers Code of Ethics

Drawings And Specifications:

- Drawing Interpretation
- Overview of Computer Aided Design (CAD)
- Writing a Specification

Generation and Distribution:

- Generating Plant
- Transmission Grid
- Substations

Fasteners and Fastening Methods:

- Methods of securing electrical equipment to various surfaces

Wiring Systems:

- Load Calculations
- Max. Demand
- Cables and Systems
- AS3008

Control and Protection:

- Earthing
- Protection for safety
- Faults and overloads
- Protective devices and methods

Illumination:

Study Guide

Lesson Power Points

AUSTRALIAN ELECTRICIAN TRAINING

G033+G063+G107 (Week 1 to 6 Lessons)(G033)

G106 Cable Termination

G106+G033 Practical

G063 Wk 7+8

http://www.filefactory.com/file/423vowj4o34b/G063_Wk_7_8_zip

G033+G063+G107 Week 10 to 15

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study	Main exercise		Additional exercises		
EE07 Unit	EE011 Unit	For EE07+EE011+Video	Study Option (1) EE-07	Study Option (2) EE-07	for EE011		
UEENE EE005B Fix and secure equipment	UEENEEE 105A Fix and secure electrotec hnology equipmen t	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1						
See 1	See 3		EE0	=	EE07	Addit	

below	below		11		+	ional	
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
2	
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
4	
5	<p>Video-- Electrical workshop Lesson 1 OHS.zip http://www.filefactory.com/file/c0adbfa/n/Electrical_workshop_Lesson_1_OHS.zip Electrical workshop Lesson 2 Workplace hazard+Fix & secure equipment.zip http://www.filefactory.com/file/c0adca2/n/Electrical_workshop_Lesson_2_Workplace_hazard_Fix_secure_equipment.zip Electrical workshop Lesson 3 Mechanical fixing.zip http://www.filefactory.com/file/c0adc1d/n/Electrical_workshop_Lesson_3_Mechanical_fixing.zip Electrical workshop Lesson 4 Basic electrical wiring.zip http://www.filefactory.com/file/c0add65/n/Electrical_workshop_Lesson_4_Basic_electrical_wiring.zip Electrical workshop Lesson 5 Wiring circuits.zip http://www.filefactory.com/file/c0ade9b/n/Electrical_workshop_Lesson_5_Wiring_circuits.zip Electrical workshop Lesson 6 Electrical safety testing.zip http://www.filefactory.com/file/c0adf90/n/Electrical_workshop_Lesson_6_Electrical_safety_testing.zip Electrical workshop Lesson 7 Testing insulation and polarity.zip http://www.filefactory.com/file/c0ad031/n/Electrical_workshop_Lesson_7_Testing_insulation_and_polarity.zip Electrical workshop Lesson 8 Testing lighting polarity.zip http://www.filefactory.com/file/c0ad1d8/n/Electrical_workshop_Lesson_8_Testing_lighting_polarity.zip</p>
6	(2) Click HERE to download other Exercises

7	EE07 & EE011 units mapping for Theory study & Exercises	
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf	
9	Stage_1_Electrical_workshop_practicals.pdf Wiring_Equipments_to_purchase IN THE LINK INDICATED IN ROLL 11	
10	Fixing Equipments E002_E005.zip IN THE LINK INDICATED IN ROLL 11	
11	<u>BACK UP FOR 9 & 10</u> Stage 1 Part 1.zip http://www.filefactory.com/file/c0cb8ab/n/Stage_1_Part_1.zip Stage 1 Part 5.zip http://www.filefactory.com/file/c0cb9b3/n/Stage_1_Part_5.zip	

Study Guide EE07 & EE011

What to study	study		Which exercises to do		What practical to do	Resources
Main	study	Additional study	Main exercise		Additional exercises	
EE07 Unit	EE011 Unit	For EE07+ EE011 +Video	Study Option (1) EE-07	Study Option (2) EE-07	for EE011	
UEENE EE007B Use drawings, diagrams, schedules and manuals	UEENEE E107A Use drawings, diagrams, schedules, standards, codes and specifications	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below See 10 below

Study Option 1	Study Option 1						
See 1 below	See 3 below		EE011	=	EE07+	Additional	
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
2	<p>ElectricalDrawing1</p> <p>ElectricalDrawing2</p> <p>ElectricalDrawing3</p> <p>Stage 1 Part 3.zip http://www.filefactory.com/file/c0cb8f5/n/Stage_1_Part_3.zip</p> <p>GeneralDrawing1</p> <p>GeneralDrawing2</p> <p>Stage 1 Part 4.zip http://www.filefactory.com/file/c0cc1cd/n/Stage_1_Part_4.zip</p>
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
4	<p>ElectricalDrawing1</p> <p>ElectricalDrawing2</p> <p>ElectricalDrawing3</p> <p>Stage 1 Part 3.zip http://www.filefactory.com/file/c0cb8f5/n/Stage_1_Part_3.zip</p> <p>GeneralDrawing1</p> <p>GeneralDrawing2</p> <p>Stage 1 Part 4.zip http://www.filefactory.com/file/c0cc1cd/n/Stage_1_Part_4.zip</p>
5	<p>Video-- Electrical workshop Lesson 1 OHS.zip http://www.filefactory.com/file/c0adbfa/n/Electrical_workshop_Lesson_1_OHS.zip</p> <p>Electrical workshop Lesson 2 Workplace hazard+Fix & secure equipment.zip http://www.filefactory.com/file/c0adca2/n/Electrical_workshop_Lesson_2_Workplace_hazard_Fix_secure_equipment.zip</p>

	<p>Electrical workshop Lesson 3 Mechanical fixing.zip http://www.filefactory.com/file/c0adc1d/n/Electrical_workshop_Lesson_3_Mechanical_fixing.zip</p> <p>Electrical workshop Lesson 4 Basic electrical wiring.zip http://www.filefactory.com/file/c0add65/n/Electrical_workshop_Lesson_4_Basic_electrical_wiring.zip</p> <p>Electrical workshop Lesson 5 Wiring circuits.zip http://www.filefactory.com/file/c0ade9b/n/Electrical_workshop_Lesson_5_Wiring_circuits.zip</p> <p>Electrical workshop Lesson 6 Electrical safety testing.zip http://www.filefactory.com/file/c0adf90/n/Electrical_workshop_Lesson_6_Electrical_safety_testing.zip</p> <p>Electrical workshop Lesson 7 Testing insulation and polarity.zip http://www.filefactory.com/file/c0ad031/n/Electrical_workshop_Lesson_7_Testing_insulation_and_polarity.zip</p> <p>Electrical workshop Lesson 8 Testing lighting polarity.zip http://www.filefactory.com/file/c0ad1d8/n/Electrical_workshop_Lesson_8_Testing_lighting_polarity.zip</p>
6	(2) Click HERE to download other Exercises
7	Stage 1 Electrical workshop practicals.pdf
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf
9	<p>EE07 & EE011 units mapping for Theory study & Exercises Attend the face to face session</p> <p>Stage_1_Electrical_workshop_practicals.pdf Wiring_Equipments_to_purchase in Stage 1 Part 3.zip http://www.filefactory.com/file/c0cb8f5/n/Stage_1_Part_3.zip</p>
10	<p>ElectricalDrawing1</p> <p>ElectricalDrawing2</p> <p>ElectricalDrawing3</p> <p>Stage 1 Part 3.zip http://www.filefactory.com/file/c0cb8f5/n/Stage_1_Part_3.zip</p> <p>GeneralDrawing1</p> <p>GeneralDrawing2</p>

	Stage 1 Part 4.zip http://www.filefactory.com/file/c0cc1cd/n/Stage_1_Part_4.zip
1 1	<u>BACK UP FOR 9 & 10</u> Stage 1 Part 3.zip http://www.filefactory.com/file/c0cb8f5/n/Stage_1_Part_3.zip

Study Guide EE07 & EE011

What to study	study		Which exercises to do		What practical to do	Resources
Main	study	Additional study	Main exercise		Additional exercises	
EE07 Unit	EE011 Unit	For EE07+EE011 +Video	Study Option (1) EE-07	Study Option (2) EE-07	for EE011	
UEENEEE008B Lay wiring/cabling and terminate accessories for extra-low voltage circuits	UEENEEE108A Lay wiring/cabling and terminate accessories for extra-low voltage (ELV) circuits	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below
Study Option 1	Study Option 1					
See 1 below	See 3 below		EE011	=	EE07 +	Additional
Study Option 2	Study Option 2					
See 2 below	See 4 below					

1	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop
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	_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
2	
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
4	
5	<p>Video-- Electrical workshop Lesson 1 OHS.zip http://www.filefactory.com/file/c0adbfa/n/Electrical_workshop_Lesson_1_OHS.zip Electrical workshop Lesson 2 Workplace hazard+Fix & secure equipment.zip http://www.filefactory.com/file/c0adca2/n/Electrical_workshop_Lesson_2_Workplace_hazard_Fix_secure_equipment.zip Electrical workshop Lesson 3 Mechanical fixing.zip http://www.filefactory.com/file/c0adc1d/n/Electrical_workshop_Lesson_3_Mechanical_fixing.zip Electrical workshop Lesson 4 Basic electrical wiring.zip http://www.filefactory.com/file/c0add65/n/Electrical_workshop_Lesson_4_Basic_electrical_wiring.zip Electrical workshop Lesson 5 Wiring circuits.zip http://www.filefactory.com/file/c0ade9b/n/Electrical_workshop_Lesson_5_Wiring_circuits.zip Electrical workshop Lesson 6 Electrical safety testing.zip http://www.filefactory.com/file/c0adf90/n/Electrical_workshop_Lesson_6_Electrical_safety_testing.zip Electrical workshop Lesson 7 Testing insulation and polarity.zip http://www.filefactory.com/file/c0ad031/n/Electrical_workshop_Lesson_7_Testing_insulation_and_polarity.zip Electrical workshop Lesson 8 Testing lighting polarity.zip http://www.filefactory.com/file/c0ad1d8/n/Electrical_workshop_Lesson_8_Testing_lighting_polarity.zip</p>
6	2) Click HERE to download other Exercises
7	EE07 & EE011 units mapping for Theory study & Exercises
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011.pdf
9	<p>EE07 & EE011 units mapping for Theory study & Exercises Attend the face to face session Stage_1_Electrical_workshop_practicals.pdf Wiring_Equipments_to_purchase IN THE LINK INDICATED IN ROLL 11</p>
10	<p>Wiring_Notes_1. Wiring_Notes_2 Switchboard_Wiring 1Wiring_E033_E008 2Wiring_E033_E008 IN THE LINK INDICATED IN ROLL 11</p>
11	<p>BACK UP for 9 & 10 Stage 1 Part 5.zip http://www.filefactory.com/file/c0cb9b3/n/Stage_1_Part_5.zip</p>

	Stage 1 Part 1.zip http://www.filefactory.com/file/c0cb8ab/n/Stage_1_Part_1.zip
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Study Guide EE07 & EE011

What to study	study		Which exercises to do		What practical to do	Resources				
Main	study	Additional study	Main exercise		Additional exercises					
EE07 Unit	EE011 Unit	For EE07+EE011 +Video	Study Option (1) EE-07	Study Option (2) EE-07	for EE011					
UEENEEE033B Document occupational hazards and risks in electrical work <table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>					UEENEEE137A Document and apply measures to control OHS risks associated with electrotechnology work	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below See 10 below
Study Option 1	Study Option 1									
See 1 below	See 3 below		EE011	=	EE07 +	Additional				
Study Option 2	Study Option 2									
See 2 below	See 4 below									

1	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
2	
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
4	
5	Video-- Electrical workshop Lesson 1 OHS.zip http://www.filefactory.com/file/c0adbfa/n/Electrical_workshop_Lesson_1_OHS.zip Electrical workshop Lesson 2 Workplace hazard+Fix & secure equipment.zip

	http://www.filefactory.com/file/c0adca2/n/Electrical_workshop_Lesson_2_Workplace_hazard_Fix_secure_equipment.zip Electrical workshop Lesson 3 Mechanical fixing.zip http://www.filefactory.com/file/c0adc1d/n/Electrical_workshop_Lesson_3_Mechanical_fixing.zip Electrical workshop Lesson 4 Basic electrical wiring.zip http://www.filefactory.com/file/c0add65/n/Electrical_workshop_Lesson_4_Basic_electrical_wiring.zip Electrical workshop Lesson 5 Wiring circuits.zip http://www.filefactory.com/file/c0ade9b/n/Electrical_workshop_Lesson_5_Wiring_circuits.zip Electrical workshop Lesson 6 Electrical safety testing.zip http://www.filefactory.com/file/c0adf90/n/Electrical_workshop_Lesson_6_Electrical_safety_testing.zip Electrical workshop Lesson 7 Testing insulation and polarity.zip http://www.filefactory.com/file/c0ad031/n/Electrical_workshop_Lesson_7_Testing_insulation_and_polarity.zip Electrical workshop Lesson 8 Testing lighting polarity.zip http://www.filefactory.com/file/c0ad1d8/n/Electrical_workshop_Lesson_8_Testing_lighting_polarity.zip
6	2) Click HERE to download other Exercises
7	EE07 & EE011 units mapping for Theory study & Exercises
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011.pdf
9	EE07 & EE011 units mapping for Theory study & Exercises Attend the face to face session Stage_1_Electrical_workshop_practicals.pdf Wiring_Equipments_to_purchase IN THE LINK INDICATED IN ROLL 11
10	Electrical_safe_working.zip NREL_Disconnect_Reconnect.zip IN THE LINK INDICATED IN ROLL 11
11	BACK UP for 9 & 10 Stage 1 Part 5.zip http://www.filefactory.com/file/c0cb9b3/n/Stage_1_Part_5.zip Stage 1 Part 1.zip http://www.filefactory.com/file/c0cb8ab/n/Stage_1_Part_1.zip

Study Guide EE07 & EE011

What to study	study		Which	exercises to do		What practical to do	Resources
Main	study	Additional study	Main exercise		Additional exercises	do	
EE07 Unit	EE011 Unit	For EE07+EE011 +Video	Study Option (1) EE-07	Study Option (2) EE-07	for EE011		
	UEENEEG106A Terminate cables, cords and accessories for low voltage circuits	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1						
See 1 below	See 3 below		EE011	=	EE07 +	Additional	
Study Option 2	Study Option 2						
See 2 below	See 4 below						

4	ELV_Cable_termination in Stage 2 Part 2A.zip http://www.filefactory.com/file/c0cca4a/n/Stage_2_Part_2A.zip
5	Video-- Electrical workshop Lesson 1 OHS.zip http://www.filefactory.com/file/c0adbfa/n/Electrical_workshop_Lesson_1_OHS.zip Electrical workshop Lesson 2 Workplace hazard+Fix & secure equipment.zip

	http://www.filefactory.com/file/c0adca2/n/Electrical_workshop_Lesson_2_Workplace_hazard_Fix_secure_equipment.zip Electrical workshop Lesson 3 Mechanical fixing.zip http://www.filefactory.com/file/c0adc1d/n/Electrical_workshop_Lesson_3_Mechanical_fixing.zip Electrical workshop Lesson 4 Basic electrical wiring.zip http://www.filefactory.com/file/c0add65/n/Electrical_workshop_Lesson_4_Basic_electrical_wiring.zip Electrical workshop Lesson 5 Wiring circuits.zip http://www.filefactory.com/file/c0ade9b/n/Electrical_workshop_Lesson_5_Wiring_circuits.zip Electrical workshop Lesson 6 Electrical safety testing.zip http://www.filefactory.com/file/c0adf90/n/Electrical_workshop_Lesson_6_Electrical_safety_testing.zip Electrical workshop Lesson 7 Testing insulation and polarity.zip http://www.filefactory.com/file/c0ad031/n/Electrical_workshop_Lesson_7_Testing_insulation_and_polarity.zip Electrical workshop Lesson 8 Testing lighting polarity.zip http://www.filefactory.com/file/c0ad1d8/n/Electrical_workshop_Lesson_8_Testing_lighting_polarity.zip
6	
7	Only practical assessment in class
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011.pdf
9	Attend face to face class http://www.filefactory.com/file/2f8e3fph9trr/n/G106_G033_Practical.zip
10	ELV_Cable_termination Wiring_Notes_1. Wiring_Notes_2 Switchboard_Wiring 1Wiring_E033_E008 2Wiring_E033_E008 ElectricalDrawing1.zip ElectricalDrawing2.zip ElectricalDrawing3.pdf IN THE LINK INDICATED IN ROLL 11
11	BACK UP Stage 2 Part 2A.zip http://www.filefactory.com/file/c0cca4a/n/Stage_2_Part_2A.zip

Study Guide EE07 & EE011

What to study	study		Which exercises to do		What practical to do	Resources
Main	study	Additional	Main		Additio	

n		l study	exerci se		nal exercise s		
EE07 Unit	EE011 Unit	For EE07+EE 011 +Video	Study Optio n (1) EE- 07	Study Optio n (2) EE-07	for EE011		
	UEENEEG063A Arrange circuits, control and protection for general electrical installations	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Stud y Opti on 1	Study Option 1						
See 1 below	See 3 below		EE01 1	=	EE07 +	Additio nal	
Stud y Opti on 2	Study Option 2						
See 2 below	See 4 below						

1	
2	
3	
4	
5	<u>Electrical wiring + Electrical Installation requirement</u> <u>G003+G004+G007 Lesson 1 Electrical installation protection.zip</u> <u>http://www.filefactory.com/file/c35d2f2/n/G003_G004_G007_L</u>

esson_1_Electrical_installation_protection.zip

[G003+G004+G007 Lesson 2 Electrical system safety.zip](#)

http://www.filefactory.com/file/cf937ac/n/G003_G004_G007_Lesson_2_Electrical_system_safety.zip

[G003+G004+G007 Lesson 3 Heating+Cable](#) ckt protection exercise.zip

http://www.filefactory.com/file/c0abfe8/n/G003_G004_G007_Lesson_3_Heating_Cable_ckt_protection_exercise.zip

[G003+G004+G007 Lesson 4 Wiring system.zip](#)

http://www.filefactory.com/file/cf939f0/n/G003_G004_G007_Lesson_4_Wiring_system.zip

[G003+G004+G007 Lesson 5 Hazardous area electrical system.zip](#)

http://www.filefactory.com/file/cf94af8/n/G003_G004_G007_Lesson_5_Hazardous_area_electrical_system.zip

[G003+G004+G007 Lesson 6 Overload protection RCD.zip](#)

http://www.filefactory.com/file/cf94bcf/n/G003_G004_G007_Lesson_6_Overload_protection_RCD.zip

[G003+G004+G007 Lesson 7 RCD + Metering.zip](#)

http://www.filefactory.com/file/cf94cae/n/G003_G004_G007_Lesson_7_RCD_Metering.zip

[G003+G004+G007 Lesson 8 Switch board installation.zip](#)

http://www.filefactory.com/file/cf94c40/n/G003_G004_G007_Lesson_8_Switch_board_installation.zip

	<p>G003+G004+G007 Lesson 9 Cable selection+Maximum demand.zip</p> <p>http://www.filefactory.com/file/cf94dbb/n/G003_G004_G007_Lesson_9_Cable_selection_Maximum_demand.zip</p> <p>G003+G004+G007 Lesson 10 Electrical installation safety testing.zip</p> <p>http://www.filefactory.com/file/cf94123/n/G003_G004_G007_Lesson_10_Electrical_installation_safety_testing.zip</p>
6	
7	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p>Only face to face class assessment</p>
8	Only face to face class assessment
9	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p>Attend face to face class</p> <p>PRACTICAL</p> <p>Workshop 2+3</p> <p>WorkShop_Part_2_Practical_1_to_6_.zip</p> <p>WorkShop_Part_2_Practical_7_to_12_.zip</p> <p>WorkShop_Part_2_Practical_13_to_17_.zip</p> <p>WorkShop_Part_2_Practical_18_to_21_.zip</p> <p>ElectricalWorkshopPart3_G008_Group1Machine_.zip</p> <p>ElectricalWorkshopPart3_G008_Group2LineProtection_.zip</p> <p>ElectricalWorkshopPart3_G008_Group3InstrumentsDevices_.zip</p> <p>OTHER PRACTICALS</p> <p>ELECTRICAL_WORKSHOP_PART_2_G003_G004_G009_.zip</p> <p>Electrical_Workshop_Part_2_Practical_1_to_18.zip</p> <p>Electrical_Workshop_Part_2_Practical_19_to_21.zip</p> <p>G003_G004_G009Practicals.pdf IN THE LINK INDICATED IN ROLL 11</p>
10	<p>Construction ElectricalSafety.zip</p> <p>InserviceTesting.zip</p> <p>Wiring_Notes_1. Wiring_Notes_2 Switchboard_Wiring</p> <p>1Wiring_E033_E008 2Wiring_E033_E008</p>

	IN THE LINK INDICATED IN ROLL 11
1 1	<p><u>BACK UP FOR 9 & 10</u></p> <p><u>Stage 2 Part 1B.zip</u> http://www.filefactory.com/file/c0ccac0/n/Stage_2_Part_1B.zip</p> <p><u>Stage 2 Part 3.zip</u> http://www.filefactory.com/file/c0ccb1f/n/Stage_2_Part_3.zip</p> <p><u>Stage 2 Part 6.zip</u> http://www.filefactory.com/file/c0cccc0/n/Stage_2_Part_6.zip</p> <p><u>Stage 3 Part 3.zip</u> http://www.filefactory.com/file/c0ccd44/n/Stage_3_Part_3.zip</p> <p><u>Stage 3 Part 4.zip</u> http://www.filefactory.com/file/c0ccd9a/n/Stage_3_Part_4.zip</p> <p><u>Stage 4 Part 8.zip</u> http://www.filefactory.com/file/c0cc5a1/n/Stage_4_Part_8.zip</p> <p><u>Stage 4 Part 9.zip</u> http://www.filefactory.com/file/c0cc5db/n/Stage_4_Part_9.zip</p> <p><u>Stage 4 Part 10.zip</u> http://www.filefactory.com/file/c0cc5f8/n/Stage_4_Part_10.zip</p> <p><u>Stage 3 Part 5.zip</u> http://www.filefactory.com/file/c0ccefd/n/Stage_3_Part_5.zip</p> <p><u>Stage 3 Part 8.zip</u> http://www.filefactory.com/file/c0ccf09/n/Stage_3_Part_8.zip</p> <p><u>Stage 3 Part 9.zip</u> http://www.filefactory.com/file/c0ccf48/n/Stage_3_Part_9.zip</p>

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study	Main exercise		Additional exercises		
EE07 Unit	EE011 Unit	For EE07+EE011 +Video	Study Option (1) EE-07	Study Option (2) EE-07	for EE011		
UEENEEG 007A Select wiring systems and cables for	UEENEEG 107A Select wiring systems and cables for	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below

low voltage general electrical installations	low voltage general electrical installations						
Study Option 1	Study Option 1						
See 1 below	See 3 below		EE01 1	=	EE07 +	Addi onal	
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
2	<p>AS3000-2007Overview.zip</p> <p>AS3000_AS3008TablesExtract.zip</p> <p>WiringRules.zip</p> <p>Part (1) Study the following notes</p> <p>Installation_Requirement_1-A.zip</p> <p>Installation_Requirement_1-B.zip</p> <p>Installation_Requirement_2-A.zip</p> <p>Installation_Requirement_2-B.zip</p> <p>Stage_2_Wiring.zip</p> <p>In</p> <p>Stage 2 Part 3.zip http://www.filefactory.com/file/c0ccb1f/n/Stage_2_Part_3.zip</p> <p>Stage 2 Part 6.zip http://www.filefactory.com/file/c0cccc0/n/Stage_2_Part_6.zip</p> <p>Stage 3 Part 1B.zip http://www.filefactory.com/file/c0ccc42/n/Stage_3_Part_1B.zip</p> <p>Stage 3 Part 3.zip http://www.filefactory.com/file/c0ccd44/n/Stage_3_Part_3.zip</p> <p>Stage 3 Part 4.zip http://www.filefactory.com/file/c0ccd9a/n/Stage_3_Part_4.zip</p> <p>Stage 3 Part 5.zip http://www.filefactory.com/file/c0ccefd/n/Stage_3_Part_5.zip</p> <p>Stage 3 Part 6.zip http://www.filefactory.com/file/c0cce63/n/Stage_3_Part_6.zip</p> <p>Stage 3 Part 9.zip http://www.filefactory.com/file/c0ccf48/n/Stage_3_Part_9.zip</p>

	Stage 4 Part 7.zip Stage 4 Part 8.zip Stage 4 Part 9.zip Stage 4 Part 14.zip
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
4	AS3000-2007Overview.zip AS3000_AS3008TablesExtract.zip WiringRules.zip Part (1) Study the following notes Installation_Requirement_1-A.zip Installation_Requirement_1-B.zip Installation_Requirement_2-A.zip Installation_Requirement_2-B.zip Stage_2_Wiring.zip in www.electricaldiploma2013.zoomshare.com AUSTRALIAN ELECTRICIAN TRAINING
5	<u>G007</u> G007 Lesson 1 AS3000 Wiring rule overview.zip G007 Lesson 2 Maximum Demand calculation.zip G007 Lesson 3 Cable selection.zip

	<p>http://www.filefactory.com/file/cf9465c/n/G007_Lesson_3_Cable_selection.zip</p> <p>G007 Lesson 4 Cable voltage drop calculation.zip</p> <p>http://www.filefactory.com/file/cf9479e/n/G007_Lesson_4_Cable_voltage_drop_calculation.zip</p> <p>G007 Lesson 5 Derating of cable part 1.zip</p> <p>http://www.filefactory.com/file/cf95acb/n/G007_Lesson_5_Derating_of_cable_part_1.zip</p> <p>G007 Lesson 6 Derating of cable part 2.zip</p> <p>http://www.filefactory.com/file/cf95a6b/n/G007_Lesson_6_Derating_of_cable_part_2.zip</p> <p>G007 Lesson 7 Derating of cable for HRC fuse protection.zip</p> <p>http://www.filefactory.com/file/cf95cd7/n/G007_Lesson_7_Derating_of_cable_for_HRC_fuse_protection.zip</p> <p>G007 Lesson 8 Final subcircuit fault loop impedance.zip</p> <p>http://www.filefactory.com/file/cf95dd1/n/G007_Lesson_8_Final_subcircuit_fault_loop_impedance.zip</p> <p><u>Electrical Installation requirement</u></p>
6	Click HERE to download the other exercises
7	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p>Do the assignments from the following book & submit the assignment (1) Cable Installation.zip</p> <p>Do the assignments from the following book & submit the assignment (2) Regulatory Requirement.zip</p>
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf
9	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p>PRACTICAL</p> <p>Workshop 2+3</p> <p>WorkShop_Part_2_Practical_1_to_6_.zip</p> <p>WorkShop_Part_2_Practical_7_to_12_.zip</p> <p>WorkShop_Part_2_Practical_13_to_17_.zip</p> <p>WorkShop_Part_2_Practical_18_to_21_.zip</p> <p>ElectricalWorkshopPart3_G008_Group1Machine_.zip</p>

	<p>ElectricalWorkshopPart3_G008_Group2LineProtection_.zip</p> <p>ElectricalWorkshopPart3_G008_Group3InstrumentsDevices_.zip</p> <p>OTHER PRACTICALS</p> <p>ELECTRICAL_WORKSHOP_PART_2_G003_G004_G009_.zip</p> <p>Electrical_Workshop_Part_2_Practical_1_to_18.zip</p> <p>Electrical_Workshop_Part_2_Practical_19_to_21.zip</p> <p>G003_G004_G009Practicals.pdf</p> <p>In</p> <p>www.electricaldiploma2013.zoomshare.com</p> <p>AUSTRALIAN ELECTRICIAN TRAINING</p>
10	
11	<p><u>BACK UP FOR 9 & 10</u></p> <p>Stage 2 Part 1B.zip http://www.filefactory.com/file/c0ccac0/n/Stage_2_Part_1B.zip</p> <p>Stage 2 Part 3.zip http://www.filefactory.com/file/c0ccb1f/n/Stage_2_Part_3.zip</p> <p>Stage 2 Part 6.zip http://www.filefactory.com/file/c0cccc0/n/Stage_2_Part_6.zip</p> <p>Stage 3 Part 3.zip http://www.filefactory.com/file/c0ccd44/n/Stage_3_Part_3.zip</p> <p>Stage 3 Part 4.zip http://www.filefactory.com/file/c0ccd9a/n/Stage_3_Part_4.zip</p> <p>Stage 3 Part 5.zip http://www.filefactory.com/file/c0ccefd/n/Stage_3_Part_5.zip</p> <p>Stage 3 Part 8.zip http://www.filefactory.com/file/c0ccf09/n/Stage_3_Part_8.zip</p> <p>Stage 3 Part 9.zip http://www.filefactory.com/file/c0ccf48/n/Stage_3_Part_9.zip</p> <p>Stage 4 Part 7.zip http://www.filefactory.com/file/c0cc479/n/Stage_4_Part_7.zip</p> <p>Stage 4 Part 8.zip http://www.filefactory.com/file/c0cc5a1/n/Stage_4_Part_8.zip</p> <p>Stage 4 Part 9.zip http://www.filefactory.com/file/c0cc5db/n/Stage_4_Part_9.zip</p> <p>Stage 4 Part 10.zip http://www.filefactory.com/file/c0cc5f8/n/Stage_4_Part_10.zip</p>

Study Guide EE07 & EE011

What to study		Which exercises		What practicals	Resources
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				to do		cal to	
Main	study	Addition al study	Main exerc ise		Additi onal exercis es	do	
EE07 Unit	EE011 Unit	For EE07+E E011 +Video	Stud y Opti on (1) EE- 07	Study Optio n (2) EE- 07	for EE011		
UEENEEG 003A Install low voltage wiring and accessori es	UEENEEG 103A Install low voltage wiring and accessori es	See 5 below	See 6 belo w	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1						
See 1 below	See 3 below		EE01 1	=	EE07 +	Additi onal	
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
2	
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip <u>G103+104 Notes+Lessons</u> http://www.filefactory.com/file/2bg8qift6nzh/n/G103_G104_zip
4	Wiring_Notes_1. Wiring_Notes_2 Switchboard_Wiring 1Wiring_E033_E008 2Wiring_E033_E008 Fixing Equipments

	<p>E002_E005.zip Lighting.zip</p> <p>E_trade_1.zip</p> <p>E_trade_2.zip</p> <p>E_trade_3.zip</p> <p>E_trade_4.zip</p> <p>G008_General_Notes_1.zip</p> <p>G008_General_Notes_2.zip</p> <p>Hazard_Identification.zip</p> <p>G003_G004_Wiring_2_Part_1.zip</p> <p>G003_G004_Wiring_2_Part_2.zip</p> <p>Cable_CktProt_E_Accessories.zip</p> <p>Cable_Conduit_E_Accessories.zip</p> <p>Elect_Installation_Protection_Method_Devices.zip</p> <p>Elect_Installation_Requirement_1.zip</p> <p>Elect_Installation_Requirement_1.zip</p> <p>Elect_Installation_Requirement_2.zip</p> <p>ElectricInstallationDesign.zip</p> <p>ElectSystSafety1.zip</p> <p>ElectSystSafety2.zip</p> <p>FireProtHeatingTestingEarthing.zip</p> <p>GeneralWiring.zip</p> <p>HazardLightingPanel.zip</p> <p>PanelRCDWireSpecial_Installation.zip</p> <p>ProtectionMethods.zip</p> <p>in</p> <p>www.electricaldiploma2013.zoomshare.com</p> <p>AUSTRALIAN ELECTRICIAN TRAINING</p>
5	<p><u>Electrical wiring + Electrical Installation requirement</u></p> <p>G003+G004+G007 Lesson 1 Electrical installation protection.zip</p> <p>http://www.filefactory.com/file/c35d2f2/n/G003_G004_G007_Lesson_1_Electrical_installation_protection.zip</p> <p>G003+G004+G007 Lesson 2 Electrical system safety.zip</p> <p>http://www.filefactory.com/file/cf937ac/n/G003_G004_G007_Lesson_2_Electrical_system_safety.zip</p> <p>G003+G004+G007 Lesson 3 Heating+Cable ckt protection exercise.zip</p> <p>http://www.filefactory.com/file/c0abfe8/n/G003_G004_G007_Lesson_3_Heating_Cable_ckt_protection_exercise.zip</p>

	<p>G003+G004+G007 Lesson 4 Wiring system.zip http://www.filefactory.com/file/cf939f0/n/G003_G004_G007_Lesson_4_Wiring_system.zip</p> <p>G003+G004+G007 Lesson 5 Hazardous area electrical system.zip http://www.filefactory.com/file/cf94af8/n/G003_G004_G007_Lesson_5_Hazardous_area_electrical_system.zip</p> <p>G003+G004+G007 Lesson 6 Overload protection RCD.zip http://www.filefactory.com/file/cf94bcf/n/G003_G004_G007_Lesson_6_Overload_protection_RCD.zip</p> <p>G003+G004+G007 Lesson 7 RCD + Metering.zip http://www.filefactory.com/file/cf94cae/n/G003_G004_G007_Lesson_7_RCD_Metering.zip</p> <p>G003+G004+G007 Lesson 8 Switch board installation.zip http://www.filefactory.com/file/cf94c40/n/G003_G004_G007_Lesson_8_Switch_board_installation.zip</p> <p>G003+G004+G007 Lesson 9 Cable selection+Maximum demand.zip http://www.filefactory.com/file/cf94dbb/n/G003_G004_G007_Lesson_9_Cable_selection_Maximum_demand.zip</p> <p>G003+G004+G007 Lesson 10 Electrical installation safety testing.zip http://www.filefactory.com/file/cf94123/n/G003_G004_G007_Lesson_10_Electrical_installation_safety_testing.zip</p>
6	<p>Click HERE to download the other exercises</p>
7	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p>Assessment Read the above notes files and do the assignments for the following tutorial file.</p> <p>WiringPracticals.zip G003G004Tutorial.zip in www.electricaldiploma2013.zoomshare.com AUSTRALIAN ELECTRICIAN TRAINING</p>
8	<p>http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011.pdf</p>
9	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p>Attend the face to face class</p> <p>PRACTICAL</p> <p>http://www.filefactory.com/file/54l4d5rif1z3/n/Advanced_Wiring_Part_1.zip</p> <p><u>Advanced Wiring Part 1+2—G103</u></p> <p>http://www.filefactory.com/file/1xb18xg1gaz1/n/Advanced_Wiring_Part_1_and_2.zip</p> <p><u>Electrical Installation Safety Testing</u></p> <p>http://www.filefactory.com/file/5mv9s6dx174h/n/Electrical_Installation_Safety_Testing.zip</p>

	Workshop 2+3 WorkShop_Part_2_Practical_1_to_6_.zip WorkShop_Part_2_Practical_7_to_12_.zip WorkShop_Part_2_Practical_13_to_17_.zip WorkShop_Part_2_Practical_18_to_21_.zip ElectricalWorkshopPart3_G008_Group1Machine_.zip ElectricalWorkshopPart3_G008_Group2LineProtection_.zip ElectricalWorkshopPart3_G008_Group3InstrumentsDevices_.zip OTHER PRACTICALS ELECTRICAL_WORKSHOP_PART_2_G003_G004_G009_.zip Electrical_Workshop_Part_2_Practical_1_to_18.zip Electrical_Workshop_Part_2_Practical_19_to_21.zip G003_G004_G009Practicals.pdf
1 0	Stage 3 Part 8.zip http://www.filefactory.com/file/c0ccf09/n/Stage_3_Part_8.zip Power Distribution Trade Power_Distribution_Trade.zip Metering Metering.zip
1 1	<u>BACK UP FOR 9 & 10</u> Stage 2 Part 1B.zip http://www.filefactory.com/file/c0ccac0/n/Stage_2_Part_1B.zip Stage 2 Part 3.zip http://www.filefactory.com/file/c0ccb1f/n/Stage_2_Part_3.zip Stage 2 Part 6.zip http://www.filefactory.com/file/c0cccc0/n/Stage_2_Part_6.zip Stage 3 Part 3.zip http://www.filefactory.com/file/c0ccd44/n/Stage_3_Part_3.zip Stage 3 Part 4.zip http://www.filefactory.com/file/c0ccd9a/n/Stage_3_Part_4.zip Stage 3 Part 5.zip http://www.filefactory.com/file/c0ccefd/n/Stage_3_Part_5.zip Stage 3 Part 8.zip http://www.filefactory.com/file/c0ccf09/n/Stage_3_Part_8.zip Stage 3 Part 9.zip http://www.filefactory.com/file/c0ccf48/n/Stage_3_Part_9.zip Stage 4 Part 7.zip http://www.filefactory.com/file/c0cc479/n/Stage_4_Part_7.zip Stage 4 Part 8.zip http://www.filefactory.com/file/c0cc5a1/n/Stage_4_Part_8.zip Stage 4 Part 9.zip http://www.filefactory.com/file/c0cc5db/n/Stage_4_Part_9.zip Stage 4 Part 10.zip http://www.filefactory.com/file/c0cc5f8/n/Stage_4_Part_10.zip

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional	Main		Additional		

n		l study	exerci se		nal exercise s		
EE07 Unit	EE011 Unit	For EE07+EE011 +Video	Study Option (1) EE-07	Study Option (2) EE-07	for EE011		
	UEENEEG033A Solve problems in single and three phase low voltage electrical apparatus and circuits	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1						
See 1 below	See 3 below		EE011	=	EE07 +	Additional	
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1		
2		
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip <u>G033</u> http://www.filefactory.com/file/1b2utxydvcx7/n/G033_zip	
4	Wiring_Notes_1. Wiring_Notes_2 Switchboard_Wiring 1Wiring_E033_E008 2Wiring_E033_E008	

	<p>Fixing Equipments</p> <p>E002_E005.zip Lighting.zip</p> <p>E_trade_1.zip</p> <p>E_trade_2.zip</p> <p>E_trade_3.zip</p> <p>E_trade_4.zip</p> <p>G008_General_Notes_1.zip</p> <p>G008_General_Notes_2.zip</p> <p>Hazard_Identification.zip</p> <p>G003_G004_Wiring_2_Part_1.zip</p> <p>G003_G004_Wiring_2_Part_2.zip</p> <p>Cable_CktProt_E_Accessories.zip</p> <p>Cable_Conduit_E_Accessories.zip</p> <p>Elect_Installation_Protection_Method_Devices.zip</p> <p>Elect_Installation_Requirement_1.zip</p> <p>Elect_Installation_Requirement_1.zip</p> <p>Elect_Installation_Requirement_2.zip</p> <p>ElectricInstallationDesign.zip</p> <p>ElectSystSafety1.zip</p> <p>ElectSystSafety2.zip</p> <p>FireProtHeatingTestingEarthing.zip</p> <p>GeneralWiring.zip</p> <p>HazardLightingPanel.zip</p> <p>PanelRCDWireSpecial_Installation.zip</p> <p>ProtectionMethods.zip</p> <p>In</p> <p>www.electricaldiploma2013.zoomshare.com</p> <p>AUSTRALIAN ELECTRICIAN TRAINING</p>
5	<p><u>Electrical wiring + Electrical Installation requirement</u></p> <p> <u>G003+G004+G007 Lesson 1 Electrical installation protection.zip</u></p> <p> http://www.filefactory.com/file/c35d2f2/n/G003_G004_G007_Lesson_1_Electrical_installation_protection.zip</p> <p> <u>G003+G004+G007 Lesson 2 Electrical system safety.zip</u></p> <p> http://www.filefactory.com/file/cf937ac/n/G003_G004_G007_Lesson_2_Electrical_system_safety.zip</p> <p> <u>G003+G004+G007 Lesson 3 Heating+Cable</u> ckt protection exercise.zip</p> <p> http://www.filefactory.com/file/c0abfe8/n/G003_G004_G007_Lesson_3</p>

	<p>_Heating_Cable_ckt_protection_exercise.zip</p> <p>G003+G004+G007 Lesson 4 Wiring system.zip</p> <p>http://www.filefactory.com/file/cf939f0/n/G003_G004_G007_Lesson_4_Wiring_system.zip</p> <p>G003+G004+G007 Lesson 5 Hazardous area electrical system.zip</p> <p>http://www.filefactory.com/file/cf94af8/n/G003_G004_G007_Lesson_5_Hazardous_area_electrical_system.zip</p> <p>G003+G004+G007 Lesson 6 Overload protection RCD.zip</p> <p>http://www.filefactory.com/file/cf94bcf/n/G003_G004_G007_Lesson_6_Overload_protection_RCD.zip</p> <p>G003+G004+G007 Lesson 7 RCD + Metering.zip</p> <p>http://www.filefactory.com/file/cf94cae/n/G003_G004_G007_Lesson_7_RCD_Metering.zip</p> <p>G003+G004+G007 Lesson 8 Switch board installation.zip</p> <p>http://www.filefactory.com/file/cf94c40/n/G003_G004_G007_Lesson_8_Switch_board_installation.zip</p> <p>G003+G004+G007 Lesson 9 Cable selection+Maximum demand.zip</p> <p>http://www.filefactory.com/file/cf94dbb/n/G003_G004_G007_Lesson_9_Cable_selection_Maximum_demand.zip</p> <p>G003+G004+G007 Lesson 10 Electrical installation safety testing.zip</p> <p>http://www.filefactory.com/file/cf94123/n/G003_G004_G007_Lesson_10_Electrical_installation_safety_testing.zip</p> <p>Electrical wiring + Electrical Installation requirement</p>	
6	Click HERE to download the other exercises	
7	<p>EE07 & EE011 units mapping for Theory study & Exercises Assessment</p> <p>Read the above notes files and do the assignments for the following tutorial file.</p> <p>WiringPracticals.zip</p> <p>G003G004Tutorial.zip</p>	

	www.electricaldiploma2013.zoomshare.com AUSTRALIAN ELECTRICIAN TRAINING	
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011.pdf	
9	Attend the face to face class http://www.filefactory.com/file/2f8e3fph9trr/n/G106_G033_Practical.zip	
10	Power Distribution Trade Power_Distribution_Trade.zip Metering Metering.zip PRACTICAL Workshop 2+3 WorkShop_Part_2_Practical_1_to_6_.zip WorkShop_Part_2_Practical_7_to_12_.zip WorkShop_Part_2_Practical_13_to_17_.zip WorkShop_Part_2_Practical_18_to_21_.zip ElectricalWorkshopPart3_G008_Group1Machine_.zip ElectricalWorkshopPart3_G008_Group2LineProtection_.zip ElectricalWorkshopPart3_G008_Group3InstrumentsDevices_.zip OTHER PRACTICALS ELECTRICAL_WORKSHOP_PART_2_G003_G004_G009_.zip Electrical_Workshop_Part_2_Practical_1_to_18.zip Electrical_Workshop_Part_2_Practical_19_to_21.zip G003_G004_G009Practicals.pdf In www.electricaldiploma2013.zoomshare.com AUSTRALIAN ELECTRICIAN TRAINING	
11	<u>BACK UP FOR 9 & 10</u> <u>Stage 2 Part 1B.zip</u> http://www.filefactory.com/file/c0ccac0/n/Stage_2_Part_1B.zip <u>Stage 2 Part 3.zip</u> http://www.filefactory.com/file/c0ccb1f/n/Stage_2_Part_3.zip <u>Stage 2 Part 6.zip</u> http://www.filefactory.com/file/c0cccc0/n/Stage_2_Part_6.zip <u>Stage 3 Part 3.zip</u> http://www.filefactory.com/file/c0ccd44/n/Stage_3_Part_3.zip <u>Stage 3 Part 4.zip</u> http://www.filefactory.com/file/c0ccd9a/n/Stage_3_Part_4.zip <u>Stage 3 Part 5.zip</u> http://www.filefactory.com/file/c0ccefd/n/Stage_3_Part_5.zip <u>Stage 3 Part 8.zip</u> http://www.filefactory.com/file/c0ccf09/n/Stage_3_Part_8.zip	

Stage 3 Part 9.zip	http://www.filefactory.com/file/c0ccf48/n/Stage_3_Part_9.zip
Stage 4 Part 7.zip	http://www.filefactory.com/file/c0cc479/n/Stage_4_Part_7.zip
Stage 4 Part 8.zip	http://www.filefactory.com/file/c0cc5a1/n/Stage_4_Part_8.zip
Stage 4 Part 9.zip	http://www.filefactory.com/file/c0cc5db/n/Stage_4_Part_9.zip
Stage 4 Part 10.zip	http://www.filefactory.com/file/c0cc5f8/n/Stage_4_Part_10.zip

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Textbook

Prescribed Texts:

TAFE NSW Higher Education 2012, *Engineering Practices (ENPRA101A) Lecture Notes and Workbook*, lecture notes distributed in Engineering Practices

Recommended Readings:

Hampson, J 2006, *Electrical Trade Principles*, Pearson Education Australia (Chapter 6)

Pethebridge, K & Neeson I 2009, *Electrical Wiring Practice Vol 1*, 7th or latest edition, McGraw Hill, Australia (Chapters 1, 4 and 7)

Pethebridge, K & Neeson I 2002, *Electrical Wiring Practice Vol 2*, 6th or latest edition, McGraw Hill, Australia (Section 22.6)

Standards Australia AS/NZS 3000: *Electrical installations (Wiring Rules)*

Standards Australia AS/NZS 3008 *Electrical installations—Selection of cables*

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Tutorial Exercises

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Further Readings

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Online Practicals

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Text Books for

ENEMP101A Introduction to Engineering Mathematics and Physics
ENEMP102A Foundation Engineering Mathematics and Physics
ENEMP201A Intermediate Engineering Mathematics and Physics
ENEMP202A Advanced Engineering Mathematics and Physics

Giancoli, DC, 2000, Physics For Scientists And Engineers, 4th or latest edition, Volumes 1,2,3, ISBN: 9780132273596.

http://www.filefactory.com/file/7c514m4yw0ov/Giancoli_-_Physics_6th_Solutions_pdf

http://www.filefactory.com/file/1588szswdljx/Giancoli_-_Physics_6th_pdf

Bird, J, 2007, Engineering Mathematics, 4th or latest edition, Newnes Publishing, ISBN: 0-7506-5776-6,

http://www.filefactory.com/file/2z1jzorebdwx/2-john-bird-higher-engineering-mathematics_pdf

http://www.filefactory.com/file/2z1jzorebdwx/2-john-bird-higher-engineering-mathematics_pdf

http://www.filefactory.com/file/6oh03k3msqv1/Basics_of_MATLAB_and_Beyond_pdf

http://www.filefactory.com/file/28cbwzhk6ral/Engineering_Mathematics_4E_pdf

http://www.filefactory.com/file/6uizsgnh2snp/Essentials_of_MATLAB_Programming_pdf

http://www.filefactory.com/file/2z1jzorebdwx/2-john-bird-higher-engineering-mathematics_pdf

http://www.filefactory.com/file/4ljoibd9h6dv/Learning_MATLAB_pdf

http://www.filefactory.com/file/45ftpkh77jsf/MATLAB_Programming_For_Engineers_pdf

http://www.filefactory.com/file/729l3my8kcsp/matlab_quickref_pdf

http://www.filefactory.com/file/2179ehd9p9g5/MatlabNotes_pdf

Text Books for

ENMCC 101A Foundation Mechanical & Civil Engineering Principle
ENMCC 201A Advanced Mechanical & Civil Engineering Principle

http://www.filefactory.com/file/724kx95f2ayf/27767685-Materials-Engineers-Technicians_pdf

http://www.filefactory.com/file/7analtqujo7z/59446893-A-Textbook-of-Engineering-Mechanics-by-R-K-Bansal_pdf

http://www.filefactory.com/file/4k7yvsvt47jr/123974244-strength-of-material-by-r-k-bansal_pdf

http://www.filefactory.com/file/3h4q2snf4kgd/Fluid_Mechanics_and_Thermodynamics_of_Turbomachinery_4E_pdf

<http://www.filefactory.com/file/4can70505quj/RE001%20BENERGY%20101A.pdf>

<http://www.filefactory.com/file/4f92zgjjzg7j/DC%20Power%20Supply.pdf>

Part (3) Qualified (2) Course

RE 501-Control of Solar Energy System

RE502- Biomass Gasification

RE503- Energy Management in Industrial and Commercial Facilities

RE504- Engineering Solution for Sustainability

RE505- Green Building Design

RE506- Low Emission Power Generation Technologies

RE507- Offshore Wind Turbines

RE508- Solar Hydrogen Energy System

RE509- Applied Photovoltaics

RE510- Water Conservation

RE511- Sustaining Earth Energy resources

A written report between 10,000 – 12,000 words that covers both theory & practical knowledges of the above units.

RE 501-Control of Solar Energy System.pdf (13.93MB)

http://www.filefactory.com/file/16zy6ploevjp/n/RE_501-Control_of_Solar_Energy_System.pdf

[Download now!](#)

RE507- Offshore Wind Turbines.pdf (9.4MB)

<http://www.filefactory.com/file/2mtdemeyzub/n/RE507- Offshore Wind Turbines.pdf>

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RE511- Sustaining Earth Energy resources.pdf (8.43MB)

http://www.filefactory.com/file/38jctruglh59/n/RE511-Sustaining_Earth_Energy_resources.pdf

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RE503- Energy Management in Industrial and Commercial Facilities.pdf (2.89MB)

http://www.filefactory.com/file/3elg8jedxa4l/n/RE503-_Energy_Management_in_Industrial_and_Commercial_Facilities.pdf

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RE502- Biomass Gasification.pdf (9.76MB)

http://www.filefactory.com/file/4jvkf83l8qpl/n/RE502-_Biomass_Gasification.pdf

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RE510- Water Conservation.pdf (10.19MB)

http://www.filefactory.com/file/4xhmdkdc9y1x/n/RE510-_Water_Conversation.pdf

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RE505- Green Building Design.pdf (13.06MB)

http://www.filefactory.com/file/5e245s2iqyu3/n/RE505-_Green_Building_Design.pdf

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RE509- Applied Photovoltaics.pdf (5.06MB)

http://www.filefactory.com/file/5gksowteu2ul/n/RE509-_Applied_Photovoltaics.pdf

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RE504- Engineering Solution for Sustainability.pdf (4.72MB)

http://www.filefactory.com/file/5ifk2mm5tz1r/n/RE504-_Engineering_Solution_for_Sustainability.pdf

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RE508- Solar Hydrogen Energy System.pdf (1.85MB)

http://www.filefactory.com/file/6d3qf2lc2zu1/n/RE508-_Solar_Hydrogen_Energy_System.pdf

[Download now!](#)

RE506- Low Emission Power Generation Technologies.pdf (22.75MB)

http://www.filefactory.com/file/6o1sfltodgc7/n/RE506-_Low_Emission_Power_Generation_Technologies.pdf

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Part (4) Final Thesis

Res 601 Research Method

MAE 602 Thesis

[http://www.filefactory.com/file/1l1r1k0ftawt/n/11.Research+Thesis_\(ICT_605\).zip](http://www.filefactory.com/file/1l1r1k0ftawt/n/11.Research+Thesis_(ICT_605).zip)

This course guides the student, step by step, through the research process, from problem selection through writing up results. It provides all of the basics necessary to complete a research project in any discipline.

Outline. The following aspects are reflected in this course:

- What is research?

- Tools of research

- The problem: the heart of the research process

- Review of the related literature

- Planning your research design

- Writing the research proposal

- Qualitative research

- Historical research

- Descriptive research

- Experimental and causal - comparative designs

- Statistical techniques for analyzing quantitative data

- Technical details: style, format, and organization of the research report

Masters Research Proposal

Synopsis: Research students are expected to present a written research proposal within three months after commencement. The proposal is handed in to the study leader. Assessors of this proposal are selected by the faculty for their understanding of the field and the research involved. The purpose of a research is to set out a plan for conducting the research and writing the dissertation within the available time. It should take account of the availability and guidance of the study leader. The starting point for a research proposal is the topic, which is the field of interest in which the research is to be carried out. In introducing the topic, the proposal should clarify the field that it falls into and the specific part that field which the research will explore. It should clarify why the topic is of interest and importance, and how the proposed research will contribute to the field of knowledge or profession. The proposal should clarify the research questions, ensuring that these are specific and answerable. It is important to show how these questions relate to the topic are, and how they will advance the student's contribution. The proposal should detail the research to be carried out, and clarify the research methods, the timeframe and the reasons for selecting particular methods. Where a period of literature review or research should

precede any empirical research, this should be factored in as part of the research. It is important to estimate any periods of field research and to flag their duration and cost in your research proposal.

MAE 601 Professional Engineering Practice

MENG6003 Selective I: management subject (45 hrs) 3 credits

MENG6004 Selective II: management subject (45 hrs) 3 credits

Res 601 Research Method

MENG6005 Quantitative Methods and Statistics (45 hrs) 3 credits

MAE 602 Thesis

Engineering Project/Thesis 24 credits

Candidates need to complete a 60000-words engineering dissertation (in Myanmar or English) and a 3000-words executive portfolio (in English).

This program requires the candidates to complete a dissertation as part of the assessment for the MSc (RE) degree. Doing a thesis means that instead of knowledge and information being presented and following a prescribed route for answering questions, candidates are thrust into an active role of managing an investigation into a topic area. This means researching and discovering things for themselves. They will have to set their own targets and parameters, pose their own central research questions and decide on the appropriate sources of information to support the research. It therefore requires the use of the higher-level cognitive skills of analysis, synthesis and evaluation. Candidates may choose an area of particular interest to them within the scope of course title. A dissertation is an individual effort and the candidate, academic tutor and the course professor will work together on constructing an approved topic (research question) and methodologies.

Engineering Dissertation Defense 9 credits

It is expected of Master's candidates to defend their thesis by means of a colloquium doctum (academic discussion). The purpose of the meeting is for the candidates to convince a panel of experts in the field of the dissertation how well they have done in the conducting of their research study and the preparation of their dissertation

Program Total Credits 48 credits

Candidates need to complete all course assessments with the results of Grade B+

or above.

[Renewable Energy Engineering Public Seminar + Diploma& Bachelor of Engineering \(Renewable Energy\)](#)

[**Master of Science \(Renewable Energy Engineering\)**](#)

[Master of Science \(Renewable Energy\) Learning Support Website](#)

Professional Diploma in Structural Engineering (120 Credits)

Master of Science (Structural Engineering) (240 Credits)

Pre requisite

Advanced Diploma in Civil Engineering or Equivalent with 60 credits advanced standing

Subjects (Totalling 60 Credits)

- CE113 Structure 1 (3 credits)
- CE114 Structure 2 (2 Credits)
- BAE404S Engineering Materials & Strength of Materials (10 credits)
- BAE 403S Engineering Mechanics (10 credits)
- RE010 Engineering Materials (5 credits)
- BAE621S Structural Engineering (Civil) (10 credits)
- BAE424S Reinforced Concrete (Civil) (10 credits)
- BAE 701 Engineering Fundamental (10 credits)

(BAE403S, BAE404S, BAE621S and BAE424S are more intensive version of BAE403, BAE404, BAE621 and BAE424)

Master Course (120 Credits transfer + 120 Credits of study = 240 credits)

- BAE 708 Engineering Knowledge (10 Credits)
- BAE 705 Engineering Competency Development (10 Credits)
- BAE 706 Engineering Report Writing Development (10 Credits)
- BAE 707 Engineering Ethics (10 Credits)
- BAE 709 Design Project (40 Credits)
- BAE 709S Structural Design Project (20 Credits)

(BAE706, BAE709 and BAE709S can be concurrently presented)

Advanced Diploma of Construction Studies

RIGGING

Scaffolding

<http://www.highlightcomputer.com/CivilDegreeInstruction.pdf>

<http://www.highlightcomputer.com/CivilDegreeInstruction1.pdf>

<http://www.highlightcomputer.com/CivilDiplomaInstruction.pdf>

Written Lessons References+ Text Books

<http://www.filefactory.com/file/6wu38l73pdhv/B%20App%20Eng%20%28Building%20Service%29%2CDip%20Civil%20Engg%20Study%20Guide.pdf>

Advanced Diploma of Construction Studies

	GE+IE UNITS	TRAINING PACKAGE UNITS	
GE1	Electrical Wiring (EE)	MEM18049C	Disconnect/reconnect fixed wired equipment up to 1000 volts a.c./1500 volts d.c.
		MEM18050C	Disconnect/reconnect fixed wired equipment over 1000 volts a.c./1500 volts d.c.
		MEM18051B	Fault find and repair/rectify complex electrical circuits
		MEM18070C	Modify complex electrical circuits and systems
		MEM18073A	Perform advanced equipment testing and diagnostics on mobile plant and equipment
GE2	Electrical Machine (EE)		
GE3	Electrical Distribution (EE)		
GE4	Power System Operation (EE)		
GE5	Power System Protection		
GE6	Occupational Health & Safety	MEM30008A	Apply basic economic and ergonomic concepts to evaluate engineering applications
		BSBWHS506A	Contribute to developing, implementing and maintaining WHS management systems
		MEM13002B	Undertake occupational health and safety activities in the workplace
		MSS403032A	Analyse manual handling processes
		MEM13010A	Supervise occupational health and safety in an industrial work environment.
		BSBOHS504B	* Apply principles of OHS risk management
		BSBPMG505A	Manage project quality
		BSBPMG508A	Manage project risk
		CPCCBC5014A	Conduct asbestos assessment associated with removal
		CPCCOHS1001A	Work safely in the construction industry
GE7	Project Management (EE/CE/ME)	MEM22012A	Coordinate resources for an engineering project or operation
		MEM22013A	Coordinate engineering projects
		CPCCBC5005A	Select and manage building and construction contractors
		CPCCBC5007B	Administer the legal obligations of a building or construction contractor
		CPCCBC5013A	Develop professional technical and legal reports on building and construction projects
		CPCCBC4009B	Apply legal requirements to building and construction projects
GE8	Electronics (EE)		
GE9	Process Control (EE/ME)	MEM23112A	Investigate electrical and electronic controllers in engineering applications
		MEM10007C	Modify control systems
GE10	Industrial Electronics (EE)	MEM30026A	Select and test components for simple electronic switching and timing circuits
GE11	Programmable Logic Controller (EE/ME)	MEM23003A	Operate and program computers and/or controllers in engineering situations
		MEM30027A	Prepare basic programs for programmable logic controllers
		MEM23116A	Evaluate programmable logic controller and related control system component applications
		MSS402061A	Use SCADA systems in operations
		MSS404061A	Facilitate the use of SCADA systems in a team or work area
GE12	Photovoltaic Solar Electrical System		

GE13	Principle of Engine(ME)		
GE14	Fitting & Machining (ME)	MEM14005A MEM15004B MEM15005B MEM16010A MEM18002B MEM18003C MEM18006C MEM18010C MEM18055B MEM12003B MEM12023A MEM12005B MEM12022B MEM12003B MEM12004B MEM12005B	Plan a complete activity Perform inspection Select and control inspection processes and procedures Write reports Use power tools/hand held operations Use tools for precision work Repair and fit engineering components Perform equipment condition monitoring and recording Dismantle, replace and assemble engineering components Perform precision mechanical measurement Perform engineering measurements Calibrate measuring equipment Program coordinate measuring machines (advanced) Perform precision mechanical measurement Perform precision electrical/electronic measurement Calibrate measuring equipment
GE15	Building Construction (CE)	CPCCBC4001A	* Apply building codes and standards to the construction process for low rise building projects
		CPCCBC5004A	Supervise and apply quality standards to the selection of building and construction materials
		CPCCBC4005A	Produce labour and material schedules for ordering
		CPCCBC4006B	Select, procure and store construction materials for low rise projects
GE16	Engineering Drawing I (EE/CE/ME)	MEM30031A MEM30032A MEM30033A MEM09153A MEM09155A MEM09156A MEM09157A MEM09158A MEM09204A MEM09205A MEM09002B MEM09004B MEM09006B MEM09007B MEM09008B MEM09009C MEM09010C MEM09023A	Operate computer-aided design (CAD) system to produce basic drawing elements Produce basic engineering drawings Use computer-aided design (CAD) to create and display 3-D models Apply CAD modelling and data management techniques to aeronautical engineering designs Prepare mechanical models for computer-aided engineering (CAE) Prepare mechatronic models for computer-aided engineering (CAE) Perform mechanical engineering design drafting Perform mechatronics engineering design drafting Produce basic engineering detail drawings Produce electrical schematic drawings Interpret technical drawing Perform electrical/electronic detail drafting Perform advanced engineering detail drafting Perform advanced mechanical detail drafting Perform advanced structural detail drafting Create 2D drawings using computer aided design system Create 3D models using computer aided design system Create 3D code files using computer aided manufacturing system
		CPCCBC4014A	Prepare simple building sketches and drawings
GE17	Pipe Fitting (CE/ME)		
GE18	Air-conditioning & Refrigeration (ME)	MEM23144A MEM23146A MEM23147A MEM23149A MEM23150A MEM23153A MEM23140A MEM23142A	Contribute to the design of a commercial refrigeration system Contribute to the design of industrial refrigeration systems Contribute to the design of hydronic systems Contribute to the design of commercial and industrial exhaust systems Contribute to the design of heating systems Contribute to the design of heat exchanger systems Determine operational parameters for building HVAC hydronic systems Determine psychrometric processes and system performance

		MEM23129A MEM23130A MEM18091B MEM18092B MEM18093B	Evaluate thermal loads for heating, ventilation, air conditioning and refrigeration Coordinate servicing and fault-finding of HVACR control systems Maintain and repair multi stage, cascade and/or ultra-cold industrial refrigeration systems Maintain and repair commercial and/or industrial refrigeration and/or air conditioning controls Maintain and repair integrated industrial refrigeration and/or large air handling system controls
GE19	Computer Programming (EE/CE/ME)		
GE20	Computer Networking (EE)		
GE21	Welding (ME)	MEM05024B MEM05025C MEM05026C MEM05042B MEM05043B MEM05044B MEM05045B MEM05046B	Perform welding supervision Perform welding/fabrication inspection Apply welding principles Perform welds to code standards using flux core arc welding process Perform welds to code standards using gas metal arc welding process Perform welds to code standards using gas tungsten arc welding process Perform pipe welds to code standards using manual metal arc welding process Perform welds to code standards using manual metal arc welding process
GE22	Painting & Decoration (CE)		
GE23	Pneumatics (CE/ME)	MEM30011A	Set up basic pneumatic circuits
GE24	Manufacturing Management (ME)	MEM14002B MSS405075A MEM14003B	Undertake basic process planning Facilitate the development of a new product Undertake basic production scheduling
ME 205	Manufacturing Processes-and-Materials		
Mgt 503	Production & Operation Management	MEM14087A	Apply manufactured product design techniques
Mgt 505	Quality Management and Manufacturing Engineering	MEM15007B MEM15008B MEM14091A MEM15011B MEM15012B MEM22014A MEM22015A MEM22017A MEM22018A MEM30013A MEM30014A MEM30015A MEM30016A MEM30017A MEM30018A MEM30019A MEM30020A MEM30021A MEM30022A MEM30023A MEM30024A MEM15001B MEM23123A MEM23131A MEM23132A MEM14001B MEM14002B MEM14003B	Conduct product and/or process capability studies Perform advanced statistical quality control Integrate manufacturing fundamentals into an engineering task Exercise external quality assurance Maintain/supervise the application of quality procedures Coordinate engineering-related manufacturing operations Source and estimate engineering materials requirements Coordinate continuous improvement and technical development Coordinate sales and promotion of engineering-related products or services Assist in the preparation of a basic workplace layout Apply basic just in time systems to the reduction of waste Develop recommendations for basic set up time improvements Assist in the analysis of a supply chain Use basic preventative maintenance techniques and tools Undertake basic process planning Use resource planning software systems in manufacturing Develop and manage a plan for a simple manufacturing related project Prepare a simple production schedule Undertake supervised procurement activities Prepare a simple cost estimate for a manufactured product Participate in quality assurance techniques Perform basic statistical quality control Evaluate manufacturing processes Evaluate rapid prototyping applications Evaluate rapid manufacturing processes Schedule material deliveries Undertake basic process planning Undertake basic production scheduling

ME 303	Computer Aided Design and Manufacturing	MEM30009A	Contribute to the design of basic mechanical systems
ME 534	Numerical Control	MEM23122A MEM05053A MEM05054A MEM07016C MEM07018C MEM07019C MEM07020C MEM07022C MEM07023C MEM07039A	Evaluate computer integrated manufacturing systems Set and edit computer controlled thermal cutting machines Write basic NC/CNC programs for thermal cutting machines Set and edit computer controlled machines/processes Write basic NC/CNC programs Program NC/CNC machining centre Program multiple spindle and/or multiple axis NC/CNC machining centre Program CNC wire cut machines Program and set up CNC manufacturing cell Write programs for industrial robots
ME 434	Mechtronics-Robotics	MEM23126A MEM23064A	Evaluate industrial robotic applications Select and test mechatronic engineering materials
GE25	Surveying (CE)	CPCCBC5006B	Apply site surveys and set-out procedures to medium rise building projects
		CPCCBC4018A	Apply site surveys and set-out procedures to building and construction projects
GE26	Energy Efficient Building Design	MEM23141A	Complete a building thermal performance survey
		CPCCBC5009A	Identify services layout and connection methods to medium rise construction projects
		CPCCBC5011A	Manage environmental management practices and processes in building and construction
		CPCSUS5002A	Develop action plans to retrofit existing buildings for energy efficiency
		CPCSUS5003A	Manage energy efficient building methods and strategies
		CPCCBC4020A	Build thermally efficient and sustainable structures
GE28	Hydraulic (CE/ME)	MEM30010A	Set up basic hydraulic circuits
GE29	Materials & Corrosion Prevention (CE/ME)	MEM30007A	Select common engineering materials
GE32	Electronic Security Installation		
GE33	Explosion Protection		
GE34	Engineering Business Management	MSAENV672B MSS402030A MSS403001A MSS403002A MSS403010A MSS403021A MSS403023A MSS403030A MSS403040A MSS403051A MSS404050A MSS404052A MSS404060A MSS405001A MSS405002A MSS405003A MSS405004A MSS405005A	Develop workplace policy and procedures for sustainability Apply cost factors to work practices Implement competitive systems and practices Ensure process improvements are sustained Facilitate change in an organisation implementing competitive systems and practices Facilitate a Just in Time system Monitor a levelled pull system of operations Improve cost factors in work practices Facilitate and improve implementation of 5S Mistake proof an operational process Undertake process capability improvements Apply statistics to operational processes Facilitate the use of planning software systems in a work area or team Develop competitive systems and practices for an organisation Analyse and map a value stream Manage a value stream Develop business plans in an organisation implementing competitive systems and practices Manage competitive systems and practices responding to individual and unique customer orders

		MSS405010A MSS405011A MSS405012A MSS405020A MSS405021A MSS405022A MSS405023A MSS405030A MSS405031A MSS405040A MSS405050A MSS405052A MSS405060A MSS405061A MEM23119A MEM30028A MEM14005A MEM15002A MEM16006A MEM17003A	Manage relationships with non-customer external organisations Manage people relationships Manage workplace learning Develop quick changeover procedures Develop a Just in Time system Design a process layout Develop a levelled pull system for operations and processes Optimise cost of a product or service Undertake value analysis of product or process costs in terms of customer requirements Manage 5S system in an organisation Determine and improve process capability Design an experiment Develop the application of enterprise control systems in an organisation Determine and establish information collection requirements and processes Evaluate continuous improvement processes Assist in sales of technical products/systems Plan a complete activity Apply quality systems Organise and communicate information Assist in the provision of on the job training
		BSBCUS501C	* Manage quality customer service
		BSBFIM501A	* Manage budgets and financial plans
		BSBHRM509A	* Manage rehabilitation or return to work programs
		BSBINN502A	Build and sustain an innovative work environment
		BSBITA401A	Design databases
		BSBITU402A	Develop and use complex spreadsheets
		BSBITU404A	Produce complex desktop published documents
		BSBLED502A	* Manage programs that promote personal effectiveness
		BSBMGT502B	* Manage people performance
		BSBMGT515A	* Manage operational plan
		BSBR5K501B	* Manage risk
		BSBSLS502A	* Lead and manage a sales team
		BSBWOR501B	* Manage personal work priorities and professional development
		BSBWOR502B	* Ensure team effectiveness
		CPCCBC4024A	Resolve business disputes
		CPPDSM5022A	Implement asset management plan
IE1	Engineering Mathematics	MEM23007A MEM23008A MEM23004A MEM23005A MEM12025A MEM12024A MEM12025A	Apply calculus to engineering tasks Apply advanced algebra and numerical methods to engineering tasks Apply technical mathematics Apply statistics and probability techniques to engineering tasks Use graphical techniques and perform simple statistical computations Perform computations Use graphical techniques and perform simple statistical computations
IE2	Engineering Physics		
IE3	Material Science	MEM24001B MEM24003B MEM24005B MEM24007B MEM24009B MEM14001B MEM23063A	Perform basic penetrant testing Perform basic magnetic particle testing Perform basic eddy current testing Perform ultrasonic thickness testing Perform basic radiographic testing Schedule material deliveries Select and test mechanical engineering materials
GE30 GE31 IE5	Bricklaying (CE) Sprouting & Guttering (CE) Mechanical Science		

		MEM23138A	Evaluate suitability of materials for engineering-related applications
IE4	Advanced Engineering Mathematics		
IE6	Principle of Electricity	MEM23111A	Select electrical equipment and components for engineering applications
IE7	Electrical Circuit I (EE)	MEM30025A	Analyse a simple electrical system circuit
IE8	Electrical Circuit II (EE)		
IE9	Advanced Building Construction (CE)		
IE10	Transmission Line (EE)		
IE11	Electrical & Mechanical Engineering Work Experience		
IE12	Civil Engineering Work Experience		
IE13	Workshop	MEM18001C MEM23133A MEM23134A MEM23135A MEM23136A MEM23137A MEM30029A	Use hand tools Evaluate rapid tooling applications Evaluate jigs and fixtures Evaluate moulding tools and processes Evaluate stamping and forging tools Evaluate rolling tools and processes Use workshop equipment and processes to complete an engineering project
IE15	Advanced Engineering Design & Project Work	CPCBC4003A	* Select and prepare a construction contract
		CPCBC5010B	* Manage construction work
CE115	Estimating & Specification	CPCBC4004A	* Identify and produce estimated costs for building and construction projects
		CPCBC4013A	* Prepare and evaluate tender documentation
		CPCBC4013A	* Prepare and evaluate tender documentation
		CPCBC5002A	* Monitor costing systems on medium rise building and construction projects
		CPCBC5003A	* Supervise the planning of on-site medium rise building or construction work
		CPCBC4012B	Read and interpret plans and specifications
IE16	Power System Analysis-Fault Calculation		
IE17	Power Line Design		
IE18	Building services		
IE19	PCB Design		
IE20	Maths References		
IE21	Electrical Principle		
IE22	Co-generation		
IE23	Industrial Computer System	MSS402060A	Use planning software systems in operations
		MEM16008A	Interact with computing technology
IE24	Microprocessor	MEM23117A MEM23118A	Evaluate microcontroller applications Apply production and service control techniques
IE25	Power System Fundamental		
IE26	Electrical Communication Fundamental		
IE27	Control Concept		
IE28	Electronic Signal & System		
IE29	Electrical Estimating		
IE30	Electronic Workbench		
IE31	Introduction to Renewable Energy Technology	MSS405070A	Develop and manage sustainable energy practices
		MSAENV472B	Implement and monitor environmentally sustainable work practices
		MSAENV272B	Participate in environmentally sustainable work practices
		CPCSUS5001A	Develop workplace policies and procedures for sustainability

IE32	Telecommunication Cabling & Installation		
IE33	Hybrid Energy System		
IE34	Electricity Supply Industrial Skills		
ME 101 ME 103	Applied Mathematics Engineering Mechanics	MEM30005A MEM30006A MEM23109A	Calculate force systems within simple beam structures Calculate stresses in simple structures Apply engineering mechanics principles
ME 102 ME 107	Engineering Thermodynamics Heat Transfer	MEM23006A	Apply fluid and thermodynamics principles in engineering
ME201 ME 204 ME 301	Introduction to Fluid Mechanics Engineering Fluid Mechanics Fluid Dynamics	MEM23113A MEM23114A MEM23115A MEM18053B	Evaluate hydrodynamic systems and system components Evaluate thermodynamic systems and components Evaluate fluid power systems Modify fluid power control systems
BAE312	Design Engineering (2 pt)	MEM14085A MEM14086A MEM14089A MEM14090A	Apply mechanical engineering analysis techniques Apply mechatronic engineering analysis techniques Integrate mechanical fundamentals into an engineering task Integrate mechatronic fundamentals into an engineering task
BAE612	Engineering Metallurgy	MEM15010B MEM24002B MEM24004B MEM24006B MEM24008B MEM24010B MEM24011B MEM24012C MSATCM304A MSATCM406A MSATCM501A MSATCM504A MSATCM511A MEM04020A MEM04021A MEM04022A MEM04023A	Perform laboratory procedures Perform penetrant testing Perform magnetic particle testing Perform eddy current testing Perform ultrasonic testing Perform radiographic testing Establish non-destructive tests Apply metallurgy principles Interpret basic binary phase diagrams Apply basic chemical principles to metallurgy Calculate and predict chemical outcomes in metallurgical situations Select metal forming process Apply metallurgy principles and practice to determine metal forming and shaping processes Supervise individual ferrous melting and casting operation Supervise individual non ferrous melting and casting operation Examine appropriateness of methoding for mould design Undertake prescribed tests on foundry related materials
ME 305	Corrosion Prevention	MSATCM517A	Determine corrosion prevention strategies for metal and alloys
BAE611	Maintenance Engineering	MEM14088A MEM14092A MEM23125A MSS404081A	Apply maintenance engineering techniques to equipment and component repairs and modifications Integrate maintenance fundamentals into an engineering task Evaluate maintenance systems Undertake proactive maintenance analyses

		MSS404082A MSS405081A MSS405083A	Assist in implementing a proactive maintenance strategy Develop a proactive maintenance strategy Adapt a proactive maintenance strategy for a seasonal or cyclical business
BAE311	Plant Engineering (2 pt)	MEM18016B MEM22007A	Analyse plant and equipment condition monitoring results Manage environmental effects of engineering activities
BAE614	Machine Design	MEM23120A	Select mechanical machine and equipment components
GE27	Machine Principle(ME)	MEM23121A MEM23124A MEM10008B	Analyse loads on frames and mechanisms Measure and analyse noise and vibration Undertake commissioning procedures for plant and/or equipment
CE113	Structure 1	CPCCBC5018A	* Apply structural principles to the construction of medium rise buildings
CE114	Structure 2	CPCCBC4011B	Apply structural principles to commercial low rise constructions

GE36 RIGGING

Reference Notes Click [HERE](#)

Modules/Units	Name	Hrs	National Module(s)
CPCCCM1012A	Work effectively and sustainably in the construction industry	12	CPCCCM1012A
CPCCCM1013A	Plan and organise work	12	CPCCCM1013A
CPCCCM1014A	Conduct workplace communication	8	CPCCCM1014A
CPCCCM1015A	Carry out measurements and calculations	36	CPCCCM1015A
CPCCCM2001A	Read and interpret plans and specifications	16	CPCCCM2001A
CPCCCM2010B	Work safely at heights	16	CPCCCM2010B
CPCCCM3001C	Operate elevated work platforms	32	CPCCCM3001C
CPCCCM3003A	Work safely around power sources, services and assets	24	CPCCCM3003A
CPCCLRG3001A	Licence to perform rigging basic level	96	CPCCLRG3001A
CPCCLRG3002A	Licence to perform rigging intermediate level	24	CPCCLRG3002A
CPCCOHS2001A	Apply OHS requirements, policies and procedures in the construction industry	16	CPCCOHS2001A

Group CPC30711-01V03G02 GROUP 2 ELECTIVE UNITS LISTED IN CPC30711

Modules/Units	Name	Hrs	National Module(s)
BSBSMB301A	Investigate micro business opportunities	30	BSBSMB301A
BSBSMB406A	Manage small business finances	40	BSBSMB406A
CPCCCM2007B	Use explosive power tools	8	CPCCCM2007B
CPCCCM3002A	Operate a truck mounted loading crane	32	CPCCCM3002A
CPCCLDG3001A	Licence to perform dogging	80	CPCCLDG3001A
CPCCLHS3001A	Licence to operate a personnel and materials hoist	32	CPCCLHS3001A
CPCCLHS3002A	Licence to operate a materials hoist	24	CPCCLHS3002A
CPCCRI3001A	Operate personnel and materials hoists	16	CPCCRI3001A
CPCCRI3012A	Perform basic rigging	48	CPCCRI3012A
CPCCRI3013A	Perform intermediate rigging	60	CPCCRI3013A

CPCCRI3014A	Perform advanced structural steel erection	60	CPCCRI3014A
CPCCRI3015A	Perform advanced tilt-up slab erection	60	CPCCRI3015A
CPCCRI3016A	Perform advanced tower crane erection	60	CPCCRI3016A
CPCCSC2002A	Erect and dismantle basic scaffolding	32	CPCCSC2002A
CPCCSF2003A	Cut and bend materials using oxy-LPG equipment	18	CPCCSF2003A
RIIOHS302A	Implement traffic management plan	25	RIIOHS302A
TLILIC2001A	Licence to operate a forklift truck	40	TLILIC2001A

Group CPC30711-01V03G03 GROUP 3 UNITS FROM ANY CERT III OR CERT IV IN CPC08 OR ANY OTHER TP

Modules/Units	Name	Hrs	National Module(s)
CPCCDO3011A	Perform dogging	40	CPCCDO3011A
CPCCLRG4001A	Licence to perform rigging advanced level	24	CPCCLRG4001A
CPCCLSF2001A	Licence to erect, alter and dismantle scaffolding basic level	40	CPCCLSF2001A
TLILIC2005A	Licence to operate a boom-type elevating work platform (boom length 11 metres or more)	30	TLILIC2005A

Scaffolding

Reference Notes Click [HERE](#)

GE35	SCAFFOLDING	MEM11001C MEM11002C MEM11003B MEM11004B	Erect/dismantle scaffolding and equipment Erect/dismantle complex scaffolding and equipment Coordinate erection/dismantling of complex scaffolding/equipment Undertake dogging
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Modules/Units	Name	Hrs	National Module(s)
CPCCCM1012A	Work effectively and sustainably in the construction industry	12	CPCCCM1012A
CPCCCM1013A	Plan and organise work	12	CPCCCM1013A
CPCCCM1014A	Conduct workplace communication	8	CPCCCM1014A
CPCCCM1015A	Carry out measurements and calculations	36	CPCCCM1015A
CPCCCM2001A	Read and interpret plans and specifications	16	CPCCCM2001A
CPCCLSF2001A	Licence to erect, alter and dismantle scaffolding basic level	40	CPCCLSF2001A
CPCCLSF3001A	Licence to erect, alter and dismantle scaffolding intermediate level	40	CPCCLSF3001A
CPCCOHS2001A	Apply OHS requirements, policies and procedures in the construction industry	16	CPCCOHS2001A
CPCCSC2001A	Safely handle and use scaffolding tools and equipment	40	CPCCSC2001A

Group CPC30911-01V02G02 GROUP 2 ELECTIVE UNITS LISTED IN CPC30911

Modules/Units	Name	Hrs	National Module(s)
BSBSMB301A	Investigate micro business opportunities	30	BSBSMB301A
BSBSMB406A	Manage small business finances	40	BSBSMB406A
CPCCCM2007B	Use explosive power tools	8	CPCCCM2007B
CPCCCM2010B	Work safely at heights	16	CPCCCM2010B

CPCCCM3001C	Operate elevated work platforms	32	CPCCCM3001C
CPCCCM3002A	Operate a truck mounted loading crane	32	CPCCCM3002A
CPCCLDG3001A	Licence to perform dogging	80	CPCCLDG3001A
CPCCRI3001A	Operate personnel and materials hoists	16	CPCCRI3001A
CPCCSC2002A	Erect and dismantle basic scaffolding	32	CPCCSC2002A
CPCCSC3001A	Erect and dismantle intermediate scaffolding	48	CPCCSC3001A
CPCCSF2003A	Cut and bend materials using oxy-LPG equipment	18	CPCCSF2003A
RIIOHS302A	Implement traffic management plan	25	RIIOHS302A
TLILIC2001A	Licence to operate a forklift truck	40	TLILIC2001A

Group CPC30911-01V02G03 GROUP 3 UNITS FROM ANY CERT III OR CERT IV IN CPC08 OR ANY OTHER TP

Modules/Units	Name	Hrs	National Module(s)
BSBADM307B	Organise schedules	15	BSBADM307B
CPCCLRG3001A	Licence to perform rigging basic level	96	CPCCLRG3001A
CPCCLSF4001A	Licence to erect, alter and dismantle scaffolding advanced level	40	CPCCLSF4001A
FSKNUM14	Calculate with whole numbers and familiar fractions, decimals and percentages for work	30	FSKNUM14
FSKNUM15	Estimate, measure and calculate with routine metric measurements for work	30	FSKNUM15
TLILIC2005A	Licence to operate a boom-type elevating work platform (boom length 11 metres or more)	30	TLILIC2005A

Advanced Diploma of Engineering –Mechanical

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WATCH MAKING

MARINE

Welding

FITTING & MACHINING

HYDRAULICS

METAL FORMING

<http://www.highlightcomputer.com/MechanicalDegreeInstruction.pdf>

<http://www.highlightcomputer.com/MechanicalDiplomaInstruction.pdf>

Written Lessons References+ Text Books

<http://www.filefactory.com/file/720e13y9btpb/B%20App%20Eng%20%28Mechtronics%29%2CDip%20%26amp%3B%20Adv%20Dip%20Mech%20Engg%20Study%20Guide%20.p>

Advanced Diploma of Engineering –Mechanical

	GE+IE UNITS	TRAINING PACKAGE UNITS	
GE1	Electrical Wiring (EE)	MEM18049C MEM18050C MEM18051B MEM18070C MEM18073A MEM30025A MEM03004B MEM03005B MEM10001C MEM10011B MEM18045B MEM18046B	Disconnect/reconnect fixed wired equipment up to 1000 volts a.c./1500 volts d.c. Disconnect/reconnect fixed wired equipment over 1000 volts a.c./1500 volts d.c. Fault find and repair/rectify complex electrical circuits Modify complex electrical circuits and systems Perform advanced equipment testing and diagnostics on mobile plant and equipment Analyse a simple electrical system circuit Perform electronic/electrical assembly (production) Rework and repair (electrical/electronic production) Erect structures Terminate and connect specialist cables Fault find/repair electrical equipment/components up to 250 volts single phase supply Fault find/repair electrical equipment/components up to 1000 volts a.c./1500 volts d.c.
GE2	Electrical Machine (EE)		
GE3	Electrical Distribution (EE)		
GE4	Power System Operation (EE)		
GE5	Power System Protection		
GE6	Occupational Health & Safety	MEM30008A BSBWHS506A MEM13002B MSS403032A MEM13010A	Apply basic economic and ergonomic concepts to evaluate engineering applications Contribute to developing, implementing and maintaining WHS management systems Undertake occupational health and safety activities in the workplace Analyse manual handling processes Supervise occupational health and safety in an industrial work environment.
GE7	Project Management (EE/CE/ME)	MEM22012A MEM22013A	Coordinate resources for an engineering project or operation Coordinate engineering projects
GE8	Electronics (EE)	MEM18056B MEM18058C MEM18059B MSATCM304A	Diagnose and repair analog equipment and components Modify electronic equipment Modify electronic systems Interpret basic binary phase diagrams
GE9	Process Control (EE/ME)	MEM18054B MEM23112A MEM18060B MEM18061B MEM18062B	Fault find, test and calibrate instrumentation systems and equipment Investigate electrical and electronic controllers in engineering applications Maintain, repair control instrumentation - single and multiple loop control systems Maintain/calibrate complex control systems Install, maintain and calibrate instrumentation sensors, transmitters and final control elements
		MEM18057B	Maintain/service analog/digital electronic equipment
		MEM18063B	Terminate signal and data cables
GE10	Industrial Electronics (EE)	MEM30026A MEM18047B MEM18048B	Select and test components for simple electronic switching and timing circuits Diagnose and maintain electronic controlling systems on mobile plant Fault find and repair/rectify basic electrical circuits
GE11	Programmable Logic Controller (EE/ME)	MEM23003A MEM30027A MEM23116A MSS402061A MSS404061A	Operate and program computers and/or controllers in engineering situations Prepare basic programs for programmable logic controllers Evaluate programmable logic controller and related control system component applications Use SCADA systems in operations Facilitate the use of SCADA systems in a team or work area

		MEM10004B	Enter and change programmable controller operational parameters
		MEM10005B	Commission programmable controller programs
GE12	Photovoltaic Solar Electrical System		
GE13	Principle of Engine(ME)	MEM18001C MEM18002B MEM18003C MEM18004B MEM18005B MEM18006C MEM18007B MEM18008B MEM18009B MEM18012B MEM18013B MEM18014B MEM18015B MEM18018C MEM18020B MEM18024B MEM18025B MEM18026C MEM18027C MEM18028B MEM18029B MEM18030B MEM18031B MEM18032B MEM18033B MEM18034B MEM18035B MEM18037B MEM18038B MEM18039B MEM18040B MEM18041B MEM18042C MEM18043C MEM18044C MEM18001C MEM18002B MEM18003C MEM18004B MEM18005B MEM18006C	Use hand tools Use power tools/hand held operations Use tools for precision work Maintain and overhaul mechanical equipment Perform fault diagnosis, installation and removal of bearings Repair and fit engineering components Maintain and repair mechanical drives and mechanical transmission assemblies Balance equipment Perform levelling and alignment of machines and engineering components Perform installation and removal of mechanical seals Perform gland packing Manufacture press tools and gauges Maintain tools and dies Maintain pneumatic system components Maintain hydraulic system components Maintain engine cooling systems Service combustion engines Test compression ignition fuel systems Overhaul engine fuel system components Maintain engine lubrication systems Tune diesel engines Diagnose and rectify low voltage electrical systems Diagnose and rectify low voltage starting systems Maintain induction/exhaust systems Perform engine bottom-end overhaul Perform engine top-end overhaul Diagnose and rectify braking systems Diagnose and rectify low voltage charging systems Maintain wheels and tyres Diagnose and rectify track type undercarriage Maintain suspension systems Maintain steering systems Diagnose and rectify manual transmissions Diagnose and rectify automatic transmissions Diagnose and rectify drive line and final drives Use hand tools Use power tools/hand held operations Use tools for precision work Maintain and overhaul mechanical equipment Perform fault diagnosis, installation and removal of bearings Repair and fit engineering components
GE14	Fitting & Machining (ME)	MEM14005A MEM15004B MEM15005B MEM16010A MEM18002B MEM18003C MEM18006C MEM18010C MEM18055B MEM12003B MEM12023A MEM12005B MEM12022B MEM03001B MEM03002B MEM03003B MEM03006B MEM12001B MEM12002B MEM12006C MEM12007D	Plan a complete activity Perform inspection Select and control inspection processes and procedures Write reports Use power tools/hand held operations Use tools for precision work Repair and fit engineering components Perform equipment condition monitoring and recording Dismantle, replace and assemble engineering components Perform precision mechanical measurement Perform engineering measurements Calibrate measuring equipment Program coordinate measuring machines (advanced) Perform manual production assembly Perform precision assembly Perform sheet and plate assembly Set assembly stations Use comparison and basic measuring devices Perform electrical/electronic measurement Mark off/out (general engineering) Mark off/out structural fabrications and shapes

		MEM12019B MEM12020B MEM12021B MEM12022B MEM12001B MEM18055B	Measure components using coordinate measuring machines Set and operate coordinate measuring machines Program coordinate measuring machines Program coordinate measuring machines (advanced) Use comparison and basic measuring devices Dismantle, replace and assemble engineering components
GE15	Building Construction (CE)	CPCBC4007A CPCBC4012B CPCBC4014A CPCBC4018A CPCPDR4011B CPCPDR4012B CPCPFS4024A ICTCBL2136A PMBFIN203C PMBPROD247C PMBTECH405B	Plan building or construction work Read and interpret plans and specifications Prepare simple building sketches and drawings Apply site surveys and set-out procedures to building and construction projects Design and size sanitary drainage systems Design and size stormwater drainage systems Design residential and domestic fire sprinkler systems Install, maintain and modify customer premises communications cabling: ACMA Restricted Rule Repair product imperfections Hand lay up composites Repair damaged fibre-composites structures
GE16	Engineering Drawing I (EE/CE/ME)	MEM30031A MEM30032A MEM30033A MEM09153A MEM09155A MEM09156A MEM09157A MEM09158A MEM09204A MEM09205A MEM09002B MEM09002B MEM09003B MEM09005B MEM09011B MEM09021B MEM09022A	Operate computer-aided design (CAD) system to produce basic drawing elements Produce basic engineering drawings Use computer-aided design (CAD) to create and display 3-D models Apply CAD modelling and data management techniques to aeronautical engineering designs Prepare mechanical models for computer-aided engineering (CAE) Prepare mechatronic models for computer-aided engineering (CAE) Perform mechanical engineering design drafting Perform mechatronics engineering design drafting Produce basic engineering detail drawings Produce electrical schematic drawings Interpret technical drawing Interpret technical drawing Prepare basic engineering drawing Perform basic engineering detail drafting Apply basic engineering design concepts Interpret and produce curved 3-dimensional shapes Create 2D code files using computer aided manufacturing system
GE17	Pipe Fitting (CE/ME)	MEM10010B	Install pipework and pipework assemblies
GE18	Air-conditioning & Refrigeration (ME)	MEM23144A MEM23146A MEM23147A MEM23149A MEM23150A MEM23153A MEM23140A MEM23142A MEM23129A MEM23130A MEM18091B MEM18092B MEM18093B MEM10009B MEM10013A MEM18084A MEM18085A MEM18086B MEM18087B MEM18088B MEM18089B	Contribute to the design of a commercial refrigeration system Contribute to the design of industrial refrigeration systems Contribute to the design of hydronic systems Contribute to the design of commercial and industrial exhaust systems Contribute to the design of heating systems Contribute to the design of heat exchanger systems Determine operational parameters for building HVAC hydronic systems Determine psychrometric processes and system performance Evaluate thermal loads for heating, ventilation, air conditioning and refrigeration Coordinate servicing and fault-finding of HVACR control systems Maintain and repair multi stage, cascade and/or ultra-cold industrial refrigeration systems Maintain and repair commercial and/or industrial refrigeration and/or air conditioning controls Maintain and repair integrated industrial refrigeration and/or large air handling system controls Install refrigeration and air conditioning plant and equipment Install split air conditioning systems and associated pipework Commission and decommission split air conditioning systems Install, service and repair domestic air conditioning and refrigeration appliances Test, recover, evacuate and charge refrigeration systems Service and repair domestic and light commercial refrigeration and air conditioning equipment Maintain and repair commercial air conditioning systems and components Maintain and repair central air handling systems

		MEM18090B	Maintain and repair industrial refrigeration systems and components
		MEM18094B	Service and repair commercial refrigeration
		MEM18095A	Maintain and repair cooling towers/evaporative condensers and associated equipment
		MEM18096A	Maintain, repair/replace and adjust refrigerant flow controls and associated equipment
		MEM18084A	Commission and decommission split air conditioning systems
GE19	Computer Programming (EE/CE/ME)		
GE20	Computer Networking (EE)		
GE21	Welding (ME)	MEM05024B MEM05025C MEM05026C MEM05042B MEM05043B MEM05044B MEM05045B MEM05046B	Perform welding supervision Perform welding/fabrication inspection Apply welding principles Perform welds to code standards using flux core arc welding process Perform welds to code standards using gas metal arc welding process Perform welds to code standards using gas tungsten arc welding process Perform pipe welds to code standards using manual metal arc welding process Perform welds to code standards using manual metal arc welding process
		MEM05024B MEM05001B MEM05002B MEM05003B MEM05004C MEM05005B MEM05006C MEM05007C MEM05008C MEM05009C MEM05010C MEM05011D MEM05012C MEM05013C MEM05014C MEM05015D MEM05016C MEM05017D MEM05018C MEM05019D MEM05020C MEM05022C MEM05023C MEM05036C MEM05037C MEM05001B MEM05002B	Perform welding supervision Perform manual soldering/desoldering - electrical/electronic components Perform high reliability soldering and desoldering Perform soft soldering Perform routine oxy acetylene welding Carry out mechanical cutting Perform brazing and or silver soldering Perform manual heating and thermal cutting Perform advanced manual thermal cutting, gouging and shaping Perform automated thermal cutting Apply fabrication, forming and shaping techniques Assemble fabricated components Perform routine manual metal arc welding Perform manual production welding Monitor quality of production welding/fabrications Weld using manual metal arc welding process Perform advanced welding using manual metal arc welding process Weld using gas metal arc welding process Perform advanced welding using gas metal arc welding process Weld using gas tungsten arc welding process Perform advanced welding using gas tungsten arc welding process Perform advanced welding using oxy acetylene welding process Weld using submerged arc welding process Repair/replace/modify fabrications Perform geometric development Perform manual soldering/desoldering - electrical/electronic components Perform high reliability soldering and desoldering
		MEM05038B MEM05039B MEM05040B MEM05041B MEM05047B MEM05048B MEM05049B MEM05050B MEM05051A	Perform advanced geometric development - cylindrical/rectangular Perform advanced geometric development - conical Perform advanced geometric development - transitions Weld using powder flame spraying Weld using flux core arc welding process Perform advanced welding using flux core arc welding process Perform routine gas tungsten arc welding Perform routine gas metal arc welding Select welding processes
GE22	Painting & Decoration (CE)		
GE23	Pneumatics (CE/ME)	MEM30011A MEM18019B	Set up basic pneumatic circuits Maintain pneumatic systems
GE24	Manufacturing Management (ME)	MEM14002B	Undertake basic process planning

ME 205	Manufacturing Processes-and-Materials	MSS405075A MEM14003B	Facilitate the development of a new product Undertake basic production scheduling
Mgt 503	Production & Operation Management	MEM14087A	Apply manufactured product design techniques
Mgt 505	Quality Management and Manufacturing Engineering	MEM15007B MEM15008B MEM14091A MEM15011B MEM15012B MEM22014A MEM22015A MEM22017A MEM22018A MEM30013A MEM30014A MEM30015A MEM30016A MEM30017A MEM30018A MEM30019A MEM30020A MEM30021A MEM30022A MEM30023A MEM30024A MEM15001B MEM23123A MEM23131A MEM23132A MEM14001B MEM14002B MEM14003B MEM15001B MEM15003B MEM15004B MEM15005B	Conduct product and/or process capability studies Perform advanced statistical quality control Integrate manufacturing fundamentals into an engineering task Exercise external quality assurance Maintain/supervise the application of quality procedures Coordinate engineering-related manufacturing operations Source and estimate engineering materials requirements Coordinate continuous improvement and technical development Coordinate sales and promotion of engineering-related products or services Assist in the preparation of a basic workplace layout Apply basic just in time systems to the reduction of waste Develop recommendations for basic set up time improvements Assist in the analysis of a supply chain Use basic preventative maintenance techniques and tools Undertake basic process planning Use resource planning software systems in manufacturing Develop and manage a plan for a simple manufacturing related project Prepare a simple production schedule Undertake supervised procurement activities Prepare a simple cost estimate for a manufactured product Participate in quality assurance techniques Perform basic statistical quality control Evaluate manufacturing processes Evaluate rapid prototyping applications Evaluate rapid manufacturing processes Schedule material deliveries Undertake basic process planning Undertake basic production scheduling Perform basic statistical quality control Use improvement processes in team activities Perform inspection Select and control inspection processes and procedures
ME 303	Computer Aided Design and Manufacturing	MEM30009A	Contribute to the design of basic mechanical systems
ME 534	Numerical Control	MEM23122A MEM05053A MEM05054A	Evaluate computer integrated manufacturing systems Set and edit computer controlled thermal cutting machines Write basic NC/CNC programs for thermal cutting machines
		MEM07016C MEM07018C MEM07019C MEM07020C MEM07022C MEM07023C MEM07039A	Set and edit computer controlled machines/processes Write basic NC/CNC programs Program NC/CNC machining centre Program multiple spindle and/or multiple axis NC/CNC machining centre Program CNC wire cut machines Program and set up CNC manufacturing cell Write programs for industrial robots
ME 434	Mechtronics-Robotics	MEM23126A MEM23064A	Evaluate industrial robotic applications Select and test mechatronic engineering materials
GE25	Surveying (CE)		
GE26	Energy Efficient Building Design	MEM23141A	Complete a building thermal performance survey
GE28	Hydraulic (CE/ME)	MEM30010A MEM18021B MEM18022B MEM18023B MEM18052B MEM18071B MEM18072B	Set up basic hydraulic circuits Maintain hydraulic systems Maintain fluid power controls Modify fluid power system operation Maintain fluid power systems for mobile plant Connect/disconnect fluid conveying system components Manufacture fluid conveying conductor assemblies
GE29	Materials & Corrosion Prevention (CE/ME)	MEM30007A	Select common engineering materials
GE30	Bricklaying (CE)		
GE31	Sprouting & Guttering (CE)		
GE32	Electronic Security Installation	MEM20008A MEM20011A MEM20012A MEM20013A	Develop and implement a masterkey system Service and repair fire and security containers Service and repair mechanical automotive locking systems Service automotive transponder systems
		PRSTS202A	Install security equipment/system

		PRSTS302A PRSTS303A PRSTS304A PRSTS305A PRSTS307A	Program security equipment/system Test installed security equipment/system Commission/decommission security equipment/system Identify and diagnose electronic security equipment/system fault Maintain and service security equipment/system
GE33	Explosion Protection	MEM13001B MEM13002B MEM13003B MEM13004B MEM13006B MEM13007B MEM13010A MEM13013B	Perform emergency first aid Undertake occupational health and safety activities in the workplace Work safely with industrial chemicals and materials Work safely with molten metals/glass Collect and evaluate occupational health and safety data for an enterprise or section of an enterpri Maintain water treatment systems for cooling towers Supervise occupational health and safety in an industrial work environment. Work safely with ionizing radiation
GE34	Engineering Business Management	MSAENV672B MSS402030A MSS403001A MSS403002A MSS403010A MSS403021A MSS403023A MSS403030A MSS403040A MSS403051A MSS404050A MSS404052A MSS404060A MSS405001A MSS405002A MSS405003A MSS405004A MSS405005A MSS405010A MSS405011A MSS405012A MSS405020A MSS405021A MSS405022A MSS405023A MSS405030A MSS405031A MSS405040A MSS405050A MSS405052A MSS405060A MSS405061A MEM23119A MEM30028A MEM14001B MEM14002B MEM14003B MEM14001B MEM14002B MEM14003B MEM14001B MEM14002B MEM14003B MEM14001B MEM14002B MEM14003B MEM14001B MEM14002B MEM14003B	Develop workplace policy and procedures for sustainability Apply cost factors to work practices Implement competitive systems and practices Ensure process improvements are sustained Facilitate change in an organisation implementing competitive systems and practices Facilitate a Just in Time system Monitor a levelled pull system of operations Improve cost factors in work practices Facilitate and improve implementation of 5S Mistake proof an operational process Undertake process capability improvements Apply statistics to operational processes Facilitate the use of planning software systems in a work area or team Develop competitive systems and practices for an organisation Analyse and map a value stream Manage a value stream Develop business plans in an organisation implementing competitive systems and practices Manage competitive systems and practices responding to individual and unique customer orders Manage relationships with non-customer external organisations Manage people relationships Manage workplace learning Develop quick changeover procedures Develop a Just in Time system Design a process layout Develop a levelled pull system for operations and processes Optimise cost of a product or service Undertake value analysis of product or process costs in terms of customer requirements Manage 5S system in an organisation Determine and improve process capability Design an experiment Develop the application of enterprise control systems in an organisation Determine and establish information collection requirements and processes Evaluate continuous improvement processes Assist in sales of technical products/systems Schedule material deliveries Undertake basic process planning Undertake basic production scheduling Schedule material deliveries Undertake basic process planning Undertake basic production scheduling Schedule material deliveries Undertake basic process planning Undertake basic production scheduling Schedule material deliveries Schedule material deliveries Undertake basic process planning Undertake basic production scheduling Schedule material deliveries Schedule material deliveries Undertake basic process planning Undertake basic production scheduling

		MEM14001B MEM14002B MEM14003B MEM14001B MEM14002B MEM17001B MEM17002B MEM14005A MEM15002A MEM16006A MEM16002C MEM16004B MEM16005A MEM17003A BSBSMB404A BSBSMB406A	Schedule material deliveries Undertake basic process planning Undertake basic production scheduling Schedule material deliveries Undertake basic process planning Assist in development and deliver training in the workplace Conduct workplace assessment Plan a complete activity Apply quality systems Organise and communicate information Conduct formal interviews and negotiations Perform internal/external customer service Operate as a team member to conduct manufacturing, engineering or related activities Assist in the provision of on the job training * Undertake small business planning Manage small business finances
		MSS403001A	Implement competitive systems and practices
		MSS403002A	Ensure process improvements are sustained
		MSS403010A	Facilitate change in an organisation implementing competitive systems and practices
		MSS403021A	Facilitate a Just in Time system
		MSS403030A	Improve cost factors in work practices
IE1	Engineering Mathematics	MEM23007A MEM23008A MEM23004A MEM23005A MEM12025A MEM12024A MEM12024A MEM12025A MEM30012A	Apply calculus to engineering tasks Apply advanced algebra and numerical methods to engineering tasks Apply technical mathematics Apply statistics and probability techniques to engineering tasks Use graphical techniques and perform simple statistical computations Perform computations Perform computations Use graphical techniques and perform simple statistical computations Apply mathematical techniques in a manufacturing engineering or related environment
IE2	Engineering Physics		
IE3	Material Science	MEM24001B MEM24003B MEM24005B MEM24007B MEM24009B MEM14001B MEM23063A MEM23138A	Perform basic penetrant testing Perform basic magnetic particle testing Perform basic eddy current testing Perform ultrasonic thickness testing Perform basic radiographic testing Schedule material deliveries Select and test mechanical engineering materials Evaluate suitability of materials for engineering-related applications
IE4	Advanced Engineering Mathematics		
IE5	Mechanical Science		
IE6	Principle of Electricity	MEM23111A	Select electrical equipment and components for engineering applications
IE7	Electrical Circuit I (EE)	MEM30025A	Analyse a simple electrical system circuit
IE8	Electrical Circuit II (EE)		
IE9	Advanced Building Construction (CE)		
IE10	Transmission Line (EE)		
IE11	Electrical & Mechanical Engineering Work Experience		
IE12	Civil Engineering Work Experience		
IE13	Workshop	MEM18001C MEM23133A MEM23134A MEM23135A MEM23136A MEM23137A MEM30029A	Use hand tools Evaluate rapid tooling applications Evaluate jigs and fixtures Evaluate moulding tools and processes Evaluate stamping and forging tools Evaluate rolling tools and processes Use workshop equipment and processes to complete an engineering project
IE15	Advanced Engineering Design & Project Work		
IE16	Power System Analysis-Fault Calculation		
IE17	Power Line Design		
IE18	Building services		
IE19	PCB Design		
IE20	Maths References		
IE21	Electrical Principle		
IE22	Co-generation		
IE23	Industrial Computer System	MSS402060A	Use planning software systems in operations

		MEM16008A	Interact with computing technology
IE24	Microprocessor	MEM23117A MEM23118A MEM18065B MEM18066B MEM18067B	Evaluate microcontroller applications Apply production and service control techniques Diagnose and repair digital equipment and components Diagnose and repair microprocessor-based equipment Tune control loops - multi controller or multi element systems
IE25	Power System Fundamental		
IE26	Electrical Communication Fundamental		
IE27	Control Concept	MEM18069B	Maintain, repair instrumentation process control analysers
IE28	Electronic Signal & System		
IE29	Electrical Estimating		
IE30	Electronic Workbench		
IE31	Introduction to Renewable Energy Technology	MSS405070A MSAENV472B MSAENV272B	Develop and manage sustainable energy practices Implement and monitor environmentally sustainable work practices Participate in environmentally sustainable work practices
IE32	Telecommunication Cabling & Installation	ICTCBL2136A	Install, maintain and modify customer premises communications cabling: ACMA Restricted Rule
IE33	Hybrid Energy System		
IE34	Electricity Supply Industrial Skills		
ME 101 ME 103	Applied Mathematics Engineering Mechanics	MEM30005A MEM30006A MEM23109A	Calculate force systems within simple beam structures Calculate stresses in simple structures Apply engineering mechanics principles
ME 102 ME 107	Engineering Thermodynamics Heat Transfer	MEM23006A	Apply fluid and thermodynamics principles in engineering
ME201 ME 204 ME 301	Introduction to Fluid Mechanics Engineering Fluid Mechanics Fluid Dynamics	MEM23113A MEM23114A MEM23115A MEM18053B	Evaluate hydrodynamic systems and system components Evaluate thermodynamic systems and components Evaluate fluid power systems Modify fluid power control systems
BAE312	Design Engineering (2 pt)	MEM14085A MEM14086A MEM14089A MEM14090A	Apply mechanical engineering analysis techniques Apply mechatronic engineering analysis techniques Integrate mechanical fundamentals into an engineering task Integrate mechatronic fundamentals into an engineering task
BAE612	Engineering Metallurgy	MEM15010B MEM24002B MEM24004B MEM24006B MEM24008B MEM24010B MEM24011B MEM24012C MSATCM304A MSATCM406A MSATCM501A MSATCM504A MSATCM511A MEM04020A MEM04021A MEM04022A MEM04023A MEM21018A MEM21019A MEM21020A	Perform laboratory procedures Perform penetrant testing Perform magnetic particle testing Perform eddy current testing Perform ultrasonic testing Perform radiographic testing Establish non-destructive tests Apply metallurgy principles Interpret basic binary phase diagrams Apply basic chemical principles to metallurgy Calculate and predict chemical outcomes in metallurgical situations Select metal forming process Apply metallurgy principles and practice to determine metal forming and shaping processes Supervise individual ferrous melting and casting operation Supervise individual non ferrous melting and casting operation Examine appropriateness of methoding for mould design Undertake prescribed tests on foundry related materials Service clock escapements and oscillating systems Service and repair clock striking mechanisms Service and repair clock chiming mechanisms

		MEM21021A MEM21022A MEM21023A MEM21018A	Restore clockwork mechanisms Manufacture watch and clock components Plan, set up and operate horological workshop or service centre Service clock escapements and oscillating systems
ME 305	Corrosion Prevention	MSATCM517A	Determine corrosion prevention strategies for metal and alloys
BAE611	Maintenance Engineering	MEM14088A MEM14092A MEM23125A MSS404081A MSS404082A MSS405081A MSS405083A MEM18010C MEM18011C MEM18016B MEM18017C	Apply maintenance engineering techniques to equipment and component repairs and modifications Integrate maintenance fundamentals into an engineering task Evaluate maintenance systems Undertake proactive maintenance analyses Assist in implementing a proactive maintenance strategy Develop a proactive maintenance strategy Adapt a proactive maintenance strategy for a seasonal or cyclical business Perform equipment condition monitoring and recording Shut down and isolate machines/equipment Analyse plant and equipment condition monitoring results Modify mechanical systems and equipment
BAE311	Plant Engineering (2 pt)	MEM18016B	Analyse plant and equipment condition monitoring results
BAE614	Machine Design	MEM22007A MEM23120A	Manage environmental effects of engineering activities Select mechanical machine and equipment components
GE27	Machine Principle(ME)	MEM23121A MEM23124A MEM10008B MEM10006B	Analyse loads on frames and mechanisms Measure and analyse noise and vibration Undertake commissioning procedures for plant and/or equipment Install machine/plant
ME 208	Hydrocarbons	MEM18098A	Prepare to perform work associated with fuel system installation and servicing
	CLOCK	MEM21018A MEM21019A MEM21020A MEM21021A MEM21022A MEM21023A	Service clock escapements and oscillating systems Service and repair clock striking mechanisms Service and repair clock chiming mechanisms Restore clockwork mechanisms Manufacture watch and clock components Plan, set up and operate horological workshop or service centre
BAE513	Production Technology	MEM04001B	Operate melting furnaces
BAE614	Machine Design	MEM04002B	Perform gravity die casting
GE14	Fitting & Machining (ME)(II)	MEM04003B	Operate pressure die casting machine
ME 104	Machine Principle	MEM04004B	Prepare and mix sand for metal moulding
ME 209	Introduction-to-polymer-science-and-technology	MEM04005C	Produce moulds and cores by hand (jobbing)
ME 205	Manufacturing Processes-and-Materials	MEM04006B	Operate sand moulding and core making machines
BAE612	Engineering Metallurgy	MEM04007B MEM04008B MEM04010B MEM04011B MEM04012B MEM04013B MEM04014B MEM04015B MEM04016C MEM04017B MEM04018B MEM04019B MEM06001B MEM06002B MEM06003C MEM06004B MEM06005B MEM06006C	Pour molten metal Fettle and trim metal castings/forgings Develop and manufacture wood patterns Produce polymer patterns Assemble plated patterns Develop and manufacture polystyrene patterns Develop and manufacture production patterns Develop and manufacture vacuum forming moulds and associated equipment Develop and manufacture precision models Develop and manufacture gear, conveyor screw and propeller patterns Perform general woodworking machine operations Perform refractory installation and repair Perform hand forging Perform hammer forging Carry out heat treatment Select heat treatment processes and test finished product Perform drop and upset forging Repair springs

		MEM06007B	Perform basic incidental heat/quenching, tempering and annealing
		MEM06008A	Hammer forge complex shapes
		MEM06009A	Hand forge complex shapes
		MEM07001B	Perform operational maintenance of machines/equipment
		MEM07002B	Perform precision shaping/planing/slotting operations
		MEM07003B	Perform machine setting (routine)
		MEM07004B	Perform machine setting (complex)
		MEM07005C	Perform general machining
		MEM07006C	Perform lathe operations
		MEM07007C	Perform milling operations
		MEM07008D	Perform grinding operations
		MEM07009B	Perform precision jig boring operations
		MEM07010B	Perform tool and cutter grinding operations
		MEM07011B	Perform complex milling operations
		MEM07012B	Perform complex grinding operations
		MEM07013B	Perform machining operations using horizontal and/or vertical boring machines
		MEM07014B	Perform electro-discharge (EDM) machining operations
		MEM07015B	Set computer controlled machines/processes
		MEM07021B	Perform complex lathe operations
		MEM07024B	Operate and monitor machine/process
		MEM07025B	Perform advanced machine/process operation
		MEM07026B	Perform advanced plastic processing
		MEM07027B	Perform advanced press operations
		MEM07028B	Operate computer controlled machines/processes
		MEM07029B	Perform routine sharpening/maintenance of production tools and cutters
		MEM07030C	Perform metal spinning lathe operations (basic)
		MEM07031C	Perform metal spinning lathe operations (complex)
		MEM07032B	Use workshop machines for basic operations
		MEM07033B	Operate and monitor basic boiler
		MEM07034A	Operate and monitor intermediate class boiler
		MEM07040A	Set multistage integrated processes
		MEM18097A	Manufacture cavity dies
		MEM24001B	Perform basic penetrant testing
		MEM24003B	Perform basic magnetic particle testing
		MEM24005B	Perform basic eddy current testing
		MEM24007B	Perform ultrasonic thickness testing
		MEM24009B	Perform basic radiographic testing
		PMBPROD291B	Operate resin infusion moulding equipment
		PMBPROD294B	Operate resin transfer moulding equipment
		PMBPROD298B	Operate equipment using pre-preg material
		PMBPROD391B	Produce composites using resin infusion
		PMBPROD394B	Produce composites using resin transfer moulding
GE35	SCAFFOLDING	MEM11001C	Erect/dismantle scaffolding and equipment
		MEM11002C	Erect/dismantle complex scaffolding and equipment
		MEM11003B	Coordinate erection/dismantling of complex scaffolding/equipment
		MEM11004B	Undertake dogging
GE36	INVENTORY MANAGEMENT/ STORE OPERATION & STOCK CONTROL MATERIALS HANDLING	MEM11005B	Pick and process order
		MEM11006B	Perform production packaging
		MEM11007B	Administer inventory procedures
		MEM11008B	Package materials (stores and warehouse)
		MEM11009B	Handle/move bulk fluids/gases
		MEM11010B	Operate mobile load shifting equipment
		MEM11011B	Undertake manual handling
		MEM11012B	Purchase materials
		MEM11013B	Undertake warehouse receipt process
		MEM11014B	Undertake warehouse dispatch process
		MEM11015B	Manage warehouse inventory system
		MEM11016B	Order materials
		MEM11017B	Organise and lead stocktakes

		MEM11018B	Organise and maintain warehouse stock receiving and/or dispatch system
		MEM11019B	Undertake tool store procedures
		MEM11020B	Perform advanced warehouse computer operations
		MEM11021B	Perform advanced operation of load shifting equipment
		MEM11022B	Operate fixed/moveable load shifting equipment
		MEM11008B	Package materials (stores and warehouse)

JEWELLERY MAKING

MEM19001B	Perform jewellery metal casting
MEM19002B	Prepare jewellery illustrations
MEM19003B	Handle gem materials
MEM19004B	Handle and examine gemstone materials
MEM19005B	* Produce three-dimensional precision items
MEM19006B	Replace watch batteries
MEM19007B	Perform gemstone setting
MEM19009B	Perform investment procedures for lost wax casting process
MEM19010B	Produce rubber moulds for lost wax casting process
MEM19011B	Perform wax injection of moulds for lost wax casting process
MEM19012B	Produce jewellery wax model
MEM19014B	Perform hand engraving
MEM19015B	Perform jewellery enamelling
MEM19016B	Construct jewellery components
MEM19017B	Fabricate jewellery items
MEM19020B	Fault-find and maintain micro-mechanisms
MEM19021B	Diagnose and service micro-mechanisms

Group MEM40105-01V08G03S16

WATCH MAKING

Modules/Units	Name
MEM20001A	Produce keys
MEM20002A	Assemble and test lock mechanisms
MEM20003A	Install and upgrade locks and hardware
MEM20004A	Gain entry
MEM20005A	Install and maintain door control devices/systems
MEM20006A	Maintain and service mechanical locking devices
MEM20007A	Plan and prepare a masterkey system
MEM20009A	Gain entry and reinstate fire and security containers
MEM20010A	Gain entry and reinstate automotive locking systems
MEM20014A	Perform a site security survey

Group MEM40105-01V08G03S17

Modules/Units	Name
MEM21001A	Replace watch batteries, capacitors and bands
MEM21002A	Perform watch movement exchange
MEM21003A	Perform watch case servicing, repair and refurbishment
MEM21004A	Clean watch and clock components
MEM21005A	Diagnose faults in quartz watches
MEM21006A	Service quartz watches
MEM21007A	Service complex quartz watches

MEM21008A	Service mechanical watches
MEM21009A	Inspect, diagnose, adjust and repair mechanical watches
MEM21010A	Service watch power generating systems
MEM21011A	Service calendar and other dial indication mechanisms for watches
MEM21012A	Service and repair mechanical watch oscillating systems
MEM21013A	Service, test and adjust watch escapements
MEM21014A	Service mechanical chronograph watches
MEM21015A	Perform precision watch timing and adjustment
MEM21016A	Install and set up clocks
MEM21017A	Service and repair clock timepieces

MARINE

Modules/Units	Name
MEM25001B	Apply fibre-reinforced materials
MEM25002B	Form and integrate fibre-reinforced structures
MEM25003B	Set up marine vessel structures
MEM25004B	Fair and shape surfaces
MEM25005B	Construct and assemble marine vessel timber components
MEM25006B	Undertake marine sheathing operations
MEM25007B	Maintain marine vessel surfaces
MEM25009B	Form timber shapes using hot processes
MEM25010B	Perform fitout procedures
MEM25011B	Install marine systems
MEM25012B	Install and test operations of marine auxiliary systems
MEM25014B	Perform marine slipping operations
MEM25015A	Assemble and install equipment and accessories/ancillaries

MEM50002B	Work safely on marine craft
MEM50003B	Follow work procedures to maintain the marine environment
MEM50004B	Maintain quality of environment by following marina codes
MEM50009B	Safely operate a mechanically powered recreational boat
GE21	<div>Welding</div> <div>Welding (ME)</div>

MEM05003B	Perform soft soldering	18	MEM05003B
MEM05004C	Perform routine oxy acetylene welding	18	MEM05004C
MEM05005B	Carry out mechanical cutting	18	MEM05005B
MEM05006C	Perform brazing and or silver soldering	18	MEM05006C
MEM05007C	Perform manual heating and thermal cutting	18	MEM05007C
MEM05008C	Perform advanced manual thermal cutting, gouging and shaping	18	MEM05008C
MEM05009C	Perform automated thermal cutting	18	MEM05009C
MEM05011D	Assemble fabricated components	72	MEM05011D
MEM05012C	Perform routine manual metal arc welding	18	MEM05012C
MEM05015D	Weld using manual metal arc welding process	36	MEM05015D
MEM05017D	Weld using gas metal arc welding process	36	MEM05017D
MEM05019D	Weld using gas tungsten arc welding process	36	MEM05019D
MEM05049B	Perform routine gas tungsten arc welding	18	MEM05049B
MEM05050B	Perform routine gas metal arc welding	18	MEM05050B

MEM05051A	Select welding processes	18	MEM05051A
MEM05052A	Apply safe welding practices	36	MEM05052A

Group MEM40105-02V05G03S02

Modules/Units	Name	Hrs	National Module(s)
MEM13014A	Apply principles of occupational health and safety in the work environment	10	MEM13014A
MEM14004A	Plan to undertake a routine task	9	MEM14004A
MEM15024A	Apply quality procedures	9	MEM15024A
MEM16007A	Work with others in a manufacturing, engineering or related environment	9	MEM16007A

Group MEM40105-04V05G01S02

Modules/Units	Name	Hrs	National Module(s)
MEM12023A	Perform engineering measurements	45	MEM12023A
MEM12024A	Perform computations	27	MEM12024A
MEM14005A	Plan a complete activity	36	MEM14005A
MEM15002A	Apply quality systems	18	MEM15002A
MEM16006A	Organise and communicate information	18	MEM16006A
MEM16008A	Interact with computing technology	18	MEM16008A
MEM17003A	Assist in the provision of on the job training	18	MEM17003A
MSAENV272B	Participate in environmentally sustainable work practices	20	MSAENV272B

Group MEM40105-04V05G02 GROUP 2 GROUP A SPECIALISATION UNITS LISTED IN MEM40105

Group MEM40105-04V05G02S01

Modules/Units	Name	Hrs	National Module(s)
MEM05024B	Perform welding supervision	108	MEM05024B
MEM05025C	Perform welding/fabrication inspection	108	MEM05025C
MEM05026C	Apply welding principles	36	MEM05026C
MEM05042B	Perform welds to code standards using flux core arc welding process	54	MEM05042B
MEM05043B	Perform welds to code standards using gas metal arc welding process	54	MEM05043B
MEM05044B	Perform welds to code standards using gas tungsten arc welding process	54	MEM05044B
MEM05045B	Perform pipe welds to code standards using manual metal arc welding process	54	MEM05045B
MEM05046B	Perform welds to code standards using manual metal arc welding process	54	MEM05046B
MEM05053A	Set and edit computer controlled thermal cutting machines	36	MEM05053A
MEM05054A	Write basic NC/CNC programs for thermal cutting machines	36	MEM05054A

Group MEM40105-04V05G02S02

Modules/Units	Name	Hrs	National Module(s)
MEM07016C	Set and edit computer controlled machines/processes	36	MEM07016C
MEM07018C	Write basic NC/CNC programs	36	MEM07018C

Group MEM40105-04V05G02S03

Modules/Units	Name	Hrs	National Module(s)
MEM09006B	Perform advanced engineering detail drafting	36	MEM09006B
MEM09007B	Perform advanced mechanical detail drafting	36	MEM09007B
MEM09008B	Perform advanced structural detail drafting	36	MEM09008B
MEM09009C	Create 2D drawings using computer aided design system	80	MEM09009C
MEM09010C	Create 3D models using computer aided design system	36	MEM09010C

MEM09023A	Create 3D code files using computer aided manufacturing system	54	MEM09023A
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Group MEM40105-04V05G02S04

Modules/Units	Name	Hrs	National Module(s)
MEM14001B	Schedule material deliveries	72	MEM14001B
MEM14002B	Undertake basic process planning	72	MEM14002B
MEM14003B	Undertake basic production scheduling	72	MEM14003B

Group MEM40105-04V05G02S05

Modules/Units	Name	Hrs	National Module(s)
MEM16001B	Give formal presentations and take part in meetings	18	MEM16001B
MEM16003B	Provide advanced customer service	18	MEM16003B
MEM16009A	Research and analyse engineering information	18	MEM16009A
MEM16010A	Write reports	18	MEM16010A
MEM16011A	Communicate with individuals and small groups	18	MEM16011A
MEM16012A	Interpret technical specifications and manuals	36	MEM16012A
MEM16013A	Operate in a self-directed team	18	MEM16013A
MEM16014A	Report technical information	18	MEM16014A

Group MEM40105-04V05G02S06

Modules/Units	Name	Hrs	National Module(s)
MEM17001B	Assist in development and deliver training in the workplace	18	MEM17001B
MEM17002B	Conduct workplace assessment	18	MEM17002B

Group MEM40105-04V05G02S07

Modules/Units	Name	Hrs	National Module(s)
MEM18049C	Disconnect/reconnect fixed wired equipment up to 1000 volts a.c./1500 volts d.c.	27	MEM18049C

Group MEM40105-04V05G02S08

Modules/Units	Name	Hrs	National Module(s)
MEM24002B	Perform penetrant testing	36	MEM24002B
MEM24004B	Perform magnetic particle testing	36	MEM24004B
MEM24006B	Perform eddy current testing	54	MEM24006B
MEM24008B	Perform ultrasonic testing	54	MEM24008B
MEM24010B	Perform radiographic testing	108	MEM24010B
MEM24011B	Establish non-destructive tests	108	MEM24011B
MEM24012C	Apply metallurgy principles	54	MEM24012C

Group MEM40105-04V05G02S09

Modules/Units	Name	Hrs	National Module(s)
MEM30012A	Apply mathematical techniques in a manufacturing engineering or related environment	36	MEM30012A

Group MEM40105-04V05G03 GROUP 3 GROUP B ELECTIVE UNITS LISTED IN MEM40105

Group MEM40105-04V05G03S01

Modules/Units	Name	Hrs	National Module(s)
MEM05001B	Perform manual soldering/desoldering - electrical/electronic components	36	MEM05001B
MEM05002B	Perform high reliability soldering and desoldering	36	MEM05002B
MEM05003B	Perform soft soldering	18	MEM05003B
MEM05004C	Perform routine oxy acetylene welding	18	MEM05004C
MEM05005B	Carry out mechanical cutting	18	MEM05005B
MEM05006C	Perform brazing and or silver soldering	18	MEM05006C
MEM05007C	Perform manual heating and thermal cutting	18	MEM05007C
MEM05008C	Perform advanced manual thermal cutting, gouging and shaping	18	MEM05008C
MEM05009C	Perform automated thermal cutting	18	MEM05009C
MEM05010C	Apply fabrication, forming and shaping techniques	72	MEM05010C
MEM05011D	Assemble fabricated components	72	MEM05011D
MEM05012C	Perform routine manual metal arc welding	18	MEM05012C
MEM05013C	Perform manual production welding	18	MEM05013C
MEM05014C	Monitor quality of production welding/fabrications	18	MEM05014C
MEM05015D	Weld using manual metal arc welding process	36	MEM05015D
MEM05016C	Perform advanced welding using manual metal arc welding process	36	MEM05016C
MEM05017D	Weld using gas metal arc welding process	36	MEM05017D
MEM05018C	Perform advanced welding using gas metal arc welding process	36	MEM05018C
MEM05019D	Weld using gas tungsten arc welding process	36	MEM05019D
MEM05020C	Perform advanced welding using gas tungsten arc welding process	36	MEM05020C
MEM05022C	Perform advanced welding using oxy acetylene welding process	54	MEM05022C
MEM05023C	Weld using submerged arc welding process	36	MEM05023C
MEM05036C	Repair/replace/modify fabrications	36	MEM05036C
MEM05037C	Perform geometric development	54	MEM05037C
MEM05038B	Perform advanced geometric development - cylindrical/rectangular	18	MEM05038B
MEM05039B	Perform advanced geometric development - conical	18	MEM05039B
MEM05040B	Perform advanced geometric development - transitions	36	MEM05040B
MEM05041B	Weld using powder flame spraying	36	MEM05041B
MEM05047B	Weld using flux core arc welding process	36	MEM05047B
MEM05048B	Perform advanced welding using flux core arc welding process	36	MEM05048B
MEM05049B	Perform routine gas tungsten arc welding	18	MEM05049B
MEM05050B	Perform routine gas metal arc welding	18	MEM05050B
MEM05051A	Select welding processes	18	MEM05051A
MEM05052A	Apply safe welding practices	36	MEM05052A

Group MEM40105-04V05G03S02

Modules/Units	Name	Hrs	National Module(s)
MEM06001B	Perform hand forging	36	MEM06001B
MEM06002B	Perform hammer forging	36	MEM06002B
MEM06003C	Carry out heat treatment	54	MEM06003C
MEM06004B	Select heat treatment processes and test finished product	54	MEM06004B
MEM06005B	Perform drop and upset forging	36	MEM06005B
MEM06006C	Repair springs	36	MEM06006C
MEM06007B	Perform basic incidental heat/quenching, tempering and annealing	18	MEM06007B
MEM06008A	Hammer forge complex shapes	36	MEM06008A
MEM06009A	Hand forge complex shapes	36	MEM06009A

Modules/Units	Name	Hrs	National Module(s)
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MEM03001B	Perform manual production assembly	36	MEM03001B
MEM03003B	Perform sheet and plate assembly	36	MEM03003B
MEM05001B	Perform manual soldering/desoldering - electrical/electronic components	36	MEM05001B
MEM05003B	Perform soft soldering	18	MEM05003B
MEM05004C	Perform routine oxy acetylene welding	18	MEM05004C
MEM05005B	Carry out mechanical cutting	18	MEM05005B
MEM05006C	Perform brazing and or silver soldering	18	MEM05006C
MEM05007C	Perform manual heating and thermal cutting	18	MEM05007C
MEM05008C	Perform advanced manual thermal cutting, gouging and shaping	18	MEM05008C
MEM05009C	Perform automated thermal cutting	18	MEM05009C
MEM05010C	Apply fabrication, forming and shaping techniques	72	MEM05010C
MEM05011D	Assemble fabricated components	72	MEM05011D
MEM05012C	Perform routine manual metal arc welding	18	MEM05012C
MEM05013C	Perform manual production welding	18	MEM05013C
MEM05015D	Weld using manual metal arc welding process	36	MEM05015D
MEM05016C	Perform advanced welding using manual metal arc welding process	36	MEM05016C
MEM05017D	Weld using gas metal arc welding process	36	MEM05017D
MEM05018C	Perform advanced welding using gas metal arc welding process	36	MEM05018C
MEM05019D	Weld using gas tungsten arc welding process	36	MEM05019D
MEM05020C	Perform advanced welding using gas tungsten arc welding process	36	MEM05020C
MEM05036C	Repair/replace/modify fabrications	36	MEM05036C
MEM05037C	Perform geometric development	54	MEM05037C
MEM05049B	Perform routine gas tungsten arc welding	18	MEM05049B
MEM05050B	Perform routine gas metal arc welding	18	MEM05050B
MEM05051A	Select welding processes	18	MEM05051A
MEM05052A	Apply safe welding practices	36	MEM05052A

Group MEM40105-04V05G03S03

Modules/Units	Name	Hrs	National Module(s)
MEM07005C	Perform general machining	72	MEM07005C
MEM07015B	Set computer controlled machines/processes	18	MEM07015B
MEM07032B	Use workshop machines for basic operations	18	MEM07032B

Group MEM40105-04V05G03S04

Modules/Units	Name	Hrs	National Module(s)
MEM08002C	Pre-treat work for subsequent surface coating	36	MEM08002C
MEM08004B	Finish work using wet, dry and vapour deposition methods	36	MEM08004B
MEM08010B	Manually finish/polish materials	54	MEM08010B

Group MEM40105-04V05G03S05

Modules/Units	Name	Hrs	National Module(s)
MEM09002B	Interpret technical drawing	36	MEM09002B
MEM09003B	Prepare basic engineering drawing	72	MEM09003B
MEM09005B	Perform basic engineering detail drafting	72	MEM09005B
MEM09022A	Create 2D code files using computer aided manufacturing system	36	MEM09022A

Group MEM40105-04V05G03S06

Modules/Units	Name	Hrs	National Module(s)
MEM10001C	Erect structures	36	MEM10001C
MEM10002B	Terminate and connect electrical wiring	27	MEM10002B
MEM10010B	Install pipework and pipework assemblies	36	MEM10010B

Group MEM40105-04V05G03S07

Modules/Units	Name	Hrs	National Module(s)
MEM11001C	Erect/dismantle scaffolding and equipment	36	MEM11001C
MEM11002C	Erect/dismantle complex scaffolding and equipment	36	MEM11002C
MEM11003B	Coordinate erection/dismantling of complex scaffolding/equipment	36	MEM11003B
MEM11010B	Operate mobile load shifting equipment	36	MEM11010B
MEM11011B	Undertake manual handling	18	MEM11011B
MEM11012B	Purchase materials	54	MEM11012B
MEM11021B	Perform advanced operation of load shifting equipment	18	MEM11021B
MEM11022B	Operate fixed/moveable load shifting equipment	36	MEM11022B

Group MEM40105-04V05G03S08

Modules/Units	Name	Hrs	National Module(s)
MEM12002B	Perform electrical/electronic measurement	18	MEM12002B
MEM12007D	Mark off/out structural fabrications and shapes	36	MEM12007D

Group MEM40105-04V05G03S09

Modules/Units	Name	Hrs
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MYANMAR BUDDHIST SCHOOLS & VOLUNTARY SCHOOLS STUDY SUPPORT WEBSITE

This website contains English+ Myanmar Explanations of the tutoring lessons based on New South Wales & Western Australian school curriculum subjects.

<http://www.highlightcomputer.com/y712lessons.htm>

Year 11+12 Lessons	Year 9+10 Lessons	Certificate to Degree	Volunteer Teachers Professional Development
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The aim to develop this site is to provide the tutoring support for the students in Myanmar Buddhist Schools and Voluntary Schools including NLD Education Network Schools to acquire the international standard school education.

By studying the contents of this site, the students will acquire the following benefits

- Reading+ Listening skills in English Language
- Acquire Australian School Education
- Use of IT Skills in E- Learning
- Self learning practice

The lessons can be learnt by two ways

- Viewing the power-point lessons by using computer
- Viewing the JPEG image files and listening MP3 Audio files by using Portable DVD Players which are donated to Myanmar Buddhist Schools & Voluntary Schools

The students need to

- View the Lessons
- Copy the lessons
- Listen to both Myanmar & English Explanations of the lessons
- Do the exercises and submit the assignments
- Sit the examinations

The facilitators/ co-ordinators need to

- Download the lessons & unzip them
- Show the students which folders are to be studied on weekly basis by using computer or Portable DVD Player
- Supervise the students in their learning

The Teacher who prepares the lessons

Sayar U Kyaw Naing Ed.D (STCTU),BE(EP)RIT,AGTI(EP)Pyi, MSEE(USA),M.Sc (Science Education)Curtin University-Western Australia, Post Grad Dip Sc Ed(Curtin), Grad Dip Ed (Adult Vocational Education)(TAFE-NSW),Cert IV TAE40110, MIEAust, RPEQ

Registered Teacher (Western Australian Teacher Registration Board)

Teacher of Electrical Engineering (TAFE-NSW)

WRITTEN LESSONS+AUDIO FILES

Year 11+12

MATHEMATICS

www.iqytechnicalcollege.com/Yr1112Maths1.zip

PHYSICS

www.iqytechnicalcollege.com/Yr1112Physics.zip

CHEMISTRY

www.iqytechnicalcollege.com/Yr1112Chemistry.zip

SCIENCE

www.iqytechnicalcollege.com/Yr1112Science.zip

DESIGN & TECHNOLOGY

SOFTWARE DESIGN

www.iqytechnicalcollege.com/Yr1112SoftwareDesign.zip

VIDEOS

Year 11+12 WEEK 1

Mathematics

Yr 11+12 Maths 1-Rationals, Polynomials, Equations **Maths (001) Yr11+12 to Maths (021) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/55xktujxseqj/Yr_11_12_Maths_1_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/3lgvs31i6kpi/Yr_11_12_Maths_1_DVD_zip

Video

<https://youtu.be/afPIKAOmLrA>

Chemistry

Yr 11+12 Chemistry 1-Carbon Chemistry **Chemistry (001) Y11+12 to Chemistry (042) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/1bm26hidjc5/Yr_11_12_Chemistry_1_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/4iaet719aisx/Yr_11_12_Chemistry_1_DVD_zip

Design & Technology

Yr 11+12 Design & Technology 1-Basic Concepts **DesignTech (001) Y11+12 to Design Tech (029) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/6h2dkyic7myv/Yr_11_12_Design_Technology_1_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/7ey1mbqmqjsq1/Yr_11_12_Design_Technology_1_DVD_zip

Video

<https://youtu.be/6cnLVR3BHeg>

Physics

Yr 11+12 Physics 1-Gravity **Physics (001) Y11+12 to Physics (015) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/38ofzxy4nnh7/Yr_11_12_Physics_1_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/63rck9dfn8uz/Yr_11_12_Physics_1_DVD_zip

Video

<https://youtu.be/lxXmAfYWayc>

Science

Yr 11+12 Science 1A-Physical and chemical properties of everyday substances **Science (001) Y11+12 to Science (015) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/1o184i6a1xf/Yr_11_12_Science_1A_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/a1fhtw6u8i5/Yr_11_12_Science_1A_DVD_zip

Software Design

Yr 11+12 Software Design 1-Rights and responsibilities of software developers **Software (001) Y11+12 to Software (027) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/4i41ee7xkv87/Yr_11_12_Software_Design_1_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/33x81hahh9nf/Yr_11_12_Software_Design_1_DVD_zip

Video

<https://youtu.be/mPBjzZnjHwU>

Year 11+12 WEEK 2

Mathematics

Yr 11+12 Maths 2-Circle Geometry **Maths (022) Yr11+12 to Maths (047) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/3j9q9npbaiz3/Yr_11_12_Maths_2a_PPT_zip
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Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/5rm7n1duw4gv/Yr_11_12_Maths_2a_DVD_zip
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Video

<https://youtu.be/KxFAPQQBEEc>

Chemistry

Yr 11+12 Chemistry 2a-Industrial uses & production of Organic Compounds **Chemistry (043) Y11+12 to Chemistry (085) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/563iik1u5hn/Yr_11_12_Chemistry_2-a_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/44b4nw21thib/Yr_11_12_Chemistry_2-a_DVD_zip

Design & Technology

Yr 11+12 Design & Technology 2-Design Process **DesignTech (030) Y11+12 to Design Tech (050) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/xl5nu78y82z/Yr_11_12_Design_amp_Technology_2_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/10iaadvra71/Yr_11_12_Design_amp_Technology_2_DVD_zip

Video

<https://youtu.be/AWMHwZuza4A>

Physics

Yr 11+12 Physics 2-Projectile Motion **Physics (016) Y11+12 to Physics (058) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/peqs8n39qdl/Yr_11_12_Physics_2_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/3wjvy9yb6cyv/Yr_11_12_Physics_2_DVD_zip

Video

<https://youtu.be/QicnwF-pd9E>

Science

Yr 11+12 Science 1B- Chemical effect on body skin **Science (035) Y11+12 to Science (077) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/4k53ai7zz3al/Yr_11_12_Science_1B_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/58phr5mg5jrp/Yr_11_12_Science_1B_DVD_zip

Video

https://youtu.be/kR_9_RMpBhM

Software Design

Yr 11+12 Software Design 2A- Software Development

Link for power-points to view with computer	http://www.filefactory.com/file/31zikrytpv7/Yr11_12_Software_Design_2_A_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/3yqf54xlozgp/Yr_11_12_Software_Design_2_A_DVD_zip

Video

<https://youtu.be/ETaTh-p7S88>

Year 11+12 WEEK 3

Mathematics

Yr 11+12 Maths 3A-Plotting Graphs **Maths (048) Yr11+12 to Maths (073) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/5bg04kzpn1av/Yr_11_12_Maths_3A_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/17koswfr5yyj/Yr_11_12_Maths_3A_DVD_zip

Video

https://youtu.be/V7DdiD_XXNg

Chemistry

Yr 11+12 Chemistry 3A-Electro-Chemistry **Chemistry (0086) Y11+12 to Chemistry (110) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/6k628o9r60ml/Yr_11_12_Chemistry_3A_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/7gv7fcr0q18b/Yr_11_12_Chemistry_3A_DVD_zip

Design & Technology

Yr 11+12 Design & Technology 3-Design Professions **DesignTech (051) Y11+12 to Design Tech (0062) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/3orxdb5wacif/Yr_11_12_Design_amp_Technology_3_PPT_zip
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Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/1m2dvqt3oamn/Yr_11_12_Design_amp_Technology_3_DVD_zip
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Video

<https://youtu.be/WtpkEztrFHA>

Physics

Yr 11+12 Physics 3-Newton Law of Universal Gravitation **Physics (059) Y11+12 to Physics (078) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/3nw97wiqv44h/Yr_11_12_Physics_3_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/1wdq66z07fw3/Yr_11_12_Physics_3_DVD_zip

Video

<https://youtu.be/7naPc7nLlv8>

Science

Yr 11+12 Science 2A-Bionics **Science (078) Y11+12 to Science (130) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/2onjzls6m8l7/Yr_11_12_Science_2A_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/1bj881t4g30l/Yr_11_12_Science_2A_DVD_zip

Video

<https://youtu.be/zhUD3cC14AY>

Software Design

Yr 11+12 Software Design 3A-Defining the problem **Software (054) Y11+12 to Software (091) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/5pb1nap5gro9/Yr_11_12_Software_Design_3A_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/38iepya8p16j/Yr_11_12_Software_Design_3A_DVD_zip

Video

<https://youtu.be/L0XemUHW8Fg>

Year 11+12 WEEK 4

Mathematics

Yr 11+12 Maths 4 Quadratic equations **Maths (074) Yr11+12 to Maths (123) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/61bwkp4g7xa1/Yr_11_12_Maths_4_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/1l2f3d8fpaet/Yr_11_12_Maths_4_DVD_zip

Video

<https://youtu.be/QNzf5Qhcho8>

Chemistry

Yr 11+12 Chemistry 3B Electrical Cells **Chemistry (111) Y11+12 to Chemistry (145) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/68bkip2uhckg9/Yr_11_12_Chemistry_3B_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/3htp0siz3xxh/Yr_11_12_Chemistry_3B_DVD_zip

Video

https://youtu.be/_OhRYtxiTS0

Design & Technology

Yr 11+12 Design & Technology 4-Factors affecting design **DesignTech (141) Y11+12 to Design Tech (161) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/7kgcjihwlt1j/Yr_11_12_Design_amp_Technology_4_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/4y5wq0f0kgxb/Yr_11_12_Design_amp_Technology_4_DVD_zip

Video

<https://youtu.be/icoOEn26FZY>

Physics

Yr 11+12 Physics 4-Measurement **Physics (0079) Y11+12 to Physics (095) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/5gljw7kfdorh/Yr_11_12_Physics_4_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/1rddc0if6uf/Yr_11_12_Physics_4_DVD_zip

Video

<https://youtu.be/5ObMFCjdTXM>

Science

Yr 11+12 Science 3B-Communication system waves **Science (131) Y11+12 to Science (157) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/3nizl54swhfp/Yr_11_12_Science_3B_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/5ymx6lu4v929/Yr_11_12_Science_3B_DVD_zip

Video

<https://youtu.be/YISoC6caucE>

Software Design

Yr 11+12 Software Design 3B-Modelling **Software (092) Y11+12 to Software (128) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/6opoj6nrq1uf/Yr_11_12_Software_Design_3B_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/2b4dk1kxj6gb/Yr_11_12_Software_Design_3B_DVD_zip

Video

<https://youtu.be/GDj4FremeOc>

Year 11+12 WEEK 5

Mathematics

Yr 11+12 Maths 5–Trigo Compound angles **Maths (124) Yr11+12 to Maths (133) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/7dh9tw73vvhz/Yr_11_12_Maths-5_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/3h6gv344xwd9/Yr_11_12_Maths-5_DVD_zip

Chemistry

Yr 11+12 Chemistry 3C–Electro-chemical Cells **Chemistry (146) Y11+12 to Chemistry (175) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/2syd63ux58sv/Yr_11_12_Chemistry_3C_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/33wm75kwz0zh/Yr_11_12_Chemistry_3C_DVD_zip

Video

<https://youtu.be/KnllmfAk1a4>

Design & Technology

Yr 11+12 Design & Technology 5–Trends in Design Production **DesignTech (141) Y11+12 to Design Tech (161) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/febizarmz9z/Yr_11_12_Design_amp_Technology_5_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/7i9l28b7vbsn/Yr_11_12_Design_amp_Technology_5_DVD_zip

Video

<https://youtu.be/zO2Ll1yzvAM>

Physics

Yr 11+12 Physics 5A-Motor **Physics (096) Y11+12 to Physics (122) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/73xcfb02vnqd/Yr_11_12_physics_5A_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/6soniig57871/Yr_11_12_physics_5A_DVD_zip

Video

<https://youtu.be/nKWCKdIJpvA>

Science

Yr 11+12 Science 4A-Fibres **Science (158) Y11+12 to Science (196) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/59h5k11ibn3x/Yr_11_12_Science_4A_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/1qtz6spfhkzt/Yr_11_12_Science_4A_DVD_zip

Video

<https://youtu.be/dUPn1De2iJA>

Software Design

Yr 11+12 Software Design 4A–Design Patterns **Software (129) Y11+12 to Software (156) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/2jx1tl9q3bo3/Yr_11_12_Software_Design_4A_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/3v67gn0fc95j/Yr_11_12_Software_Design_4A_DVD_zip

Video

<https://youtu.be/QAWiURC1X1M>

Year 11+12 WEEK 6

Mathematics

Yr 11+12 Maths –6 - Half Compound Angles **Maths (134) Yr11+12 to Maths (151) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/6i33bfjxhi8p/Yr_11_12_Maths-6_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/jvxnubyijdz/Yr_11_12_Maths-6_DVD_zip

Video

<https://youtu.be/sxJcFi9JrPo>

Chemistry

Yr 11+12 Chemistry –4A- Nuclear Chemistry **Chemistry (176) Y11+12 to Chemistry (211) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/1j9qnfeuu4wn/Yr_11_12_Chemistry_4A_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/11pop4e77uu3/Yr_11_12_Chemistry_4A_DVD_zip

Video

<https://youtu.be/-pYr7fxYEDw>

Design & Technology

Yr 11+12 Design & Technology –6 - Design Techniques **DesignTech (162) Y11+12 to Design Tech (169) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/2soqe4fnwp5n/Yr_11_12_Design_amp_Technology_6_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/74ldosb9mtlr/Yr_11_12_Design_amp_Technology_6_DVD_zip

Video

<https://youtu.be/W6YSsRSe8QE>

Physics

Yr 11+12 Physics –5B--DC Machines **Physics (123) Y11+12 to Physics (163) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/7f10wt5idbrn/Yr_11_12_Physics_5B_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/6mk0jia1lmbv/Yr_11_12_Physics_5B_DVD_zip

Video

https://youtu.be/_OYvfoxZYvc

Science

Yr 11+12 Science -4B—Plastics **Science (197) Y11+12 to Science (228) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/276iqkxdxa2l/Yr_11_12_Science_4B_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/7hhnabt4z9gd/Yr_11_12_Science_4B_DVD_zip

Video

<https://youtu.be/se-3r2FdnNA>

Software Design

Yr 11+12 Software Design 4B—Program Testing **Software (157) Y11+12 to Software (191) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/1jpozv9ms1p1/Yr_11_12_Software_Design_4B_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/62d95fc55r8j/Yr_11_12_Software_Design_4B_DVD_zip

Video

<https://youtu.be/oBSGhNtW1iA>

Year 11+12 WEEK 7

Mathematics

Yr 11+12 Maths 7—Trigo Problems **Maths (152) Yr11+12 to Maths (155) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/2dewz4dd1ws9/Yr_11_12_Maths_7_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/782mayjmgrwr/Yr_11_12_Maths-7_DVD_zip

Video

<https://youtu.be/7UxTaL-DCKk>

Chemistry

Yr 11+12 Chemistry –4B--Nuclear Chemistry **Chemistry (212) Y11+12 to Chemistry (244) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/57xqitimalcf/Yr_11_12_Chemistry_4B_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/2jsc66zdhza3/Yr_11_12_Chemistry_4B_DVD_zip

Video

<https://youtu.be/f6OaLiASWfQ>

Design & Technology

Yr 11+12 Design & Technology –7--Historical Cultural Influences **DesignTech (170) Y11+12 to Design Tech (170) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/28ge6g8t95nf/Yr_11_12_Design_amp_Technology_7_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/2u221ebddzgh/Yr_11_12_Design_amp_Technology_7_DVD_zip

Video

<https://youtu.be/jwKCsOyyJ7M>

Physics

Yr 11+12 Physics 6---Generator **Physics (164) Y11+12 to Physics (174) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/6nxcg3z9jx3j/Yr_11_12_Physics_6_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/77d559jdpzbh/Yr_11_12_Physics_6_DVD_zip

Video

<https://youtu.be/p-4hyJPMPMA>

Science

Yr 11+12 Science –5A--Consumers' Products, Additives, Micro-organisms **Science (229) Y11+12 to Science (251) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/v2xs46ydwqh/Yr_11_12_Science_5A_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/62yc00coouit/Yr_11_12_Science_5A_DVD_zip

Video

<https://youtu.be/dUTGrwp49uA>

Software Design

Yr 11+12 Software Design 4C -Arrays **Software (192) Y11+12 to Software (232) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/2smhczibe007/Yr_11_12_Software_Design_4C_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/578udxs1n0un/Yr_11_12_Software_Design_4C_DVD_zip

Video

<https://youtu.be/kHqLfDleww0>

Year 11+12 WEEK 8

Chemistry

Yr 11+12 Chemistry 5A--Properties of Acidic Oxides **Chemistry (245) Y11+12 to Chemistry (287) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/4lgo6pmm1zcn/Yr_11_12_Chemistry_5_A_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/6spd909w0aqn/Yr_11_12_Chemistry_5_A_DVD_zip

Design & Technology

Yr 11+12 Design & Technology –8-Creative & Collaborative Approaches in Design **DesignTech (171) Y11+12 to Design Tech (186) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/7hqbl3smv2h/Yr_11_12_Design_amp_Technology_8_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/3m8mjwl1x87/Yr_11_12_Design_amp_Technology_8_DVD_zip

Video

<https://youtu.be/8W5DBEQ4Obk>

Physics

Yr 11+12 Physics 7-Transformer **Physics (175) Y11+12 to Physics (201) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/6nztg0vhjlat/Yr_11_12_Physics_7_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/1ynwo2ihuq2r/Yr_11_12_Physics_7_DVD_zip

Video

<https://youtu.be/jLFkXvMrQQw>

Science

Yr 11+12 Science 5B--Microbes+ Natural Preservatives **Science (252) Y11+12 to Science (290) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/5db58wg2693b/Yr_11_12_Science_5B_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/v2k2dtvengf/Yr_11_12_Science_5B_DVD_zip

Video

<https://youtu.be/15YTietVnWM>

Software Design

Yr 11+12 Software Design 4D–String Processing **Software (233) Y11+12 to Software (282) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/4arzf4g1ra4n/Yr_11_12_Software_Design_4D_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/660feougxrmx/Yr_11_12_Software_Design_4D_DVD_zip

Video

<https://youtu.be/zTfltmMLLgQ>

Software Design 4E

<https://youtu.be/3H8got5LotQ>

Year 11+12 WEEK 9

Mathematics

Yr 11+12 Maths –8-Trigo Equations **Maths (156) Yr11+12 to Maths (180) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/1zydhglaw0v/Yr_11_12_Maths-8_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/cwfzpu2rxqj/Yr_11_12_Maths-8_DVD_zip

-

Chemistry

Yr 11+12 Chemistry 5B–Properties of Acidic Oxides **Chemistry (288) Y11+12 to Chemistry (302) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/4wz11twlgnrp/Yr_11_12_Chemistry_5_B_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/55f2o4jbd4aj/Yr_11_12_Chemistry_5_B_DVD_zip

Video

<https://youtu.be/dAwX6y1fYSE>

Chemistry 6

<https://youtu.be/CcgvTmll8Xq>

Chemistry 6A

https://youtu.be/_xRKf4aTIR8

Chemistry 6B

<https://youtu.be/7iWtCGIb7q4>

Design & Technology

Yr 11+12 Design & Technology 9 –Design Solutions/ Design Briefs **DesignTech (187) Y11+12 to Design Tech (221) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/4h9t8kot3vkr/Yr_11_12_Design_amp_Technology_9_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/5lhqea1xgj1x/Yr_11_12_Design_amp_Technology_9_DVD_zip

Video

<https://youtu.be/XI9svBSy0TM>

Physics

Yr 11+12 Physics -8–Magnetisms & Moving Charges **Physics (202) Y11+12 to Physics (234) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/x9thcvnunnhh/Yr_11_12_Physics_8_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/c6kc8qcchfb/Yr_11_12_Physics_8_DVD_zip

Video

<https://youtu.be/OPb0nrH6AaQ>

Science

Yr 11+12 Science 6B – Circulatory System **Science (291) Y11+12 to Science (329) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/1u11lqkdjz3b/Yr_11_12_Science_6B_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/9xue6qgim7z/Yr_11_12_Science_6B_DVD_zip

Video

Science 6A

<https://youtu.be/iQKITWfvEXQ>

Software Design

Yr 11+12 Software Design 5A–Interface Design **Software (283) Y11+12 to Software (316) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/3hh5uvmnzs7/Yr_11_12_Software_Design_5A_PPT_zip
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Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/1qsd0ucgswf5/Yr_11_12_Software_Design_5A_DVD_zip
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Video

<https://youtu.be/xLxGd21ir8Q>

Year 11+12 WEEK 10

Mathematics

Yr 11+12 Maths -9-Parabola **Maths (181) Yr11+12 to Maths (198) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/2dahlr4voikt/Yr_11_12_Maths-9_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/6wdbd5334xbr/Yr_11_12_Maths-9_DVD_zip

Video

<https://youtu.be/BJh6SRDxzVo>

Chemistry

Yr 11+12 Chemistry 7A –Application of PH **Chemistry (303) Y11+12 to Chemistry (348) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/2g98x1jgr267/Yr_11_12_Chemistry_7A_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/6g39xdlag301/Yr_11_12_Chemistry_7A_DVD_zip

Video

<https://youtu.be/VxBslUBsjTA>

Design & Technology

Yr 11+12 Design & Technology 10A–Research Data Presentation **DesignTech (222) Y11+12 to Design Tech (286) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/1rhgbjn2ycvd/Yr_11_12_Design_amp_Technology_10_A_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/33c9z3wzfofz/Yr_11_12_Design_amp_Technology_10_A_DVD_zip

Video

<https://youtu.be/ffQDLDFVs54>

Design & Technology 10B

<https://youtu.be/97Y7RNtkVjY>

Science

Yr 11+12 Science 6C–Reproduction of Bacteria **Science (330) Y11+12 to Science (357) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/rh09iwm0cef/Yr_11_12_Science_6C_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/2xyfvtun4qp/Yr_11_12_Science_6C_DVD_zip

Software Design

Yr 11+12 Software Design 5B –Random Number Generator **Software (316) Y11+12 to Software (378) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/11w5hdqhwjwv/Yr_11_12_Software_Design_5B_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/5iyp2ls35tn3/Yr_11_12_Software_Design_5B_DVD_zip

Video

<https://youtu.be/kg7cnxAb4D0>

Year 11+12 WEEK 11

Chemistry

Yr 11+12 Chemistry 7B–Volumetric Analysis Titration **Chemistry (341) Y11+12 to Chemistry (373) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/79xmh8hzaf3p/Yr_11_12_Chemistry_7B_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/1i1kkikdmnh/Yr_11_12_Chemistry_7B_DVD_zip

Video

<https://youtu.be/5taFWZTGZ3I>

Design & Technology

Yr 11+12 Design & Technology 11-Marketing **DesignTech (287) Y11+12 to Design Tech (316) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/68r77gh4etyr/Yr_11_12_Design_amp_Technology_11_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/2x78i48ss479/Yr_11_12_Design_amp_Technology_11_DVD_zip

Video

<https://youtu.be/rpfdjbjlo90>

Science

Yr 11+12 Science 7A –Disasters **Science (358) Y11+12 to Science (418) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/72cbg04po41z/Yr_11_12_Science_7A_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/69lgpi78j9xp/Yr_11_12_Science_7A_DVD_zip

Software Design

Yr 11+12 Software Design 5C–Program Counter+DLL +Compilation **Software (344) Y11+12 to Software (344) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/40c35npbomr5/Yr_11_12_Software_Design_5C_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/7estdz65tyv/Yr_11_12_Software_Design_5C_DVD_zip

Video

<https://youtu.be/72CfwGKaY1s>

Year 11+12 WEEK 12

Mathematics

Yr 11+12 Maths-10 –Parametric Equations+ Permutation+ Combinations **Maths (199) Yr11+12 to Maths (224) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/rz2yo6eo8gl/Yr_11_12_Maths-10_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/3sbfzwyfzcer/Yr_11_12_Maths-10_DVD_zip

Video

<https://youtu.be/Mzfxj6lydeQ>

Maths 11

https://youtu.be/4KFCIr_MVyc

Chemistry

Yr 11+12 Chemistry-8–Titration+ Esters

Link for power-points to view with computer	http://www.filefactory.com/file/42s3rr9cilap/Yr_11_12_Chemistry_8_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/36hcofmkt1ox/Yr_11_12_Chemistry_8_DVD_zip

Video

<https://youtu.be/79ZBL1h8CBA>

Design & Technology

Yr 11+12 Design & Technology-12 –Communications **DesignTech (317) Y11+12 to Design Tech (353) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/5r9tkbo3wpd3/Yr_11_12_Design_amp_Technology_12_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/5a0ig46nb5vh/Yr_11_12_Design_amp_Technology_12_DVD_zip

Video

<https://youtu.be/drEiGJX0dsc>

Science

Yr 11+12 Science-7B –Seismic Waves+ BushFires **Science (443) Y11+12 to Science (473) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/1ro7lcm2ev9l/Yr_11_12_Science_7B_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/4mi5rm03032f/Yr_11_12_Science_7B_DVD_zip

Software Design

Yr 11+12 Software Design-5D –Optimiser **Software (379) Y11+12 to Software (410) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/5itbbkwyfif/Yr_11_12_Software_Design_5D_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/4agmfj3tfe8v/Yr_11_12_Software_Design_5D_DVD_zip

Video

<https://youtu.be/IldV4rbjv30>

Year 11+12 WEEK 13

Chemistry

Yr 11+12 Chemistry-8 -Titration+ Esters **Chemistry (374) Y11+12 to Chemistry (407) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/4htdi6foskqv/Yr_11_12_Chemistry_8_PPT_zip
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Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/52le71z8926b/Yr_11_12_Chemistry_8_DVD_zip
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Design & Technology

Yr 11+12 Design & Technology-13 –Computer Based Technologies **DesignTech (354) Y11+12 to Design Tech (392) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/387s4iyi46kl/Yr_11_12_Design_amp_Technology_13_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/issguqha78n/Yr_11_12_Design_amp_Technology_13_DVD_zip

Video

<https://youtu.be/lbZ3cwYPL9g>

<https://youtu.be/4z-CmJrepHk>

Science

Yr 11+12 Science-8A –Atmosphere + Space Craft **Science (419) Y11+12 to Science (442) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/2ghok2l7sf59/Yr_11_12_Science_8A_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/4x2muuhgmw53/Yr_11_12_Science_8A_DVD_zip

Software Design

Yr 11+12 Software Design-5E –Documentations of Software Solutions **Software (411) Y11+12 to Software (444) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/4zx501nscxf7/Yr_11_12_Software_Design_5E_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/6v65wgxqivbv/Yr_11_12_Software_Design_5E_DVD_zip

Video

<https://youtu.be/VW4fk5sV4p4>

Year 11+12 WEEK 14

Mathematics

Yr 11+12 Maths-12 –Factor Theorem + Remainder Theorem **Maths (225) Yr11+12 to Maths (240) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/136lrkqns6rx/Yr_11_12_Maths-12_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/6byom3fyza7f/Yr_11_12_Maths-12_DVD_zip

Video

<https://youtu.be/20u2Jx6xnbw>

Chemistry

Yr 11+12 Chemistry-9A –The Work of Chemist **Chemistry (408) Y11+12 to Chemistry (433) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/7laadq7nl6cf/Yr_11_12_Chemistry_9A_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/3z37l4qihde5/Yr_11_12_Chemistry_9A_DVD_zip

Video

<https://youtu.be/eepO1GLhtns>

Design & Technology

Yr 11+12 Design & Technology 14B Management **DesignTech (393) Y11+12 to Design Tech (433) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/1epo015xzn5f/Yr_11_12_Design_amp_Technology_14B_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/65lmctlgowad/Yr_11_12_Design_amp_Technology_14A_DVD_zip

Video

Design & Technology 14A

<https://youtu.be/tK545SK9Tao>

Science

Yr 11+12 Science -8B–Space Technology **Science (443) Y11+12 to Science (473) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/4ccs42931yzh/Yr_11_12_Science_8B_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/5i6aglh7uxt/Yr_11_12_Science_8B_DVD_zip

Software Design

Yr 11+12 Software Design-6A –Testing the software solution **Software (445) Y11+12 to Software (505) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/5jo5sy4fboij/Yr_11_12_Software_Design_6A_PPT_zip
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Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/7dih42xf5geh/Yr_11_12_Software_Design_6A_DVD_zip
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Video

<https://youtu.be/JwyNceTj5JI>

Year 11+12 WEEK 15

Mathematics

Yr 11+12 Maths-13 –Graphing Polynomials + Integration **Maths (241) Yr11+12 to Maths (258) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/12lwg7gx0xpj/Yr11_12_Maths-13_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/4bqy59l2rx1n/Yr_11_12_Maths-13_DVD_zip

Video

<https://youtu.be/hU00Wdtm8H0>

Chemistry

Yr 11+12 Chemistry 9A –The work of chemist **Chemistry (434) Y11+12 to Chemistry (444) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/7laadq7nl6cf/Yr_11_12_Chemistry_9A_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/1fmdmk1brnav/Yr_11_12_Chemistry_9B_DVD_zip

Design & Technology

Yr 11+12 Design & Technology -14A–Managers+ Management Styles **DesignTech (434) Y11+12 to Design Tech (439) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/4bvdm6sa3ncx/Yr_11_12_Design_amp_Technology14A_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/65lmctlgowad/Yr_11_12_Design_amp_Technology_14A_DVD_zip

Video

Design & Technology 14B

<https://youtu.be/j7DxOusOtfM>

Science

Yr 11+12 Science-8C –Optical Telescope **Science (474) Y11+12 to Science (516) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/2w2xz4cujpst/Yr_11_12_Science_8C_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/5w36sno04vxh/Yr_11_12_Science_8C_DVD_zip

Software Design

Yr 11+12 Software Design-6B –Driver Module **Software (445) Y11+12 to Software (505) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/xdk1miyf7zn/Yr_11_12_Software_6B_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/49wkhg6pwzqt/Yr_11_12_Software_6B_DVD_zip

Video

<https://youtu.be/vu3bOR9KtrU>

Year 11+12 WEEK 16

Mathematics

Yr 11+12 Maths 14 Integration Approximation **Maths (259) Yr11+12 to Maths (268) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/4jt47nx1fgwn/Yr11_12_Maths-14_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/os3n14w63zh/Yr_11_12_Maths-14_DVD_zip

Video

<https://youtu.be/BxoPyYDoSHk>

Chemistry

Yr 11+12 Chemistry 9B –Atomic Absorption+ Spectrograph **Chemistry (445) Y11+12 to Chemistry (458) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/qhvXu27le4v/Yr_11_12_Chemistry_9B_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/1fmdmk1brnav/Yr_11_12_Chemistry_9B_DVD_zip

Video

<https://youtu.be/z9efzQuNePg>

Design & Technology

Yr 11+12 Design & Technology -15–Organizational Structure **DesignTech (440) Y11+12 to Design Tech (463) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/5y5b3wqyv4f1/Yr_11_12_Design_amp_Technology_15_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/11fnlo873olx/Yr_11_12_Design_amp_Technology_15_DVD_zip

Video

<https://youtu.be/xpbDhFJrLV0>

Science

Yr 11+12 Science-6A –Central peripheral nervous system

Link for power-points to view with computer	http://www.filefactory.com/file/1fd7tm0ykurx/Yr_11_12_Science_6A_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/7koilryf62tn/Yr_11_12_Science_6A_DVD_zip

Video

Science 6B

<https://youtu.be/WzxCKpDquBI>

Science 6C

<https://youtu.be/raUa04nYcho>

Science 7A

<https://youtu.be/vhBQ7GliPSw>

Science 7B

https://youtu.be/KjO_SLcRIsQ

Science 8A

<https://youtu.be/Guv-3nThBiM>

Science 8B

https://youtu.be/8oMPx36Q_Pc

Software Design

Yr 11+12 Software Design-7 –Code Modification **Software (506) Y11+12 to Software (530) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/7fklqij5c0z3/Yr_11_12_Software_Design_7_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/5w9d4378mcct/Yr_11_12_Software_Design_7_DVD_zip

Video

<https://youtu.be/dKbdvz-vN8s>

Year 11+12 WEEK 17

Mathematics

Yr 11+12 Maths -15–Graphing Inverse Function **Maths (269) Yr11+12 to Maths (290) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/2tpasibu1e1h/Yr_11_12_Maths-15_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/m2x128nxo3/Yr_11_12_Maths-15_DVD_zip

Video

<https://youtu.be/RXmABGXM3To>

Chemistry

Yr 11+12 Chemistry -10A–Isomers+ Ozone + WaterAnalysis **Chemistry (459) Y11+12 to Chemistry (506) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/252l7enlc23j/Yr_11_12_Chemistry_10A_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/17ocelpd5eol/Yr_11_12_Chemistry_10A_DVD_zip

Video

<https://youtu.be/9lCeJpMExqU>

Design & Technology

Yr 11+12 Design & Technology-16 –Safety Issues **DesignTech (466) Y11+12 to Design Tech (488) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/5vhtwrszqhb3/Yr_11_12_Design_amp_Technology_16_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/14skzslec8a5/Yr_11_12_Design_amp_Technology_16_DVD_zip

Video

<https://youtu.be/AuYSNtmo-IM>

Year 11+12 WEEK 18

Mathematics

Yr 11+12 Maths-16 –Trigo Evaluation **Maths (291) Yr11+12 to Maths (307) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/5zb7nx7gbde1/Yr_11_12_Maths-16_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/5h29fm9lbw7v/Yr_11_12_Maths-16_DVD_zip

Video

<https://youtu.be/LGLHqnoVeS8>

Chemistry

Yr 11+12 Chemistry-10B –Heavy Metal Pollution ofWater **Chemistry (507) Y11+12 to Chemistry (541) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/3ybo7fsparon/Yr_11_12_Chemistry_10B_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/2dbgudauuujh/Yr_11_12_Chemistry_10B_DVD_zip

Video

<https://youtu.be/lhJEjJpz11s>

Design & Technology

Yr 11+12 Design & Technology 17- Evaluation **DesignTech (489) Y11+12 to Design Tech (517) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/yfisrp2mvp9/Yr_11_12_Design_amp_Technology_17_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/6wtft2utmuf/Yr_11_12_Design_amp_Technology_17_DVD_zip

Video

<https://youtu.be/98hxD-tn-Xs>

Software Design

Yr 11+12 Software Design -8A–Defining problem and solution **Software (531) Y11+12 to Software (566) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/ajj1hxfw091/Yr_11_12_Software_Design_8_A_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/1rpqkmln6h3/Yr_11_12_Software_Design_8_A_DVD_zip

Video

https://youtu.be/tvv3Qp_2HQ8

Year 11+12 WEEK 19

Mathematics

Yr 11+12 Maths-17 –Integration + Application ofCalculus **Maths (308) Yr11+12 to Maths (328) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/1feczcpcp8rp/Yr_11_12_Maths-17_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/66zpfudn8wxp/Yr_11_12_Maths-17_DVD_zip

Video

<https://youtu.be/hD6b2SBJ0Fs>

Chemistry

Yr 11+12 Chemistry-6A –Natural & manufactured acid

Link for power-points to view with computer	http://www.filefactory.com/file/s9awfdx5zgf/Yr11_12_Chemistry_6A_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/7iid164ww3wp/Yr11_12_Chemistry_6A_DVD_zip

Video

<https://youtu.be/Fz6PeH8yokI>

Design & Technology

Yr 11+12 Design & Technology-14B –Managers and management style

Link for power-points to view with computer	http://www.filefactory.com/file/87kbzfu8rfp/Yr_11_12_Design_amp_Technology_14B_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/65lmctlgowad/Yr_11_12_Design_amp_Technology_14A_DVD_zip

Video

<https://youtu.be/9qgLkRtvWTY>

Software Design

Yr 11+12 Software Design -8–Selection of software environment / Documentdesign **Software (567) Y11+12 to Software (587) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/6mww40xbe5wh/Yr_11_12_Software_Design_8_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/284oyustjbrp/Yr_11_12_Software_Design_8_B_DVD_zip

Video

: <https://youtu.be/CrFG2YFFnuQ>

Year 11+12 WEEK 20

Mathematics

Yr 11+12 Maths-18 –Application of Calculus **Maths (329) Yr11+12 to Maths (330) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/14knjfbvlvz8n/Yr_11_12_Maths-18_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/65yzawq56mp5/Yr_11_12_Maths-18_DVD_zip

Video

<https://youtu.be/I5M3dwR-c-E>

Design & Technology

Yr 11+12 Design & Technology-18A –Innovation **DesignTech (518) Y11+12 to Design Tech (524) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/4iffbwlx7pp/Yr_11_12_Design_amp_Technology_18A_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/g3esevp48tt/Yr_11_12_Design_amp_Technology_18A_DVD_zip

Video

<https://youtu.be/PtzEaqUQoEQ>

Year 11+12 WEEK 21

Mathematics

Yr 11+12 Maths-19 –Simple Harmonic Oscillation **Maths (331) Yr11+12 to Maths (344) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/179d2suvngub/Yr_11_12_Maths-19_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/1z85ofskm553/Yr_11_12_Maths-19_DVD_zip

Video

https://youtu.be/_zb8d71E-QU

<https://youtu.be/OQCjs7CsMy8>

Design & Technology

Yr 11+12 Design & Technology 18B Elements of innovation **DesignTech (525) Y11+12 to Design Tech (568) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/31qxw5hqxg3b/Yr_11_12_Design_amp_Technology_18B_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/55flvrehiy9p/Yr_11_12_Design_amp_Technology_18B_DVD_zip

Video

<https://youtu.be/mqluRwTe7yA>

Software Design

Yr 11+12 Software Design-9A –Generation of programming languages **Software (588) Y11+12 to Software (593) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/660f3qzhf7cj/Yr_11_12_Software_Design_9A_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/23ia1egfwcq7/Yr_11_12_Software_Design_9A_DVD_zip

Video

<https://youtu.be/li0qJAO-CfA>

Year 11+12 WEEK 22

Mathematics

Yr 11+12 Maths 20 –Projectile Motion **Maths (344) Yr11+12 to Maths (360) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/2430m1081vp9/Yr_11_12_Maths-20_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/1f5qaf3mdmk9/Yr_11_12_Maths-20_DVD_zip

Video

<https://youtu.be/ZoFwF8xlxHA>

Design & Technology

Yr 11+12 Design & Technology -14B–Manager + Management Style

Link for power-points to view with computer	http://www.filefactory.com/file/1epo015zxn5f/Yr_11_12_Design_amp_Technology_14B_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/4ja1xmdsbcbr/Yr_11_12_Design_amp_Technology_14B_DVD_zip

Software Design

Yr 11+12 Software Design 9B History of programming languages **Software (594) Y11+12 to Software (602) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/6ejt9gs5t5wt/Yr_11_12_Software_Design_9B_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/4uirof432wzr/Yr_11_12_Software_Design_9B_DVD_zip

Video

<https://youtu.be/BMmEjoHh3fM>

Year 11+12 WEEK 23

Mathematics

Yr 11+12 Maths 21 –Binomial Theorem **Maths (361) Yr11+12 to Maths (370) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/6ornn5mjue9j/Yr_11_12_Maths-21_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/4e8i727b0hcv/Yr_11_12_Maths-21_DVD_zip

Video

<https://youtu.be/BTGRHmEG5d0>

Design & Technology

Yr 11+12 Design & Technology-19 –Emerging Technologies **DesignTech (569) Y11+12 to Design Tech (591) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/3sj0wrre1c4j/Yr_11_12_Design_amp_Technology_19_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/1d3ax76mlffp/Yr_11_12_Design_amp_Technology_19_DVD_zip

Video

<https://youtu.be/9k3wlaipqSU>

Software Design

Yr 11+12 Software Design -10A–Representation of ComputerData **Software (603) Y11+12 to Software (626) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/4c5bf6m8uh6f/n/Yr_11+12_Software_Design_10A_PPT.zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/60wacfsz8mcv/n/Yr_11+12_Software_Design_10A_DVD.zip

Year 11+12 WEEK 24

Mathematics

Yr 11+12 Maths-22 –Probability+ Binomial Distribution **Maths (371) Yr11+12 to Maths (387) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/4y86h0clohzx/Yr_11_12_Maths-22_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/70na80rd5gp7/Yr_11_12_Maths-22_DVD_zip

Video

<https://youtu.be/Lw75Cy0fzHc>

Design & Technology

Yr 11+12 Design & Technology 20A Impact of design activities on individual society &environment **DesignTech (600) Y11+12 to Design Tech (610) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/uqhntvm31ch/Yr_11_12_Design_amp_Technology_20A_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/jkqjjbp01/Yr_11_12_Design_amp_Technology_20A_DVD_zip

Video

<https://youtu.be/RbxiFlcA3Co>

Software Design

Yr 11+12 Software Design 10B –LogicGates **Software (627) Y11+12 to Software (643) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/3mcp51i5944n/n/Software_Design_10B-Yr_11+12_PPT.zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/53qryli3a6vr/Yr%2011%2B12%20Software%20Design%2010B%20DVD.zip

Year 11+12 WEEK 25

Mathematics

Yr 11+12 Maths 23–Changing Recurring Decimals in to Fractions **Maths (388) Yr11+12 to Maths (393) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/xf07txproj9/Yr_11_12_Maths-23_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/6t4t60pzt5cl/Yr_11_12_Maths-23_DVD_zip

Video

<https://youtu.be/F4jP4NVeiW0>

Yr 11+12 Maths 24 –Simplifying Algebraic Expression **Maths (394) Yr11+12 to Maths (415) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/34joaxfp0oy5/Yr_11_12_Maths-24_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/5wo1f7od9jjj/Yr_11_12_Maths-24_DVD_zip

<https://youtu.be/fvqNKi-dSyU>

Design & Technology

Yr 11+12 Design & Technology 20B –Water Pollution

Link for power-points to view with computer	http://www.filefactory.com/file/39g4tunul0kl/n/Yr_11+12_Design_&_Technology_20B_PPT.zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/3n07czpw9s6v/n/Yr_11+12_Design_&_Technology_20B_DVD-.zip

Year 11+12 WEEK 26

Mathematics

Yr 11+12 Maths 25 Solving simultaneous equations **Maths (416) Yr11+12 to Maths (434) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/4ot380b8ql61/Yr_11_12_Maths-25_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/a7cugmrmrxf/Yr_11_12_Maths-25_DVD_zip

Video

<https://youtu.be/bLRBZcM-zsk>

Design & Technology

Yr 11+12 Design & Technology 21A–Innovation Case Studies **DesignTech (612) Y11+12 to Design Tech (630) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/4z1rv9094we5/n/Yr_11+12_Design_&_Technology_21A_PPT.zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/6pjkgeddlopf/n/Yr_11+12_Design_&_Technology_21A_DVD.zip

Year 11+12 WEEK 27

Mathematics

Yr 11+12 Maths 26 –Percentage , discount **Maths (435) Yr11+12 to Maths (438) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/pk10t382sev/Yr_11_12_Maths-26_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/3fjp69sfat7p/Yr_11_12_Maths-26_DVD_zip

Video

<https://youtu.be/9DzrWJHKLbQ>

Design & Technology

Yr 11+12 Design & Technology 21B Innovation Case Studies- Designer Aspect

Link for power-points to view with computer	http://www.filefactory.com/file/3bh2uw1rzu49/Yr%2011%2B12%20Design%20%26amp%3B%20Technology%2021B%20PPT.zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/298r39a9v5c1/Yr%2011%2B12%20Design%20%26amp%3B%20Technology%2021B%20DVD.zip

Year 11+12 WEEK 28

Mathematics

Yr 11+12 Maths 27 –Geometry problems solving **Maths (439) Yr11+12 to Maths (461) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/43jcevd003p/Yr_11_12_Maths-27_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/59fpk2rabza7/Yr_11_12_Maths-27_DVD_zip

Video

<https://youtu.be/jLHR9IP5sTQ>

Design & Technology

Yr 11+12 Design & Technology 22A–Major Design Project **DesignTech (611) Y11+12 to Design Tech (635) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/4ndif2bw2ht/Yr%2011%2B12%20Design%20%26amp%3B%20Technology%2022A%20PPT.zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/72q8hgh2n9x1/Yr%2011%2B12%20Design%20%26amp%3B%20Technology%2022A%20DVD.zip

Year 11+12 WEEK 29

Mathematics

Yr 11+12 Maths 28– Trigo function values **Maths (462) Yr11+12 to Maths (485) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/65jy4gle19u7/Yr_11_12_Maths-28_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/4pokmrn7g6jd/Yr_11_12_Maths-28_DVD_zip

Video

<https://youtu.be/5iMzP3dAHs8>

Design & Technology

Yr 11+12 Design & Technology 22B-Major Design Project Development/ Evaluation **DesignTech (631) Y11+12 to Design Tech (635) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/aqvihlnau3h/Yr%2011%2B12%20Design%20%26amp%3B%20Technology%2022B%20PPT.zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/3zbwoyululqt/Yr%2011%2B12%20Design%20%26amp%3B%20Technology%2022B%20DVD.zip

Year 11+12 WEEK 30

Mathematics

Yr 11+12 Maths 29–Trigo ratio values **Maths (486) Yr11+12 to Maths (498) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/18991tr7g45f/Yr_11_12_Maths-29_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/4zk5dsf70w4n/Yr_11_12_Maths-29_DVD_zip

Video

<https://youtu.be/ABEJoLGBntk>

Mathematics

Yr 11+12 Maths 30–Trigo problems, angle of elevation **Maths (499) Yr11+12 to Maths (509) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/3lmbazk8wbs5/Yr_11_12_Maths-30_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/xogavbtwwad/Yr_11_12_Maths-30_DVD_zip

Video

<https://youtu.be/UU2OO8iW2nk>

Mathematics

Yr 11+12 Maths31 – XY Linegradient **Maths (510) Yr11+12 to Maths (527) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/2aeim6pg4nh9/Yr_11_12_Maths-31_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/4el94w5jfdt1/Yr_11_12_Maths-31_DVD_zip

Video

<https://youtu.be/lwoTQF7lhSI>

Mathematics

Yr 11+12 Maths 32 – Mid points between points **Maths (528) Yr11+12 to Maths (551) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/io9ru2073ab/Yr_11_12_Maths-32_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/6yotutffllmf/Yr_11_12_Maths-32_DVD_zip

Video

https://youtu.be/FTr_FM61jwE

Year 11+12 WEEK 31

Mathematics

Yr 11+12 Maths 33 Angle of inclination / Graphs of functions **Maths (552) Yr11+12 to Maths (571) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/2s2kljhr0q81/Yr_11_12_Maths-33_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/33jle77fwobz/Yr_11_12_Maths-33_DVD_zip

Video

<https://youtu.be/uZxfV88QXlg>

Mathematics

Yr 11+12 Maths 34 Locus & Parabola **Maths (572) Yr11+12 to Maths (591) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/6pay81v88n4d/Yr_11_12_Maths_34_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/2us0hu2hfgxl/Yr_11_12_Maths_34_DVD_zip

Video

<https://youtu.be/nggwEsSMNIM>

Mathematics

Yr 11+12 Maths 35 Series **Maths (592) Yr11+12 to Maths (609) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/4hpyadfa4cwf/Yr_11_12_Maths_35_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/31u9lg41u8ml/Yr_11_12_Maths_35_DVD_zip

Video

https://youtu.be/sj6NW_p-N-w

Mathematics

Yr 11+12 Maths 36 Tangent & Derivatives of Functions

Link for power-points to view with computer	http://www.filefactory.com/file/t4r1mdf419b/n/Yr_11+12_Maths_36_PPT.zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/5rgb9jnqt8ux/n/Yr_11+12_Maths_36_DVD.zip

Year 11+12 WEEK 32

Mathematics

Yr 11+12 Maths 37 Application of Geometrical Properties

Link for power-points to view with computer	http://www.filefactory.com/file/4ipyz5fhzeyz/Yr%2011%2B12%20Maths%2037%20PPT.zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/66ya3szp93tx/n/Yr_11+12_Maths_37_DVD.zip

Mathematics

Yr 11+12 Maths 38 –Co-ordinate Methods in Geometry

Link for power-points to view with computer	http://www.filefactory.com/file/3wfehbei6qlt/Yr%2011%2B12%20Maths%2038%20PPT.zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/5zlb4nz56baf/n/Yr_11+12_Maths_38_DVD.zip

Mathematics

Yr 11+12 Maths 39 Plotting graph/ Maxima & Minima

Link for power-points to view with computer	http://www.filefactory.com/file/43zytpqn0tet/Yr%2011%2B12%20Maths%2039%20PPT.zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/4zz8aah5h7tj/n/Maths_(39)Yr11+12_DVD.zip

Mathematics

Yr 11+12 Maths 40 Definite Integral

Link for power-points to view with computer	http://www.filefactory.com/file/72b2j2bvxtbd/Yr%2011%2B12%20Maths%2040%20PPT.zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/3fw00doi1tyr/Yr%2011%2B12%20Maths%2040%20DVD.zip

Year 11+12 WEEK 33

Mathematics

Yr 11+12 Maths 41 Exponential & Logarithmic Functions

Link for power-points to view with computer	http://www.filefactory.com/file/34u19woalnkJ/Yr%2011%2B12%20Maths%2041%20PPT.zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/27a9ajkzn3lr/Yr%2011%2B12%20Maths%2041%20DVD.zip

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Mathematics

Yr 11+12 Maths 42 Trigonometric Functions

Link for power-points to view with computer	http://www.filefactory.com/file/4tmhsqbrvivh/Yr%2011%2B12%20Maths%2042%20PPT.zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/67r8oe8b1jfl/Yr%2011%2B12%20Maths%2042%20DVD.zip

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Mathematics

Yr 11+12 Maths 43 Application of calculus to physical world

Link for power-points to view with computer	http://www.filefactory.com/file/18sumh0xp0jn/Yr%2011%2B12%20Maths%2043%20PPT.zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/16ngeyiyrk67/Yr%2011%2B12%20Maths%2043%20DVD.zip

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Mathematics

Yr 11+12 Maths 44 Probability

Link for power-points to view with computer	http://www.filefactory.com/file/cut4a2rskut/Yr%2011%2B12%20Maths%2044.zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/j8swp5ju5ih/Yr%2011%2B12%20Maths%2044%20DVD.zip

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Mathematics

Yr 11+12 Maths 45 Application of series

Link for power-points to view with computer	http://www.filefactory.com/file/numpzwt5pz/Yr%2011%2B12%20Maths%2045%20PPT.zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/1qnmy5qmjfc/Yr%2011%2B12%20Maths%2045%20DVD.zip

-

EXERCISES

www.highlightcomputer.com/Y910112Exercises.pdf

IQY Technical College

www.iqytechnicalcollege.com

Systematic Zumba Training by Official Certified Zuma Instructor (ZIN)

By Daw Hla Myat Mon

Official Zumba Instructor Certificate (Basic Steps Level 1)

(Date of Qualified 4 November 2017)

www.iqytechnicalcollege.com/zumba.htm

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Bachelor of Arts (General Arts)

Course 43321341

20 subjects at 6 credits per subject=120 credits

BA101 Myanmar

BA102 English

BA103 Philosophy

BA104 Geography

BA105 Myanmar History

BA201 Political Science

BA202 Archaeology

BA203 Anthropology

BA204 Myanmar Literature

BA205 World History

BA301 Logic

BA302 Myanmar Literature

BA303 Myanmar Poem

BA304 Pre-history

BA305 Sociology

BA401 Myanmar Culture

BA402 English Literature

BA403 Legal Studies & Administration

BA404 World Geography

BA405 Economics

Bachelor of Science (General Science)

Course 43321342

Each subject 6 credits Total 20 Subjects and 120 credits

Year 1

BS101 Myanmar

BS102 English

BS103 Physics

BS104 Chemistry

BS105 Mathematics

Year 2

BS201 Geology

BS202 Forestry

BS203 Botany

BS204 Zoology

BS205 Statistics

Year 3

BS301 Industrial Chemistry

BS302 Astrology

BS303 Computer Science

BS304 Renewable Energy

BS305 Economics

Year 4

BS401 Legal Studies

BS402 Medical Science

BS403 Optometry

BS404 Geographic Information System

BS405 Oceanography

Bachelor of Science (Physics)

Course 43321343

Bachelor of Science (Chemistry)

Course 43321344

Bachelor of Science (Geology)

Course 43321345

Bachelor of Science (Biology)

Course 43321346

Bachelor of Science (Forensic Science)

Course 43321347

Bachelor of Science (Environmental)

Course 43321348

ALL SCIENCE CURRICULUM

QUT Curriculum is referred

Bachelor of Engineering Science (Genetic Engineering)

Course 43321349

CURRICULUM

Bachelor of Nautical Science(43321350)

Curriculum

Bachelor of Nautical Science

Bachelor of Marine Science (43321351)

Curriculum

Bachelor of Marine Science

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Curriculum

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Curriculum

[Bachelor of Science \(Forestry\)](#)

Bachelor of Arts (Antropology)

Course 4332150

Bachelor of Arts (Geography)

Course 4332151

Bachelor of Arts (History)

Course 4332152

Bachelor of Arts (Psychology)

Course 4332154

Bachelor of Arts (Sociology)

Course 4332155

Bachelor of Arts (Philosophy)

Course 4332156

ရှေးဟောင်းသုတေသနပညာရှင်ဦးမြင့်အောင်မြန်မာစာပေကျောင်း

Archaeologist U Myint Aung School of Myanmar Literature

ဝိဇ္ဇာဘွဲ့ (မြန်မာစာပေ)

Bachelor of Arts (Myanmar Literature)(Couse 499870)

20 subjects at 6 credits per subject Total 120 credits

မဟာဝိဇ္ဇာဘွဲ့ (မြန်မာစာပေ)

Master of Arts (Myanmar Literature) by thesis(Couse 699870)

BAM/MAM101 Myanmar Language

- _ပဲ၊ ဖဲ၊ ဘဲ_ မြန်မာဝေါဟာရအသွင်နှင့်စာပေအမြင်-မြကေတု
- A Burmese reader
- ခေတ်(၃)ခေတ်သမိုင်းစာပေ
- မြန်မာစာတက္ကသိုလ်-ဦးမောင်မောင်တင်(မဟာဝိဇ္ဇာ)
- မြန်မာစာပေသမိုင်း(ဦးဖေမောင်တင်)
- မြန်မာစာအဖွဲ့ - စာလုံးပေါင်းသတ်ပုံကျမ်းနှင့်ခွဲထား
- မြန်မာသဒ္ဒါ
- မြန်မာအက္ခရာနှင့် ဂဏန်းသင်္ချာအတ္ထုပ္ပတ္တိ
- ဦးဖိုးလတ်-မြန်မာစကားအဖွင့်ကျမ်း(ပထမတွဲ)
- ဦးဖိုးလတ်-မြန်မာစကားအဖွင့်ကျမ်း(ဒုတိယတွဲ)
- ဦးဖိုးလတ်-မြန်မာစကားအဖွင့်ကျမ်း(ဖြည့်စွက်တွဲ)

BAM/MAM102 Myanmar Poem

- ၁၂ရာသီဖွဲ့ပေါင်းချုပ်-လှသမိန်
- ကန်တော်မင်းကျောင်းမေတ္တာစာ
- ကဗျာသေတ္တာအနှစ်စု-ခေါ်မဟာနန်းသုံးကဗျာပေါင်းချုပ်(ပတွဲ)-ဆရာအို
- ကဗျာအုတ်မြစ်စနစ်သစ်-အရှင်ကုမာရ
- ကျည်းကန်ရှင်ကြီးမေတ္တာစာနှင့်ခက်ဆစ်အဖြေ
- ကေတုဝင်းထွဋ်- အလင်္ကာဝတ်ရည်တေးသင်္ဂေ့ကတပေါင်းချုပ်
- ခေတ်စမ်းကဗျာများ(၁)
- ဆယ်နှစ်ရာသီဘွဲ့အမျိုးမျိုး
- နဝ-ဒေးရတုပေါင်းချုပ်-ပထမနဝဒေး
- နေမိဘုံခန်းပျိုးရှင်အဂ္ဂသမာဓိ
- မြန်မာကဗျာ ကာရန်ယူနည်းများ
- ရှေးခေတ်မြန်မာကဗျာများ
- ရှေးစာဆိုများ၏ဟာသရသကဗျာများ
- လက်ဝဲနော်ရထာ-စာဆိုတော်များရတုပေါင်းချုပ်
- လက်ဝဲသုန္ဒရီရတုများ ခက်ဆစ်အဓိပ္ပါယ်အစုံ
- သျှင်ဥတ္တမကျော်တောလားနှင့်လက်ဝဲသုန္ဒရီရတုများ
- အောင်သာဦး-ကဗျာညွန့်ပေါင်းနည်းလမ်းကောင်း
- ဦးတင့်ဆွေ-ကဗျာဖွဲ့နည်းနိသျည်း

BAM/MAM103 Buddhism

- _ဒေါက်တာသင်းသင်း - လက်တွေ့ဇင်ဗုဒ္ဓဓမ္မခရီး
- ကမ္ဘာပတ်၍ဘုရားရှာခြင်း-ဦးစိန်ထွန်း(မာမက-သုတေသီ)
- ကျောက်ကွင်းဝါဒပြိုင်ပွဲ

- တောင်တွင်းကြီးဆရာတော်ခင်ကြီးဖျော်-သုတဝန္တာဘုရားရှိခိုး
- ထွန်းလွင်-ဦးပုသ်သည်ဖတ်စရာ
- နိကာယ်ငါးရပ်ပိဋကတ်အဖွင့်(ဒီဃနိကာယ်)-ဓမ္မာစရိယဦးမောင်မောင်လေး
- နိဗ္ဗာနသင်္ခေပကထာ(ရွှေကျင်ဆရာတော်)နှင့်စန္ဒမဏ္ဍလသုက္ကနိဗ္ဗာန်စာတမ်း(အုတ်ဖိုရ်ဆရာတော်)
- ပါရဂူ - ဗုဒ္ဓဘာသာနှင့်မာ့ကံစံဝါဒ
- ပိဋကတ်အနှစ်ချုပ်အင်္ဂုတ္တရနိကာယ်-ဓမ္မာစရိယဦးမောင်မောင်လေး
- ဗုဒ္ဓဝါဒ-ကမ္ဘာ့ရွှေဘုန်းတော်
- ဗုဒ္ဓသာသနာတော်ဝေါဟာရအဘိဓာန်
- ဗုဒ္ဓအဘိဓမ္မာနှင့်ဟဒယဝတ္ထုပြဿနာ-သခင်တင်
- ဘုရားရှိခိုးအမျိုးမျိုး
- မုဒြား
- ရွှေဥဒေါင်း-ဗုဒ္ဓဝါဒနှင့် အယူအဆရေးရာများ
- ရှင်ဗုဒ္ဓဃောသ-ဦးသော်ဇင်
- သဒ္ဓနီတိ နိယ
- သမထ-ဝိပဿနာ-ပေါက်လျှင်
- သာသနာလင်္ကာရ စာတမ်း
- သူမြတ်-မဟာကျန်မုနိငါးဆူ
- အရှင်ကေလာသ-ဗုဒ္ဓဖြစ်စဉ်တော်တိဗက်မှတ်တမ်းများ
- အရှင်ကောဏ္ဍညဘိဝံသ-ပဉ္စဗျာကရဏဋီကာ
- အုတ်ဖိုရ်ဆရာတော်-သဃကံကပ္ပဋ္ဌစာတမ်း
- ဦးဘိုးလှိုင်-နိဗ္ဗာန်_အ_ကြောင်_စာတန်း
- ဦးရွှေဘဲ - မင်္ဂလသုတ်

BAM/MAM104 Pali

- Pali
- လင်္ကာနှင့်စကားပြေလက်ရွေးစင်(ပထမကြီးတန်း)
- လင်္ကာနှင့်စကားပြေလက်ရွေးစင်(ပထမလတ်တန်း)
- လင်္ကာနှင့်စကားပြေလက်ရွေးစင်(ပထမငယ်တန်း)း)
- အခြေပြုပါဠိသဒ္ဒါ-ဦးဖေမောင်တင်

BAM/MAM105 Ancient Myanmar Music

- စစ်ကိုင်းလှရွှေ-မဟာဂီတ
- ဇာတိမာန်တေးသီချင်းများ
- နိုင်ငံတော်_မူမဟာဂီတသီချင်း_ကြီးများ
- မြန်မာ့နံ့(နံ့ဦးမြကြီး၊_ကော့မူ)
- မဟာဂီတ(နိုင်ငံတော်မူ)
- ရှေးရိုးမြန်မာသီချင်းကြီးများသင်္ကေတ(အတွဲ၁)
- လူထုဒေါ်အမာ-မြန်မာ့မဟာဂီတ
- သိန်းသန်းဝင်း(မလှိုင်)-မြန်မာ့ဆိုင်း
- အမရပူရဒုတိယမြို့တည်မင်းတရားကြီးလွှတ်ဦးကြင်ဥစပ်ဆို (သီချင်း)
- ဦးပြုံးချို-မဟာဂီတပေါင်းချုပ်
- ဦးပြုံးချို-မဟာဂီတပေါင်းချုပ်ကြီး

BAM/MAM201 Ancient Myanmar Periodicals

- ကျီးသဲလေးထပ်ဆရာတော်-မဟာဝင်ဝတ္ထုနှင့်ဇေယျဒီပစာတမ်း
- ခင်ကြီးဖျော်-လက်ဝဲနော်ရထာလျှောက်ထုံး
- စန္ဒမဏ္ဍလသုက္ကနိဗ္ဗာန် စာတမ်း - အုဂ်ဖိုရ်ဆရာတော်
- ပဉ္စမသင်္ဂါယနာတင်မင်းတုန်းမင်းတရားကြီး၏အမိန့်တော်ပြန်တမ်းကြီး)

- ပဌမမောင်းထောင်ဆရာတော်-အမေးတော်ဖြေ
- မဟာပညာကျော်လျှောက်ထုံး
- မဟာသိဝပထရှုဘွယ်ကျမ်းနှင့် သလုံးဆရာတော်ဘုရား၏ လက္ခဏာရသပစ္စုပဋ္ဌာန်ပဒဋ္ဌာန် အဆုံးအဖြတ်
- ရေစကြိုခုံတော်ဖြတ်ထုံး
- ဝါကျသံသယဝိသောဓနီ-ဘဒ္ဒန္တသောဘိတမဟာထေရ်
- ဦးသာချို-ဗုဒ္ဓ၏ရုပ်နာမ်သဘာဝ

BAM/MAM202 Ancient Myanmar Medical Publications

- ဆေးနည်း-၁၀၀၀
- နှစ်ပေါင်း၂၀၀မြန်မာ့ဆေးပညာ
- ဦးသိန်းလွင်-- တိုင်းရင်းမြန်မာဆေးနည်းကျော်များ

BAM/MAM203 Ancient Myanmar Engineering Publications

- စိတြ-မြန်မာ့လှည်း
- နံရံဆေးရေးပန်းချီထိန်သိမ်းမှုပညာ(ဘတင့်)
- နိုင်ရွှေမိုး - မြန်မာ့ရေအရင်းအမြစ်
- ပုခန်းမြေမှ ဗိသုကာနှင့်အနုပညာလက်ရာများ - ဒေါက်တာတင့်လွင်
- ဘက်စုံအသုံးဝင်သည့် မြန်မာ့ ကြိမ်ပင် -မောင်နွယ်သန်
- မောင်ယဉ်လှိုင်း-မြန်မာ့ရိုးရာအိမ်
- ရှေးဟောင်းမြန်မာမြို့တော်များ

BAM/MAM204 Ancient Myanmar Dressing

- စောမုံညင်း-မြန်မာအမျိုးသမီးဆင်ယင်ထုံးဖွဲ့မှု
- ဒဂုန်-နတ်-ရှင်-..မြန်မာ့ရိုးရာဆင်-တန်-ဆာ

- မြန်မာ့ထိုးကွင်းမင်းကြောင်ခလေး
- မြန်မာအမျိုးသမီးစောမုံညင်း)
- မြန်မာအမျိုးသမီးလောကတက္ကသိုလ်ကြည်မာ

BAM/MAM205 Biographies

- ကစားပန်ဒီမို ခညဝတီသစာ - မောဠိလှ
- ခင်ခင်လေး-ရတနာပုံနှိပ်နှင်းနီရိုး
- ဂန္ထဝင်ပုဂ္ဂိုလ်ကျော်များအတ္ထုပ္ပတ္တိပေါင်းချုပ်(လှသမိန်)
- ဆရာမာယ-ရှင်မဟာရဋ္ဌသာရ အတ္ထုပ္ပတ္တိ
- တိုက်စိုး-ဗိုလ်မှူးကြီးဗထူး
- နိုင်ပန်းအောင်-တိမ်မြုပ်နေသောပါဒ်နိုင်ငံတော်
- ပဲကူးရာဇဝင်နန်းတွင်းဇာတ်တော်ကြီး-မစ္စတာမောင်မှိုင်း
- ဗိုလ်ချုပ်အောင်ဆန်းအတ္ထုပ္ပတ္တိ
- မြန်မာ့မြေမှ မွတ်စလင်များ- ဝါးခယ်မ မောင်မင်းနိုင်
- မြဝတီမင်းကြီးဦးစ - ရွှေဘုံနီဒါန်း
- ရွှေမန်းနှစ်၁၀၀ပြည့်မြန်မာမွတ်စလင်တို့၏အတ္ထုပ္ပတ္တိ
- သခင်ကိုယ်တော်မှိုင်း-ဂဠုန်ပျံဒီပနီဇီကာ
- သီရိလလိတဝိတ္ထာရ-မင်းကွန်းအရှင်သုန္ဒရာဘိဝံသ
- ဦးကျော်ဦး - ဗန်းမော်ဆရာတော်
- ဦးမောင်မောင်လေး-မြတ်ဗုဒ္ဓလက်ထက်ပါရမီရှင်အမျိုးသမီးများ
- ဦးလှအောင်-ဦးပေါ်ဦးနှင့် လှတောသား
- ဦးဝမ်ထိန်-မန်လည်ဆရာတော်ဘုရားကြီး၏ဘဝ,စာပေ

- ကဗျာဗန္ဓုသာရကျမ်း-ဦးတင်
- ကျောင်ထိုင်ဘုန်းကြီးလက်ကိုင်ဝိနယမဏ္ဍိုင်ကျမ်း
- ကဝိမဏ္ဍနမေဒနီကျမ်း-ဆီးဘန်နီဆရာတော်
- ကာမသျှတ္တရကျမ်း
- ဂိဟိဝိနယပကာသနီကျမ်း
- ဂီတဝိသောဓနီကျမ်း
- ဂီတသရူပတ္ထကျမ်း-အုဂ်ဖိုရ်ဆရာတော်
- စံလှိုင်-ဆွန်ဇု၏စစ်ပညာကျမ်း
- စာကျနီတိကျမ်း_း လယ်_တီပဏ္ဍိတဦး_မောင်_ကြီး ပ
- စတုရာရက္ခကျမ်း-သင်္ဂဇာဆရာတော်ဘုရားကြီး
- စန္ဒမဏ္ဍလသုက္ကနိဗ္ဗာန်စာတမ်း-အုဂ်ဖိုရ်ဆရာတော်
- စမ္ပုဒ္ဓိပဥဆောင်ကျမ်း
- စွယ်စုံကျော်ထင်ကျမ်း
- စွယ်စုံအလင်းကျမ်းနှင့်ပထဝီဝါဒရှင်းတမ်း-ကျောင်းဆရာကိုခင်မောင်
- စားတော်ချက်ကျမ်း
- စာကျနီတိကျမ်း လယ်တီပဏ္ဍိတဦးမောင်ကြီး ဒု
- စာကျနီတိကျမ်း
- စိန္တာသုတကျမ်း
- စူဠသိဿကောဝါဒကျမ်းနှင့်မဟာသိဿကောဝါဒကျမ်း-ပထမရွှေကျင်ဆရာတော်ဘုရားကြီး
- ဆရာဖြစ်သင်ဘိသိတ်မင်္ဂလာကျမ်း
- ဇင်းမယ်ပဏ္ဍာသကျမ်း
- ညောင်ရမ်းဇေယျပဏ္ဍိတ-စေတီဘုရားတည်ထားနည်းကျမ်း

- တက္ကသိုလ်နယ်ပယ်နိမိတ်
- တွင်းသင်းမင်းကြီး-ပေါရာဏကထာဋီကာကျမ်း
- တောင်တွင်းဆရာတော်ခင်ကြီးဖျော် - ကဝေသာရကျ
- နက္ခတ္တဒီပနီကျမ်း
- နာနာဝါဒပုတ္တဝိသန္ဓာနိကျမ်း
- နေမိတ္တကဝိဇ္ဇာကျမ်း
- ပစ္စယတ္ထပကာသနီကျမ်း-သေကျတောင်ဦးတိလောက
- ပညာဝိမံသနကထာကျမ်း-မန်လည်ဆရာတော်
- ပဏ္ဍိတဝေဒနိယကျမ်း (သေကျတောင်ဆရာတော်)
- ပရမတ္ထမေဒနီကျမ်း
- ပိသုကာကျမ်း
- ပုဂံဝန်ထောက်ဦးတင်-ကဗျာဗန္ဓာသာရကျမ်း
- ပေါရာဏဒီပနီကျမ်း-မှော်ဘီဆရာသိန်း
- ဗုဒ္ဓဘာသာသင်္ခေပကျမ်း
- ဗုဒ္ဓါနုသာတိကျမ်း
- မင်းကြီးသီရိမဟာဇေယသု-ကဝိလက္ခဏဒီပနီကျမ်း
- မြင်းလက္ခဏာကျမ်း
- မြန်မာစကားပုံကျမ်း-ဦးကျော်ရန်း
- မူလပေါရာဏဒီပနီကျမ်း
- မောင်လွင်-ကဗျာသင်္ဂဟမေဒနီကျမ်း
- ယောမင်းကြီးဦးဘိုးလှိုင်အတ္ထုပ္ပတ္တိနှင့်ရာဇဓမ္မသင်္ဂဟကျမ်း-မောင်ထင်
- လူသေလူဖြစ်ဝါဒါနုဝါဒ-ဝိနန္ဒယကျမ်း
- လောကဗျူဟာကျမ်း(အင်းရုံစာတမ်း)

- ဝိနယင်္ဂိပကာသနီကျမ်း
- သင်္ဃမာဏရာတော်ဘုရားကြီး၏ပုံပြင်ပမ္ပည်းစကားထုံးဖြစ်သောကဝိန္ဒာဝုဓမ ဉ္ဇသာကျမ်း
- သမန္တစက္ခုဒီပနီကျမ်း-မုံရွေးဆရာတော်
- သီဟဌ အဘိဓာနက္ခရာဝလီကျမ်း
- သုရာမေရယပကာသနီကျမ်း-ဦးကျော်ရန်
- သောတာပန်လမ်း အလင်းကျမ်း(ဓမ္မစေတီဆရာတော်)
- အဓမ္မဝါဒအဆုံးအဖြတ်ကျမ်း
- အနာဂတဝင်ကျမ်း
- အရှင်နန္ဒဘိဓဇ-ပူရဏ်ကျမ်း
- အရှင်ဩဘာသာဘိဝံသ-သုတေသနမဂ္ဂင်္ဂပဉ္စကျမ်း
- အသျှင်ဉာဏဝံသ-ဂဗ္ဘ လီလာကျမ်း
- အသျှင်နာဂသေန(ဓမ္မာစရိယ)-အားတိုးဆေးပေါင်းချုပ်ကျမ်း
- ဦးပုည၏ ဗေဒင်ဟောတေးထပ် အဖြေကျမ်း(ဦးသက္က)
- ဦးမင်းသိမ်း-နန်စဉ်သုံးဂါထာမန္တန်ကျမ်း
- ဦးသာဂရ-သုတသန္နိစယမူကျယ်ကျမ်း

BAM/MAM302 Ancient Myanmar Historical Events

- ၁၉၃၀တဝိုက် မြန်မာပြည်နိုင်ငံရေးသမိုင်း-သိန်းဖေမြင့်
- ၁၉၈၈-၂၀၀၂ မြန်မာနိုင်ငံရေးထူးခြားမှုရက်စွဲမှတ်တမ်းဌာ
- Bogyoke Aung San s Speeches
- ကိုယော-နှောင်းခေတ်ဟောင်းကလောင်းရှည်(သို့)ယောရွှေပြည်ကပုဂံ
- ခေတ်လေးခေတ်တရုတ်မြန်မာဆက်ဆံရေး
- ဂဠုန်တပ်ရည်ရွယ်ချက်နှင့်စည်းမျဉ်းဥပဒေ
- စစ်ကိုင်းတောင်သမိုင်း-ရွှေပြည်ဦးဘတင်

- ဆရာကြီးဦးပညာ၏ ကရင်ရာဇဝင်
- ညိုမြ-ကုန်းဘောင်ရှာပုံတော်
- ဒေါက်တာဘမော် မိန့်ခွန်း (21-12-1952)
- နှစ်ငါးဆယ်လူမှုရေးရာ(1900-1950)
- ပိဋကတ်တော်သမိုင်း-မင်းကြီးမဟာသီရိဇေယျသူ
- မြန်မာနိုင်ငံဘုန်းတော်ကြီးကျောင်းပညာရေးသမိုင်း - ဦးသန်းထွတ် လက်ထောက်ကထိကပညာ
- မြန်မာနိုင်ငံအခြေအနေ(၁၇၁၄-၁၇၅၂)
- မြန်မာနေ့အမည်များ နှင့် မြန်မာနှစ်အမည်များ - ဦးဖိုးလတ် 29.8.2018 Yar Zar Aung
- မြန်မာမင်းအုပ်ချုပ်ပုံစံတမ်းနှင့်ဘိုးတော်ဘုရားကြီး၏ရာဇသတ်ခေါ်သောအမိန့်တော်တမ်း
- မြဟန်-ကိုလိုနီခေတ်မြန်မာ့သမိုင်းအဘိဓာန်
- မွန်ရာဇဝင်
- မှော်ဘီဆရာသိန်း - ပါးစပ်ရာဇဝင်
- မိုးကုတ်မြို့ပတ္တမြားမြေသမိုင်း
- မော်စီတုံးတရုန်နှင့်မြန်မာ့အချုပ်အခြာအာဏာ-သိန်းဖေမြင့်
- ရတနာကြေးမုံ နန်းတွင်းဇာတ်တော်ကြီး
- ရန်ကုန်ရာဇဝင် - နဂါးဗိုလ်ထိပ်တင်ဒွေး
- ရွှေကျင်နိကာယသမိုင်း-ဒေါက်တာသန်းထွန်း
- လွှတ်တော်ပုရပိုက်
- လူမျိုးတစ်ရာတပါး-ကြူရတနာမောင်မြကြိုင်
- သံတွဲသမိုင်း(သို့မဟုတ်)ရခိုင်တို့၏ဒွါရာဝတီကျမ်း-ဒွါရာဝတီအသျှင်ကုသလ
- ဟံသာဝတီဆင်ဖြူရှင်မင်းတရားကြီး၏ခြေတော်ရင်းတွင်ခစားထမ်းရွက်နေသည့်ပစ္စုပ္ပန်စားသားမဟာဝန်အတွက်အဘပစ္စုပ္ပန်စားကမ္ဘာထားသည့်စကားပုံ
- ဦးစံဝင်း(သမိုင်းသုတေသန) - သုဝဏ္ဏဘူမိသုတေသန

- ဦးဖိုးကျား-ခေတ်မှီမြန်မာရာဇဝင်အကျဉ်း
- ဦးသိန်းမောင်-အရေးတော်ပုံကြီး
- ဦးသိန်းလှိုင်-ခေတ်ဟောင်းမြန်မာ့သမိုင်းသုတေသနအဘိဓာန်

BAM/MAM303 Ancient Myanmar Language

- ခင်ကြီးဖျော်-ကလျာဏီကျောက်စာမြန်မာပြန်
- စာကိုးအဘိဓာန်(ပုဂံခေတ်-ပင်းယခေတ်)
- ပျူဆန်ရေးဟန် Dr Khin Mar Swe (8. 3. 2017) ကုသိုလ်တော်စာကြည့်တိုက်
- ပျူအက္ခရာစာပေပေါင်းချုပ် အတွဲ (၁) ဦးစိန်ဝင်း(ကုသိုလ်တော်
- ပါဠိအဘိဓမ္မာပိဋကသမိုင်း-ဦးလေးမြင့်
- မြစေတီကျောက်စာ-လေးဘာသာ
- ရခိုင်ကျောက်စာပေါင်းချုပ်
- သက္ကတမြန်မာသင်ပုန်းကြီး
- အသောကကျောက်စာတော် (အရှင်အာဒိစ္စဝံသ)
- ဦးစံသာအောင်-ရခိုင်ပြည်သုံအက္ခရာ
- ဦးဖိုးလတ်-အသောကကျောက်စာများ
- ဦးအောင်သိန်း-ပျူနှင့်ပျူကျောက်စာများ

BAM/MAM304 Ancient Myanmar Drama

- ဒွန်းစက္ကား နှင့် မင်းသမီးငြားပုံ (မှော်ပီဆရာသိန်းကြီး)
- ဒါဠာဓာတုဝဋ်_ဝတီ^၈
- ဒုတိယမဲထီးဆရာတော်_မာလာလင်္ကာရ ဝတ္ထုတော်ကြီး
- ဒေဝကုမ္ဘန်ပြဇာတ်-ဦးကြင်ဥ
- ပေါရာဏဒီပနီ-မှော်ဘီဆရာသိန်း(compress)

- ပေါရာဏဒီပနီ-မှော်ဘီဆရာသိန်း(original
- ရွှေပြည်_ဝင်_ဝတ္ထု
- လူထုဦးလှ-အညာကျေးလက်ပုံပြင်များ
- သုခ-ရာမာခရစ်ရှုနာ၏ပုံပြင်များ
- ဟိတောပဒေသ(ပထမတွဲ)-အဖျောက်ဆရာတော်
- ဟိတောပဒေသ(ဒုတိယတွဲ)-အဖျောက်ဆရာတော်
- ဦးကြင်ဥ၏ပါပဟိန်ပြဇာတ်နှင့်အဖြေစုံ-ဟံသာဝတီဦးဘရင်

BAM/MAM305 Ancient Myanmar Dictionaries

- တင်နိုင်တိုး-ကုန်_း_ဘောင်_ခေတ်_မင်_း_မှုထမ်း_းများ အဘိဓာန်_
- ဘာသာပြန်စာပေ
- မြန်မာ-အင်္ဂလိပ် အဘိဓာန် (ယုဒသန် 1921
- ရွှေနန်းသုံးဝေါဟာရအဘိဓာန်
- လှသမိန် - မြန်မာစကားပုံအဘိဓာန်
- ဝိနည်းမှတ်စုလင်္ကာအဖြေ-ညောင်လေးပင်တောရဆရာတော်ဘုရားကြီး
- အင်္ဂလိပ်- မြန်မာ အဘိဓာန် (1841)

BAM/MAM401 Ancient Myanmar Libraries and Articles

- ဇော်အောင်ထွတ်-မြန်မာနိုင်ငံပိဋကတ်တိုက်၊စာကြည့်တိုက်များ
- နန္ဒာသိန်းဇံ-ထေရဝါဒနှင့်ပတ်သက်သောမှတ်ချက်များ
- မုံရွေးဆရာတော် မှတ်စု
- ရာဇနီတိကောက်နှုတ်ချက်
- ဝါစွဝါစကဂဏ္ဍိ
- ဟိတောပဒေသ(တတိယတွဲ)-အဖျောက်ဆရာတော်

- ဦးနု-အိန္ဒိယပြည်၌ဟောပြောသောတရားတော်များ

BAM/MAM402 Ancient Myanmar Defence

- မင်းလှခံတပ်
- မြန်မာနိုင်ငံခေတ်အဆက်ဆက် ရှေးဟောင်းလက်နက်များ
- မြဝင်း...မြန်မာ လက်ဝှေ့

BAM/MAM403 Ancient Myanmar Law

- မဟာသံဃရာဇာသာသနာပိုင်ဆရာတော်ထုတ်ဆင့်တော်မူသည့်ဥပဒေ 7-8-1905
- မောင်ယော-ပဌမစာတော်ပြန်ဥပဒေ

BAM/MAM404 Ancient Myanmar Literature

- ဂါထာခြောက်ဆယ်ပျို့
- ထင်ပေါ်ကျော်ကြားစာနှင့်စကား-ဦးခင်မောင်ကြီး
- နှစ်ဖက်လှဦးကျော်လွင်-ကဝိလက္ခဏာဝိဘာဝနီ
- ပန်းချီလှတင်ထွန်း မြန်မာပန်းချီ ရေစီးကြောင်
- ပိဋကတ်ဝတ္ထုလမ်းညွှန်
- ပေါရာဏကထာလင်္ကာသစ်နှင့် ရွှေဟာသီလဝံသဆို ပေါရာဏကထာလင်္ကာဟောင်း
- ဗဟုသုတဟင်းလေးအိုးနှင့်ရှေးတံဆိပ်တော်ရဆရာတော်များစာတမ်း
- ဗေဒနီတိ
- မြန်မာ့ရုပ်စုံသဘင်
- မြန်မာကနုတ်ပန်း
- မြန်မာနိုင်ငံခေတ်အဆက်ဆက်ဝိဇ္ဇာပေါင်းချုပ်ကြီး-ပတွဲ-မောင်ပန်းမွှေး
- မောင်ခင်မင်-ပြည်သူ့အတွက်မြန်မာစကားပြေ
- မောင်ဇနိယ-မြန်မာရေးရာသုတပဒေသာ

- မောင်မောင်ညွန့်-အမျိုးသားယဉ်ကျေးမှုအမွေ ပေစာ, ပုရပိုက်
- မောင်ရင်မောင်မမယ်မ-ဂျိမ် (စ်) လှကျော်
- ရှမ်းတိုင်းရင်းသားများ၏ယုံကြည်ကိုးကွယ်မှုနှင့်ခလေ့ထုံးစံများ-အရှင်သုခမိန္ဒ(တန့်ယန်း)
- လူထုစိန်ဝင်း-နန်းစကားမန်းစကားမြန်မာတို့ရဲ့မြန်မာစကား
- အဘိဓမ္မာဝတ္ထုတော်ကြီး
- အလယ်တန်းကဗျာ လက်ရွေးစင်
- ဦးစပ်စု၏ထူးတဲ့စပ်စု(ပထမတွဲ)
- ဦးစပ်စု၏ထူးတဲ့စပ်စု(ဒုတိယတွဲ)
- ဦးညွန့်မောင်-မန်းကျည်းစေ့ကမ္မဝါပန်းအက္ခရာ
- ဦးနိုး-ရွှေတိုးဂါမိမြင်းကြန်လင်္ကာရင်း
- ဦးနု - ကမ္ဘာနဲ့ထွတ်ဝါအစာယဉ်ကျေးမှုအစ(အတွဲ ၁)
- ဦးနု ..ဗြဟ္မဃာစနကထာ ပြဿနာ အဖြေ
- ဦးမျိုးညွန့် - ပိဋကတ်တော်လာ ပုဂံခေတ်နံရံဆေးရေးပန်းချီ
- ဦးမြတ်လှ-သင်္ဃာဆရာတော်စကားပုံများ၊ ပုံပြင်များ

BAM/MAM405 Vocational Studies and Social Practice

- WritingEnglishSentence
- ကရင်ဗမာသွေးစည်းရေး
- ဒေါ်သက်သက်-လက်တွေ့အသုံးချအခြေခံစာရင်းကိုင်ပညာ
- အခြေခံစာရင်းကိုင်ပညာ (ကျောင်းသုံး)
- အခြေခံပေသီးတွက်နည်း-တက္ကသိုလ်မိုးသီတာအောင်
- အထက်တန်းပြည့်သူနီတိ
- အလွယ်ဆုံးမုန့်လုပ်နည်းအမျိုးမျိုး

ဝိဇ္ဇာဘွဲ့ (အင်္ဂလိပ်စာ)

Bachelor of Arts (English)(Couse 499871)

<http://www.iqytechnicalcollege.com/BAEnglish.pdf>

ဝိဇ္ဇာဘွဲ့ (အထွေဝိဇ္ဇာ)

Bachelor of Arts (General Arts)(Couse 499872)

<http://www.iqytechnicalcollege.com/BAGeneralArtsScience.pdf>

သိပ္ပံ ဘွဲ့ (အထွေ သိပ္ပံ)

Bachelor of Science (General Science)(Couse 499873)

<http://www.iqytechnicalcollege.com/BAGeneralArtsScience.pdf>

IQY Technical College's Professional Diploma in Engineering Curriculum

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COURSE STRUCTURE

Year	Course	Total Credit Point
	Entry –Year 10	
	Year 11—Bridging Program	
	Year 12-- Certificate in Pre-vocational Studies	
1	Diploma in Engineering (Electrical/Civil/Mechanical)	30
	Award- Diploma in Engineering	30
2	Advanced Diploma in Engineering (Electrical/Civil/Mechanical)	30
	Award- Advanced Diploma in Engineering	60
3+4	Professional Diploma in Engineering (Electrical/Civil/Mechanical/Mechatronics/Building Services) (Electrical/Civil/Mechanical with Renewable Energy)	60
	Award-Professional Diploma in Engineering	120
	Total years spent after Year 10	6 Years

- The entry qualification for IQY Technical College's courses is Year 12 (International) Standard.
- The students who have completed Year 10 Examination require the Year 11+12 Level bridging study before commencing the major programs.
- Year 11+12 is standardized with Australian NSW Year 12 curriculum.

Please refer [_http://www.highlightcomputer.com/y712lessons.htm](http://www.highlightcomputer.com/y712lessons.htm) for details

IQY Technical College's Professional Diploma in Engineering Curriculum

Professional Diploma in Engineering Programs of IQY Technical College are designed at the same standard of relevant Bachelor of Engineering degrees.. Although the word "Bachelor of Engineering" is utilized, the award of IQY Technical College is Professional Diploma in Engineering.

Bachelor of Engineering (Electrical)

Bachelor of Engineering (Civil)

Bachelor of Engineering (Mechanical)

Bachelor of Engineering (Civil-Building Services)

Bachelor of Engineering (Mechanical-Mechatronics)

Bachelor of Applied Science (Information Technology)

Bachelor of Business

Professional Diploma/ Bachelor of Engineering (Electrical)

YEAR 3 +4

BACHELOR OF APPLIED ENGINEERING (ELECTRICAL)

Subjects	Points	Competency Units
BAE 401 Advanced Engineering Mathematics	9	Maths 301 Introduction to Complex Variables (1 pt) Maths 302 Elementary Linear Algebra (1 pt) Maths 401 Continuous Distributions (1 pt) Maths 402 Discrete Distributions (1 pt) Maths 403 Engineering Mathematics (1 pt) Maths 501 Introduction to Probability(1 pt) Maths 501 Linear Algebra & Matrices (1 pt) Maths 502 Finite Difference Methods for Partial Differential Equations & Mathematical Modelling (1 pt) Maths 601 Random Variables (1 pt)

BAE 402 Calculus	3	<p>Maths 304 Integration and Differential Equations. (1 pt)</p> <p>Maths 403 Second Order Ordinary Differential Equations (1 pt)</p> <p>Maths 303 Engineering Mathematics (1 pt)</p>
BAE 403 Engineering Mechanics	1	ME 301 Applied Mathematics (1 pt)
BAE 404 Engineering Materials & Thermodynamics	3	<p>ME 334 Engineering Thermodynamics (1 pt)</p> <p>ME 434 Wind Turbines (1 pt)</p> <p>ME 634 Pneumatics (1 pt)</p>
BAE 405 Advanced Circuit Analysis	3	<p>EE 301 Electrical Circuits (1 pt)</p> <p>EE 303 Engineering Circuit Analysis (1 pt)</p> <p>EE 404 Electrical Measurement (1 pt)</p>
BAE 406 Electro-mechanics	2	<p>EE 502 Electrical Machines (1 pt)</p> <p>ME 301 Machine Principle (1 pt)</p>
BAE 407 Advanced Electro-magnetics Field & Materials	1	EE 407 Electromagnetism (1 pt)
BAE 408 Analogue & Digital Electronics	5	<p>EE 403 Introduction to Electronic Engineering (1 pt)</p> <p>EE 524 Power Electronics & Applied Electronics (1 pt)</p> <p>EE 405 Digital System (1 pt)</p> <p>EE 526 Digital Signal Processing (1 pt)</p> <p>EE 527 Digital Image Processing 1/ 2 (1 pt)</p>
BAE 501 Advanced Power Systems & Power Transmission Networks	3	<p>EE 512 Power System (1 pt)</p> <p>EE 302 Power System Technology (Optional)</p> <p>EE 402 Electrical Power (1 pt)</p> <p>EE 513 Power Transmission and Distribution Lines (1 pt)</p>
BAE 502 Linear System	1	EE 304 Computer Mathematics (1 pt)
BAE 503 Control System	4	EE 601 Non Linear Control Applications (1 pt)

		EE 601 Control Engineering , Feedback and Control System , P ID_Control (1 pt) EE 624 Process Control (1 pt) ME 534 Numerical Control Part 1 / 2 (1 pt)
BAE 504 Power System Analysis	1	EE 614 Power System Analysis
BAE 505 Power System Optimization	1	EE 613 Power System Optimization
BAE 506 Power System Stability & Protection	2	EE 615 Power System Stability & Power Quality (1 pt) EE 616 Power System Protection (1 pt)
BAE 507 Electro-mechanical Energy Conversion	2	EE 602 Motor Control Electronics (1 pt) ME 434 Mechtronics & Robotics (1 pt)
BAE 508 Industrial Engineering & Industrial Management	1	Mgt 501 Basic Management & Communication Skills (1 pt)
BAE 601 Computer Programming	3	IT 401 Object Oriented Programming (1 pt) IT 402 Structured Programming (1 pt) IT 403 Visual Basic Programming (1 pt)
BAE 602 Computer Network	1	ICT 202 Information Systems Principles and Networking (1 pt)
BAE 603 Software Engineering	3	ICT 106 Software Engineering (1 pt) ICT 203 Information Systems, Analysis and Design (1 pt) EE 626 Nano Technology (1 pt)
BAE 604 Telecommunication Engineering	2	EE 525 Data Communication (1 pt) EE 603 Electronics Telecommunication (1 pt)
BAE 605 Engineering Management	5	Mgt 502 Operation Management (1 pt) Mgt 503 Production & Operation Management (1 pt) Mgt 504 Project Management (1 pt)

		Mgt 505 Quality Management and Manufacturing Engineering (1 pt) Mgt 506 Strategic Financial Management (1 pt)
BAE 606 Building Service Electrical & Mechanical Engineering	2	EE 617 Building Electrical and Mechanical System (1 pt) ME 334 Airconditioning and Refrigeration (1 pt) CE 301 Building Construction (Optional) CE 301 Conceise Hydroulics (Optional)
BAE 607 Radio Wave Propagation & Microwave Techniques	2	EE 625 Radio Wave Propagation (1 Pt) EE 626 Microwave Technique (1pt)
Total Credit points	60	
Credit Points given for Advanced Diploma in Electrical Engineering (Year 1+2)	60	
Total credit points	120	

The renewable energy subjects can be substituted for some subjects

Renewable Energy Subjects

View <http://www.highlightcomputer.com/BEElectricalNew.pdf> for the Professional Diploma in Engineering Combined with Renewable Energy Subjects

View <http://www.highlightcomputer.com/re.pdf> for detailed contents

Professional Diploma in Electrical Engineering with Renewable Energy

Common Year 3

1. BAE 401 Advanced Engineering Mathematics (9 pt)
2. BAE 402 Calculus (3 pt)
3. BAE 403 Engineering Mechanics (1 pt)

4. BAE 404 Engineering Materials & Thermodynamics (3 pt)
5. RE001- Foundation Studies in Renewable Energy and Sustainability (2 pt)
6. .RE003- Solar and Thermal Energy Systems (2 pt)
7. RE004- Energy Storage Systems (2 pt)
8. RE005- Renewable Energy Resource Analysis (2 pt)
9. RE006- Wind Energy Conversion Systems (2 pt)
10. RE010-Engineering Materials (2 pt)
11. RE012a-Electrical Engineering Part 1 (2pt)
12. RE016-Design& Management (BAE508) (2 pt)

B Applied Engg (Electrical)

YEAR 4 (Specialized)

1. BAE 601 Computer Programming
2. BAE 602 Computer Network
3. BAE 603 Software Engineering
4. RE012b-Electrical Engineering Part 2
5. RE002- Grid Connected Photovoltaic Power Systems
6. RE013-Electrical Machines
7. RE014-Electronics Control
8. RE015-Electrical Project/ Practice
9. BAE 501 Advanced Power Systems & Power Transmission Networks
10. BAE 506 Power System Stability & Protection
11. BAE 604 Telecommunication Engineering
12. RE007- Energy System Efficiency

Professional Diploma/ Bachelor of Engineering (Civil)

Year (3) Part 1 ADVANCED GENERAL CIVIL ENGINEERING DEGREE LEVEL (17 pt)

Subjects
BAE 401 Advanced Engineering Mathematics (9 pt)
BAE 402 Calculus (3 pt)
BAE 403 Engineering Mechanics (1 pt)
BAE 404 Engineering Materials & Thermodynamics (3 pt)
BAE 508 Industrial Engineering & Industrial Management (1 pt)
The renewable energy subjects can be substituted for some subjects
<u>Renewable Energy Subjects</u>
View http://www.highlightcomputer.com/BEElectricalNew.pdf for the Professional Diploma in Engineering Combined with Renewable Energy Subjects
View http://www.highlightcomputer.com/re.pdf for detailed contents

Year (3) Part 2 ADVANCED GENERAL CIVIL ENGINEERING DEGREE LEVEL (18 Pt)

BAE421 Building Construction Engineering (4 pt)

BAE422 Estimating (2 pt)

BAE423 Fluid Mechanics (2 pt)

BAE424 Reinforced Concrete (2 pt)

BAE425 Timber Engineering (2 pt)

BAE521 Road & Bridge (2 pt)

BAE522 Rock Mechanics (2 pt)

BAE523 Soil Mechanics (2 pt)

BAE 523A Environmental Engineering (2 pt)

Year (4) Part 1 (17 pt)

BAE 601 Computer Programming (3 pt)
BAE 605 Engineering Management (5 pt)
BAE 606 Building Service Electrical & Mechanical Engineering (2 pt)
BAE 609 Design Project (3 pt)
Total Credit points in this group

Year (4) Part 2

(12 Pt)

BAE621 Structural Engineering (3 pt)

BAE623 Surveying& Traffic Engineering (2 pt)

BAE624 Water Supply , Sanitation & Finishing (2 pt)

BAE 608 Engineering Competency Demonstration Report Writing (2pt)

SELF STUDY

BAE622 Architecture (3 pt)

Total points for Year 3+4= 60 pt

Advanced Diploma in Civil Engineering= 60 pt

Total= 120 pt

Professional Diploma in Civil Engineering with Renewable Energy

Common Year 3

1. BAE 401 Advanced Engineering Mathematics (9 pt)
2. BAE 402 Calculus (3 pt)
3. BAE 403 Engineering Mechanics (1 pt)
4. BAE 404 Engineering Materials & Thermodynamics (3 pt)

5. RE001- Foundation Studies in Renewable Energy and Sustainability (2 pt)

6. RE003- Solar and Thermal Energy Systems (2 pt)

7. RE004- Energy Storage Systems (2 pt)

8. RE005- Renewable Energy Resource Analysis (2 pt)

9. RE006- Wind Energy Conversion Systems (2 pt)

10. RE010-Engineering Materials (2 pt)

11. RE012a-Electrical Engineering Part 1 (2pt)

12. RE016-Design& Management (BAE508) (2 pt)

Total points for Year 3-(32 Pt)

B Applied Engg (Civil)

YEAR 4 (Specialized)

Total points for Year 4-(24 Pt)

1 RE011a-Civil& Mechanical Engineering Part 1 (2 pt)

(Assessment- Study Report)

2 RE011b-Civil& Mechanical Engineering Part 2a (2 pt)

(Assessment- Study Report)

3 BAE 606 Building Service Electrical & Mechanical Engineering (2 pt)

4BAE421 Building Construction Engineering (2 pt)

5 BAE422 Estimating (2 pt)

6 BAE423 Fluid Mechanics (2 pt)

7 BAE424 Reinforced Concrete (2 pt)

8 BAE522 Rock Mechanics (2 pt)

9 BAE 523A Environmental Engineering (2 pt)

10BAE621 Structural Engineering (2 pt)

11BAE623 Surveying & Traffic Engineering (2 pt)

12BAE624 Water Supply , Sanitation & Finishing (2 pt)

Common Graduating Units (Year 5)

13 BAE 605 Engineering Management (4 pt)

14 BAE 608 Engineering Competency Demonstration Report

Total points for Year 3+4+ Final graduating subjects = $32+28+4= 60$ pt

Professional Diploma/ Bachelor of Engineering (Mechanical)

Year (3)

GENERAL APPLIED ENGINEERING (MECHANICAL) DEGREE (29pt)

Subjects
BAE 401 Advanced Engineering Mathematics (9 pt)
BAE 402 Calculus (3 pt)
BAE 403 Engineering Mechanics (1 pt)
BAE 404 Engineering Materials & Thermodynamics (3 pt)
BAE 507 Electro-mechanical Energy Conversion (2 pt)
BAE 508 Industrial Engineering & Industrial Management (1 pt)
BAE511 Air-conditioning & Refrigeration Part 1 (2 pt)
BAE613 Mechanical Instrumentation Process (2 pt)
BAE614 Machine Design (2 pt)
BAE512 Building Service Water Supply System (2 pt)
BAE511 Air-conditioning & Refrigeration Part 2 (2 pt)
<u>Renewable Energy Subjects</u>
View http://www.highlightcomputer.com/BEElectricalNew.pdf for the Professional Diploma in Engineering Combined with Renewable Energy Subjects
View http://www.highlightcomputer.com/re.pdf for detailed contents

Year (4) Part 1 BE (Mechanical + General Related Subjects) (15pt)

BAE 601 Computer Programming(3 pt)
BAE 602 Computer Network (1 pt)
BAE 603 Software Engineering (3 pt)
BAE 605 Engineering Management 5 pt
BAE 606 Building Service Electrical & Mechanical Engineering (3 pt)

Year (4) Part 2

Bachelor of Engineering (Mechanical) Specialization (13 pt)

BAE311 Plant Engineering (2 pt)

BAE312 Design Engineering (2 pt)

BAE313 Environmental Control (2 pt)

BAE314 Mechanical Power Generation (2 pt)

BAE315 Materials Engineering (2 pt) Part 1 Part 2

BAE 608 Engineering Competency Demonstration Report Writing (3 pt)

Elective (3pt)

Subjects
BAE513 Production Technology
BAE611 Maintenance Engineering
BAE612 Engineering Metallurgy

Total point for Year 3+Year 4 Part ½+Elective = 60 pt

Advanced Diploma in Mechanical Engineering= 60 pt

Total credit points= 120 pt

The renewable energy subjects can be substituted for some subjects

Renewable Energy Subjects

View <http://www.highlightcomputer.com/BEElectricalNew.pdf> for the Professional Diploma in Engineering Combined with Renewable Energy Subjects

View <http://www.highlightcomputer.com/re.pdf> for detailed contents

Professional Diploma in Mechanical Engineering with Renewable Energy

Common Year 3

1. BAE 401 Advanced Engineering Mathematics (9 pt)
2. BAE 402 Calculus (3 pt)
3. BAE 403 Engineering Mechanics (1 pt)
4. BAE 404 Engineering Materials & Thermodynamics (3 pt)
5. RE001- Foundation Studies in Renewable Energy and Sustainability (2 pt)
6. RE003- Solar and Thermal Energy Systems (2 pt)
7. RE004- Energy Storage Systems (2 pt)
8. RE005- Renewable Energy Resource Analysis (2 pt)
9. RE006- Wind Energy Conversion Systems (2 pt)
10. RE010-Engineering Materials (2 pt)
11. RE012a-Electrical Engineering Part 1 (2pt)
12. RE016-Design& Management (BAE508) (2 pt)

Total points for Year 3-(32 Pt)

YEAR 4 (Specialized)

1. RE011a-Civil & Mechanical Engineering Part 1 (2 pt)
(Assessment- Study Report)
2. RE011b-Civil & Mechanical Engineering Part 2a (2 pt)
(Assessment- Study Report)
3. BAE 606 Building Service Electrical & Mechanical Engineering (2 pt)
4. BAE311 Plant Engineering (2 pt)
5. BAE314 Mechanical Power Generation (2 pt)

6. BAE315 Materials Engineering (2 pt) Part 1 Part 2 (2 pt)
7. BAE511 Air-conditioning & Refrigeration Part 1 (2 pt)
8. BAE512 Building Service Water Supply System (2 pt)
9. BAE613 Mechanical Instrumentation Process(2 pt)
10. BAE614 Machine Design (2 pt)
11. RE007- Energy System Efficiency(2 pt)
12. BAE 601 Computer Programming(2 pt)

Total points for Year 4-(24 Pt)

Common Graduating Units (Year 5)

- 13 BAE 605 Engineering Management (4 pt)
- 14 BAE 608 Engineering Competency Demonstration Report

Total points for Year 3+4+ Final graduating subjects = 32+28+4= 60 pt

Professional Diploma/ Bachelor of Engineering (Civil-Building Services)

STAGE (3) BASIC ELECTRICAL & ELECTRONICS ENGINEERING (18 Pt)

REFER DIPLOMA/ADVANCED DIPLOMA IN ELECTRICAL ENGINEERING DETAILED CONTENTS

EE101 DC Circuit Problems

EE102 Basic Electrical Fitting& Wiring

EE103 Basic Electrical Drafting

EE104 Electrical Equipments Safety Protection

EE105 Electrical Installation Design

EE107 Electrical Equipments

EE106 Advanced Electrical Wiring

EE108 Electrical Fault Finding

EE109 Electrical Control Circuits

EE111 Electromagnetism & Basic Electrical Machines

EE112 Alternating Current Principle

EE113 Electrical Fundamental

EE115 Basic Analogue & Digital Electronics

EE116 Process Control System

EE117 Solar Electrical System

EE119 Electrical Risk Assessment

EE120 Electrical Contracting& Specifications

EE308 Sustainability

STAGE (4 A) ADVANCED MECHANICAL ENGINEERING STUDY (6Pt)

REFER DIPLOMA/ADVANCED DIPLOMA IN MECHANICAL ENGINEERING DETAILED CONTENTS

ME 102 Engineering Thermodynamics
 ME 109 Engineering Drawing
 ME 107 Heat Transfer
 ME 201 Introduction to Fluid Mechanics
 ME 204 Engineering Fluid Mechanics
 ME 301 Fluid Dynamics

STAGE (4B)ADVANCED ELECTRICAL & ELECTRONICS ENGINEERING STUDY

(ADVANCED DIPLOMA) (4 pt)

REFER DIPLOMA/ADVANCED DIPLOMA IN ELECTRICAL ENGINEERING DETAILED CONTENTS

EE201 Engineering Mathematics
 EE204 Engineering Physics
 EE302 Advanced Engineering Mathematics
 EE307 Energy Efficient Building Design

STAGE (5)BACHELOR OF APPLIED ENGINEERING (BUILDING SERVICE) DEGREE (32 pt)

Subjects
BAE 401 Advanced Engineering Mathematics
BAE 402 Calculus
BAE 403 Engineering Mechanics
BAE 404 Engineering Materials & Thermodynamics
BAE 508 Industrial Engineering & Industrial Management

BAE 601 Computer Programming
BAE 605 Engineering Management
BAE 606 Building Service Electrical & Mechanical Engineering
BAE 609 Design Project

Professional Diploma/ Bachelor of Engineering (Mechanical-Mechatronics)

Advanced Diploma of Mechanical Engineering)

REFER DIPLOMA/ADVANCED DIPLOMA IN ELECTRICAL ENGINEERING DETAILED CONTENTS

REFER DIPLOMA/ADVANCED DIPLOMA IN MECHANICAL ENGINEERING DETAILED CONTENTS

(1) **ME104** Principle of Machine

(2)EE624 Process Control

EE115 Basic Analogue& Digital Electronics

EE116 Process Control System

(3)ME 334 Airconditioning and Refrigeration

(4) ME202 Aerodynamics

(5) ME 302 Automation-and-Robotics

(6) ME 303 Computer Aided Design and Manufacturing

(7) ME 234 Wind Turbines

(8) ME 201 Introduction to Fluid Mechanics

(9) ME 204 Engineering Fluid Mechanics +

ME 301 Fluid Dynamics

(10) ME 206 Introduction to Turbo Machinery

(11)ME 205 Manufacturing Processes & Materials

(12) ME 207 Chemical Thermodynamics

(13)ME 208 Hydrocarbons

(14) ME 634 Pneumatics

(15) ME 203 Control

(16) ME 534 Numerical Control

(17) ME 434 Mechtronics-Robotics

(18)EE 617 Building Electrical and Mechanical System

(19)EE105 Electrical Installation Design

EE107 Electrical Equipments

EE105 Electrical Installation Design

EE107 Electrical Equipments

(20)EE106 Advanced Electrical Wiring

(21) EE116 Process Control

(22) EE117 Solar Electrical System

(23) EE119 Electrical Risk Assessment

EE120 Electrical Contracting

(24) ME 109 Engineering Drawing

EE301 Advanced Electrical Drafting

(25) EE121 Electronics Power Control Devices

(26) EE206 AC

(27) EE207 DC

(28)EE202 Electrical Circuits

(29)EE203 Three Phase Power Circuits

(30) ME 305 Corrosion Prevention

(31) ME 306 Theory-of-waves-in- materials

Degree Level

Subjects
BAE 401 Advanced Engineering Mathematics

BAE 402 Calculus
BAE 403 Engineering Mechanics
BAE 404 Engineering Materials & Thermodynamics
BAE 405 Advanced Circuit Analysis
BAE 406 Electro-mechanics
BAE 408 Analogue & Digital Electronics
BAE 502 Linear System
BAE 503 Control System
BAE 507 Electro-mechanical Energy Conversion
BAE 508 Industrial Engineering & Industrial Management
BAE 601 Computer Programming
BAE 602 Computer Network
BAE 603 Software Engineering
BAE 604 Telecommunication Engineering
BAE 605 Engineering Management
BAE 606 Building Service Electrical & Mechanical Engineering

Professional Diploma/Bachelor of Engineering (Electrical)

BAE 401 Advanced Engineering Mathematics (9 pt)

Subject Objective	This subject provides knowledge of mathematical methods needed for engineering problem solving
Learning outcome	The students develop both their thinking and problem solving skills. Topics covered are: vector, functions of a complex variable; algebra, differential equations, mathematical distribution, and applications of mathematics in engineering calculations.
Credit Point	9
Hours	216 Hrs
Assessment	Assignment/ Final Examination/Online MCQ Test

Contents

An Introduction to theory of complex variables

Complex numbers

Functions

Differentiability

Integration in the complex plane

Integral theorems

Power series

Introduction of rational functions of trigonometric functions.

Continuous distribution

Exponential distribution

Normal distribution

Gamma distribution

Convergence in distribution

F distribution

Discrete distribution

Binomial distribution

Poisson distribution

Elementary linear algebra

Algebra in F^n Example problems

Geometric meaning of vectors

Geometric meaning of vector addition
 Distance between points in \mathbb{R}^n Length of vector
 Geometric meaning of scalar multiplication
 Dot product
 Cross product
 System of equation geometry
 System of equation – Algebraic operation
 Matrice arithmetic
 Determinants –Basic technique & properties

Integration and differential equations

List of integrals
 Introduction to background
 Theorem of integration
 Improper integrals
 Improper integral problems
 Integration of rational functions
 Differential equations
 First order ordinary differential equations
 Homogenous equations
 The general linear equations

Random variables

Simple introduction examples
 Problems
 Frequency and distribution functions in 1 dimension

Mathematical modelling preliminary

Introduction
 Discrete time model

Maths 301 Introduction to Complex Variables

The residue Theorem
 Fourier Transform
 Integral theorem of complex analysis with applications
 to the evaluation of real integral
 Introduction
 Integral theorems – The green Theorem
 Cauchy's integral theorem
 Cauchy's residue theorem

Maths 302 Elementary Linear Algebra

A formula for the inverse
 Cramer's rule
 Example 6.2.3 , 6.2.4 , 6.2.6, 6.2.7
 Rank of a matrix

Example 8.2.9 , 8.2.10, 8.3.3 , 8.3.5, 8.3.6, 8.3.7, 8.3.8

Linear independence and bases

Linear transformation

Constructing the matrix of a linear transformation

Linear programming

Maths 401 Continuous Distribution

χ^2 Distribution

F Distribution

F Distribution & “t” Distribution

Estimation of parameters

Maths 402 Discrete Distribution

Geometric distribution

Pascal distribution

Negative binomial distribution

Hyper geometric distribution

Maths 303 Essential Engineering Mathematics

Vectors and matrices

Functions and limits , Example problems

Calculation of one variable (Part 1) Differentiation,

Calculation of one variable (Part 1) Integration,

Calculus of many variables,

Ordinary differential equations,

Complex function theory

Maths 501 Introduction to probability

Theoretical background

Playing card

Binomial distribution

Lotto Example

Conditional probabilities –Baye’s formula

Maths 501 Linear algebra and matrices

Linear transformation matrices

Definition 2.1.1 to 2.1.3

i, j Entry of product Definition 2.1.8

Rank of matrices

Row operations

Maths 502 Introductory Finite Difference Method for PDE

Partial differential equations. Example problems

Taylor theorem
Iterative solution methods
Jacobi Iteration
Gauss Seidel Iteration
Successive Relaxation method

Maths 601 Random Variables

Theoretical results
Frequencies and distribution (1 dimension)
Function of random variables

BAE 402 Calculus (3 pt)

Subject Objective	This subject provides knowledge of calculus methods needed for engineering applications.
Learning outcome	The students develop both their thinking and problem solving skills. Topics covered are: vector calculus; functions of a complex variable; partial differential equations and boundary value problems; the concepts of quantum mechanics and Schrödinger's equation; and applications of mathematics in engineering calculations.
Credit Point	3
Hours	72
Assessment	Assignment/ Test/ Online MCQ Test

Contents

Calculus 1 a .pdf

Differentiation, Example problems

Integration, Example problems

Simple differential equations, Example problems

Calculus 2 a .pdf

Integration of trigonometric polynomials

Complex decomposition of a fraction between two polynomials

Chain rule

Calculation of the directional derivatives

An overview of integration in the plane and in the space

Line integrals

Surface integral

Green's theorem in the plane

Calculus 2b 1.pdf

The range of functions in several variables

Line integral

Space integral

Line integral

Calculus 3b. pdf

Power series method in solution of problems, Example problems

Calculus 3C 1. pdf

Sequence in general

Calculus 4C 1. pdf

Sum function of Fourier series

Maths 303 Engineering Mathematics

Introduction and background

Integration of rational functions

Integration of trigonometric functions

Differential equations

Maths 403 Second Order Differential Equations

Power series solutions

Bessel equations and Bessel functions

Legendre polynomials

Differential equations

BAE 403 Engineering Mechanics (1 pt)

Subject Objective	This subject builds on and brings together the concepts introduced in the Mathematical and Physical Modelling subjects and in Introduction to Mechanical and Mechatronics Engineering.
Learning outcome	It is intended to provide students with a comprehensive overview of elementary mechanics, and lay the basis for further work in this area in later subjects. In particular, material discussed in this subject is taken further in Machine Dynamics and Mechanics of Solids subjects in subsequent stages.
Credit Point	1
Hours	24 Hr of Lecture+ 48 Hr of Tutorials
Assessment	Assignment/ Test/ Online MCQ Test

Contents

Stress Example
 Stress lectures
 Strain All examples
 Strain lessons
 Mechanical properties of materials
 Mechanical properties of materials
 Axial members
 Axial members
 Torsion of shaft
 Torsion of shaft
 Symmetric bending of beams
 Symmetric bending of beams
 Deflection of symmetric beams
 Deflection of symmetric beams
 Stress transformation
 Stress transformation
 Strain transformation
 Strain transformation
 Design and failure
 Design and failure
 Stability of columns
 Stability of columns
 Newton motion

 One dimensional motion

Simple harmonic motion

Damped oscillation

$$X(t) = A r e^{-\tau t/l} \cos(\omega t - \delta_r)$$

Rotating reference frame equations

Modern Mechanics Part 1

Modern Mechanics Part 2

Modern Mechanics Part 3

Modern Mechanics Part 4

Modern Mechanics Part A

Modern Mechanics Part B

Modern Mechanics Part C

ME 301 Applied Mathematics

Kinematics

Projectiles

Forces

Resistance forces

Resolving forces

Rigid bodies

Centre of gravity

Momentum

Energy

Circular motion

Gravitation and planetary motion

The language of vectors

BAE 404 Engineering Materials & Thermodynamics (3 pt)

Subject Objective	<p><u>Thermodynamics</u></p> <p>The objectives of this subject are to develop a fundamental understanding of applied thermodynamics in an engineering perspective, Strength of materials</p> <p><u>Strength of materials</u></p> <p>This subject draws on, and brings together, the knowledge and skills developed in earlier subjects such as Fundamentals of Mechanical Engineering, Chemistry and Materials Science, and Mechanics of Solids.</p>
Learning outcome	<p><u>Thermodynamics</u></p> <p>Use thermodynamics effectively in the practice of engineering, lay the groundwork for subsequent studies in the fields related to energy systems and increase an awareness and emphasis on energy resources and environmental issues.</p> <p><u>Strength of Materials</u></p> <p>It also prepares students for the more dedicated design subjects to come and exposes them to practical aspects of mechanical engineering design. The objectives are that students should be able to: understand, describe and use the methodology of modelling material properties and behaviour; understand and describe the fundamental differences in the behaviour of different types of materials; understand and describe how and why things fail; realise the importance of material selection in engineering design; predict, or design to avoid, failure given the material, environment and loading conditions; and use analytical skills in stress analysis and knowledge of material properties in mechanical design..</p>
Credit Point	3
Hours	72 Hrs
Assessment	Assignment/ Test/ Online MCQ Test

Contents

Heat Transfer. pdf

- (1) Heat transfer mode Example problems
- (2) Conduction Example problems
- (3) Convection Example problems
- (4) Radiation Example problems
- (5) Heat Exchanger Example problems

Theory of waves in materials.pdf

Materials-Preliminary
 Materials- Basic mechanical properties
 Basic wave phenomena
 Harmonic waves
 Elastic volume and shear waves
 Rayleigh Elastic waves

Engineering Thermodynamics

General definition
 Thermodynamics-Working fluids
 Laws of Thermodynamics
 Worked Example 3.1 to 3.25

ME434 Wind Turbines

Wind Energy

Theory of wind energy

Wind turbine types and components

Wind energy measurement, Wheel encoder Worked

ME634 Pneumatics

Principle of pneumatics
 Linear actuators
 Flow control
 Pneumatics sensors
 Pneumatics symbols

BAE 405 Advanced Circuit Analysis (3 pt)

Subject Objective	In this subject students are assumed to have knowledge of basic devices such as ideal and real voltage and current sources and loads; resistors; capacitors, inductors and coupled coils; diodes and operational amplifiers.
Learning outcome	To have basic circuit analysis skills such as Kirchhoff's current and voltage laws, Thevenin's and Norton's theorems, mesh and nodal analysis, symmetry, circuit transformation and superposition. Using this understanding as a starting point, the subject introduces the basic theoretical models that underpin signals and system analysis
Credit Point	3
Hours	72
Assessment	Assignment/ Test/ Online MCQ Test/ Online Simulated Practical

Contents

DC Circuit Analysis

Circuit Theory

Modulators

Analog, digital signals , electric current, power summary

Circuit analysis, electric potential, electric power, sign convection, electric source, Kirchoffs' law

Circuit elements, characteristics KCL, KVL

Resistor (Series, parallel, wheatstone bridge, Nodal analysis

Nodal analysis, mesh analysis

Superposition theorem, Thevenin's theorem, Norton theorem, Maximum power transfer theorem,

Operational amplifier

Inverting amplifier circuit, Summing amplifier, Differential amplifier

Capacitor, Op-amp integrator, stored energy

Mutual inductance, time constant, transient

Transient response of 1 st order circuit, RL transient analysis, sequential switching

RC/RL Circuit , Propagation, Delay, DRAM

Semi conductor

PN Junction diode

Light emitting diode

MOSFET

Digital signal

CMOS Digital circuit

Combinational logic circuits

Flip flops

Propagation delay in timing diagram

Integrated circuit fabrication

Device isolation methods

Interconnected resistance and capacitance

Transistor scaling
 Integrated circuit design for application in communications
 Small signal amplifiers
 Network noise intermodulation distortion
 CAD for noise analysis
 Sensors & Detectors
 Low noise design methodology
 Oscillators
 Modulators and demodulators
Concepts in Electrical Circuit
 Circuit theorem
 Sinusoids & phasors
 Frequency response

EE303 Engineering Circuit Analysis

Basic circuits

Basic Nodal and Mesh analysis

Linear and Superposition/ Source Transformation

RL/ RC Circuits

RLC Circuits

Sinusoidal steady state analysis

AC Power Circuit Analysis

Polyphase Circuits

Magnetically coupled circuits

Complex Frequency / Laplace Transform

Laplace Transform

Circuit analysis in “ S “ domain

Pole/ Zero constellation

Frequency Response

Two ports network

Fourier Circuit Analysis

Use of symmetry theory

EE404 Electrical Measurement (1 pt)

Measurement of inductance and capacitance

Measurement of resistance

Magnetic measurement

High voltage measurement and testing

Location of cable fault

Measurement of power

Measurement of energy

BAE 406 Electro-mechanics (2 pt)

Subject Objective	The objectives of this subject are to consolidate fundamental knowledge of electric and magnetic fields; electric and magnetic circuits; how electric, magnetic and electromagnetic energy are interchanged;
Learning outcome	To model an electromechanical automation system using DC and AC motors and simulate its performance in open-loop and closed-loop control. Students also acquire skills in working with machines and equipment at normal mains supply voltage, in power instrumentation and control, PLCs and in experimental design and recording. Technical and theoretical content is expected to be acquired by students to the levels of 'know' (essential), 'familiar' (can solve problems if required) and 'aware' (have read/seen). Laboratory skills, ranging from electrical safety, measurements, design validation and experimental verification are an important focus of this subject.
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test/ Online simulated Practical

Contents

Electro-mechanic -1.0.1 Scope of application

1.1 Electro-magnetic theory

1.1.1a Magnetic field system, Table 1.1

1.1.1.b Electric field system Table 1.2

Lumped electro-mechanical elements

Lumped parameter-electro-mechanic

Rotating machines

Lumped parameter-electro mechanical dynamics

EE 502 Electrical Machines

DC Generator, Example problems

DC Motors, Example problems

Efficiency & heating of electrical machines, Example problems

Three phase transformer, Example problems

Three phase induction motors, Example problems

Synchronous generators, Example problems

Synchronous motors, Example problems

Basic of industrial motor control, Example problems

ME 301 Machine Principle

Rotating machines
Machinery mounting
Balancing
Bearing
Power transmission

BAE 407 Advanced Electro-magnetics Field & Materials (1 pt)

Subject Objective	The objectives of this subject are to consolidate fundamental knowledge of electric and magnetic fields; electric and magnetic materials
Learning outcome	To understand how electric, magnetic and electromagnetic energy are interchanged.
Credit Point	1
Hours	24 + Tutorial 2 hr/ week
Assessment	Assignment/ Test/ Online MCQ Test

Contents

Electric field
 Electrostatic potential
 Dipole and quadrature pole movements
 Batteries, resistors, ohm laws
 Capacitors
 Magnetic effect of an electric current
 Force on current in a magnetic field
 Electro-dynamics of moving bodies
 Magnetic potential
 Electro-magnetic Induction
 Dimensions
 Properties of magnetic materials
 Alternating current
 Laplace transform
 Maxwell Equation
 CGS Electricity & Magnetism
 Magnetic dipole movement
 Outlines
 Electric field
 Electrostatic Energy
 Laplace's equation (1)
 Laplace's equation (2)
 Remarks on units
 Green's functions
 Multipole expansion
 Electro-static in matter
 Boundary condition
 Magneto statics (1)
 Magneto statics (2)
 Macroscopic magneto statics
 Maxwell's equation
 DISC movement
 Electro-magnetic plane waves
 Reflection & refraction

Casual relation between D & E
 Wave guides and load cavities
 Electromagnetic radiation and scattering (1)
 Electromagnetic radiation and scattering (2)
 Scattering by small di-electric sphere
 Electro-magnetism
 Electro magnetic fields and moving charges
 Multipole expansion
 Magnetic constants and materials
 Ampere law
 Brief history of electro magnetism
 Gauss's law
 Numerical solutions to Laplace's equation
 Small current loop
 Curvilinear co-ordinate system
 Problems
 Dielectric tensors and constants
 Analytic solution to Laplace equation
 Magnetostatic boundary condition
 Electrostatic boundary condition
 Electromagnetic field
 The gradient vector
 Maxwell's equation

 Electro-magnetic wave propagation
BAE 407 Advanced Electro-magnetic Field & Materials
Electro dynamics
 Introduction to electro statics
 Boundary value problems in electro statics (1)
 Boundary value problems in electro statics (2)
 Multi-poles Macroscopic media –Dielectrics
 Static and stationary magnetic fields
 Maxwell's equations
 Plane wave and wave propogation
 Wave guides and cavities
 Radiation
 The special theory of relativity
 Particles and field dynamics
 Charged particle collisions-Energy loss, Scattering
 Radiation by moving charges

BAE 407 Advanced Electro-magnetic Field& Materials

 EMFT book.pdf
 Summary of electro statics
 Potential
 Electro-magnetics waves
 Classical optics
 Conservation Law

Conservation Law
Conservation Law
Generic wave
Electromagnetic waves in vacuum
Electromagnetic waves in matter
Electromagnetic waves in conductor
Electromagnetic waves propagation
Electromagnetic waves field
Wave guides
Electromagnetic waves radiation
Electro-dynamics
Frequency

EE407 Electro-magnetism

Di-electric materials and capacitance
Transmission Lines
Maxwell's equations and electro-magnetic waves

Electrostatics

Di-electric

Transmission Line

Maxwell Equation

BAE 408 Analogue & Digital Electronics (5 pt)

Subject Objective	<p><u>Analogue</u></p> <p>The main objective of this subject is to familiarise students with basic electronic circuits, mainly with op-amps as active elements, and their applications.</p> <p><u>Digital</u></p> <p>The objectives of this subject are to enable students to master the fundamentals of digital and programmable electronic circuits and their engineering applications; master the hardware architecture of a typical small computer system; and understand the principles of low-level programming and gain an ability to write simple assembly code.</p>
Learning outcome	<p><u>Analogue</u></p> <p>By the end of the subject, students should have acquired reasonable proficiency in the analysis of basic electronic circuits and be able to build and test circuits in the laboratory. Particular emphasis is placed on the practical, hands-on aspect of electronics to provide a solid foundation of working knowledge for basic analog electronic circuits using op-amps. Laboratory work is a significant proportion of in-class delivery so as to make students proficient in circuit construction, testing, troubleshooting and to give them a sound knowledge of the use of test instruments. Another objective is to show that practical electronic applications are relevant to other engineering and technical disciplines and may often be placed within a wider social or commercial context.</p> <p><u>Digital</u></p> <p>Students are introduced to the basics of concurrent and real-time application programming. Topics include digital sequential circuits; state diagram and its application in the design of digital circuits; basic hardware architectures of the digital computer in terms of its building blocks; how hardware integrates with software at the machine level; low-level language programming; internal architecture and design of a typical register-based central processing unit and a main memory subsystem, and their interdependence; concepts of computer system buses, as well as different types of input and output devices; interrupts; input and output; micro-controller theory; and hardware interfacing design techniques.</p>
Credit Point	5
Hours	120
Assessment	Assignment/ Test/ Online MCQ Test/ Online Simulated Practicals

Contents

Semi conductor devices

Digital circuits

Power Electronics Converters

Introduction to Electronic Engineering

Power Electronics & Applied Electronics

Digital System

Digital Signal Processing

Digital Image Processing

Electronics Circuits

Power Electronics Control

Digital System

Number system basics
Introduction to logic gates
Combinational logic
Karnaugh map
Arithmetic circuit
Coders/ Multiplexers
Counters

Digital Signal Processing

Signal system representation
Fourier/ Z Transform
Discrete Fourier Transform
Principle of filter design
FIR filter design

Digital Image Processing

Introduction
Intensity transformation & spatial filtering
Filtering in frequency domain
Discrete Fourier Transform
Butterworth Low Pass Filter
Butterworth High Pass Filter
Image restoration / Noise analysis

Digital Image Processing

Introduction
Intensity transformation & spatial filtering
Filtering in frequency domain
Discrete Fourier Transform
Butterworth Low Pass Filter
Butterworth High Pass Filter
Image restoration / Noise analysis

BAE 501 Advanced Power Systems & Power Transmission Networks (3pt)

Subject Objective	The subject introduces the basic methods used in the analysis and design of electric power networks.
Learning outcome	Its purpose is to give students a working knowledge of modern power system theory and practice. Techniques introduced in earlier circuit analysis subjects are further developed and applied to power system problems.
Credit Point	3
Hours	72
Assessment	Assignment/ Test/ Online MCQ Test/Online simulated practicals

Contents

Principle of Power System

Source of energy
 Steam power station
 Hydro power station
 Diesel power station
 Nuclear power station
 Gas turbine power station
 Variable load on power station
 Interconnected grid system
 Economic of power generation
 Importance of high load factor
 Tariffs
 PF improvement
 Supply system
 Mechanical design of OH line
 Corona
 Sag
 Electrical design of OH line
 Performance of transmission line
 Line generalised constants
 UG cable
 Capacitance in 3 core cable
 Distribution system
 DC Distribution
 DC System
 AC Distribution
 Voltage control
 Introduction to switch gear
 Circuit breaker
 Fuse
 Relays

Protection transformers
Substation

Advanced Power System –Power Transmission Network

Consequence of power quality
Power quality & applications
Power quality analysis
Power quality monitoring
Management, control and automation of power quality
improvement

Electrical generation and distribution system and power quality disturbances

Integration of hybrid distribution units in power grid
Optimal location and control of multi hybrid model based wind shunt facts to enhance
power quality
Power quality and voltage sags indices in electrical power systems.

Power Transmission Line

AASR Conductors
ARC Fault
Circuit breaker rating
Current transformer
Electrical bushing
Electrical fuse
Induction motor model
IP rating
Load factor
Load redundancy
Over current protection
Partial discharge
Per unit system
Phase conversion
Resonance
RL Switching
Sequence network
Short circuit calculation
Symmetrical component
Transformer impedance

Power Transmission Line 2

AC Power Transmission
Insulation Resistance test
Dry type transformer
Electrical software

Insulation resistance test

Electrical Power Generation System

Designing for high temperature and pressure

Turbine components

Burning of fuel

Facts about fuel

Burning gas and oil

Selecting fuel

Water treatment

Heat exchanger

Computer control

System economics

Power System

Transmission & distribution system

Control of power and frequency

Control of voltage and reactive power

Load flow

Faults

System stability

Over voltage and insulation requirement

Substations and protection

Electrical Power

Power line

Neutral earthing

Switch gear

Instrument

Protection

Power system

Generator response to system faults

Calculation of fault current

Symmetrical components

Commissioning electrical plant

Power System Technology

Power system fundamental

Modern power system

Power control devices

Operational control system

Power conversion

Specialised testing & measurement devices

Generation , Transmission and Distribution of Electric Power

Voltage transient and line surge
Transmission of electrical energy
Corona
UG Cable
Voltage drop in distribution
Regulation
Line and machine chart
Voltage regulation stability
Fault calculation in line

Electrical Power Distribution in Industry & Transmission (Electrical Distribution Engineering)

Planning & design
Electrical design
Mechanical design (Over head)
Mechanical design (Under ground)
Metering
Conductor inductance & capacitance

Power Transmission and Practical Power Distribution

Electric power system
Percentage and per unit quantities
Circuit constants
Assemblies of power system components
Power circuit stability

BAE 502 Linear System (1 pt)

Subject Objective	This subject presents the theoretical basis for system analysis and gives students skills in using the techniques to design components of linear control systems..
Learning outcome	<p>To do the design and implementation of part of a control/communication system</p> <p>To apply their knowledge to a real-life problem. Topics include signal types and their representation in the time and frequency domains; modelling systems with differential or difference equations and transforms of the equations; signal operations and processing; the relationship between discrete and continuous quantities and the mathematical techniques applicable to each; the effects of feedback; time and frequency domain performance of systems; system stability; and control design techniques and simple communication systems. Through learning activities students also gain study skills, including academic literacy skills, and an appreciation of the different fields of practice of engineering and the interdisciplinary nature of engineering.</p>
Credit Point	1
Hours	24
Assessment	Assignment/ Test/ Online MCQ Test

Contents

Controllability of linear control system
 Finite dimensional linear control system
 Linear partial differential equations
 Introduction to intelligent control system with high degrees of autonomy
 Overview of field

Control system

System identification
 Digital and analog
 System metrics
 System modelling
 Classical control
 Transform
 Transfer functions
 Sampled data system
 System delays
 Poles and zeros
 Modern control
 State space equation
 Linear system solution

BAE 503 Control System (4 pt)

Subject Objective	The objective of this subject is to enable students to model with validation control systems and to analyse, design and implement both analog and digital controllers so that the controlled systems conform with given specifications
Learning outcome	<p>Emphasis is placed on laboratory work, the theoretical content of the subject being only that required to produce successful designs.</p> <p>To work on reduced scale models of actual industrial processes. The equipment is based upon experience gained with authentic control applications and is suitably modified for student use.</p> <p>To follow the usual sequence adopted in industry, i start with the calibration of transducers and actuators leading on to dynamic response testing, physical modelling, model verification and finally to controller design, implementation and testing.</p>
Credit Point	4
Hours	96
Assessment	Assignment/ Test/ Online MCQ Test/ Programmable Control Program software applications
	<p>Topics include linear and nonlinear modelling of control systems using Newton's rules, analogous networks or Lagrangian techniques; linearisation and development of linear, time-invariant transfer functions; development of lead-lag compensators or PID controllers using classical control design techniques such as root locus, Bode gain and phase diagrams, Nyquist plots and Nichols chart; development of state-variable equations from differential equations; development of state-variable feedback controllers and state observers; open-loop pulse transfer functions and discrete-time state models; discretisation using backward difference, bilinear, step-invariance or pole-zero mapping; development of digital PID controllers, deadbeat controllers and discrete-time state-variable feedback controllers; describing functions and limit cycles for nonlinear control systems; and the development of linear controllers for nonlinear systems using describing function techniques.</p>

Contents

Gain
 Block diagram
 Feedback control loop
 Bode plot
 Nichol chart
Stability
 Stability
 Routh Hurwitz Criterion, Root Locus

Nyquist Criterion
 State Space Stability
Controllers & Compensators
 Controllability & Observability
 System Specifications
 Controllers, Compensators
 Z - Transform

Non Linear Control Applications

Application of input/ output linearization
 Non linear control for 2 stages PF correction converter
 Non linear observer based control allocation

Control Engineering MATLAB

Transfer functions and their responses
 Frequency response/ Plotting
 Closed loop control
 Controller design

Feedback and Control System

Introduction to linearized dynamic model
 Transfer function model of physical systems
 Transient performance / S- Plane
 Feedback system modelling / Performance
 Dynamic compensation of feedback system

PID Control

Application of PID controllers in motor drive system

Applications of Non Linear Control

Introduction
 Phase plane method

Process Control

Analog Signal Conditioning
 Digital Signal Conditioning
 Final Control
 Discrete State Control
 Controller Principle

Analog Controller
Digital Controller
Control Loop Characteristics

Numerical Control

Introduction to numerical control machinery
Numerical control system
Programming co-ordinates
Two axis programming
Three axis programming
Maths for numerical control programming

BAE 504 Power System Analysis (1 pt)

Subject Objective	The primary objective of this subject is the development of a working knowledge of power systems analysis and design.
Learning outcome	Emphasis is placed on the derivation of equivalent circuits, mathematical models of devices and the system, and on methods of analysis and measurement. Material covered includes electricity supply chain building blocks, system analysis, real/reactive power and load flow analysis, dynamic and transient stability.
Credit Point	1
Hours	24
Assessment	Assignment/ Test/ Online MCQ Test

Contents

Overview
 Real & Reactive power injected bus
 Classification of buses
 Classification of buses
 Preparation of data for load flow
 Load flow by Gauss Seidel method
 Updating load bus voltage
 Updating PV bus voltage
 Convergence of the algorithm
 Solution of a set of non linear equation by Newton Raphson method
 Load flow by Newton Raphson method
 Load flow algorithm
 Formation of Jacobian matrix
 Formation of Jacobian matrix
 Solution of Newton Raphson load flow
 Load flow results
 Load flow results
 Load flow programs in MATHLAB
 Forming Y bus matrix
 Gauss Seidel Load Flow
 Solving non linear equation using Newton Raphson method
 Newton Raphson load flow

Power System Analysis

Transformer
 Transmission line model
 Gauss Seidel Algorithm
 Newton Raphson Iteration
 DC Power Flow Algorithm
 Modelling
 Transient Stability

Power System Analysis

Power Apps Transient Stability validation document for single pole open/ close simulation (Power flow analysis + FAULT ANALYSIS + Power system dynamics and Stability)

Static Analysis
Introduction
Network model
Active & reactive power flow
Nodal formation of power flow problem
Basic power flow problem
Solution of power flow problems
Fault analysis
Power system dynamics and stability
Synchronous machine model
The swing equation
Power swing in simple system
Oscillation in multi machine system
Voltage stability
Control of reactive power voltage

BAE 505 Power System Optimization (1 pt)

Subject Objective	The primary objective of this subject is the development of a working knowledge of optimal power systems operation.
Learning outcome	The subject aims to provide students with a knowledge and understanding of elements of the supply chain and how they function in the National Electricity Market; demand-side management options including smart meters; load forecasting and optimal load scheduling for secure energy supply and use; protection schemes for transmission and distribution networks; communications in power systems, including communication media, architectures, automation, standards, protocols and security; and basic design, connection and standards of current and voltage instrument transformers for protection and metering applications.
Credit Point	1
Hours	24
Assessment	Assignment/ Test/ Online MCQ Test

Contents

Introduction
 Power Flow Analysis
 Classic Economic Dispatch
 Linear programming method
 Mathematical model of economic dispatch
 Linear programming model
 Optimization of power system performance using facts devices
 Optimization of dynamical system

Matrix Eigen Value Method

BAE 506 Power System Stability & Protection (2 pt)

Subject Objective	The primary objective of this subject is the development of a working knowledge of power systems operation and protection. The subject aims to provide students with a knowledge and
Learning outcome	To provide the understanding of elements of the supply chain and how they function in transmission and distribution networks; communications in power systems, basic design, connection and standards of current and voltage instrument transformers for protection and metering applications.
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test/ Simulated Online Practical

Contents

Transient in RL circuit
 Symmetrical fault
 Transient in RL circuit
 DC Source
 AC Source
 Faults in AC Circuit
 Short circuit in unloaded synchronous generator
 Symmetrical faults in power system
 Calculation of fault current using Z bus matrix
 Circuit breaker selection
 Symmetrical components & representation of faulted network
 Overview
 Overview
 Real & reactive power
 Real & reactive power
 Orthogonal Transformation
 Sequence circuit for star load
 Sequence circuit for delta load
 Sequence circuit for synchronous generator
 Sequence circuit for symmetrical transmission line
 Sequence circuit for transformer
 Star/ Star Connected Transformer
 Delta/Delta Connected Transformer
 Star/ Delta Connected Transformer
 Sequence Network
 Un- symmetrical Faults
 Introduction
 Single line to ground fault
 Line to line fault
 Two lines to ground fault
 Fault current computation using sequence network

Transient Stability

Introduction

Power angle relationship

Swing equation

Equal area criterion

Equal area criterion

Multi machine stability

Oscillation in “ S “ Two areas System

Compensation of power transmission

Introduction

Ideal shunt compensator

Improving voltage profile

Improving power angle characteristics

Improving stability margin

Improving damping power oscillations

Ideal series compensator

Impact of series compensator for voltage profile

Improving power angle characteristics

Improving power angle characteristics

Alternate mode to voltage injection

Alternate mode to voltage injection

Comparison of two modes of operation

Power flow control and power swing damping

Power System Protection

Different types of relays and settings

- Technical feasibility of various options
- Cost of options
- Type of transmission AC/DC
- Number of circuits
- Conductor type
- Transmission loss
- Reactive power support requirements
- Reliability
- Quality of power supply
- Stability aspects of the interconnected system
- Operational planning
- Short circuit levels and breaker requirements
- over voltages and control
- Insulation coordination at substations
- Substation arrangements at the end of line, including switching arrangements.

- Insulation requirements.
- Protection, monitoring, control and automation requirements
- Study of harmonics where needed [as in case of HVDC or when a terminating station is close to sources of harmonics]
- Basic and Detailed engineering related to transmission towers, routes, substations

Philosophy of protective relaying

Fundamental of relaying

Current/ voltage/directional/ differential relay

Distance relaying

Pilot wire relay

Carrier current relay

Voltage transformer

Relay response

Generator protection

Transformer protection

Busbar protection

Line protection

Line protection with distance relay

Line protection with pilot relay

Power system stability

Power system stability Guidelines

Power system stability guidelines for determination and report

Direct stability analysis of electric power system using energy functions

Power system stability –New opportunity for control

Typical power quality and harmonic measurement plots

Robust power system stabilizer design using particle swarm optimisation techniques

Harmonic analysis

Power Quality

Power quality

Electrical protection for power system

Substation automation

Introduction to power quality

Harmonic model of transformer

Substation automation

Modelling analysis of synchronous machines

Life time reduction

Power system modelling under non sinusoidal condition

Impact of power quality on reliability

Role of filters in power system

BAE 507 Electro-mechanical Energy Conversion (2 pt)

Subject Objective	The objectives of this subject are to enable students to: acquire an understanding of the nature of power semiconductor devices and their control and use in switch-mode;
Learning outcome	To understand the arrangement and topology of the circuits in which switch-mode devices are used; appreciate the use of power electronic circuits in high-power applications such as motor drives; be aware of the electromagnetic interference problems associated with power electronic systems; use commercial software for the rigorous circuit analysis of real power electronic systems; analysis and design circuits to meet specific specifications; and fabricate basic power electronic circuits such as a chopper.
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test/ Simulated online practical

Contents

Basic semiconductor physics
 PN Junction semiconductor
 Power switching devices
 Electrical rating of switching devices
 Cooling
 Load/ switch communication
 Driving semiconductor & thyristor
 Protecting diode / Thyristor/ Transistors
 Switching circuit energy recovery
 Series , parallel devices operation protection
 Naturally commutating converter
 AC Voltage Regulator
 DC choppers
 Power inverters
 Switched mode & resonant DC-DC power supplies
 Capacitors
 Soft magnetic materials
 Resistors

Motor Control Electronics

AC Induction motor control
 Motor control MCU
 Networking for motor control system
 DC motor control design
 Motor control electronic devices
 Power semi conductors

Mechatronics/ Robotics

Robotics Application
Robotic Gears
Interfacing
Robotic Sensors
Communication

BAE 508 Industrial Engineering & Industrial Management (1 pt)

Subject Objective	To work effectively in industry as middle level managers
Learning outcome	To acquire the introductory skills in business information system, engineering management, supervision, quality control, manufacturing management , human resources management, budgeting, operation and managerial decision making.
Credit Point	1
Hours	24
Assessment	Assignment/ Test/ Online MCQ Test

Contents

Effective management decision making

Introduction

Business Information System

Defining Information System

Acquiring Information System

Developing Information System

Managing Human Resources in 21 Century

Human resources Management

Management Basics

The Manager's Job

Planning in Organization

Operation Management

Operation Strategy

Work System Design

Project Management

Inventory Management

Quality Management

Leadership in Quality Management

Strategic Quality Management

Implementing Quality Management

Strategic Financial Management

Finance An Overview

Capital Budgeting

Equity Valuation & Cost of Capital

Strategic Management

The Basic of Strategy

The Levels of formulation of strategy

External analysis

Internal analysis

Strategy implementation

Understanding organization part 1

Organization structure

Organization culture

Managing behaviour

Effective leadership

Part (2) Competency Units

Mgt 501 Basic Management & Communication Skills (1 pt)

Textbook – Mgt 501 Management Basics

Chapter (1) Management basics

Chapter (3) Planning

Chapter (5) Organizing

Chapter (6) Organizing the organization

Chapter (7) Leading

Textbook—Mgt501 Management Briefs

Chapter (2) Leadership

Chapter (5) Motivation

BAE 601 Computer Programming (3 pt)

Subject Objective	This subject provides basic skills in Java/ C/C++/C# programming and software design,
Learning outcome	<p>To acquire the skill practice in object-oriented (OO) programming concepts, data flow, control flow, arrays, and the basics of sorting and searching algorithms.</p> <p>To illustrate a design process using a set of design notations and design rules, and shows how to develop a correct, readable and reusable solution from a problem specification.</p>
Credit Point	3
Hours	72
Assessment	Assignment/ Test/ Online MCQ Test/ Programming software application

Contents

Part (1) Overview Knowledge of the subject

Select any of the following textbooks

- C Programming
- C++ Programming
- C# Programming
- Object Oriented Programming
- C Programming in Linux

IT 401 Object Oriented Programming (1 pt)

IT 402 Structured Programming (1 pt)

IT 403 Visual Basic Programming (1 pt)

BAE 602 Computer Network (1 pt)

Subject Objective	The objectives of this subject are to introduce students to the basic concepts and terminology used in telecommunication networks and a system-level view of network operation.
Learning outcome	To understand the evolution of telecommunication networks; services and applications (voice, video, data, location-based services, multimedia, gaming, etc.); network protocols (TCP/IP, OSI); transmission and switching basics; transmission media; access networks; PSTN; internet (dial up, broadband, ISP); network security; mobile networks (2G, 2.5G, 3G, 4G); data networks (LANs, wireless LANs, WANs, SANs, PANs, enterprise networks); VoIP networks; and convergence in telecommunication networks, next generation networks (NGN) and digital identity in networks.
Credit Point	1
Hours	24
Assessment	Assignment/ Test/ Online MCQ Test

Contents

Computer Network
 Peer to peer networking
 Client server networking
 Network hardware
 Network cable
 Hub
 Wired network
 Wireless network card
 Firewall
 Wiring the network
 Wiring the network
 Running the network program
 Viewing network connection
 Network set up on additional computers
 Viewing network connection

Introduction
 Network model
 Data and signals
 Data and signals
 Data rate limit
 Performance
 Digital transmission
 Digital transmission
 Analog transmission
 Analog transmission

Bandwidth utilization/ Multiplexing/
Spreading
Bandwidth utilization/ Multiplexing/
Spreading
Transmission media
Error detection & correction
Error detection and correction
Defining needs
Area covered
Organization information requirement
System VS Procedure
Types of systems
What are the systems?
Infrastructure
Support system
Data mart
Organizational structure
Planning for system development
System design
Security of information system
Risk management

BAE 603 Software Engineering (2 pt)

Subject Objective	This subject introduces students to the fundamentals of contemporary software engineering.
Learning outcome	<p>To overview of the agile and non-agile software engineering principles, methods, tools and techniques is presented. Current trends and challenges in the practice of software engineering are explored.</p> <p>To apply contemporary agile requirements analysis, planning, architecture, design, implementation and testing practices to software engineering project work in small teams.</p>
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test/ Software Design Practice

Contents

Introduction
 Software process
 Feasibility study
 Project management
 Documentation, Requirement analysis
 Requirement specification
 Business/ Legal aspect
 Source code management
 Formal specification
 Object oriented design 1
 Object oriented design 2
 Object oriented design 3
 System Architecture 1
 System Architecture 2
 System Architecture 3
 Design for utility
 Performance of computer system
 Coding standard/ Tools for designing 1
 Dependable system 1 Reliability
 Dependable system 2 Validation
 Law aspect
 Risks in software engineering
 Software engineering as engineering

Nano Technology

What is Nano technology?
 Motivation for Nano technology
 Scaling laws
 Nano technology

BAE 604 Telecommunication Engineering (2 pt)

Subject Objective	On completion of this subject, students have learned the skills to systematically analyse network operations and performance, and also have the ability to appreciate approaches in designing communication and computer networks.
Learning outcome	To understand the communication architecture. To provide the necessary background in understanding operations of TCP/IP, the mostly widely implemented protocol stack in computer networks, on a layer-by-layer basis.
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents

Communication fundamental
 Information & bandwidth
 Amplitude modulation transmission
 Amplitude modulation reception
 Single side banded communication
 Frequency modulation –Transmission
 Frequency modulation –Reception
 Communication Techniques
 Communication Receivers
 Pulse Modulation
 Code transmission
 ISDN
 Transmission lines
 Wave propagation
 Antenna
 Fibre optics

Data Communication

Overview of data communication
 Data terminals
 Message and transmission channels
 Asynchronous modems and interfaces
 Synchronous modem and digital transmission
 Protocol and error control

Electronics Telecommunication

RF Transmission
 Transmission Lines & Antennas, Video signals

BAE 605 Engineering Management (5 pt)

Subject Objective	To work effectively in industry as middle level managers
Learning outcome	To acquire the advanced skills in business information system, engineering management, supervision, quality control, manufacturing management , human resources management, budgeting, operation and managerial decision making.
Credit Point	5
Hours	120
Assessment	Assignment/ Test/ Online MCQ Test+ Submission of engineering design project (Minor thesis)

Part (1) Overview Knowledge of the subject

Completion of BAE 508 Overview also completes BAE 605 Overview

Part (2) Competency Units

Mgt 502 Operation Management (1 pt)

Mgt 503 Production & Operation Management (1 pt)

Mgt 504 Project Management (1 pt)

Mgt 505 Quality Management and Manufacturing Engineering (1 pt)

Mgt 506 Strategic Financial Management (1 pt)

Mgt 502 Operation Management (1 pt)

Product design and process selection

Total quality management

JIT & Lean System

Capacity planning

Mgt 503 Production & Operation Management (1 pt)

Planning production

Managing inventories-Material requirement planning

Manufacturing

Dealing with technology and design

Operation strategy

Mgt 504 Project Management (1 pt)

Project management

Project organization

Project plan

Progress& performance measurement

Risk management

Documentation/ Audit/ Closure

Mgt 505 Quality Management and Manufacturing Engineering (1 pt)

Background

Why quality management

Standards and models

Progress& performance measurement

Strategic quality management

Documentation/ Audit/ Closure

Mgt 506 Strategic Financial Management (1 pt)

Capital budgeting

Treatment of uncertainty

Debt valuation and cost of capital

Capital gathering & cost of capital

BAE 606 Building Service Electrical & Mechanical Engineering

(2 pt)

Subject Objective	To work effectively in M & E Engineer in building construction & building service industry
Learning outcome	To understand the methods of building construction To understand aircondition & refrigeration systems. To design the water supply system for building To design fire protection, building automation systems
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test/ Building service design project.

Contents

Building Construction 1

Making building
 Foundations
 Wood
 Interior finish for wood light frame construction
 Wall types
 Concrete construction

Air-conditioning & Refrigeration

Controlling the temperature of mass
 Electric heat
 Humidification
 Air-conditioning –Cooling / Comfort
 Air-distribution & Balance
 Reference Tables

Sanitation & Water Supply

Design of onsite sanitation system
 Hydraulic design of sewers

Building Electrical & Mechanical System Part 1

Climate comfort and design strategies
 Thermal control

Designing for heating cooling
Large building HVAC system
Water and basic design
Water supply
Water and waste
Fire protection
Fire protection
Illumination
Lighting design
Signal system

Airconditioning and Refrigeration

Theory of heat
Solar heat
Humidification
Air-conditioning-Cooling
Air-distribution & Balance
Air-conditioning Calculation worksheets

BAE 607 Radio Wave Propagation & Microwave Techniques (2 pt)

Subject Objective	This subject presents the theoretical basis for system analysis and gives students skills in using the techniques to design components of communication systems.
Learning outcome	io understand radio & microwave signal types and their representation in the time and frequency domains; modelling systems with differential or difference equations and transforms of the equations; design of antenna, propagation principle
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents

Radio Wave Propagation

Introduction to radio wave propagation
 Propagation features/ Overviews
 Electromagnetic waves, Prpagation through atmosphere
 Antenna
 Radio wave propagation fundamentals
 Antennas and propagation
 Mobile radio propagation
 Propagation
 Wave propagation
 Radio navigation
 Wireless communication

Microwave Technique

Microwave antenna and radio wave propagation
 Distributed element circuit analysis techniques
 Matching networks
 Couplers, combiners, dividers
 Mixers
 Gain and stability
 Noise
 Electromagnetism and RF Propagation
 Antenna Fundamental
 Communication system
 RF Safety

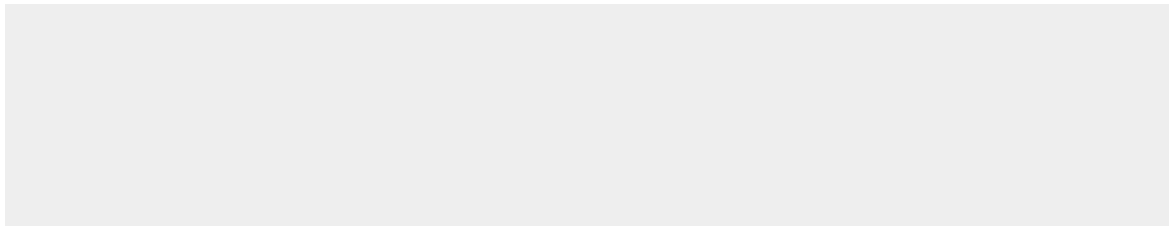
 Rain attenuation of microwave and milli-meter wave signals

 Design of microwave filters (Vol 1)

Mechanically & magnetically tunable microwave filters
Design of microwave filters (Vol 1)
General applications of filter structure in microwave engineering
Properties of some common microwave filter elements

BAE 608 Professional Engineer Competency Demonstration Report

- The students will have to write Engineering Competency Demonstration Report based on their academic study and work experiences gained after completion of academic study.
- Competency Demonstration Report is voluntarily to be submitted. It prepares the students to have the necessary skills to gain the membership of Engineers Australia later.
- The outlines of Competency Demonstration Report will be provided to the students after completion of the last course work subject.



Bachelor of Engineering (Civil)

Year (3) Part 1 ADVANCED GENERAL CIVIL ENGINEERING DEGREE LEVEL

Subjects
<u>BAE 401 Advanced Engineering Mathematics</u>
<u>BAE 402 Calculus</u>
<u>BAE 403 Engineering Mechanics</u>
<u>BAE 404 Engineering Materials & Thermodynamics</u>
<u>BAE 508 Industrial Engineering & Industrial Management</u>
<u>Renewable Energy Subjects</u> View http://www.highlightcomputer.com/BEElectricalNew.pdf for the Professional Diploma in Engineering Combined with Renewable Energy Subjects View http://www.highlightcomputer.com/re.pdf for detailed contents
<u>BAE 401 Advanced Engineering Mathematics---</u> Please see under Bachelor of Engineering (Electrical) Program
<u>BAE 402 Calculus</u> Please see under Bachelor of Engineering (Electrical) Program
<u>BAE 403 Engineering Mechanics</u> Please see under Bachelor of Engineering (Electrical) Program
<u>BAE 404 Engineering Materials & Thermodynamics</u> Please see under Bachelor of Engineering (Electrical) Program
<u>BAE 508 Industrial Engineering & Industrial Management</u> Please see under Bachelor of Engineering (Electrical) Program

BAE421 Building Construction Engineering

Subject Objective	<p>To understand the methods of design, construct, maintain, inspect and manage private and public work projects</p> <p>To understand the effects of environments on the properties and performance of construction materials</p>
Learning outcome	<p>To have a basic understanding of construction materials, in relation to their production, properties, testing and application. The main objectives of this subject are to help students acquire fundamental knowledge of the production, physical and engineering properties of construction materials;</p> <p>To understand the construction techniques, methods, schedules & application of construction materials in building construction.</p> <p>To be familiarize with rules, regulations and industrial standards related to building construction.</p>
Credit Point	4
Hours	96
Assessment	Assignment/ Test/ Online MCQ Test/ Building Design Practice Online simulation

Contents

- Basic skills
- Isometric drawing
- Retaining walls & Post footings
- Stair
- Doors & Windows
- Trusses
- Buildings
- Collar truss
- Howe truss

- Timber
- Steel
- Brick masonry
- Timber
- Brick-nogging
- Steel
- Reinforced concrete
- Floor plans
- Foundation plan
- Cross section
- Front elevation
- Back elevation
- Left side elevation
- Right elevation
- Culverts
- Bridges
- Buildings
- Pipe culvert
- Box culvert
- Slab culvert
- Deck and girder bridge
- Half top plan of culvert
- Half bottom plan of culvert
- Cross section of culvert
- Longitudinal section of culvert

- Elevation of culvert
- Mix Design
- Permissible water cement ratio

BAE422 Estimating (2 pt)

Subject Objective	To understand the methods of costing, material requirement planning in building construction
Learning outcome	To perform the costing, estimating, rate analysis, to interpret the construction drawings & determine the bills and quantities of construction materials.
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents

- Preliminary estimates
- Detailed estimating
 - Culverts
 - Bridges
 - Buildings
 - Roads
- Analysis of rates
- Detailed Estimating
- Buildings
- Up to plinth level
- Above plinth level
- Culverts
- Bridges
- Roads
- Earthworks

- Analysis of Rates
- Total workdone
- Material and labour requirements
- Estimated cost
- Actual PAE or CCE or RFT
- Complete items
- Quantity
- Measurements
- Content calculation
- Rates
- Buildings
- Above plinth level
- Culverts
- Analysis of rates

BAE423 Fluid Mechanics (2 pt)

Subject Objective	This subject aims to enable students to: understand key concepts and fundamental principles, together with the assumptions made in their development, pertaining to fluid behaviour, both in static and flowing conditions; deal effectively with practical engineering situations, including the analysis and design of engineering systems and devices involving fluids and flow; appreciate possible applications and links to other disciplines; and engage in further specialised study or research..
Learning outcome	The subject also aims to enhance interests in fluid phenomena and applications. Topics include: fluid properties and statics; conservation laws of mass, momentum and energy; flow in pipes; external flow (lift and drag); boundary layers; flow measurements; and environmental fluid mechanics
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents

- *Methods of Application of water*
- *Water Logging, Drainage, land reclamation and irrigation management*
- *Theoretical Concepts of Boundary Layer, Surface Roughness, Velocity Distribution*
- *Gradually varied flow*
- **Scale Model in Hydraulic Engineering**
- Surface irrigation methods
- Subsurface irrigation methods
- Sprinkler irrigation
- Drip or trickle irrigation
- Flooding Methods
- *Wild or uncontrolled Flooding*
- *Controlled Flooding*
- *Flooding from field channels*
- *Border strip methods*

- *Check method*
- *Basin method*
- *Zig-zag method*
- Furrow Method
- Contour Farming

BAE424 Reinforced Concrete (2 pt)

Subject Objective	To have knowledge of structural design, including the behaviour and design of reinforced concrete (RC) and, to a lesser extent, of prestressed concrete (PSC) elements as parts of overall structures.
Learning outcome	This subject builds on the knowledge of statics, solid mechanics and structural analysis of indeterminate structures that the students have learnt in the previous structural strand subjects. Students learn about the behaviour and design of RC beams, slabs and columns and PSC beams, for both serviceability and strength. Initially, the students are introduced to the Limit State Design philosophy of Australian Standards for structural design and to the material properties of concrete, reinforcement and prestressing steel used for design. RC topics include uncracked section analysis of beams, cracked section analysis of beams (linear-elastic, Desayi-Krishnan, ultimate) for strength and design for strength to AS3600, serviceability design of beams, ductility of singly and doubly reinforced sections, design for shear, T-beams, approximate analysis and design of one-way, two-way slabs and flat slabs/plates, columns (interaction diagrams and slenderness effects), pad footings, cantilever retaining walls and reinforcement detailing. PSC beam topics include history, uncracked section analysis, equivalent loads, load-balancing, cracked section analysis (linear-elastic and ultimate), design for bending, shear, transfer, anchorage.
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents

- Design of Concrete Structures
- FUNDAMENTALS OF FLEXURAL BOND
- Source of bond strength
- Bond Stress Based on Simple Cracked Section Analysis
- Actual Distribution of Flexural Bond Stress
- Development Length
- Factors influencing Development Length
- ACI CODE PROVISION FOR DEVELOPMENT OF TENSION REINFORCEMENT
- ANCHORAGE OF TENSION BARS BY HOOKS
- Development Length and Modification Factors for Hooked Bars

- ANCHORAGE REQUIREMENTS FOR WEB REINFORCEMENT
- Special Requirements near the Point of Zero Moment
- Structural Integrity Provisions

BAE425+525 Timber Engineering (2 pt)

Subject Objective	To have knowledge of structural design, including the behaviour and design of timber structures in construction engineering.
Learning outcome	This subject builds on the knowledge of statics, solid mechanics and structural analysis of indeterminate structures that the students have learnt in the previous structural strand subjects. Students learn about the behaviour and design of timber beams, slabs and columns for both serviceability and strength. Initially, the students are introduced to the Limit State Design philosophy of Australian Standards for structural design and to the material properties of timber and seasoning the timbers used for design.
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents

- Bending Stress and Deflection of Wood Joists
- Shearing Stress Caused by Stationary Concentrated Load
- Shearing Stress Caused by Moving Concentrated Load
- Strength of Deep Wooden Beams
- Design of a Wood-Plywood Beam
- Determining the Capacity of a Solid Column
- Design of a Solid Wooden Column
- Investigation of a Spaced Column
- Compression on an Oblique Plane
- Design of a Notched Joint
- Allowable Lateral Load on Nails
- Capacity of Lag Screws

- Design of a Bolted splice
- Investigation of a Timber-Connector Joint

BAE521 Road & Bridge (2 pt)

Subject Objective	To have knowledge of structural design, including the behaviour and design of road & bridge structures in construction engineering.
Learning outcome	<p>This subject builds on the knowledge of statics, solid mechanics and structural analysis of indeterminate structures that the students have learnt in the previous structural strand subjects.</p> <p>Students learn about the behaviour and design of road, bridge, slabs and columns in bridge for both serviceability and strength. Initially, the students are introduced to the Limit State Design philosophy of Australian Standards for structural design and to the material properties of road & bridge construction</p>
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents

- Hydraulic Design of Bridge
- The establishment of afflux levels
- Back water levels
- Long Contraction
- Yarnell's empirical equation
- The limiting values of σ
- Skewed bridges
- Discharge computation
- Scour depth under the bridge
- Scour around bridge piers
- Scour protection works around bridge piers
- Road bridge

BAE522 Rock Mechanics (2 pt)

+

BAE523 Soil Mechanics (2 pt)

Subject Objective	The aim of this subject is to develop students' technical competence in the analysis of soil masses and of structures associated with the soil. The analysis of footings, retaining walls and soil slopes are examples.
Learning outcome	By completing this subject, students should be able to understand the concept of failure in soil and apply it to the analysis of soil masses; critically appraise a problem in order to decide which particular analysis should be used; identify the limitations of their analyses and carry out appropriate solution validation; be responsible for the analysis component of a design team; study the relevant literature and learn to apply new or more complex methods of analysis; and carry out fieldwork in association with subsurface investigations. Topics include introduction to geotechnical design – criteria, codes, engineering judgment; site investigation – planning, fieldwork, techniques; shallow foundations – types, bearing capacity theories, retaining structures; earth pressure theories – Rankine and Coulomb, analysis of gravity walls, cantilever walls, braced excavations; deep foundations – types, load-carrying capacity, settlement, group behaviour, lateral loading; slope stability – failure mechanisms, infinite slopes, rotational failure, remedial measures; and soil improvement – compaction, soil stabilisation, dewatering, preloading.
Credit Point	4
Hours	96
Assessment	Assignment/ Test/ Online MCQ Test/ Design Project

Contents

- Soil
- Soil Mechanics
- Geotechnical Engineering

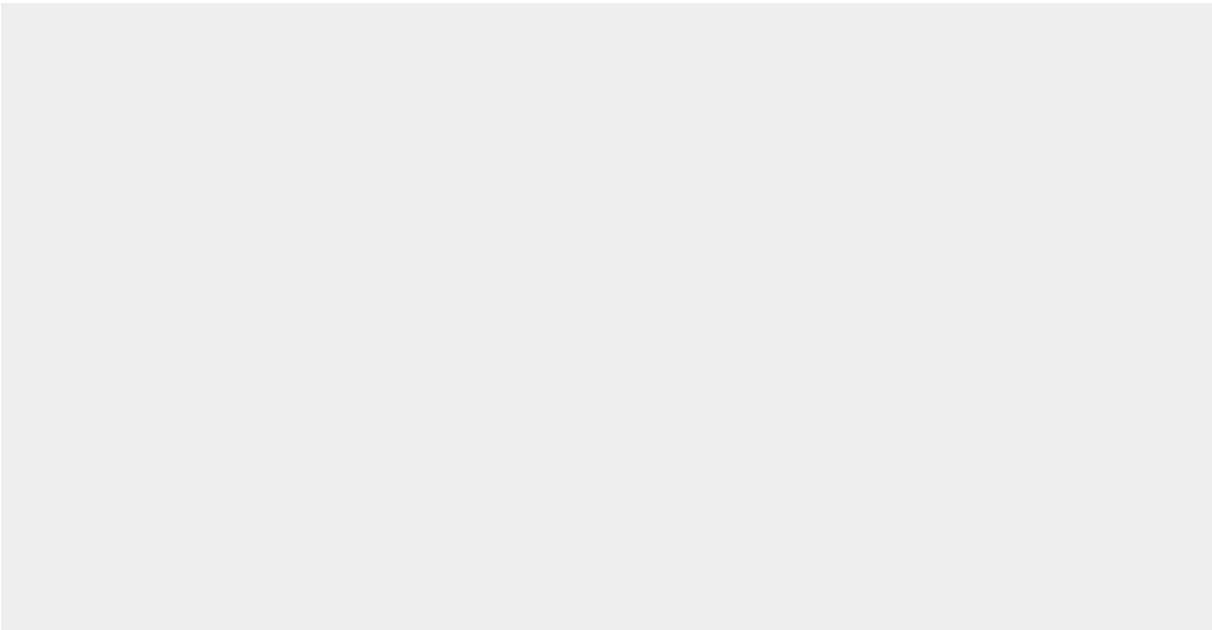
- Subsoil Exploration
- Testing (In-situ Tests & Laboratory Tests)
- SPT, CPT, Vane Shear Test
- Moisture content
- Index Properties Tests (LL, PL, SL)
- Grain Size Distribution Test (Sieve Analysis& Hydrometer)
- Specific Gravity
- Shear Strength Tests (Tri-axial Compression:, Direct Shear, Unconfined Compression:)
- Compaction test, CBR Test
- Consolidation Test, Permeability Test

BAE 523A Environmental Engineering

Subject Objective	Increasingly biological principles are being integrated as part of engineered systems to create innovative and effective design solutions. This subject teaches fundamental chemical, physical and biological principles which can be used to analyse data and formulate design solutions to environmental problems particularly related to water quality.
Learning outcome	To understand hydrology, soils, ecosystems, material balances, nutrient cycles, risk and water quality engineering. The way this knowledge is utilised by engineers for ecosystem restoration and engineered treatment systems is examined.
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents

- Distribution of water
- Requirement for good distribution system
- METHOD OF DISTRIBUTION
- Gravity System
- Combined gravity and pumping system
- Pumping system
- PRESSURE IN DISTRIBUTION MAINS
- SYSTEM OF WATER SUPPLY
- CONTINUOUS SYSTEM
- INTERMITTENT SYSTEM
- DRAWBACKS OF INTERMITTENT SYSTEM
- DISTRIBUTION RESERVOIR
- CAPACITY OF DISTRIBUTION RESERVOIR
- **Mac Donald's equation**
- DETERMINATION OF STORAGE CAPACITY

- Hydrograph method
 - Mass curve method
 - HEAD LOSS DUE TO FRICTION
 - Darcy Weisbach formula
 - Hazen William formula
 - Manning's formula
 - Combined Darcy Weisbach and Colebrook White formula
 - LAYOUT OF DISTRIBUTION SYSTEM
 - Dead end system or Tree system
 - Grid iron system or Reticular system
 - Circular system or ring system
 - Radial system
 - ANALYSIS OF PRESSURE IN DISTRIBUTION SYSTEM
 - Equivalent pipe method
 - Hardy cross method
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BAE621 Structural Engineering (3 pt)

Subject Objective	This subject covers methods and concepts which are fundamental to the analysis of linear elastic structural frameworks.
Learning outcome	Students learn how load bearing structures respond to the actions of directly applied loads as well as environmental effects such as temperature and foundation settlements. Topics covered include: computing deformations in plane frames using the principle of virtual work; the analysis of statically indeterminate structures using both, the force method as well as the method of moment distribution; and how to establish influence lines and how to use them in finding maximum load effects. A brief introduction to non-linear analysis of structures is also given.
Credit Point	3
Hours	72 hr
Assessment	Assignment/ Test/ Online MCQ Test/ Structural Design

Contents

- DESIGN OF A SLAB BRIDGE
- FOUNDATION SETTLEMENTS
- Major problems with soil settlement analysis
- Settlement classification
- Immediate settlement& consolidation settlement
- Stresses in soil mass
- Approximate method (2:1 slope)
- Boussinesq's method
- Westergaard's method

BAE623 Surveying & Traffic Engineering (2 pt)

Subject Objective	<p>Surveying</p> <p>The objectives of this subject are to enable students to: become competent in the theory and practice of basic surveying skills.</p> <p>Traffic Engineering</p> <p>To understand the transportation planning principles & methods</p>
Learning outcome	<p>Surveying</p> <p>To be able to use basic surveying equipment such as levels and theodolites and perform the calculations and reductions of observations associated with such equipment; be aware of the likely errors that may occur during observations and of methods to eliminate or minimise such errors; be competent in making distance measurements accurately over short distances using tapes and wires and be aware of the advantages of modern developments in this field such as Electronic Distance-measuring Equipment; be able to perform a simple traverse and associated calculations to find the misclose and proportional accuracy, and the bearing and distance of one missing line; understand and be able to perform relevant calculations for the engineering applications of surveying (horizontal curves, vertical curves, and areas and volumes); and be aware of field techniques used to enable preparation of a detail and contour plan. The stadia method is discussed in class and is used as a data-gathering tool in a practical exercise. The applications of modern computer programs to reduce data for and the plotting of detail and contour plans are introduced. Services of professional surveyors are explained, as are engineering situations where surveyors must be engaged.</p> <p>Traffic Engineering</p> <p>To applt the transportation planning principles & methods in land transport & airport runway designs.</p>
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents

Surveying

Topics include: use of equipment such as levels, theodolites and tapes and wires; calculations related to this equipment, as well as traversing, horizontal curve setting out,

design of vertical curves, areas and volumes and stadia and contouring; modern developments in surveying; and the role of the professional surveyor.

Traffic Engineering

- Airport Runway Orientation
- Wind Rose Diagram
- Highway Pavement Performance
- Traffic
- Roadbed Soils (Sub grade Material)
- Materials of Construction
- Environment
- Drainage
- Reliability
- Transportation Engineering
- Transportation Planning
- Urban Transportation Planning
- Urban Transportation Planning Process
- Coding and Zoning
- Inventory Studies
- Travel Studies
- Forecasts for the Horizontal Year
- Trip General Analysis
- Trip Distribution Analysis
- Modal Split Analysis
- Network Assignment Analysis
- Evaluation

BAE624 Water Supply , Sanitation & Finishing (2 pt)

Subject Objective	This subject provides civil and environmental engineering students with a detailed knowledge of: (i) water pollution control objectives, (ii) the design of potable water and sewage treatment processes, (iii) sewerage and water reticulation systems, (iv) total water cycle management, and (v) the advanced technologies used in the upgrading of water and wastewater treatment plants, desalination and water and biosolids re-use.
Learning outcome	At the completion of this subject, students understand: public health and environmental objectives in water supply and wastewater disposal; the design concepts for drinking water and sewage treatment plants; sewerage systems and water reticulation systems; and new technologies developed to meet the new water quality and water re-use objectives.
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents

- Water Quality
- Dissolved Oxygen
- BOD (Biochemical Oxygen Demand)
- COD (Chemical Oxygen Demand)
- Water Sampling
- Requirements for good Sampling Procedure

BAE622 Architecture (3 pt)

Refer any architecture text book , study & prepare the report on practical application problem given by the tutor.

Professional Diploma/ Bachelor of Engineering (Mechanical)

Year (3)

GENERAL APPLIED ENGINEERING (MECHANICAL) DEGREE

Subjects
<u>BAE 401 Advanced Engineering Mathematics</u>
<u>BAE 402 Calculus</u>
<u>BAE 403 Engineering Mechanics</u>
<u>BAE 404 Engineering Materials & Thermodynamics</u>
<u>BAE 507 Electro-mechanical Energy Conversion</u>
<u>BAE 508 Industrial Engineering & Industrial Management</u>

The detailed contents of the above subjects can be found under Professional Diploma/ Bachelor of Engineering (Electrical)

BAE511 Air-conditioning & Refrigeration

Subject Objective	The Heating, Ventilation, Air Condition and Refrigeration Technology or HVAC/R Program is designed to provide hands-on training on the same equipment used by business and industry. In addition, this program is designed to provide the students with the necessary skills required to become a state licensed independent business owner/contractor or for employment in the industry as a technician in residential, commercial, and/or industrial air conditioning, refrigeration and heating.
Learning outcome	Students will have an opportunity to learn various HVAC/R processes that will provide the basic preparation for entry-level jobs in the field of air conditioning, refrigeration, and heating with the initial focus placed on troubleshooting and service. In addition, they will learn the fundamentals of HVAC/R through hands-on training in (1) Theory of temperature control, (2) Electronics, (3) Design and construction of HVAC equipment, (4) Installation, (5) Maintenance, and (6) Repair. As students advance through the program, related topics of indoor air quality, load calculation, system design, and industry code standards will also be covered.
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test/ Design Project

Contents

- Heat transfer by Conduction
- Convection
- Radiation
- Thermal Conductivity, k
- Boundary and Initial Conditions
- Properties and state
- The System
- Internal energy (U)
- Enthalpy (H)
- Work (W)
- Heat (Q)
- Specific Heat Capacity (c)

- Heat Engine
- The characteristic equation of a perfect gas
- Expansion processes
- Adiabatic process
- Isothermal Process

BAE613 Mechanical Instrumentation Process

Subject Objective	This subject aims to extend students' competence in the design of engineered systems and components, as well as familiarising them with modern design approach methodologies.
Learning outcome	While the emphasis is on realistic engineering-team/client/boss interactions, need exploration, project development and delivery, this subject draws heavily on the expertise the students have developed up until this stage of the course. Furthermore, the subject aims to enhance and polish students' capabilities in dealing with human-centric aspects of the design process.
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test/ PLC Program Project

Contents

- Problem-solving Methodology
- Matlab Environment
- Initializing Variables
- Data Format
- Printing Matrices
- Useful Commands and Functions
- Fundamental Engineering Computations
- Two-Dimensional Arrays and Matrices
- Variational Method
- Collational Method
- Subdomain Method
- Galerkin's Method
- Least Square Method

BAE614 Machine Design

Subject Objective	The objectives of this subject are to give students an understanding of the kinematics and dynamics of rigid bodies in general planar motion, which is typically encountered in design and analysis of mechanical systems, and an elementary understanding of the vibration of mechanical systems, in particular the dynamic behaviour of single-degree-of-freedom mechanical systems with various damping and applied forces.
Learning outcome	Students should be able to: model problems in rigid body planar and spatial kinematics and rigid body planar dynamics; understand energy methods in contrast to direct applications of Newton's second law of motion for setting up a model; understand the physics of a problem formulated from a real mechanical system; appreciate the role of vibration in machines and structures in the engineering world; understand the procedures required to evaluate a vibration problem; and analyse the dynamic response of single-degree-of-freedom mechanical systems. The subject also covers the concept of a rigid body, full nomenclature used in kinematics, two-body velocity equations and velocity diagrams of planar motion; two-body acceleration equations and acceleration diagram; three-body velocity equations and acceleration equations including Coriolis acceleration term; angular velocity acceleration equations including three-dimensional problems; $F=ma$ applied to a rigid-body-dynamics, significance of 'centre of mass', the 'moment' relationship ($M=Ia$, etc.); angular momentum, conservation of angular momentum (general case, centre of mass moving, no 'fixed' point); linear and angular impulse problems; energy methods for general planar motion; elementary principles of vibration theory, free vibration of undamped single-degree-of-freedom system; free decay vibration of damped single-degree-of-freedom system; and the forced vibration of single-degree-of-freedom system.
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test
TOPICS	Topics covered include the mechanical design process, graphical presentation of engineering ideas and components, computer-aided design, engineering materials and processes and aspects of engineering knowledge. A prototype design-and-build project is a major component of this subject
<u>Specific Contents</u>	<ul style="list-style-type: none"> • Balancing , Forces, Cam Profile • Resultant Effects of Engine, V-Engine Mechanism • Arrangement to balance the primary moment (C.W) • FORCES IN ENGINE, Inertia Forces and D'Alembert's Principle

BAE512 Building Service Water Supply System

Subject Objective	This subject provides mechanical engineering students with a detailed knowledge of: (i) building water supply control objectives, (ii) the design of potable water supply processes & piping system mechanical design.
Learning outcome	At the completion of this subject, students understand: public health and environmental objectives in water the design concepts for water supply piping design
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents

- Pressure loss in pipe
- Pressure loss in pipet by loss coefficient method
- Pressure loss in pipe by Equivalent Length Method
- To find the duct pipe by Equal Friction Method
- To find the duct pipe by Balance Capacity Method
- Design the piping system

BAE311 Plant Engineering (2 pt)

Subject Objective	The objectives of this subject are to: have an understanding of the behaviour of linear (or approximately linear) dynamic systems that are typically encountered in the practice of mechanical engineering; and gain an understanding of how such systems can be controlled, or have their dynamics altered, so as to achieve desired outcomes.
Learning outcome	<p>Topics covered include:</p> <ul style="list-style-type: none"> dynamic models: component block diagram, laplace transform, undamped free and forced vibration of SDOF systems, damped free and forced vibration of SDOF systems, resonance and beats, logarithmic decrement, response under the harmonic motion of the base, coupled-tank systems, vibration of 2DOF systems, vibration isolation, vibration absorbers Matlab and Simulink dynamic response: system modelling diagrams, poles and zeros, effect of pole locations, first order systems, second order systems, effects of zeros and additional poles, stability basic properties of feedback: the basic equations of control, control of steady-state error, PID control, pole placement method the root-locus design method: root-locus of a basic feedback systems, dynamic compensation, examples control system implementation and introduction to advanced control systems.
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents

- *Three Degree of freedom*
 - Newton's method**
 - Mechanical Impedance method**
 - Influence coefficients**
 - Matrix method**

- (e) **Holzer method**
- (f) **Matrix Iteration method**

- **INTRODUCTION TO CONTROL SYSTEM**
- **DIFFERENTIAL EQUATIONS**
- **LINEARIZATION OF A NON-LINEAR FUNCTION**
- **MODELLING OF CONTROL SYSTEMS**
- **FREQUENCY RESPONSE METHODS**
- **Stability**

BAE312 Design Engineering (Manufacturing) (2 pt)

This unit is the same as

BAE621 Structural Engineering (3 pt)

The following contents can be added for manufacturing process

Subject Objective	The objectives of this subject are to: explain and provide examples of manufacturing processes involved in casting, forming machining and joining of materials; identify and describe the manufacturing process by which products are made of different materials: metals, polymers, ceramics and composites; demonstrate improved technical written and graphical communication skills by completion of specified laboratory reports and site visit reports; and demonstrate basic problem-solving skills relating to manufacturing and production.
Learning outcome	Students learn the processes and materials available, as well as a competent and practical approach to evaluating, selecting and recognising the connections between the materials/processes and engineering design
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents

All contents in structural engineering

PLUS

- The design and manufacturing processing of products in various environments ranging from low volume to high volume and with various levels of capital investment in the manufacturing system.
- The modern concepts of quality management, including Taguchi methods, after looking at process quality control and its origins.
- Modern metrology equipment and methods are treated in a similar manner: modern equipment and methods and their origins.
- The computer systems on manufacturing. Firstly, students gain some experience with manufacturing in a CAD/CAM environment.
- Industrial robots in environments such as fabrication, welding and assembly. Topics such as: CIM, CAPP, JIT, GT, FMS, MRP, Toyota and Kanban are introduced in a project environment

BAE313 Environmental Control (2 pt)

This unit is the same as

[BAE 523A Environmental Engineering](#)

BAE314 Mechanical Power Generation (2 pt)

Subject Objective	This subject aims to develop students' fundamental knowledge and understanding of the dynamics of various mechanical power generation systems;
Learning outcome	To provide students with knowledge and skills in vibration testing and data acquisition; facilitate students' in-depth learning of the theory and methods, including modelling, modal analysis, system identification and numerical approaches; familiarise students with techniques and data acquisition system used in vibration testing, measurement, signal processing for determining the dynamic characteristics of a physical system; and enable students to apply the learnt methods to real world applications which include vehicle suspension design, vibration analysis and condition monitoring of rotating machines & application of PLC control system
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents**Mechanical**

Basic vibration theory for the analysis of two or more degrees of freedom multi-body mechanical systems, basic topics on widely-used engineering measurements, data acquisitions, spectrum analysis, signal processing and their applications in vibration control and machine condition monitoring.

PLC

- **PLC Basics**
- **PLC Structure**
- **PLC in Comparison with Other Control Systems**
- **PLC's CPU**
- **PLC's Memory**
- **PLC in Comparison with Other Control Systems**
- **PLC's CPU**
- **PLC's Memory**
- **Programming Devices**
- **Programming Languages**

- **Instruction Set**
- **Typical Combinations of Languages**
- **Basic Symbols**
- **Elementary Logic Circuit**
- **PLC's Functions**
- **Industrial Programming**
- **PLC PRACTICE**
- **Selection of PLC**
- **Types of I/O & Capacity Needed**

- **Control System Basic**
- **Sequence Control**
- **Automatic Control**
- **Terms of Sequence Control**
- **Basic Knowledge on Contacts**

- **INDUSTRIAL MACHINE CONTROLS**

BAE315 Materials Engineering (2 pt)

Subject Objective	Mechanical engineers design, construct, maintain, inspect and manage private and public work projects. The common materials used in construction engineering applications and construction are concrete, steel, timber and masonry. It is essential for mechanical engineers to have a basic understanding of these construction materials, in relation to their production, properties, testing and application.
Learning outcome	To help students acquire fundamental knowledge of the production, physical and engineering properties of construction materials; understand the effects of environments on the properties and performance of these materials; familiarise themselves with the relevant engineering standards and other specifications and standards, in relation to the requirements and testing methods and interpretation of test results; improve analytical and communication skills by presenting test reports; select material in relation to specified requirements; and develop an awareness of the use of waste materials in construction.
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents

- Load, Stress and Strain, Hook's law ,
- Principal of Superposition
- Tensile Test , Factor of Safety
- Strain Energy, Resilience
- Impact Loads
- Varying Cross-section and Loads
- Strain Energy , Resilience
- Compound Bars
- Temperature Stresses

1. Requirements, variability, selection and standards relating to use of construction materials
2. Steels: production, types, usage, mechanical properties and testing and failure modes

Elective (2 pt)

Subjects
BAE513 Production Technology
BAE611 Maintenance Engineering
BAE612 Engineering Metallurgy

Refer any text book , study & prepare the report on practical application problem given by the tutor.

Professional Diploma/ Bachelor of Engineering (Civil-Building Services)

By mixing the degree level Electrical/ Mechanical & Civil Engineering subjects with Advanced Diploma level Electrical/ Mechanical & Civil subjects relevant to Civil-Building services, the individualized study plan for this professional diploma can be arranged.

Professional Diploma/ Bachelor of Engineering (Mechanical-Mechtronics)

By mixing the degree level Electrical/ Mechanical & Civil Engineering subjects with Advanced Diploma level Electrical/ Mechanical & Civil subjects relevant to Mechanical-Mechatronics, the individualized study plan for this professional diploma can be arranged.

The supporting curriculums from Information Technology & Business Management.

Engineering curriculums are supported by Information Technology & Business Management.

The details of the supporting curriculums are also presented.

Diploma/ Advanced Diploma of Engineering

At the following link, those programs can be viewed

<http://www.highlightcomputer.com/detailedcontent.htm>

Bachelor of Applied Science (Information Technology)

Year 1+2 Refer Diploma & Advanced Diploma in Information Technology Detailed Contents

Bachelor of Applied Science (Computer Science & Computer Technology)

Year (3)

Unit	Topics	Reference	Points
ICT 301	General Electrical Knowledge	EE101	3
ICT 302	Digital Electronics	EE209/H012	3
ICT 303	Amplifier	EE208/H013	3
ICT 304	Material Science	E081	3
EE204	Physics	E046	3
EE201	Mathematics 1	E050	3
EE202	Mathematics 2	E026	3
EE306	Basic Control	I008	3
BAE605	Management		3
BAE408	Analog & Digital Electronics		3
		TOTAL	30

Year (4)

Unit	Topics	Reference	Points
ICT 401	Advanced Mathematics 1	BAE401	3
ICT 402	Advanced Mathematics 2	BAE402	3
BAE604	Telecommunication System		3
BAE508	Project Management		3
ICT 305	Professional Programming (1) C++		3
ICT 403	Professional Programming (2) Object Oriented		3
ICT 404	Professional Programming (3) Java		3
ICT 405	Professional Practice (1) Network		3
ICT 406	Professional Practice (2) Website		3
ICT 407	Artificial Intelligence		3
		TOTAL	30

Refer Diploma & Advanced Diploma in Electrical Engineering Detailed Contents

ICT 305 Professional Programming (1) C++

- Introduction
- Basic program architecture
- Variables
- Console programs
- Program control
- String
- Arrays
- Object oriented programming
- Classes
- Design of classes
- Methods
- Inheritance
- The class object
- Abstract classes
- Interfaces
- Static members
- More about arrays
- Types
- Enum
- Struct
- Generic types
- Exception handling
- Comments
- Extension methods
- Collection classes
- List Stack
- Linked list
- Dictionary
- Text file
- Binary files
- Object serialization
- Lottery
- Expression

ICT 403 Professional Programming (2) Object Oriented

object-oriented-programming-using-c-sharp

- Introduction to object oriented programming
- Unified Modelling Language (UML)
- Inheritance & Method Overriding

- Object rules & the importance of polymorphism
- Overloading
- Object oriented software analysis and design
- Generic collection & how to serialize them
- C# development tools
- Creating & using exceptions
- Agile programming
- Case studies

ICT 404 Professional Programming (3) Java

object-oriented-programming-using-java

- Introduction to object oriented programming
- Unified Modelling Language (UML)
- Inheritance & Method Overriding
- Object rules & the importance of polymorphism
- Overloading
- Object oriented software analysis and design
- Collection framework
- Java development tools
- Creating & using exception
- Agile programming
- Case study

ICT 405 Professional Practice (1) Network

This competency standard unit covers develop services for network clients for emails, internet access, shared resources and the like. It encompasses safe working practices, installing and configuring Domain Name Server (DNS), email servers, Dynamic Host Configuration Protocol (DHCP), remote access servers, Network Address Translation (NAT), directory services, Authentication Servers and documenting development activities.

Essential knowledge and associated skills

This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices and developing network services.

The extent of the essential knowledge and skills required is given Volume 2 Part 2, Clauses

- **Network infrastructure**

Evidence shall show an understanding of network infrastructure to an extent indicated by the following aspects:

- a. Domain Name Service (DNS) encompassing
 - DNS Server Service
 - Root name server
 - Configuring zones
 - a. *Note:* Examples include configuring for dynamic updates and delegating zone for DNS
 - Caching – only server
 - DNS client
 - Testing DNS Server service
 - Manually creating DNS source
 - Managing and monitoring DNS
- b. Dynamic Host Configuration Protocol (DHCP)
 - Installation of DHCP Server Service
 - DHCP scopes, superscopes and multicast scopes
 - DHCP – DNS integration
 - Active Directory™
 - Managing and monitoring DHCP
- c. Network Infrastructure encompassing
 - Configuring and troubleshooting remote access
 - a. *Note:* Examples include remote access policy, configuration of remote access profile, Virtual Private Network (VPN), multi link connection, routing and remote access for DHCP
 - Managing and monitoring remote access
 - Remote access security
 - *Note.* Examples include authentication protocols, encryption protocols and access policy
- d. Network Protocols encompassing
 - Installation, configuration and troubleshooting of network protocols
 - a. *Note:* Examples include Transmission Control Protocol / Internet Protocol (TCP/IP), NWLink and network bindings
 - Configure TCP/IP packets
 - Configuring and troubleshooting network protocol security and IP Security (IPSec)
 - Managing and monitoring network traffic
- e. Internet Naming Services in a network encompassing
 - Installation, configuring and troubleshooting
 - Configuring Internet Naming Services replication
 - Configuring an application networking interface
 - Managing and monitoring Internet Naming Services
- f. IP Routing encompassing
 - Installation, configuring and troubleshooting of IP routing protocols
 - a. *Note:* This includes updating routing tables, and implementing demand-dial routing
 - Managing and monitoring IP routing
 - a. *Note:* This includes border routing, internal routing and IP routing protocols
- g. Network Address Translation (NAT) encompassing
 - Installing Internet connection sharing

- Installing NAT
- Configure NAT properties and interfaces
- h. Certificate Services encompassing
 - Installing and configuring Certificate Authority
 - Issuing and revoking certificates
 - Removing the Encrypted File System recovery keys

- **Directory services**

Evidence shall show an understanding of directory services to an extent indicated by the following aspects:

- a. Installing and configuring directory services encompassing
 - Installing forests, trees and domains including automatic domain controller
 - Creating sites, subnets, site links and connection objects
 - Configuring server objects including site membership and global catalogue designation
 - Transferring of operations master roles
 - Verification and troubleshooting of directory services installation
 - Implementation of and organisational unit structure
- b. Domain Name Service (DNS) for directory services encompassing
 - Installation and configuration of DNS for directory services
 - a. *Note:* Examples are integration with existing DNS infrastructure, configuration of zones for dynamic and secure dynamic updates and creation and configuration of DNS records
 - Management, monitoring and troubleshooting of DNS
- c. Change and Configuration Management encompassing
 - Implementing and troubleshooting Group Policy
 - a. *Note:* Examples are Group Policy Object (GPO), linking to an existing GPO, delegation of administrative control of Group Policy, filtering of Group Policy settings by using security groups and modification of Group Policy prioritisation
 - Managing and troubleshooting user environments using Group Policy
 - Configuring directory services to support Remote Installation Services (RIS) including configuration of RIS options and security.
- d. Components of a directory service infrastructure encompassing
 - Management of directory objects
 - a. *Note:* Examples are moving objects, publishing resources in the directory service infrastructure, location of objects in the directory service infrastructure, creation and management of objects manually and by scripting, access control of objects and delegation of administrative control
 - Monitoring, optimisation and troubleshooting of the directory services infrastructure performance and replication
 - Backup and restoring directory services infrastructure
 - a. *Note:* Examples are authoritative and non authoritative restoration of directory services, restoration from systems failure and the seizing of operations master roles

- e. Security encompassing
 - Applying security policies using Group Policy
 - Creating, analysing and security modification by using Security Configuration and Analysis snap-in and the Security Templates snap-in
 - Implementation of an audit policy
- f. Monitoring and analysing security events

Multi-layer switched networks

Evidence shall show an understanding of multi-layer switched networks to an extent indicated by the following aspects:

a) Campus network design encompassing:

- o core layer
- o distribution layer
- o access layer
- o selection of appropriate devices
- o defining workgroups

b) Managing Redundant Links encompassing:

- o Spanning Tree Protocol (STP)
- o Controlling STP in redundant environments
- o STP in Virtual Local Area Network (VLAN) environments
- o Configuring redundant routing protocols for a fault-tolerant routing

Note. An example is Hot Standby routing protocol (HSRP)

c) Fast layer 2 services encompassing:

- o Fast Ethernet
- o Trunking
- o Fast Ether channels

- o Gigabit services

- d) Inter VLAN Routing encompassing:
 - o Hardware vs. Software switching
 - o Overview of fast switching technologies
 - o Elements of a multi-layer switch
 - o Configuring multi-layer switches

- e) Multicast encompassing:
 - o Multi-cast group management
 - o Configuring multi-cast control at layer 2
 - o Configuring multi-cast control at layer 3

- f) Controlling Access to the Campus Network

- g) Managing Network Traffic

ICT 406 Professional Practice (2) Website

This unit covers installation, set up, implementation and provision of on-going support of web services. It encompasses working safely, installing and administering server software and databases, server side scripting, configuring access and security and documenting work activities.

Development, implementation and testing HTML pages with at least four of the following features:

Relative and absolute links, images and table formatting

Cascaded styles sheets

Forms	
New browser windows	
Validation of form data	
<u>Development, implementation and testing of server scripting for database access with at least four of the following features:</u>	
Form data input response	
Form data processing	
Database access	
Output of database table contents	
Insertion of table data to database	
Installation and administration of key features of Web and Web application servers	
	Programming elements
Evidence shall show an understanding of the programming elements to an extent indicated by the following aspects:	
a) Algorithm Design encompassing:	
o Problem Definition	
o Steps in Problem-Solving	
o Modular Design	
o Top-Down Design	
o Flow-Charts and Structured Programming	
o Pseudo-Code	
o Filtering allowable Data Input	

- o Using standard Input & Output methods
- o Object-Oriented Design (brief intro.)
- o Documentation Rationale
- o Acceptable Documentation Method

- b) Machine-Code, Assemblers and Compilers
- c) Brief History of Languages & Limitations
- d) Parameters of different programming languages encompassing:
 - o Constants and variables
 - o Data types and declarations
 - o Logical flow control
 - o Detecting breaches of structure
 - o Documentation instruction examples
 - o Procedures and function calls
 - o Parameter-passing
 - o Local and global variables
 - o Object-oriented methods
 - o Classes and objects,
 - o encapsulation and inheritance.
 - o Visual programming methods
 - o General-purpose program libraries

e) Data structures encompassing:

- o Records
- o Arrays
- o File Input/output

f) Testing and validation encompassing:

- o Sequencing the process
- o Inconsistencies detection

Note, An examples is comparing code to documentation, commonly called —Desk-Checking'.

- o Test data selection
- o Modular testing & debug
- o Problems with using

Client side programming

Evidence shall show an understanding of client side programming them to an extent indicated by the following aspects:

a) Client server architecture

b) Hyper Text Markup Language (HTML) encompassing:

- o Forms
- o Table
- o Cascading style sheets

c) Hyper Text Markup Language (HTML) scripting encompassing:

- o Exposed object model

- o Events and event handling
- o Objects methods, properties, events
- o Window, document, form, and form elements
- o String object, methods, properties
- o Form field validation

Note: Examples of scripting language are JavaScript and Visual Basic (VB) Script

d) Extendable Markup Language (XML) encompassing:

- o Syntax
- o Structure (well formed XML)
- o Schemas
- o Transformations
- o Parsing Document Object Model (DOM) and Simple API (SAX)
- o Scripting to Document Object Model (DOM)

e) Extendible Stylesheet Language (XSL) generating HTML from XML

f) Wireless thin client programming

Note. Examples include Java2 Micro Edition (JEME), Mobile Information Device Profile (MIDP), Windows CE and Palm OS

g) Consideration for system architecture

h) Configurations and profile overview

	Server scripting
Evidence shall show an understanding of server scripting the to an extent indicated by the following aspects:	

- a) Client server architecture
- b) Web and Application Servers
- c) Server scripting languages e.g. JSP, ASP, PHP, Perl
- d) Server script Tags
- e) Integrating script with HTML
- f) Server script object model
- g) Request, Response, Session, Application
- h) Using server objects
- i) Server components
- j) Using components in server scripts
- k) Scope of server components e.g. session, page, application
- l) Component get / set methods
- m) Deploying server components
- n) Advanced server scripting concepts

Database access

Evidence shall show an understanding of database access to an extent indicated by the following aspects:

a) Relational Databases encompassing:

- o Tables, keys, design rules and normalisation
- o Database management utilities

Note. Example include MSSQL, MYSQL and Access

b) Structural query language (SQL) queries encompassing:

- o Select, insert, update and delete processes
- o Application of conditionals `__where`, `__distinct` and `__like`
- o Create and dropping tables

c) Data Base connectivity components encompassing:

- o Drivers, data sources
- o Database connectivity component loading
- o Query connection and execution
- o ResultSets / RecordSets
- o Rows, columns, cursors, concurrency, pooling
- o Iterating through ResultSets / RecordSets

Note. Example include ODBC, JDBC, ADO

	Web applications and services
Evidence shall show an understanding of web servers to an extent indicated by the following aspects:	
a) Comparison of HTTP servers and platforms	

Note. Examples include IIS and Apache

b) Comparison of Application servers and platforms

Note. Examples include J2EE / tomcat, .NET

c) HTTP Servers encompassing:

- o Installation requirements and methods
- o Security configuration
- o Content publishing and security

d) WEB application technologies encompassing:

- o Server installation and deployment
- o Security

e) Server scripting technologies encompassing:

- o WEB application installation and deployment
- o Application server administration

f) Web services overview encompassing:

- o WEB services XML, API, RPC
- o XML API processing
- o XML DOM
- o SOAP (simple object access protocol)
- o WEB Services Security

ICT 407 Artificial Intelligence

- Paths to artificial intelligent
- Agents and environment
- Framework for agents environment
- Agent oriented programming languages
- Net logo development
- Movement, Behaviour & Decision making
- Terms of movement
- Animated mapping simulation Embodiment
- Reactive versus cognitive agents
- Emergence, Self organization
- Adaptibility evolution
- Communication
- Search behaviour
- Reasoning rules and logic
- Knowledge & reasoning using decision trees
- Intelligence
- Design objectives for artificial intelligence
- Computer problem solving ability

Bachelor of Business

Year 1 Refer Diploma in Management Detailed Contents

Year 2 Refer Diploma & Advanced Diploma in Information Technology Detailed Contents

YEAR (3)

Bachelor of Business (E-Business & Management)

The learning system will be based on self study. Read the given references study materials and prepare the project work. You need to read the books in English.

The following units common to MBA course are to be studied.

[Mgt 301 Electronics Business](#)

[Mgt 302 Information Security](#)

[Mgt 303 Management Information System](#)

[Mgt 304 Electronics Commerce](#)

[Mgt 305 Quantitative Methods for Management](#)

[Mgt 306 Human Resources Management](#)

[Mgt 307 Marketing Management](#)

[Mgt 308 Artificial Intelligence](#)

To assess Level 3, you need to write the report of 10 pages each on what you have learnt in the unit.

YEAR (4)

Mgt 401 Management Project

Mgt 402 Electronics Business Project

Mgt 301 Electronics Business

- Project Objective
- Business Capabilities
- Benefits
- Deliverables & Dependencies
- Costs
- Financial Appraisal
- Timescales & Milestones
- Success Criteria
- Risks
- the impacts of electronic commerce
- drivers and inhibitors of electronic commerce from the perspective of the CEOs
- the impacts of Electronic Commerce on the Industry Supply Chain
- Electronic Commerce Maturity Model

Mgt 302 Information Security

	Fundamentals of network security
Evidence shall show an understanding of fundamentals of network security to an extent indicated by the following aspects:	
a) Network Security fundamentals	
b) Securing Perimeter Routers	
c) Access Control Lists (ACLs)	
d) Router Authentication, Authorisation and Accounting (AAA) Security	

- e) Intrusion Detection
- f) Internet Protocol (IP) Security
- g) Virtual Private Network (VPN)
- h) Firewalls
- i) Translations and Connections
- j) Access Control Lists for Firewalls
- k) AAA and Firewalls
- l) Intrusion
- m) Intrusion Detection Systems (IDS)
- n) Firewall Failover and System Maintenance
- o) Firewall VPN's
- p) Firewall Device Management

- ❑ Introduction of Computer Networks and Internet :
 - ❖ Overview of the Internet, client/server program, circuit switching, packet switching, physical media, queuing delay and packet loss, TCP/IP Service models, Internet Protocol Stack (Layers)
- ❑ Application Layer :
 - ❖ Service requirements, WWW, HTTP, FTP, Electronic Mail, Domain Name System, Socket programming
- ❑ Transport Layer
 - ❖ Service models, Multiplexing/Demultiplexing, Connection-less transport (UDP), Principles of reliable data transfer, Connection-oriented transport (TCP), TCP congestion control
- ❑ Network Layer :
 - ❖ Routing and forwarding, IP(The Internet Protocol) IPv4, IPv6 ,Routing algorithms, Routing in the Internet, Multicast
- ❑ Link Layer and Local Area Networks :
 - ❖ Link layer services, Error detection and correction, Multiple Access Protocols, Link layer addressing, Ethernet, Hubs and switches, Point-to-Point Protocol
- ❑ understand principles of network security:
 - ❖ cryptography and its *many* uses beyond “confidentiality”
 - ❖ authentication
 - ❖ message integrity
 - ❖ key distribution

- ❖ security in practice:
- ❖ firewalls
- ❖ security in application, transport, network, link layers
- ❖ key distribution
- ❖ security in practice:
- ❖ firewalls
- ❖ security in application, transport, network, link layers

Mgt 303 Management Information System (MIS)

- The role of information system
- Hardware & software in enterprise
- Database management system
- Business Telecommunication system
- Communication network
- Network application
- Contemporary mobile service
- Examples of information systems
- Management of MIS
- Managing the Digital Firm
- Emergence of the Digital Firm
- The business information value chain
- A Business Perspective on Information Systems
- Variation in returns on information technology investment
- Sociotechnical Systems
- New Options for Organizational Design:
- The Digital Firm and the Collaborative Enterprise
- Redesigned workflow for insurance underwriting
- The Challenges of Information Systems: Key Management issues

Mgt 304 Electronics Commerce

- **Types of E-commerce**
- **Understanding E-commerce: Organizing Themes**
- **E-commerce Business Models and Concepts**
- **The Internet and World Wide Web: E-commerce Infrastructure**
- **Building an E-commerce Web Site**

- **Online Security and Payment Systems**
- **Marketing Communications**
- **E-commerce Marketing Concepts**
- **Ethical, Social, and Political Issues in E-commerce**
- **Online Retail and Services**
- **E-commerce Business Models and Concepts**
- **The Internet and World Wide Web: E-commerce Infrastructure**
- **Security and Encryption**
- **E-commerce Payment Systems**
- **E-commerce Marketing Communications**
- **Ethical, Social, and Political Issues in E-commerce**
- **Online Service Industries**
- **Supply Chain Management and Collaborative Commerce**
- **Auctions, Portals, and Communities**
- **Online Content and Media**
- **Social Networks, Auctions, and Portals**
- **Online Content Providers: Digital Media**
-

Mgt 305 Quantitative Methods for Management

- Research approach
- Data source
- Qualitative method
- Quantitative Methods
- Experiment research & observation
- Questionnaires survey
- Sampling
- Survey analysis
- Statistical analysis
- Writing research report

- Prescriptive Process Models
- Agile Development

Mgt 306 Human Resources Management

- Meeting Present and Emerging Strategic Human Resource Challenges
- **Managing Work Flow and Conducting Job Analysis**
- Understanding Equal Opportunity and the Legal Environment
- Managing Diversity
- Recruiting and Selecting Employees
- Appraising and Managing Performance
- Rewarding Performance
- Managing Compensation

Mgt 307 Marketing Management

- Company (Distributor) background (e.g. brief history, nature of business, etc.)
- Marketing objective(s) on the Chosen product/service
- S.W.O.T Analysis
- Target customers
- Product Positioning in the market
- Describe the current marketing mix:
 - Product
 - Pricing
 - Distribution
 - Marketing Communications (Promotion)
- overall competitive strategy
- planning the details of the marketing mix.
- sales& marketing materials
- understanding of company's competitors
- Marketing Recommendations for improvement
- marketing strategies

Mgt 308 Artificial Intelligence

This is the same as

<u>ICT 407</u>	<u>Artificial Intelligence</u>
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Mgt 401 Management Project

Mgt 402 Electronics Business Project

Two reports one for Management for (Mgt 303+Mgt 305+Mgt 306) & another for Electronics Business + Marketing (Mgt 301+Mgt 302+Mgt 304+Mgt 307+Mgt 308) subjects are required to be presented.

Each should contain 4000 to 6000 words of how you pursue the study in Management,, Marketing, Electronics Business subjects should be described.

The project should contain management plans, business plan & performance, task, job procedures IT integration etc of the topics of your choices.

<http://www.filefactory.com/file/3dcrz90tirvh/Dip%2BAdv%20Dip%2BB%20Bus%20S%20Course%20Outline.doc>

IQY Technical College's Professional Diploma in Engineering Curriculum

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COURSE STRUCTURE

Year	Course	Total Credit Point
	Entry –Year 10	
	Year 11—Bridging Program	
	Year 12-- Certificate in Pre-vocational Studies	
1	Diploma in Engineering (Electrical/Civil/Mechanical)	30
	Award- Diploma in Engineering	30
2	Advanced Diploma in Engineering (Electrical/Civil/Mechanical)	30
	Award- Advanced Diploma in Engineering	60
3+4	Professional Diploma in Engineering (Electrical/Civil/Mechanical/Mechatronics/Building Services) (Electrical/Civil/Mechanical with Renewable Energy)	60
	Award-Professional Diploma in Engineering	120
	Total years spent after Year 10	6 Years

- The entry qualification for IQY Technical College's courses is Year 12 (International) Standard.
- The students who have completed Year 10 Examination require the Year 11+12 Level bridging study before commencing the major programs.
- Year 11+12 is standardized with Australian NSW Year 12 curriculum.

Please refer [_http://www.highlightcomputer.com/y712lessons.htm](http://www.highlightcomputer.com/y712lessons.htm) for details

IQY Technical College's Professional Diploma in Engineering Curriculum

Professional Diploma in Engineering Programs of IQY Technical College are designed at the same standard of relevant Bachelor of Engineering degrees.. Although the word "Bachelor of Engineering" is utilized, the award of IQY Technical College is Professional Diploma in Engineering.

Bachelor of Engineering (Electrical)

Bachelor of Engineering (Civil)

Bachelor of Engineering (Mechanical)

Bachelor of Engineering (Civil-Building Services)

Bachelor of Engineering (Mechanical-Mechatronics)

Bachelor of Applied Science (Information Technology)

Bachelor of Business

Professional Diploma/ Bachelor of Engineering (Electrical)

YEAR 3 +4

BACHELOR OF APPLIED ENGINEERING (ELECTRICAL)

Subjects	Points	Competency Units
BAE 401 Advanced Engineering Mathematics	9	Maths 301 Introduction to Complex Variables (1 pt) Maths 302 Elementary Linear Algebra (1 pt) Maths 401 Continuous Distributions (1 pt) Maths 402 Discrete Distributions (1 pt) Maths 403 Engineering Mathematics (1 pt) Maths 501 Introduction to Probability(1 pt) Maths 501 Linear Algebra & Matrices (1 pt) Maths 502 Finite Difference Methods for Partial Differential Equations & Mathematical Modelling (1 pt) Maths 601 Random Variables (1 pt)

BAE 402 Calculus	3	<p>Maths 304 Integration and Differential Equations. (1 pt)</p> <p>Maths 403 Second Order Ordinary Differential Equations (1 pt)</p> <p>Maths 303 Engineering Mathematics (1 pt)</p>
BAE 403 Engineering Mechanics	1	ME 301 Applied Mathematics (1 pt)
BAE 404 Engineering Materials & Thermodynamics	3	<p>ME 334 Engineering Thermodynamics (1 pt)</p> <p>ME 434 Wind Turbines (1 pt)</p> <p>ME 634 Pneumatics (1 pt)</p>
BAE 405 Advanced Circuit Analysis	3	<p>EE 301 Electrical Circuits (1 pt)</p> <p>EE 303 Engineering Circuit Analysis (1 pt)</p> <p>EE 404 Electrical Measurement (1 pt)</p>
BAE 406 Electro-mechanics	2	<p>EE 502 Electrical Machines (1 pt)</p> <p>ME 301 Machine Principle (1 pt)</p>
BAE 407 Advanced Electro-magnetics Field & Materials	1	EE 407 Electromagnetism (1 pt)
BAE 408 Analogue & Digital Electronics	5	<p>EE 403 Introduction to Electronic Engineering (1 pt)</p> <p>EE 524 Power Electronics & Applied Electronics (1 pt)</p> <p>EE 405 Digital System (1 pt)</p> <p>EE 526 Digital Signal Processing (1 pt)</p> <p>EE 527 Digital Image Processing 1/ 2 (1 pt)</p>
BAE 501 Advanced Power Systems & Power Transmission Networks	3	<p>EE 512 Power System (1 pt)</p> <p>EE 302 Power System Technology (Optional)</p> <p>EE 402 Electrical Power (1 pt)</p> <p>EE 513 Power Transmission and Distribution Lines (1 pt)</p>
BAE 502 Linear System	1	EE 304 Computer Mathematics (1 pt)
BAE 503 Control System	4	EE 601 Non Linear Control Applications (1 pt)

		EE 601 Control Engineering , Feedback and Control System , P ID_Control (1 pt) EE 624 Process Control (1 pt) ME 534 Numerical Control Part 1 / 2 (1 pt)
BAE 504 Power System Analysis	1	EE 614 Power System Analysis
BAE 505 Power System Optimization	1	EE 613 Power System Optimization
BAE 506 Power System Stability & Protection	2	EE 615 Power System Stability & Power Quality (1 pt) EE 616 Power System Protection (1 pt)
BAE 507 Electro-mechanical Energy Conversion	2	EE 602 Motor Control Electronics (1 pt) ME 434 Mechtronics & Robotics (1 pt)
BAE 508 Industrial Engineering & Industrial Management	1	Mgt 501 Basic Management & Communication Skills (1 pt)
BAE 601 Computer Programming	3	IT 401 Object Oriented Programming (1 pt) IT 402 Structured Programming (1 pt) IT 403 Visual Basic Programming (1 pt)
BAE 602 Computer Network	1	ICT 202 Information Systems Principles and Networking (1 pt)
BAE 603 Software Engineering	3	ICT 106 Software Engineering (1 pt) ICT 203 Information Systems, Analysis and Design (1 pt) EE 626 Nano Technology (1 pt)
BAE 604 Telecommunication Engineering	2	EE 525 Data Communication (1 pt) EE 603 Electronics Telecommunication (1 pt)
BAE 605 Engineering Management	5	Mgt 502 Operation Management (1 pt) Mgt 503 Production & Operation Management (1 pt) Mgt 504 Project Management (1 pt)

		Mgt 505 Quality Management and Manufacturing Engineering (1 pt) Mgt 506 Strategic Financial Management (1 pt)
BAE 606 Building Service Electrical & Mechanical Engineering	2	EE 617 Building Electrical and Mechanical System (1 pt) ME 334 Airconditioning and Refrigeration (1 pt) CE 301 Building Construction (Optional) CE 301 Conceise Hydroulics (Optional)
BAE 607 Radio Wave Propagation & Microwave Techniques	2	EE 625 Radio Wave Propagation (1 Pt) EE 626 Microwave Technique (1pt)
Total Credit points	60	
Credit Points given for Advanced Diploma in Electrical Engineering (Year 1+2)	60	
Total credit points	120	

The renewable energy subjects can be substituted for some subjects

Renewable Energy Subjects

View <http://www.highlightcomputer.com/BEElectricalNew.pdf> for the Professional Diploma in Engineering Combined with Renewable Energy Subjects

View <http://www.highlightcomputer.com/re.pdf> for detailed contents

Professional Diploma in Electrical Engineering with Renewable Energy

Common Year 3

1. BAE 401 Advanced Engineering Mathematics (9 pt)
2. BAE 402 Calculus (3 pt)
3. BAE 403 Engineering Mechanics (1 pt)

4. BAE 404 Engineering Materials & Thermodynamics (3 pt)
5. RE001- Foundation Studies in Renewable Energy and Sustainability (2 pt)
6. .RE003- Solar and Thermal Energy Systems (2 pt)
7. RE004- Energy Storage Systems (2 pt)
8. RE005- Renewable Energy Resource Analysis (2 pt)
9. RE006- Wind Energy Conversion Systems (2 pt)
10. RE010-Engineering Materials (2 pt)
11. RE012a-Electrical Engineering Part 1 (2pt)
12. RE016-Design& Management (BAE508) (2 pt)

B Applied Engg (Electrical)

YEAR 4 (Specialized)

1. BAE 601 Computer Programming
2. BAE 602 Computer Network
3. BAE 603 Software Engineering
4. RE012b-Electrical Engineering Part 2
5. RE002- Grid Connected Photovoltaic Power Systems
6. RE013-Electrical Machines
7. RE014-Electronics Control
8. RE015-Electrical Project/ Practice
9. BAE 501 Advanced Power Systems & Power Transmission Networks
10. BAE 506 Power System Stability & Protection
11. BAE 604 Telecommunication Engineering
12. RE007- Energy System Efficiency

Professional Diploma/ Bachelor of Engineering (Civil)

Year (3) Part 1 ADVANCED GENERAL CIVIL ENGINEERING DEGREE LEVEL (17 pt)

Subjects
BAE 401 Advanced Engineering Mathematics (9 pt)
BAE 402 Calculus (3 pt)
BAE 403 Engineering Mechanics (1 pt)
BAE 404 Engineering Materials & Thermodynamics (3 pt)
BAE 508 Industrial Engineering & Industrial Management (1 pt)
The renewable energy subjects can be substituted for some subjects
<u>Renewable Energy Subjects</u>
View http://www.highlightcomputer.com/BEElectricalNew.pdf for the Professional Diploma in Engineering Combined with Renewable Energy Subjects
View http://www.highlightcomputer.com/re.pdf for detailed contents

Year (3) Part 2 ADVANCED GENERAL CIVIL ENGINEERING DEGREE LEVEL (18 Pt)

BAE421 Building Construction Engineering (4 pt)

BAE422 Estimating (2 pt)

BAE423 Fluid Mechanics (2 pt)

BAE424 Reinforced Concrete (2 pt)

BAE425 Timber Engineering (2 pt)

BAE521 Road & Bridge (2 pt)

BAE522 Rock Mechanics (2 pt)

BAE523 Soil Mechanics (2 pt)

BAE 523A Environmental Engineering (2 pt)

Year (4) Part 1 (17 pt)

BAE 601 Computer Programming (3 pt)
BAE 605 Engineering Management (5 pt)
BAE 606 Building Service Electrical & Mechanical Engineering (2 pt)
BAE 609 Design Project (3 pt)
Total Credit points in this group

Year (4) Part 2

(12 Pt)

BAE621 Structural Engineering (3 pt)

BAE623 Surveying& Traffic Engineering (2 pt)

BAE624 Water Supply , Sanitation & Finishing (2 pt)

BAE 608 Engineering Competency Demonstration Report Writing (2pt)

SELF STUDY

BAE622 Architecture (3 pt)

Total points for Year 3+4= 60 pt

Advanced Diploma in Civil Engineering= 60 pt

Total= 120 pt

Professional Diploma in Civil Engineering with Renewable Energy

Common Year 3

1. BAE 401 Advanced Engineering Mathematics (9 pt)
2. BAE 402 Calculus (3 pt)
3. BAE 403 Engineering Mechanics (1 pt)
4. BAE 404 Engineering Materials & Thermodynamics (3 pt)

5. RE001- Foundation Studies in Renewable Energy and Sustainability (2 pt)

6. RE003- Solar and Thermal Energy Systems (2 pt)

7. RE004- Energy Storage Systems (2 pt)

8. RE005- Renewable Energy Resource Analysis (2 pt)

9. RE006- Wind Energy Conversion Systems (2 pt)

10. RE010-Engineering Materials (2 pt)

11. RE012a-Electrical Engineering Part 1 (2pt)

12. RE016-Design& Management (BAE508) (2 pt)

Total points for Year 3-(32 Pt)

B Applied Engg (Civil)

YEAR 4 (Specialized)

Total points for Year 4-(24 Pt)

1 RE011a-Civil& Mechanical Engineering Part 1 (2 pt)

(Assessment- Study Report)

2 RE011b-Civil& Mechanical Engineering Part 2a (2 pt)

(Assessment- Study Report)

3 BAE 606 Building Service Electrical & Mechanical Engineering (2 pt)

4BAE421 Building Construction Engineering (2 pt)

5 BAE422 Estimating (2 pt)

6 BAE423 Fluid Mechanics (2 pt)

7 BAE424 Reinforced Concrete (2 pt)

8 BAE522 Rock Mechanics (2 pt)

9 BAE 523A Environmental Engineering (2 pt)

10BAE621 Structural Engineering (2 pt)

11BAE623 Surveying & Traffic Engineering (2 pt)

12BAE624 Water Supply , Sanitation & Finishing (2 pt)

Common Graduating Units (Year 5)

13 BAE 605 Engineering Management (4 pt)

14 BAE 608 Engineering Competency Demonstration Report

Total points for Year 3+4+ Final graduating subjects = $32+28+4= 60$ pt

Professional Diploma/ Bachelor of Engineering (Mechanical)

Year (3)

GENERAL APPLIED ENGINEERING (MECHANICAL) DEGREE (29pt)

Subjects
BAE 401 Advanced Engineering Mathematics (9 pt)
BAE 402 Calculus (3 pt)
BAE 403 Engineering Mechanics (1 pt)
BAE 404 Engineering Materials & Thermodynamics (3 pt)
BAE 507 Electro-mechanical Energy Conversion (2 pt)
BAE 508 Industrial Engineering & Industrial Management (1 pt)
BAE511 Air-conditioning & Refrigeration Part 1 (2 pt)
BAE613 Mechanical Instrumentation Process (2 pt)
BAE614 Machine Design (2 pt)
BAE512 Building Service Water Supply System (2 pt)
BAE511 Air-conditioning & Refrigeration Part 2 (2 pt)
<u>Renewable Energy Subjects</u>
View http://www.highlightcomputer.com/BEElectricalNew.pdf for the Professional Diploma in Engineering Combined with Renewable Energy Subjects
View http://www.highlightcomputer.com/re.pdf for detailed contents

Year (4) Part 1 BE (Mechanical + General Related Subjects) (15pt)

BAE 601 Computer Programming(3 pt)
BAE 602 Computer Network (1 pt)
BAE 603 Software Engineering (3 pt)
BAE 605 Engineering Management 5 pt
BAE 606 Building Service Electrical & Mechanical Engineering (3 pt)

Year (4) Part 2

Bachelor of Engineering (Mechanical) Specialization (13 pt)

BAE311 Plant Engineering (2 pt)

BAE312 Design Engineering (2 pt)

BAE313 Environmental Control (2 pt)

BAE314 Mechanical Power Generation (2 pt)

BAE315 Materials Engineering (2 pt) Part 1 Part 2

BAE 608 Engineering Competency Demonstration Report Writing (3 pt)

Elective (3pt)

Subjects
BAE513 Production Technology
BAE611 Maintenance Engineering
BAE612 Engineering Metallurgy

Total point for Year 3+Year 4 Part ½+Elective = 60 pt

Advanced Diploma in Mechanical Engineering= 60 pt

Total credit points= 120 pt

The renewable energy subjects can be substituted for some subjects

Renewable Energy Subjects

View <http://www.highlightcomputer.com/BEElectricalNew.pdf> for the Professional Diploma in Engineering Combined with Renewable Energy Subjects

View <http://www.highlightcomputer.com/re.pdf> for detailed contents

Professional Diploma in Mechanical Engineering with Renewable Energy

Common Year 3

1. BAE 401 Advanced Engineering Mathematics (9 pt)
2. BAE 402 Calculus (3 pt)
3. BAE 403 Engineering Mechanics (1 pt)
4. BAE 404 Engineering Materials & Thermodynamics (3 pt)
5. RE001- Foundation Studies in Renewable Energy and Sustainability (2 pt)
6. RE003- Solar and Thermal Energy Systems (2 pt)
7. RE004- Energy Storage Systems (2 pt)
8. RE005- Renewable Energy Resource Analysis (2 pt)
9. RE006- Wind Energy Conversion Systems (2 pt)
10. RE010-Engineering Materials (2 pt)
11. RE012a-Electrical Engineering Part 1 (2pt)
12. RE016-Design& Management (BAE508) (2 pt)

Total points for Year 3-(32 Pt)

YEAR 4 (Specialized)

1. RE011a-Civil & Mechanical Engineering Part 1 (2 pt)
(Assessment- Study Report)
2. RE011b-Civil & Mechanical Engineering Part 2a (2 pt)
(Assessment- Study Report)
3. BAE 606 Building Service Electrical & Mechanical Engineering (2 pt)
4. BAE311 Plant Engineering (2 pt)
5. BAE314 Mechanical Power Generation (2 pt)

6. BAE315 Materials Engineering (2 pt) Part 1 Part 2 (2 pt)
7. BAE511 Air-conditioning & Refrigeration Part 1 (2 pt)
8. BAE512 Building Service Water Supply System (2 pt)
9. BAE613 Mechanical Instrumentation Process(2 pt)
10. BAE614 Machine Design (2 pt)
11. RE007- Energy System Efficiency(2 pt)
12. BAE 601 Computer Programming(2 pt)

Total points for Year 4-(24 Pt)

Common Graduating Units (Year 5)

- 13 BAE 605 Engineering Management (4 pt)
- 14 BAE 608 Engineering Competency Demonstration Report

Total points for Year 3+4+ Final graduating subjects = $32+28+4= 60$ pt

Professional Diploma/ Bachelor of Engineering (Civil-Building Services)

STAGE (3) BASIC ELECTRICAL & ELECTRONICS ENGINEERING (18 Pt)

REFER DIPLOMA/ADVANCED DIPLOMA IN ELECTRICAL ENGINEERING DETAILED CONTENTS

EE101 DC Circuit Problems

EE102 Basic Electrical Fitting& Wiring

EE103 Basic Electrical Drafting

EE104 Electrical Equipments Safety Protection

EE105 Electrical Installation Design

EE107 Electrical Equipments

EE106 Advanced Electrical Wiring

EE108 Electrical Fault Finding

EE109 Electrical Control Circuits

EE111 Electromagnetism & Basic Electrical Machines

EE112 Alternating Current Principle

EE113 Electrical Fundamental

EE115 Basic Analogue & Digital Electronics

EE116 Process Control System

EE117 Solar Electrical System

EE119 Electrical Risk Assessment

EE120 Electrical Contracting& Specifications

EE308 Sustainability

STAGE (4 A) ADVANCED MECHANICAL ENGINEERING STUDY (6Pt)

REFER DIPLOMA/ADVANCED DIPLOMA IN MECHANICAL ENGINEERING DETAILED CONTENTS

ME 102 Engineering Thermodynamics

ME 109 Engineering Drawing

ME 107 Heat Transfer

ME 201 Introduction to Fluid Mechanics

ME 204 Engineering Fluid Mechanics

ME 301 Fluid Dynamics

STAGE (4B)ADVANCED ELECTRICAL & ELECTRONICS ENGINEERING STUDY

(ADVANCED DIPLOMA) (4 pt)

REFER DIPLOMA/ADVANCED DIPLOMA IN ELECTRICAL ENGINEERING DETAILED CONTENTS

EE201 Engineering Mathematics

EE204 Engineering Physics

EE302 Advanced Engineering Mathematics

EE307 Energy Efficient Building Design

STAGE (5)BACHELOR OF APPLIED ENGINEERING (BUILDING SERVICE) DEGREE (32 pt)

Subjects
BAE 401 Advanced Engineering Mathematics
BAE 402 Calculus
BAE 403 Engineering Mechanics
BAE 404 Engineering Materials & Thermodynamics
BAE 508 Industrial Engineering & Industrial Management

BAE 601 Computer Programming
BAE 605 Engineering Management
BAE 606 Building Service Electrical & Mechanical Engineering
BAE 609 Design Project

Professional Diploma/ Bachelor of Engineering (Mechanical-Mechatronics)

Advanced Diploma of Mechanical Engineering)

REFER DIPLOMA/ADVANCED DIPLOMA IN ELECTRICAL ENGINEERING DETAILED CONTENTS

REFER DIPLOMA/ADVANCED DIPLOMA IN MECHANICAL ENGINEERING DETAILED CONTENTS

(1) **ME104** Principle of Machine

(2)EE624 Process Control

EE115 Basic Analogue& Digital Electronics

EE116 Process Control System

(3)ME 334 Airconditioning and Refrigeration

(4) ME202 Aerodynamics

(5) ME 302 Automation-and-Robotics

(6) ME 303 Computer Aided Design and Manufacturing

(7) ME 234 Wind Turbines

(8) ME 201 Introduction to Fluid Mechanics

(9) ME 204 Engineering Fluid Mechanics +

ME 301 Fluid Dynamics

(10) ME 206 Introduction to Turbo Machinery

(11)ME 205 Manufacturing Processes & Materials

(12) ME 207 Chemical Thermodynamics

(13)ME 208 Hydrocarbons

(14) ME 634 Pneumatics

(15) ME 203 Control

(16) ME 534 Numerical Control

(17) ME 434 Mechtronics-Robotics

(18)EE 617 Building Electrical and Mechanical System

(19)EE105 Electrical Installation Design

EE107 Electrical Equipments

EE105 Electrical Installation Design

EE107 Electrical Equipments

(20)EE106 Advanced Electrical Wiring

(21) EE116 Process Control

(22) EE117 Solar Electrical System

(23) EE119 Electrical Risk Assessment

EE120 Electrical Contracting

(24) ME 109 Engineering Drawing

EE301 Advanced Electrical Drafting

(25) EE121 Electronics Power Control Devices

(26) EE206 AC

(27) EE207 DC

(28)EE202 Electrical Circuits

(29)EE203 Three Phase Power Circuits

(30) ME 305 Corrosion Prevention

(31) ME 306 Theory-of-waves-in- materials

Degree Level

Subjects
BAE 401 Advanced Engineering Mathematics

BAE 402 Calculus
BAE 403 Engineering Mechanics
BAE 404 Engineering Materials & Thermodynamics
BAE 405 Advanced Circuit Analysis
BAE 406 Electro-mechanics
BAE 408 Analogue & Digital Electronics
BAE 502 Linear System
BAE 503 Control System
BAE 507 Electro-mechanical Energy Conversion
BAE 508 Industrial Engineering & Industrial Management
BAE 601 Computer Programming
BAE 602 Computer Network
BAE 603 Software Engineering
BAE 604 Telecommunication Engineering
BAE 605 Engineering Management
BAE 606 Building Service Electrical & Mechanical Engineering

Professional Diploma/Bachelor of Engineering (Electrical)

BAE 401 Advanced Engineering Mathematics (9 pt)

Subject Objective	This subject provides knowledge of mathematical methods needed for engineering problem solving
Learning outcome	The students develop both their thinking and problem solving skills. Topics covered are: vector, functions of a complex variable; algebra, differential equations, mathematical distribution, and applications of mathematics in engineering calculations.
Credit Point	9
Hours	216 Hrs
Assessment	Assignment/ Final Examination/Online MCQ Test

Contents

An Introduction to theory of complex variables

Complex numbers

Functions

Differentiability

Integration in the complex plane

Integral theorems

Power series

Introduction of rational functions of trigonometric functions.

Continuous distribution

Exponential distribution

Normal distribution

Gamma distribution

Convergence in distribution

F distribution

Discrete distribution

Binomial distribution

Poisson distribution

Elementary linear algebra

Algebra in F^n Example problems

Geometric meaning of vectors

Geometric meaning of vector addition
 Distance between points in \mathbb{R}^n Length of vector
 Geometric meaning of scalar multiplication
 Dot product
 Cross product
 System of equation geometry
 System of equation – Algebraic operation
 Matrice arithmetic
 Determinants –Basic technique & properties

Integration and differential equations

List of integrals
 Introduction to background
 Theorem of integration
 Improper integrals
 Improper integral problems
 Integration of rational functions
 Differential equations
 First order ordinary differential equations
 Homogenous equations
 The general linear equations

Random variables

Simple introduction examples
 Problems
 Frequency and distribution functions in 1 dimension

Mathematical modelling preliminary

Introduction
 Discrete time model

Maths 301 Introduction to Complex Variables

The residue Theorem
 Fourier Transform
 Integral theorem of complex analysis with applications
 to the evaluation of real integral
 Introduction
 Integral theorems – The green Theorem
 Cauchy's integral theorem
 Cauchy's residue theorem

Maths 302 Elementary Linear Algebra

A formula for the inverse
 Cramer's rule
 Example 6.2.3 , 6.2.4 , 6.2.6, 6.2.7
 Rank of a matrix

Example 8.2.9 , 8.2.10, 8.3.3 , 8.3.5, 8.3.6, 8.3.7, 8.3.8

Linear independence and bases

Linear transformation

Constructing the matrix of a linear transformation

Linear programming

Maths 401 Continuous Distribution

χ^2 Distribution

F Distribution

F Distribution & “t” Distribution

Estimation of parameters

Maths 402 Discrete Distribution

Geometric distribution

Pascal distribution

Negative binomial distribution

Hyper geometric distribution

Maths 303 Essential Engineering Mathematics

Vectors and matrices

Functions and limits , Example problems

Calculation of one variable (Part 1) Differentiation,

Calculation of one variable (Part 1) Integration,

Calculus of many variables,

Ordinary differential equations,

Complex function theory

Maths 501 Introduction to probability

Theoretical background

Playing card

Binomial distribution

Lotto Example

Conditional probabilities –Baye’s formula

Maths 501 Linear algebra and matrices

Linear transformation matrices

Definition 2.1.1 to 2.1.3

i, j Entry of product Definition 2.1.8

Rank of matrices

Row operations

Maths 502 Introductory Finite Difference Method for PDE

Partial differential equations. Example problems

Taylor theorem
Iterative solution methods
Jacobi Iteration
Gauss Seidel Iteration
Successive Relaxation method

Maths 601 Random Variables

Theoretical results
Frequencies and distribution (1 dimension)
Function of random variables

BAE 402 Calculus (3 pt)

Subject Objective	This subject provides knowledge of calculus methods needed for engineering applications.
Learning outcome	The students develop both their thinking and problem solving skills. Topics covered are: vector calculus; functions of a complex variable; partial differential equations and boundary value problems; the concepts of quantum mechanics and Schrödinger's equation; and applications of mathematics in engineering calculations.
Credit Point	3
Hours	72
Assessment	Assignment/ Test/ Online MCQ Test

Contents

Calculus 1 a .pdf

Differentiation, Example problems

Integration, Example problems

Simple differential equations, Example problems

Calculus 2 a .pdf

Integration of trigonometric polynomials

Complex decomposition of a fraction between two polynomials

Chain rule

Calculation of the directional derivatives

An overview of integration in the plane and in the space

Line integrals

Surface integral

Green's theorem in the plane

Calculus 2b 1.pdf

The range of functions in several variables

Line integral

Space integral

Line integral

Calculus 3b. pdf

Power series method in solution of problems, Example problems

Calculus 3C 1. pdf

Sequence in general

Calculus 4C 1. pdf

Sum function of Fourier series

Maths 303 Engineering Mathematics

Introduction and background

Integration of rational functions

Integration of trigonometric functions

Differential equations

Maths 403 Second Order Differential Equations

Power series solutions

Bessel equations and Bessel functions

Legendre polynomials

Differential equations

BAE 403 Engineering Mechanics (1 pt)

Subject Objective	This subject builds on and brings together the concepts introduced in the Mathematical and Physical Modelling subjects and in Introduction to Mechanical and Mechatronics Engineering.
Learning outcome	It is intended to provide students with a comprehensive overview of elementary mechanics, and lay the basis for further work in this area in later subjects. In particular, material discussed in this subject is taken further in Machine Dynamics and Mechanics of Solids subjects in subsequent stages.
Credit Point	1
Hours	24 Hr of Lecture+ 48 Hr of Tutorials
Assessment	Assignment/ Test/ Online MCQ Test

Contents

Stress Example
 Stress lectures
 Strain All examples
 Strain lessons
 Mechanical properties of materials
 Mechanical properties of materials
 Axial members
 Axial members
 Torsion of shaft
 Torsion of shaft
 Symmetric bending of beams
 Symmetric bending of beams
 Deflection of symmetric beams
 Deflection of symmetric beams
 Stress transformation
 Stress transformation
 Strain transformation
 Strain transformation
 Design and failure
 Design and failure
 Stability of columns
 Stability of columns
 Newton motion

 One dimensional motion

Simple harmonic motion

Damped oscillation

$$X(t) = A r e^{-\tau t/l} \cos(\omega t - \delta_r)$$

Rotating reference frame equations

Modern Mechanics Part 1

Modern Mechanics Part 2

Modern Mechanics Part 3

Modern Mechanics Part 4

Modern Mechanics Part A

Modern Mechanics Part B

Modern Mechanics Part C

ME 301 Applied Mathematics

Kinematics

Projectiles

Forces

Resistance forces

Resolving forces

Rigid bodies

Centre of gravity

Momentum

Energy

Circular motion

Gravitation and planetary motion

The language of vectors

BAE 404 Engineering Materials & Thermodynamics (3 pt)

Subject Objective	<u>Thermodynamics</u> The objectives of this subject are to develop a fundamental understanding of applied thermodynamics in an engineering perspective, Strength of materials <u>Strength of materials</u> This subject draws on, and brings together, the knowledge and skills developed in earlier subjects such as Fundamentals of Mechanical Engineering, Chemistry and Materials Science, and Mechanics of Solids.
Learning outcome	<u>Thermodynamics</u> Use thermodynamics effectively in the practice of engineering, lay the groundwork for subsequent studies in the fields related to energy systems and increase an awareness and emphasis on energy resources and environmental issues. <u>Strength of Materials</u> It also prepares students for the more dedicated design subjects to come and exposes them to practical aspects of mechanical engineering design. The objectives are that students should be able to: understand, describe and use the methodology of modelling material properties and behaviour; understand and describe the fundamental differences in the behaviour of different types of materials; understand and describe how and why things fail; realise the importance of material selection in engineering design; predict, or design to avoid, failure given the material, environment and loading conditions; and use analytical skills in stress analysis and knowledge of material properties in mechanical design..
Credit Point	3
Hours	72 Hrs
Assessment	Assignment/ Test/ Online MCQ Test

Contents

Heat Transfer. pdf

- (1) Heat transfer mode Example problems
- (2) Conduction Example problems
- (3) Convection Example problems
- (4) Radiation Example problems
- (5) Heat Exchanger Example problems

Theory of waves in materials.pdf

Materials-Preliminary
 Materials- Basic mechanical properties
 Basic wave phenomena
 Harmonic waves
 Elastic volume and shear waves
 Rayleigh Elastic waves

Engineering Thermodynamics

General definition
 Thermodynamics-Working fluids
 Laws of Thermodynamics
 Worked Example 3.1 to 3.25

ME434 Wind Turbines

Wind Energy

Theory of wind energy

Wind turbine types and components

Wind energy measurement, Wheel encoder Worked

ME634 Pneumatics

Principle of pneumatics
 Linear actuators
 Flow control
 Pneumatics sensors
 Pneumatics symbols

BAE 405 Advanced Circuit Analysis (3 pt)

Subject Objective	In this subject students are assumed to have knowledge of basic devices such as ideal and real voltage and current sources and loads; resistors; capacitors, inductors and coupled coils; diodes and operational amplifiers.
Learning outcome	To have basic circuit analysis skills such as Kirchhoff's current and voltage laws, Thevenin's and Norton's theorems, mesh and nodal analysis, symmetry, circuit transformation and superposition. Using this understanding as a starting point, the subject introduces the basic theoretical models that underpin signals and system analysis
Credit Point	3
Hours	72
Assessment	Assignment/ Test/ Online MCQ Test/ Online Simulated Practical

Contents

DC Circuit Analysis

Circuit Theory

Modulators

Analog, digital signals , electric current, power summary

Circuit analysis, electric potential, electric power, sign convection, electric source, Kirchoffs' law

Circuit elements, characteristics KCL, KVL

Resistor (Series, parallel, wheatstone bridge, Nodal analysis

Nodal analysis, mesh analysis

Superposition theorem, Thevenin's theorem, Norton theorem, Maximum power transfer theorem,

Operational amplifier

Inverting amplifier circuit, Summing amplifier, Differential amplifier

Capacitor, Op-amp integrator, stored energy

Mutual inductance, time constant, transient

Transient response of 1 st order circuit, RL transient analysis, sequential switching

RC/RL Circuit , Propagation, Delay, DRAM

Semi conductor

PN Junction diode

Light emitting diode

MOSFET

Digital signal

CMOS Digital circuit

Combinational logic circuits

Flip flops

Propagation delay in timing diagram

Integrated circuit fabrication

Device isolation methods

Interconnected resistance and capacitance

Transistor scaling
 Integrated circuit design for application in communications
 Small signal amplifiers
 Network noise intermodulation distortion
 CAD for noise analysis
 Snsors & Detectors
 Low noise design methodology
 Oscillators
 Modulators and demodulators
Concepts in Electrical Circuit
 Circuit theorem
 Sinusoids & phasors
 Frequency response

EE303 Engineering Circuit Analysis

Basic circuits

Basic Nodal and Mesh analysis

Linear and Superposition/ Source Transformation

RL/ RC Circuits

RLC Circuits

Sinusoidal steady state analysis

AC Power Circuit Analysis

Polyphase Circuits

Magnetically coupled circuits

Complex Frequency / Laplace Transform

Laplace Transform

Circuit analysis in “ S “ domain

Pole/ Zero constellation

Frequency Response

Two ports network

Fourier Circuit Analysis

Use of symmetry theory

EE404 Electrical Measurement (1 pt)

Measurement of inductance and capacitance

Measurement of resistance

Magnetic measurement

High voltage measurement and testing

Location of cable fault

Measurement of power

Measurement of energy

BAE 406 Electro-mechanics (2 pt)

Subject Objective	The objectives of this subject are to consolidate fundamental knowledge of electric and magnetic fields; electric and magnetic circuits; how electric, magnetic and electromagnetic energy are interchanged;
Learning outcome	To model an electromechanical automation system using DC and AC motors and simulate its performance in open-loop and closed-loop control. Students also acquire skills in working with machines and equipment at normal mains supply voltage, in power instrumentation and control, PLCs and in experimental design and recording. Technical and theoretical content is expected to be acquired by students to the levels of 'know' (essential), 'familiar' (can solve problems if required) and 'aware' (have read/seen). Laboratory skills, ranging from electrical safety, measurements, design validation and experimental verification are an important focus of this subject.
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test/ Online simulated Practical

Contents

Electro-mechanic -1.0.1 Scope of application

1.1 Electro-magnetic theory

1.1.1a Magnetic field system, Table 1.1

1.1.1.b Electric field system Table 1.2

Lumped electro-mechanical elements

Lumped parameter-electro-mechanic

Rotating machines

Lumped parameter-electro mechanical dynamics

EE 502 Electrical Machines

DC Generator, Example problems

DC Motors, Example problems

Efficiency & heating of electrical machines, Example problems

Three phase transformer, Example problems

Three phase induction motors, Example problems

Synchronous generators, Example problems

Synchronous motors, Example problems

Basic of industrial motor control, Example problems

ME 301 Machine Principle

Rotating machines
Machinery mounting
Balancing
Bearing
Power transmission

BAE 407 Advanced Electro-magnetics Field & Materials (1 pt)

Subject Objective	The objectives of this subject are to consolidate fundamental knowledge of electric and magnetic fields; electric and magnetic materials
Learning outcome	To understand how electric, magnetic and electromagnetic energy are interchanged.
Credit Point	1
Hours	24 + Tutorial 2 hr/ week
Assessment	Assignment/ Test/ Online MCQ Test

Contents

Electric field
 Electrostatic potential
 Dipole and quadrature pole movements
 Batteries, resistors, ohm laws
 Capacitors
 Magnetic effect of an electric current
 Force on current in a magnetic field
 Electro-dynamics of moving bodies
 Magnetic potential
 Electro-magnetic Induction
 Dimensions
 Properties of magnetic materials
 Alternating current
 Laplace transform
 Maxwell Equation
 CGS Electricity & Magnetism
 Magnetic dipole movement
 Outlines
 Electric field
 Electrostatic Energy
 Laplace's equation (1)
 Laplace's equation (2)
 Remarks on units
 Green's functions
 Multipole expansion
 Electro-static in matter
 Boundary condition
 Magneto statics (1)
 Magneto statics (2)
 Macroscopic magneto statics
 Maxwell's equation
 DISC movement
 Electro-magnetic plane waves
 Reflection & refraction

Casual relation between D & E
 Wave guides and load cavities
 Electromagnetic radiation and scattering (1)
 Electromagnetic radiation and scattering (2)
 Scattering by small di-electric sphere
 Electro-magnetism
 Electro magnetic fields and moving charges
 Multipole expansion
 Magnetic constants and materials
 Ampere law
 Brief history of electro magnetism
 Gauss's law
 Numerical solutions to Laplace's equation
 Small current loop
 Curvilinear co-ordinate system
 Problems
 Dielectric tensors and constants
 Analytic solution to Laplace equation
 Magnetostatic boundary condition
 Electrostatic boundary condition
 Electromagnetic field
 The gradient vector
 Maxwell's equation

 Electro-magnetic wave propagation
BAE 407 Advanced Electro-magnetic Field & Materials
Electro dynamics
 Introduction to electro statics
 Boundary value problems in electro statics (1)
 Boundary value problems in electro statics (2)
 Multi-poles Macroscopic media –Dielectrics
 Static and stationary magnetic fields
 Maxwell's equations
 Plane wave and wave propogation
 Wave guides and cavities
 Radiation
 The special theory of relativity
 Particles and field dynamics
 Charged particle collisions-Energy loss, Scattering
 Radiation by moving charges

BAE 407 Advanced Electro-magnetic Field& Materials

 EMFT book.pdf
 Summary of electro statics
 Potential
 Electro-magnetics waves
 Classical optics
 Conservation Law

Conservation Law
Conservation Law
Generic wave
Electromagnetic waves in vacuum
Electromagnetic waves in matter
Electromagnetic waves in conductor
Electromagnetic waves propagation
Electromagnetic waves field
Wave guides
Electromagnetic waves radiation
Electro-dynamics
Frequency

EE407 Electro-magnetism

Di-electric materials and capacitance
Transmission Lines
Maxwell's equations and electro-magnetic waves

Electrostatics

Di-electric

Transmission Line

Maxwell Equation

BAE 408 Analogue & Digital Electronics (5 pt)

Subject Objective	<p><u>Analogue</u></p> <p>The main objective of this subject is to familiarise students with basic electronic circuits, mainly with op-amps as active elements, and their applications.</p> <p><u>Digital</u></p> <p>The objectives of this subject are to enable students to master the fundamentals of digital and programmable electronic circuits and their engineering applications; master the hardware architecture of a typical small computer system; and understand the principles of low-level programming and gain an ability to write simple assembly code.</p>
Learning outcome	<p><u>Analogue</u></p> <p>By the end of the subject, students should have acquired reasonable proficiency in the analysis of basic electronic circuits and be able to build and test circuits in the laboratory. Particular emphasis is placed on the practical, hands-on aspect of electronics to provide a solid foundation of working knowledge for basic analog electronic circuits using op-amps. Laboratory work is a significant proportion of in-class delivery so as to make students proficient in circuit construction, testing, troubleshooting and to give them a sound knowledge of the use of test instruments. Another objective is to show that practical electronic applications are relevant to other engineering and technical disciplines and may often be placed within a wider social or commercial context.</p> <p><u>Digital</u></p> <p>Students are introduced to the basics of concurrent and real-time application programming. Topics include digital sequential circuits; state diagram and its application in the design of digital circuits; basic hardware architectures of the digital computer in terms of its building blocks; how hardware integrates with software at the machine level; low-level language programming; internal architecture and design of a typical register-based central processing unit and a main memory subsystem, and their interdependence; concepts of computer system buses, as well as different types of input and output devices; interrupts; input and output; micro-controller theory; and hardware interfacing design techniques.</p>
Credit Point	5
Hours	120
Assessment	Assignment/ Test/ Online MCQ Test/ Online Simulated Practicals

Contents

Semi conductor devices

Digital circuits

Power Electronics Converters

Introduction to Electronic Engineering

Power Electronics & Applied Electronics

Digital System

Digital Signal Processing

Digital Image Processing

Electronics Circuits

Power Electronics Control

Digital System

Number system basics
Introduction to logic gates
Combinational logic
Karnaugh map
Arithmetic circuit
Coders/ Multiplexers
Counters

Digital Signal Processing

Signal system representation
Fourier/ Z Transform
Discrete Fourier Transform
Principle of filter design
FIR filter design

Digital Image Processing

Introduction
Intensity transformation & spatial filtering
Filtering in frequency domain
Discrete Fourier Transform
Butterworth Low Pass Filter
Butterworth High Pass Filter
Image restoration / Noise analysis

Digital Image Processing

Introduction
Intensity transformation & spatial filtering
Filtering in frequency domain
Discrete Fourier Transform
Butterworth Low Pass Filter
Butterworth High Pass Filter
Image restoration / Noise analysis

BAE 501 Advanced Power Systems & Power Transmission Networks (3pt)

Subject Objective	The subject introduces the basic methods used in the analysis and design of electric power networks.
Learning outcome	Its purpose is to give students a working knowledge of modern power system theory and practice. Techniques introduced in earlier circuit analysis subjects are further developed and applied to power system problems.
Credit Point	3
Hours	72
Assessment	Assignment/ Test/ Online MCQ Test/Online simulated practicals

Contents

Principle of Power System

Source of energy
 Steam power station
 Hydro power station
 Diesel power station
 Nuclear power station
 Gas turbine power station
 Variable load on power station
 Interconnected grid system
 Economic of power generation
 Importance of high load factor
 Tariffs
 PF improvement
 Supply system
 Mechanical design of OH line
 Corona
 Sag
 Electrical design of OH line
 Performance of transmission line
 Line generalised constants
 UG cable
 Capacitance in 3 core cable
 Distribution system
 DC Distribution
 DC System
 AC Distribution
 Voltage control
 Introduction to switch gear
 Circuit breaker
 Fuse
 Relays

Protection transformers
Substation

Advanced Power System –Power Transmission Network

Consequence of power quality
Power quality & applications
Power quality analysis
Power quality monitoring
Management, control and automation of power quality
improvement

Electrical generation and distribution system and power quality disturbances

Integration of hybrid distribution units in power grid
Optimal location and control of multi hybrid model based wind shunt facts to enhance
power quality
Power quality and voltage sags indices in electrical power systems.

Power Transmission Line

AASR Conductors
ARC Fault
Circuit breaker rating
Current transformer
Electrical bushing
Electrical fuse
Induction motor model
IP rating
Load factor
Load redundancy
Over current protection
Partial discharge
Per unit system
Phase conversion
Resonance
RL Switching
Sequence network
Short circuit calculation
Symmetrical component
Transformer impedance

Power Transmission Line 2

AC Power Transmission
Insulation Resistance test
Dry type transformer
Electrical software

Insulation resistance test

Electrical Power Generation System

Designing for high temperature and pressure

Turbine components

Burning of fuel

Facts about fuel

Burning gas and oil

Selecting fuel

Water treatment

Heat exchanger

Computer control

System economics

Power System

Transmission & distribution system

Control of power and frequency

Control of voltage and reactive power

Load flow

Faults

System stability

Over voltage and insulation requirement

Substations and protection

Electrical Power

Power line

Neutral earthing

Switch gear

Instrument

Protection

Power system

Generator response to system faults

Calculation of fault current

Symmetrical components

Commissioning electrical plant

Power System Technology

Power system fundamental

Modern power system

Power control devices

Operational control system

Power conversion

Specialised testing & measurement devices

Generation , Transmission and Distribution of Electric Power

Voltage transient and line surge
Transmission of electrical energy
Corona
UG Cable
Voltage drop in distribution
Regulation
Line and machine chart
Voltage regulation stability
Fault calculation in line

Electrical Power Distribution in Industry & Transmission (Electrical Distribution Engineering)

Planning & design
Electrical design
Mechanical design (Over head)
Mechanical design (Under ground)
Metering
Conductor inductance & capacitance

Power Transmission and Practical Power Distribution

Electric power system
Percentage and per unit quantities
Circuit constants
Assemblies of power system components
Power circuit stability

BAE 502 Linear System (1 pt)

Subject Objective	This subject presents the theoretical basis for system analysis and gives students skills in using the techniques to design components of linear control systems..
Learning outcome	<p>To do the design and implementation of part of a control/communication system</p> <p>To apply their knowledge to a real-life problem. Topics include signal types and their representation in the time and frequency domains; modelling systems with differential or difference equations and transforms of the equations; signal operations and processing; the relationship between discrete and continuous quantities and the mathematical techniques applicable to each; the effects of feedback; time and frequency domain performance of systems; system stability; and control design techniques and simple communication systems. Through learning activities students also gain study skills, including academic literacy skills, and an appreciation of the different fields of practice of engineering and the interdisciplinary nature of engineering.</p>
Credit Point	1
Hours	24
Assessment	Assignment/ Test/ Online MCQ Test

Contents

Controllability of linear control system
 Finite dimensional linear control system
 Linear partial differential equations
 Introduction to intelligent control system with high degrees of autonomy
 Overview of field

Control system

System identification
 Digital and analog
 System metrics
 System modelling
 Classical control
 Transform
 Transfer functions
 Sampled data system
 System delays
 Poles and zeros
 Modern control
 State space equation
 Linear system solution

BAE 503 Control System (4 pt)

Subject Objective	The objective of this subject is to enable students to model with validation control systems and to analyse, design and implement both analog and digital controllers so that the controlled systems conform with given specifications
Learning outcome	<p>Emphasis is placed on laboratory work, the theoretical content of the subject being only that required to produce successful designs.</p> <p>To work on reduced scale models of actual industrial processes. The equipment is based upon experience gained with authentic control applications and is suitably modified for student use.</p> <p>To follow the usual sequence adopted in industry, i start with the calibration of transducers and actuators leading on to dynamic response testing, physical modelling, model verification and finally to controller design, implementation and testing.</p>
Credit Point	4
Hours	96
Assessment	Assignment/ Test/ Online MCQ Test/ Programmable Control Program software applications
	<p>Topics include linear and nonlinear modelling of control systems using Newton's rules, analogous networks or Lagrangian techniques; linearisation and development of linear, time-invariant transfer functions; development of lead-lag compensators or PID controllers using classical control design techniques such as root locus, Bode gain and phase diagrams, Nyquist plots and Nichols chart; development of state-variable equations from differential equations; development of state-variable feedback controllers and state observers; open-loop pulse transfer functions and discrete-time state models; discretisation using backward difference, bilinear, step-invariance or pole-zero mapping; development of digital PID controllers, deadbeat controllers and discrete-time state-variable feedback controllers; describing functions and limit cycles for nonlinear control systems; and the development of linear controllers for nonlinear systems using describing function techniques.</p>

Contents

Gain
 Block diagram
 Feedback control loop
 Bode plot
 Nichol chart
Stability
 Stability
 Routh Hurwitz Criterion, Root Locus

Nyquist Criterion
 State Space Stability
Controllers & Compensators
 Controllability & Observability
 System Specifications
 Controllers, Compensators
 Z - Transform

Non Linear Control Applications

Application of input/ output linearization
 Non linear control for 2 stages PF correction converter
 Non linear observer based control allocation

Control Engineering MATLAB

Transfer functions and their responses
 Frequency response/ Plotting
 Closed loop control
 Controller design

Feedback and Control System

Introduction to linearized dynamic model
 Transfer function model of physical systems
 Transient performance / S- Plane
 Feedback system modelling / Performance
 Dynamic compensation of feedback system

PID Control

Application of PID controllers in motor drive system

Applications of Non Linear Control

Introduction
 Phase plane method

Process Control

Analog Signal Conditioning
 Digital Signal Conditioning
 Final Control
 Discrete State Control
 Controller Principle

Analog Controller
Digital Controller
Control Loop Characteristics

Numerical Control

Introduction to numerical control machinery
Numerical control system
Programming co-ordinates
Two axis programming
Three axis programming
Maths for numerical control programming

BAE 504 Power System Analysis (1 pt)

Subject Objective	The primary objective of this subject is the development of a working knowledge of power systems analysis and design.
Learning outcome	Emphasis is placed on the derivation of equivalent circuits, mathematical models of devices and the system, and on methods of analysis and measurement. Material covered includes electricity supply chain building blocks, system analysis, real/reactive power and load flow analysis, dynamic and transient stability.
Credit Point	1
Hours	24
Assessment	Assignment/ Test/ Online MCQ Test

Contents

Overview
 Real & Reactive power injected bus
 Classification of buses
 Classification of buses
 Preparation of data for load flow
 Load flow by Gauss Seidel method
 Updating load bus voltage
 Updating PV bus voltage
 Convergence of the algorithm
 Solution of a set of non linear equation by Newton Raphson method
 Load flow by Newton Raphson method
 Load flow algorithm
 Formation of Jacobian matrix
 Formation of Jacobian matrix
 Solution of Newton Raphson load flow
 Load flow results
 Load flow results
 Load flow programs in MATHLAB
 Forming Y bus matrix
 Gauss Seidel Load Flow
 Solving non linear equation using Newton Raphson method
 Newton Raphson load flow

Power System Analysis

Transformer
 Transmission line model
 Gauss Seidel Algorithm
 Newton Raphson Iteration
 DC Power Flow Algorithm
 Modelling
 Transient Stability

Power System Analysis

Power Apps Transient Stability validation document for single pole open/ close simulation (Power flow analysis + FAULT ANALYSIS + Power system dynamics and Stability)

Static Analysis
Introduction
Network model
Active & reactive power flow
Nodal formation of power flow problem
Basic power flow problem
Solution of power flow problems
Fault analysis
Power system dynamics and stability
Synchronous machine model
The swing equation
Power swing in simple system
Oscillation in multi machine system
Voltage stability
Control of reactive power voltage

BAE 505 Power System Optimization (1 pt)

Subject Objective	The primary objective of this subject is the development of a working knowledge of optimal power systems operation.
Learning outcome	The subject aims to provide students with a knowledge and understanding of elements of the supply chain and how they function in the National Electricity Market; demand-side management options including smart meters; load forecasting and optimal load scheduling for secure energy supply and use; protection schemes for transmission and distribution networks; communications in power systems, including communication media, architectures, automation, standards, protocols and security; and basic design, connection and standards of current and voltage instrument transformers for protection and metering applications.
Credit Point	1
Hours	24
Assessment	Assignment/ Test/ Online MCQ Test

Contents

Introduction
 Power Flow Analysis
 Classic Economic Dispatch
 Linear programming method
 Mathematical model of economic dispatch
 Linear programming model
 Optimization of power system performance using facts devices
 Optimization of dynamical system

Matrix Eigen Value Method

BAE 506 Power System Stability & Protection (2 pt)

Subject Objective	The primary objective of this subject is the development of a working knowledge of power systems operation and protection. The subject aims to provide students with a knowledge and
Learning outcome	To provide the understanding of elements of the supply chain and how they function in transmission and distribution networks; communications in power systems, basic design, connection and standards of current and voltage instrument transformers for protection and metering applications.
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test/ Simulated Online Practical

Contents

Transient in RL circuit
 Symmetrical fault
 Transient in RL circuit
 DC Source
 AC Source
 Faults in AC Circuit
 Short circuit in unloaded synchronous generator
 Symmetrical faults in power system
 Calculation of fault current using Z bus matrix
 Circuit breaker selection
 Symmetrical components & representation of faulted network
 Overview
 Overview
 Real & reactive power
 Real & reactive power
 Orthogonal Transformation
 Sequence circuit for star load
 Sequence circuit for delta load
 Sequence circuit for synchronous generator
 Sequence circuit for symmetrical transmission line
 Sequence circuit for transformer
 Star/ Star Connected Transformer
 Delta/Delta Connected Transformer
 Star/ Delta Connected Transformer
 Sequence Network
 Un- symmetrical Faults
 Introduction
 Single line to ground fault
 Line to line fault
 Two lines to ground fault
 Fault current computation using sequence network

Transient Stability

Introduction

Power angle relationship

Swing equation

Equal area criterion

Equal area criterion

Multi machine stability

Oscillation in “ S “ Two areas System

Compensation of power transmission

Introduction

Ideal shunt compensator

Improving voltage profile

Improving power angle characteristics

Improving stability margin

Improving damping power oscillations

Ideal series compensator

Impact of series compensator for voltage profile

Improving power angle characteristics

Improving power angle characteristics

Alternate mode to voltage injection

Alternate mode to voltage injection

Comparison of two modes of operation

Power flow control and power swing damping

Power System Protection

Different types of relays and settings

- Technical feasibility of various options
- Cost of options
- Type of transmission AC/DC
- Number of circuits
- Conductor type
- Transmission loss
- Reactive power support requirements
- Reliability
- Quality of power supply
- Stability aspects of the interconnected system
- Operational planning
- Short circuit levels and breaker requirements
- over voltages and control
- Insulation coordination at substations
- Substation arrangements at the end of line, including switching arrangements.

- Insulation requirements.
- Protection, monitoring, control and automation requirements
- Study of harmonics where needed [as in case of HVDC or when a terminating station is close to sources of harmonics]
- Basic and Detailed engineering related to transmission towers, routes, substations

Philosophy of protective relaying

Fundamental of relaying

Current/ voltage/directional/ differential relay

Distance relaying

Pilot wire relay

Carrier current relay

Voltage transformer

Relay response

Generator protection

Transformer protection

Busbar protection

Line protection

Line protection with distance relay

Line protection with pilot relay

Power system stability

Power system stability Guidelines

Power system stability guidelines for determination and report

Direct stability analysis of electric power system using energy functions

Power system stability –New opportunity for control

Typical power quality and harmonic measurement plots

Robust power system stabilizer design using particle swarm optimisation techniques

Harmonic analysis

Power Quality

Power quality

Electrical protection for power system

Substation automation

Introduction to power quality

Harmonic model of transformer

Substation automation

Modelling analysis of synchronous machines

Life time reduction

Power system modelling under non sinusoidal condition

Impact of power quality on reliability

Role of filters in power system

BAE 507 Electro-mechanical Energy Conversion (2 pt)

Subject Objective	The objectives of this subject are to enable students to: acquire an understanding of the nature of power semiconductor devices and their control and use in switch-mode;
Learning outcome	To understand the arrangement and topology of the circuits in which switch-mode devices are used; appreciate the use of power electronic circuits in high-power applications such as motor drives; be aware of the electromagnetic interference problems associated with power electronic systems; use commercial software for the rigorous circuit analysis of real power electronic systems; analysis and design circuits to meet specific specifications; and fabricate basic power electronic circuits such as a chopper.
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test/ Simulated online practical

Contents

Basic semiconductor physics
 PN Junction semiconductor
 Power switching devices
 Electrical rating of switching devices
 Cooling
 Load/ switch communication
 Driving semiconductor & thyristor
 Protecting diode / Thyristor/ Transistors
 Switching circuit energy recovery
 Series , parallel devices operation protection
 Naturally commutating converter
 AC Voltage Regulator
 DC choppers
 Power inverters
 Switched mode & resonant DC-DC power supplies
 Capacitors
 Soft magnetic materials
 Resistors

Motor Control Electronics

AC Induction motor control
 Motor control MCU
 Networking for motor control system
 DC motor control design
 Motor control electronic devices
 Power semi conductors

Mechatronics/ Robotics

Robotics Application
Robotic Gears
Interfacing
Robotic Sensors
Communication

BAE 508 Industrial Engineering & Industrial Management (1 pt)

Subject Objective	To work effectively in industry as middle level managers
Learning outcome	To acquire the introductory skills in business information system, engineering management, supervision, quality control, manufacturing management , human resources management, budgeting, operation and managerial decision making.
Credit Point	1
Hours	24
Assessment	Assignment/ Test/ Online MCQ Test

Contents

Effective management decision making

Introduction

Business Information System

Defining Information System

Acquiring Information System

Developing Information System

Managing Human Resources in 21 Century

Human resources Management

Management Basics

The Manager's Job

Planning in Organization

Operation Management

Operation Strategy

Work System Design

Project Management

Inventory Management

Quality Management

Leadership in Quality Management

Strategic Quality Management

Implementing Quality Management

Strategic Financial Management

Finance An Overview

Capital Budgeting

Equity Valuation & Cost of Capital

Strategic Management

The Basic of Strategy

The Levels of formulation of strategy

External analysis

Internal analysis

Strategy implementation

Understanding organization part 1

Organization structure

Organization culture

Managing behaviour

Effective leadership

Part (2) Competency Units

Mgt 501 Basic Management & Communication Skills (1 pt)

Textbook – Mgt 501 Management Basics

Chapter (1) Management basics

Chapter (3) Planning

Chapter (5) Organizing

Chapter (6) Organizing the organization

Chapter (7) Leading

Textbook—Mgt501 Management Briefs

Chapter (2) Leadership

Chapter (5) Motivation

BAE 601 Computer Programming (3 pt)

Subject Objective	This subject provides basic skills in Java/ C/C++/C# programming and software design,
Learning outcome	<p>To acquire the skill practice in object-oriented (OO) programming concepts, data flow, control flow, arrays, and the basics of sorting and searching algorithms.</p> <p>To illustrate a design process using a set of design notations and design rules, and shows how to develop a correct, readable and reusable solution from a problem specification.</p>
Credit Point	3
Hours	72
Assessment	Assignment/ Test/ Online MCQ Test/ Programming software application

Contents

Part (1) Overview Knowledge of the subject

Select any of the following textbooks

- C Programming
- C++ Programming
- C# Programming
- Object Oriented Programming
- C Programming in Linux

IT 401 Object Oriented Programming (1 pt)

IT 402 Structured Programming (1 pt)

IT 403 Visual Basic Programming (1 pt)

BAE 602 Computer Network (1 pt)

Subject Objective	The objectives of this subject are to introduce students to the basic concepts and terminology used in telecommunication networks and a system-level view of network operation.
Learning outcome	To understand the evolution of telecommunication networks; services and applications (voice, video, data, location-based services, multimedia, gaming, etc.); network protocols (TCP/IP, OSI); transmission and switching basics; transmission media; access networks; PSTN; internet (dial up, broadband, ISP); network security; mobile networks (2G, 2.5G, 3G, 4G); data networks (LANs, wireless LANs, WANs, SANs, PANs, enterprise networks); VoIP networks; and convergence in telecommunication networks, next generation networks (NGN) and digital identity in networks.
Credit Point	1
Hours	24
Assessment	Assignment/ Test/ Online MCQ Test

Contents

Computer Network
 Peer to peer networking
 Client server networking
 Network hardware
 Network cable
 Hub
 Wired network
 Wireless network card
 Firewall
 Wiring the network
 Wiring the network
 Running the network program
 Viewing network connection
 Network set up on additional computers
 Viewing network connection

Introduction
 Network model
 Data and signals
 Data and signals
 Data rate limit
 Performance
 Digital transmission
 Digital transmission
 Analog transmission
 Analog transmission

Bandwidth utilization/ Multiplexing/
Spreading
Bandwidth utilization/ Multiplexing/
Spreading
Transmission media
Error detection & correction
Error detection and correction
Defining needs
Area covered
Organization information requirement
System VS Procedure
Types of systems
What are the systems?
Infrastructure
Support system
Data mart
Organizational structure
Planning for system development
System design
Security of information system
Risk management

BAE 603 Software Engineering (2 pt)

Subject Objective	This subject introduces students to the fundamentals of contemporary software engineering.
Learning outcome	<p>To overview of the agile and non-agile software engineering principles, methods, tools and techniques is presented. Current trends and challenges in the practice of software engineering are explored.</p> <p>To apply contemporary agile requirements analysis, planning, architecture, design, implementation and testing practices to software engineering project work in small teams.</p>
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test/ Software Design Practice

Contents

Introduction
 Software process
 Feasibility study
 Project management
 Documentation, Requirement analysis
 Requirement specification
 Business/ Legal aspect
 Source code management
 Formal specification
 Object oriented design 1
 Object oriented design 2
 Object oriented design 3
 System Architecture 1
 System Architecture 2
 System Architecture 3
 Design for utility
 Performance of computer system
 Coding standard/ Tools for designing 1
 Dependable system 1 Reliability
 Dependable system 2 Validation
 Law aspect
 Risks in software engineering
 Software engineering as engineering

Nano Technology

What is Nano technology?
 Motivation for Nano technology
 Scaling laws
 Nano technology

BAE 604 Telecommunication Engineering (2 pt)

Subject Objective	On completion of this subject, students have learned the skills to systematically analyse network operations and performance, and also have the ability to appreciate approaches in designing communication and computer networks.
Learning outcome	To understand the communication architecture. To provide the necessary background in understanding operations of TCP/IP, the mostly widely implemented protocol stack in computer networks, on a layer-by-layer basis.
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents

Communication fundamental
 Information & bandwidth
 Amplitude modulation transmission
 Amplitude modulation reception
 Single side banded communication
 Frequency modulation –Transmission
 Frequency modulation –Reception
 Communication Techniques
 Communication Receivers
 Pulse Modulation
 Code transmission
 ISDN
 Transmission lines
 Wave propagation
 Antenna
 Fibre optics

Data Communication

Overview of data communication
 Data terminals
 Message and transmission channels
 Asynchronous modems and interfaces
 Synchronous modem and digital transmission
 Protocol and error control

Electronics Telecommunication

RF Transmission
 Transmission Lines & Antennas, Video signals

BAE 605 Engineering Management (5 pt)

Subject Objective	To work effectively in industry as middle level managers
Learning outcome	To acquire the advanced skills in business information system, engineering management, supervision, quality control, manufacturing management , human resources management, budgeting, operation and managerial decision making.
Credit Point	5
Hours	120
Assessment	Assignment/ Test/ Online MCQ Test+ Submission of engineering design project (Minor thesis)

Part (1) Overview Knowledge of the subject

Completion of BAE 508 Overview also completes BAE 605 Overview

Part (2) Competency Units

Mgt 502 Operation Management (1 pt)

Mgt 503 Production & Operation Management (1 pt)

Mgt 504 Project Management (1 pt)

Mgt 505 Quality Management and Manufacturing Engineering (1 pt)

Mgt 506 Strategic Financial Management (1 pt)

Mgt 502 Operation Management (1 pt)

Product design and process selection

Total quality management

JIT & Lean System

Capacity planning

Mgt 503 Production & Operation Management (1 pt)

Planning production

Managing inventories-Material requirement planning

Manufacturing

Dealing with technology and design

Operation strategy

Mgt 504 Project Management (1 pt)

Project management

Project organization

Project plan

Progress& performance measurement

Risk management

Documentation/ Audit/ Closure

Mgt 505 Quality Management and Manufacturing Engineering (1 pt)

Background

Why quality management

Standards and models

Progress& performance measurement

Strategic quality management

Documentation/ Audit/ Closure

Mgt 506 Strategic Financial Management (1 pt)

Capital budgeting

Treatment of uncertainty

Debt valuation and cost of capital

Capital gathering & cost of capital

BAE 606 Building Service Electrical & Mechanical Engineering

(2 pt)

Subject Objective	To work effectively in M & E Engineer in building construction & building service industry
Learning outcome	To understand the methods of building construction To understand aircondition & refrigeration systems. To design the water supply system for building To design fire protection, building automation systems
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test/ Building service design project.

Contents

Building Construction 1

Making building
 Foundations
 Wood
 Interior finish for wood light frame construction
 Wall types
 Concrete construction

Air-conditioning & Refrigeration

Controlling the temperature of mass
 Electric heat
 Humidification
 Air-conditioning –Cooling / Comfort
 Air-distribution & Balance
 Reference Tables

Sanitation & Water Supply

Design of onsite sanitation system
 Hydraulic design of sewers

Building Electrical & Mechanical System Part 1

Climate comfort and design strategies
 Thermal control

Designing for heating cooling
Large building HVAC system
Water and basic design
Water supply
Water and waste
Fire protection
Fire protection
Illumination
Lighting design
Signal system

Airconditioning and Refrigeration

Theory of heat
Solar heat
Humidification
Air-conditioning-Cooling
Air-distribution & Balance
Air-conditioning Calculation worksheets

BAE 607 Radio Wave Propagation & Microwave Techniques (2 pt)

Subject Objective	This subject presents the theoretical basis for system analysis and gives students skills in using the techniques to design components of communication systems.
Learning outcome	io understand radio & microwave signal types and their representation in the time and frequency domains; modelling systems with differential or difference equations and transforms of the equations; design of antenna, propagation principle
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents

Radio Wave Propagation

Introduction to radio wave propagation
 Propagation features/ Overviews
 Electromagnetic waves, Prpagation through atmosphere
 Antenna
 Radio wave propagation fundamentals
 Antennas and propagation
 Mobile radio propagation
 Propagation
 Wave propagation
 Radio navigation
 Wireless communication

Microwave Technique

Microwave antenna and radio wave propagation
 Distributed element circuit analysis techniques
 Matching networks
 Couplers, combiners, dividers
 Mixers
 Gain and stability
 Noise
 Electromagnetism and RF Propagation
 Antenna Fundamental
 Communication system
 RF Safety

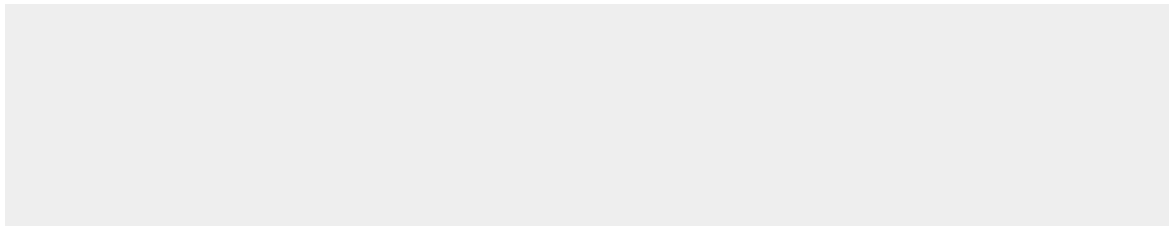
 Rain attenuation of microwave and milli-meter wave signals

 Design of microwave filters (Vol 1)

Mechanically & magnetically tunable microwave filters
Design of microwave filters (Vol 1)
General applications of filter structure in microwave engineering
Properties of some common microwave filter elements

BAE 608 Professional Engineer Competency Demonstration Report

- The students will have to write Engineering Competency Demonstration Report based on their academic study and work experiences gained after completion of academic study.
- Competency Demonstration Report is voluntarily to be submitted. It prepares the students to have the necessary skills to gain the membership of Engineers Australia later.
- The outlines of Competency Demonstration Report will be provided to the students after completion of the last course work subject.



Bachelor of Engineering (Civil)

Year (3) Part 1 ADVANCED GENERAL CIVIL ENGINEERING DEGREE LEVEL

Subjects
<u>BAE 401 Advanced Engineering Mathematics</u>
<u>BAE 402 Calculus</u>
<u>BAE 403 Engineering Mechanics</u>
<u>BAE 404 Engineering Materials & Thermodynamics</u>
<u>BAE 508 Industrial Engineering & Industrial Management</u>
<u>Renewable Energy Subjects</u> View http://www.highlightcomputer.com/BEElectricalNew.pdf for the Professional Diploma in Engineering Combined with Renewable Energy Subjects View http://www.highlightcomputer.com/re.pdf for detailed contents
<u>BAE 401 Advanced Engineering Mathematics---</u> Please see under Bachelor of Engineering (Electrical) Program
<u>BAE 402 Calculus</u> Please see under Bachelor of Engineering (Electrical) Program
<u>BAE 403 Engineering Mechanics</u> Please see under Bachelor of Engineering (Electrical) Program
<u>BAE 404 Engineering Materials & Thermodynamics</u> Please see under Bachelor of Engineering (Electrical) Program
<u>BAE 508 Industrial Engineering & Industrial Management</u> Please see under Bachelor of Engineering (Electrical) Program

BAE421 Building Construction Engineering

Subject Objective	<p>To understand the methods of design, construct, maintain, inspect and manage private and public work projects</p> <p>To understand the effects of environments on the properties and performance of construction materials</p>
Learning outcome	<p>To have a basic understanding of construction materials, in relation to their production, properties, testing and application. The main objectives of this subject are to help students acquire fundamental knowledge of the production, physical and engineering properties of construction materials;</p> <p>To understand the construction techniques, methods, schedules & application of construction materials in building construction.</p> <p>To be familiarize with rules, regulations and industrial standards related to building construction.</p>
Credit Point	4
Hours	96
Assessment	Assignment/ Test/ Online MCQ Test/ Building Design Practice Online simulation

Contents

- Basic skills
- Isometric drawing
- Retaining walls & Post footings
- Stair
- Doors & Windows
- Trusses
- Buildings
- Collar truss
- Howe truss

- Timber
- Steel
- Brick masonry
- Timber
- Brick-nogging
- Steel
- Reinforced concrete
- Floor plans
- Foundation plan
- Cross section
- Front elevation
- Back elevation
- Left side elevation
- Right elevation
- Culverts
- Bridges
- Buildings
- Pipe culvert
- Box culvert
- Slab culvert
- Deck and girder bridge
- Half top plan of culvert
- Half bottom plan of culvert
- Cross section of culvert
- Longitudinal section of culvert

- Elevation of culvert
- Mix Design
- Permissible water cement ratio

BAE422 Estimating (2 pt)

Subject Objective	To understand the methods of costing, material requirement planning in building construction
Learning outcome	To perform the costing, estimating, rate analysis, to interpret the construction drawings & determine the bills and quantities of construction materials.
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents

- Preliminary estimates
- Detailed estimating
 - Culverts
 - Bridges
 - Buildings
 - Roads
- Analysis of rates
- Detailed Estimating
- Buildings
- Up to plinth level
- Above plinth level
- Culverts
- Bridges
- Roads
- Earthworks

- Analysis of Rates
- Total workdone
- Material and labour requirements
- Estimated cost
- Actual PAE or CCE or RFT
- Complete items
- Quantity
- Measurements
- Content calculation
- Rates
- Buildings
- Above plinth level
- Culverts
- Analysis of rates

BAE423 Fluid Mechanics (2 pt)

Subject Objective	This subject aims to enable students to: understand key concepts and fundamental principles, together with the assumptions made in their development, pertaining to fluid behaviour, both in static and flowing conditions; deal effectively with practical engineering situations, including the analysis and design of engineering systems and devices involving fluids and flow; appreciate possible applications and links to other disciplines; and engage in further specialised study or research..
Learning outcome	The subject also aims to enhance interests in fluid phenomena and applications. Topics include: fluid properties and statics; conservation laws of mass, momentum and energy; flow in pipes; external flow (lift and drag); boundary layers; flow measurements; and environmental fluid mechanics
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents

- *Methods of Application of water*
- *Water Logging, Drainage, land reclamation and irrigation management*
- *Theoretical Concepts of Boundary Layer, Surface Roughness, Velocity Distribution*
- *Gradually varied flow*
- **Scale Model in Hydraulic Engineering**
- Surface irrigation methods
- Subsurface irrigation methods
- Sprinkler irrigation
- Drip or trickle irrigation
- Flooding Methods
- *Wild or uncontrolled Flooding*
- *Controlled Flooding*
- *Flooding from field channels*
- *Border strip methods*

- *Check method*
- *Basin method*
- *Zig-zag method*
- Furrow Method
- Contour Farming

BAE424 Reinforced Concrete (2 pt)

Subject Objective	To have knowledge of structural design, including the behaviour and design of reinforced concrete (RC) and, to a lesser extent, of prestressed concrete (PSC) elements as parts of overall structures.
Learning outcome	This subject builds on the knowledge of statics, solid mechanics and structural analysis of indeterminate structures that the students have learnt in the previous structural strand subjects. Students learn about the behaviour and design of RC beams, slabs and columns and PSC beams, for both serviceability and strength. Initially, the students are introduced to the Limit State Design philosophy of Australian Standards for structural design and to the material properties of concrete, reinforcement and prestressing steel used for design. RC topics include uncracked section analysis of beams, cracked section analysis of beams (linear-elastic, Desayi-Krishnan, ultimate) for strength and design for strength to AS3600, serviceability design of beams, ductility of singly and doubly reinforced sections, design for shear, T-beams, approximate analysis and design of one-way, two-way slabs and flat slabs/plates, columns (interaction diagrams and slenderness effects), pad footings, cantilever retaining walls and reinforcement detailing. PSC beam topics include history, uncracked section analysis, equivalent loads, load-balancing, cracked section analysis (linear-elastic and ultimate), design for bending, shear, transfer, anchorage.
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents

- Design of Concrete Structures
- FUNDAMENTALS OF FLEXURAL BOND
- Source of bond strength
- Bond Stress Based on Simple Cracked Section Analysis
- Actual Distribution of Flexural Bond Stress
- Development Length
- Factors influencing Development Length
- ACI CODE PROVISION FOR DEVELOPMENT OF TENSION REINFORCEMENT
- ANCHORAGE OF TENSION BARS BY HOOKS
- Development Length and Modification Factors for Hooked Bars

- ANCHORAGE REQUIREMENTS FOR WEB REINFORCEMENT
- Special Requirements near the Point of Zero Moment
- Structural Integrity Provisions

BAE425+525 Timber Engineering (2 pt)

Subject Objective	To have knowledge of structural design, including the behaviour and design of timber structures in construction engineering.
Learning outcome	This subject builds on the knowledge of statics, solid mechanics and structural analysis of indeterminate structures that the students have learnt in the previous structural strand subjects. Students learn about the behaviour and design of timber beams, slabs and columns for both serviceability and strength. Initially, the students are introduced to the Limit State Design philosophy of Australian Standards for structural design and to the material properties of timber and seasoning the timbers used for design.
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents

- Bending Stress and Deflection of Wood Joists
- Shearing Stress Caused by Stationary Concentrated Load
- Shearing Stress Caused by Moving Concentrated Load
- Strength of Deep Wooden Beams
- Design of a Wood-Plywood Beam
- Determining the Capacity of a Solid Column
- Design of a Solid Wooden Column
- Investigation of a Spaced Column
- Compression on an Oblique Plane
- Design of a Notched Joint
- Allowable Lateral Load on Nails
- Capacity of Lag Screws

- Design of a Bolted splice
- Investigation of a Timber-Connector Joint

BAE521 Road & Bridge (2 pt)

Subject Objective	To have knowledge of structural design, including the behaviour and design of road & bridge structures in construction engineering.
Learning outcome	<p>This subject builds on the knowledge of statics, solid mechanics and structural analysis of indeterminate structures that the students have learnt in the previous structural strand subjects.</p> <p>Students learn about the behaviour and design of road, bridge, slabs and columns in bridge for both serviceability and strength. Initially, the students are introduced to the Limit State Design philosophy of Australian Standards for structural design and to the material properties of road & bridge construction</p>
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents

- Hydraulic Design of Bridge
- The establishment of afflux levels
- Back water levels
- Long Contraction
- Yarnell's empirical equation
- The limiting values of σ
- Skewed bridges
- Discharge computation
- Scour depth under the bridge
- Scour around bridge piers
- Scour protection works around bridge piers
- Road bridge

BAE522 Rock Mechanics (2 pt)

+

BAE523 Soil Mechanics (2 pt)

Subject Objective	The aim of this subject is to develop students' technical competence in the analysis of soil masses and of structures associated with the soil. The analysis of footings, retaining walls and soil slopes are examples.
Learning outcome	By completing this subject, students should be able to understand the concept of failure in soil and apply it to the analysis of soil masses; critically appraise a problem in order to decide which particular analysis should be used; identify the limitations of their analyses and carry out appropriate solution validation; be responsible for the analysis component of a design team; study the relevant literature and learn to apply new or more complex methods of analysis; and carry out fieldwork in association with subsurface investigations. Topics include introduction to geotechnical design – criteria, codes, engineering judgment; site investigation – planning, fieldwork, techniques; shallow foundations – types, bearing capacity theories, retaining structures; earth pressure theories – Rankine and Coulomb, analysis of gravity walls, cantilever walls, braced excavations; deep foundations – types, load-carrying capacity, settlement, group behaviour, lateral loading; slope stability – failure mechanisms, infinite slopes, rotational failure, remedial measures; and soil improvement – compaction, soil stabilisation, dewatering, preloading.
Credit Point	4
Hours	96
Assessment	Assignment/ Test/ Online MCQ Test/ Design Project

Contents

- Soil
- Soil Mechanics
- Geotechnical Engineering

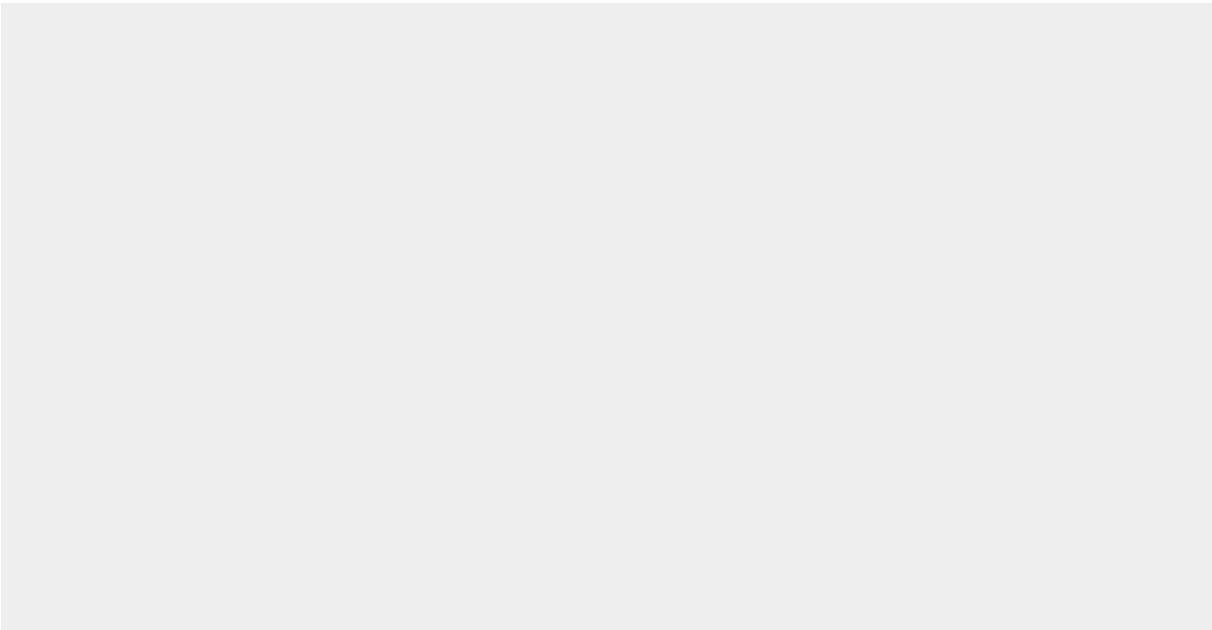
- Subsoil Exploration
- Testing (In-situ Tests & Laboratory Tests)
- SPT, CPT, Vane Shear Test
- Moisture content
- Index Properties Tests (LL, PL, SL)
- Grain Size Distribution Test (Sieve Analysis& Hydrometer)
- Specific Gravity
- Shear Strength Tests (Tri-axial Compression:, Direct Shear, Unconfined Compression:)
- Compaction test, CBR Test
- Consolidation Test, Permeability Test

BAE 523A Environmental Engineering

Subject Objective	Increasingly biological principles are being integrated as part of engineered systems to create innovative and effective design solutions. This subject teaches fundamental chemical, physical and biological principles which can be used to analyse data and formulate design solutions to environmental problems particularly related to water quality.
Learning outcome	To understand hydrology, soils, ecosystems, material balances, nutrient cycles, risk and water quality engineering. The way this knowledge is utilised by engineers for ecosystem restoration and engineered treatment systems is examined.
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents

- Distribution of water
- Requirement for good distribution system
- METHOD OF DISTRIBUTION
- Gravity System
- Combined gravity and pumping system
- Pumping system
- PRESSURE IN DISTRIBUTION MAINS
- SYSTEM OF WATER SUPPLY
- CONTINUOUS SYSTEM
- INTERMITTENT SYSTEM
- DRAWBACKS OF INTERMITTENT SYSTEM
- DISTRIBUTION RESERVOIR
- CAPACITY OF DISTRIBUTION RESERVOIR
- **Mac Donald's equation**
- DETERMINATION OF STORAGE CAPACITY

- Hydrograph method
 - Mass curve method
 - HEAD LOSS DUE TO FRICTION
 - Darcy Weisbach formula
 - Hazen William formula
 - Manning's formula
 - Combined Darcy Weisbach and Colebrook White formula
 - LAYOUT OF DISTRIBUTION SYSTEM
 - Dead end system or Tree system
 - Grid iron system or Reticular system
 - Circular system or ring system
 - Radial system
 - ANALYSIS OF PRESSURE IN DISTRIBUTION SYSTEM
 - Equivalent pipe method
 - Hardy cross method
- 

BAE621 Structural Engineering (3 pt)

Subject Objective	This subject covers methods and concepts which are fundamental to the analysis of linear elastic structural frameworks.
Learning outcome	Students learn how load bearing structures respond to the actions of directly applied loads as well as environmental effects such as temperature and foundation settlements. Topics covered include: computing deformations in plane frames using the principle of virtual work; the analysis of statically indeterminate structures using both, the force method as well as the method of moment distribution; and how to establish influence lines and how to use them in finding maximum load effects. A brief introduction to non-linear analysis of structures is also given.
Credit Point	3
Hours	72 hr
Assessment	Assignment/ Test/ Online MCQ Test/ Structural Design

Contents

- DESIGN OF A SLAB BRIDGE
- FOUNDATION SETTLEMENTS
- Major problems with soil settlement analysis
- Settlement classification
- Immediate settlement& consolidation settlement
- Stresses in soil mass
- Approximate method (2:1 slope)
- Boussinesq's method
- Westergaard's method

BAE623 Surveying & Traffic Engineering (2 pt)

Subject Objective	<p>Surveying</p> <p>The objectives of this subject are to enable students to: become competent in the theory and practice of basic surveying skills.</p> <p>Traffic Engineering</p> <p>To understand the transportation planning principles & methods</p>
Learning outcome	<p>Surveying</p> <p>To be able to use basic surveying equipment such as levels and theodolites and perform the calculations and reductions of observations associated with such equipment; be aware of the likely errors that may occur during observations and of methods to eliminate or minimise such errors; be competent in making distance measurements accurately over short distances using tapes and wires and be aware of the advantages of modern developments in this field such as Electronic Distance-measuring Equipment; be able to perform a simple traverse and associated calculations to find the misclose and proportional accuracy, and the bearing and distance of one missing line; understand and be able to perform relevant calculations for the engineering applications of surveying (horizontal curves, vertical curves, and areas and volumes); and be aware of field techniques used to enable preparation of a detail and contour plan. The stadia method is discussed in class and is used as a data-gathering tool in a practical exercise. The applications of modern computer programs to reduce data for and the plotting of detail and contour plans are introduced. Services of professional surveyors are explained, as are engineering situations where surveyors must be engaged.</p> <p>Traffic Engineering</p> <p>To applt the transportation planning principles & methods in land transport & airport runway designs.</p>
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents

Surveying

Topics include: use of equipment such as levels, theodolites and tapes and wires; calculations related to this equipment, as well as traversing, horizontal curve setting out,

design of vertical curves, areas and volumes and stadia and contouring; modern developments in surveying; and the role of the professional surveyor.

Traffic Engineering

- Airport Runway Orientation
- Wind Rose Diagram
- Highway Pavement Performance
- Traffic
- Roadbed Soils (Sub grade Material)
- Materials of Construction
- Environment
- Drainage
- Reliability
- Transportation Engineering
- Transportation Planning
- Urban Transportation Planning
- Urban Transportation Planning Process
- Coding and Zoning
- Inventory Studies
- Travel Studies
- Forecasts for the Horizontal Year
- Trip General Analysis
- Trip Distribution Analysis
- Modal Split Analysis
- Network Assignment Analysis
- Evaluation

BAE624 Water Supply , Sanitation & Finishing (2 pt)

Subject Objective	This subject provides civil and environmental engineering students with a detailed knowledge of: (i) water pollution control objectives, (ii) the design of potable water and sewage treatment processes, (iii) sewerage and water reticulation systems, (iv) total water cycle management, and (v) the advanced technologies used in the upgrading of water and wastewater treatment plants, desalination and water and biosolids re-use.
Learning outcome	At the completion of this subject, students understand: public health and environmental objectives in water supply and wastewater disposal; the design concepts for drinking water and sewage treatment plants; sewerage systems and water reticulation systems; and new technologies developed to meet the new water quality and water re-use objectives.
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents

- Water Quality
- Dissolved Oxygen
- BOD (Biochemical Oxygen Demand)
- COD (Chemical Oxygen Demand)
- Water Sampling
- Requirements for good Sampling Procedure

BAE622 Architecture (3 pt)

Refer any architecture text book , study & prepare the report on practical application problem given by the tutor.

Professional Diploma/ Bachelor of Engineering (Mechanical)

Year (3)

GENERAL APPLIED ENGINEERING (MECHANICAL) DEGREE

Subjects
<u>BAE 401 Advanced Engineering Mathematics</u>
<u>BAE 402 Calculus</u>
<u>BAE 403 Engineering Mechanics</u>
<u>BAE 404 Engineering Materials & Thermodynamics</u>
<u>BAE 507 Electro-mechanical Energy Conversion</u>
<u>BAE 508 Industrial Engineering & Industrial Management</u>

The detailed contents of the above subjects can be found under Professional Diploma/ Bachelor of Engineering (Electrical)

BAE511 Air-conditioning & Refrigeration

Subject Objective	The Heating, Ventilation, Air Condition and Refrigeration Technology or HVAC/R Program is designed to provide hands-on training on the same equipment used by business and industry. In addition, this program is designed to provide the students with the necessary skills required to become a state licensed independent business owner/contractor or for employment in the industry as a technician in residential, commercial, and/or industrial air conditioning, refrigeration and heating.
Learning outcome	Students will have an opportunity to learn various HVAC/R processes that will provide the basic preparation for entry-level jobs in the field of air conditioning, refrigeration, and heating with the initial focus placed on troubleshooting and service. In addition, they will learn the fundamentals of HVAC/R through hands-on training in (1) Theory of temperature control, (2) Electronics, (3) Design and construction of HVAC equipment, (4) Installation, (5) Maintenance, and (6) Repair. As students advance through the program, related topics of indoor air quality, load calculation, system design, and industry code standards will also be covered.
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test/ Design Project

Contents

- Heat transfer by Conduction
- Convection
- Radition
- Thermal Conductivity, k
- Boundary and Initial Conditions
- Properties and state
- The System
- Internal energy (U)
- Enthalpy (H)
- Work (W)
- Heat (Q)
- Specific Heat Capacity (c)

- Heat Engine
- The characteristic equation of a perfect gas
- Expansion processes
- Adiabatic process
- Isothermal Process

BAE613 Mechanical Instrumentation Process

Subject Objective	This subject aims to extend students' competence in the design of engineered systems and components, as well as familiarising them with modern design approach methodologies.
Learning outcome	While the emphasis is on realistic engineering-team/client/boss interactions, need exploration, project development and delivery, this subject draws heavily on the expertise the students have developed up until this stage of the course. Furthermore, the subject aims to enhance and polish students' capabilities in dealing with human-centric aspects of the design process.
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test/ PLC Program Project

Contents

- Problem-solving Methodology
- Matlab Environment
- Initializing Variables
- Data Format
- Printing Matrices
- Useful Commands and Functions
- Fundamental Engineering Computations
- Two-Dimensional Arrays and Matrices
- Variational Method
- Collational Method
- Subdomain Method
- Galerkin's Method
- Least Square Method

BAE614 Machine Design

Subject Objective	The objectives of this subject are to give students an understanding of the kinematics and dynamics of rigid bodies in general planar motion, which is typically encountered in design and analysis of mechanical systems, and an elementary understanding of the vibration of mechanical systems, in particular the dynamic behaviour of single-degree-of-freedom mechanical systems with various damping and applied forces.
Learning outcome	Students should be able to: model problems in rigid body planar and spatial kinematics and rigid body planar dynamics; understand energy methods in contrast to direct applications of Newton's second law of motion for setting up a model; understand the physics of a problem formulated from a real mechanical system; appreciate the role of vibration in machines and structures in the engineering world; understand the procedures required to evaluate a vibration problem; and analyse the dynamic response of single-degree-of-freedom mechanical systems. The subject also covers the concept of a rigid body, full nomenclature used in kinematics, two-body velocity equations and velocity diagrams of planar motion; two-body acceleration equations and acceleration diagram; three-body velocity equations and acceleration equations including Coriolis acceleration term; angular velocity acceleration equations including three-dimensional problems; $F=ma$ applied to a rigid-body-dynamics, significance of 'centre of mass', the 'moment' relationship ($M=Ia$, etc.); angular momentum, conservation of angular momentum (general case, centre of mass moving, no 'fixed' point); linear and angular impulse problems; energy methods for general planar motion; elementary principles of vibration theory, free vibration of undamped single-degree-of-freedom system; free decay vibration of damped single-degree-of-freedom system; and the forced vibration of single-degree-of-freedom system.
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test
TOPICS	Topics covered include the mechanical design process, graphical presentation of engineering ideas and components, computer-aided design, engineering materials and processes and aspects of engineering knowledge. A prototype design-and-build project is a major component of this subject
<u>Specific Contents</u>	<ul style="list-style-type: none"> • Balancing , Forces, Cam Profile • Resultant Effects of Engine, V-Engine Mechanism • Arrangement to balance the primary moment (C.W) • FORCES IN ENGINE, Inertia Forces and D'Alembert's Principle

BAE512 Building Service Water Supply System

Subject Objective	This subject provides mechanical engineering students with a detailed knowledge of: (i) building water supply control objectives, (ii) the design of potable water supply processes & piping system mechanical design.
Learning outcome	At the completion of this subject, students understand: public health and environmental objectives in water the design concepts for water supply piping design
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents

- Pressure loss in pipe
- Pressure loss in pipet by loss coefficient method
- Pressure loss in pipe by Equivalent Length Method
- To find the duct pipe by Equal Friction Method
- To find the duct pipe by Balance Capacity Method
- Design the piping system

BAE311 Plant Engineering (2 pt)

Subject Objective	The objectives of this subject are to: have an understanding of the behaviour of linear (or approximately linear) dynamic systems that are typically encountered in the practice of mechanical engineering; and gain an understanding of how such systems can be controlled, or have their dynamics altered, so as to achieve desired outcomes.
Learning outcome	<p>Topics covered include:</p> <ul style="list-style-type: none"> dynamic models: component block diagram, laplace transform, undamped free and forced vibration of SDOF systems, damped free and forced vibration of SDOF systems, resonance and beats, logarithmic decrement, response under the harmonic motion of the base, coupled-tank systems, vibration of 2DOF systems, vibration isolation, vibration absorbers Matlab and Simulink dynamic response: system modelling diagrams, poles and zeros, effect of pole locations, first order systems, second order systems, effects of zeros and additional poles, stability basic properties of feedback: the basic equations of control, control of steady-state error, PID control, pole placement method the root-locus design method: root-locus of a basic feedback systems, dynamic compensation, examples control system implementation and introduction to advanced control systems.
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents

- *Three Degree of freedom*
 - (a) **Newton's method**
 - (b) **Mechanical Impedance method**
 - (c) **Influence coefficients**
 - (d) **Matrix method**

- (e) **Holzer method**
- (f) **Matrix Iteration method**

- **INTRODUCTION TO CONTROL SYSTEM**
- **DIFFERENTIAL EQUATIONS**
- **LINEARIZATION OF A NON-LINEAR FUNCTION**
- **MODELLING OF CONTROL SYSTEMS**
- **FREQUENCY RESPONSE METHODS**
- **Stability**

BAE312 Design Engineering (Manufacturing) (2 pt)

This unit is the same as

BAE621 Structural Engineering (3 pt)

The following contents can be added for manufacturing process

Subject Objective	The objectives of this subject are to: explain and provide examples of manufacturing processes involved in casting, forming machining and joining of materials; identify and describe the manufacturing process by which products are made of different materials: metals, polymers, ceramics and composites; demonstrate improved technical written and graphical communication skills by completion of specified laboratory reports and site visit reports; and demonstrate basic problem-solving skills relating to manufacturing and production.
Learning outcome	Students learn the processes and materials available, as well as a competent and practical approach to evaluating, selecting and recognising the connections between the materials/processes and engineering design
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents

All contents in structural engineering

PLUS

- The design and manufacturing processing of products in various environments ranging from low volume to high volume and with various levels of capital investment in the manufacturing system.
- The modern concepts of quality management, including Taguchi methods, after looking at process quality control and its origins.
- Modern metrology equipment and methods are treated in a similar manner: modern equipment and methods and their origins.
- The computer systems on manufacturing. Firstly, students gain some experience with manufacturing in a CAD/CAM environment.
- Industrial robots in environments such as fabrication, welding and assembly. Topics such as: CIM, CAPP, JIT, GT, FMS, MRP, Toyota and Kanban are introduced in a project environment

BAE313 Environmental Control (2 pt)

This unit is the same as

[BAE 523A Environmental Engineering](#)

BAE314 Mechanical Power Generation (2 pt)

Subject Objective	This subject aims to develop students' fundamental knowledge and understanding of the dynamics of various mechanical power generation systems;
Learning outcome	To provide students with knowledge and skills in vibration testing and data acquisition; facilitate students' in-depth learning of the theory and methods, including modelling, modal analysis, system identification and numerical approaches; familiarise students with techniques and data acquisition system used in vibration testing, measurement, signal processing for determining the dynamic characteristics of a physical system; and enable students to apply the learnt methods to real world applications which include vehicle suspension design, vibration analysis and condition monitoring of rotating machines & application of PLC control system
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents**Mechanical**

Basic vibration theory for the analysis of two or more degrees of freedom multi-body mechanical systems, basic topics on widely-used engineering measurements, data acquisitions, spectrum analysis, signal processing and their applications in vibration control and machine condition monitoring.

PLC

- **PLC Basics**
- **PLC Structure**
- **PLC in Comparison with Other Control Systems**
- **PLC's CPU**
- **PLC's Memory**
- **PLC in Comparison with Other Control Systems**
- **PLC's CPU**
- **PLC's Memory**
- **Programming Devices**
- **Programming Languages**

- **Instruction Set**
- **Typical Combinations of Languages**
- **Basic Symbols**
- **Elementary Logic Circuit**
- **PLC's Functions**
- **Industrial Programming**
- **PLC PRACTICE**
- **Selection of PLC**
- **Types of I/O & Capacity Needed**

- **Control System Basic**
- **Sequence Control**
- **Automatic Control**
- **Terms of Sequence Control**
- **Basic Knowledge on Contacts**

- **INDUSTRIAL MACHINE CONTROLS**

BAE315 Materials Engineering (2 pt)

Subject Objective	Mechanical engineers design, construct, maintain, inspect and manage private and public work projects. The common materials used in construction engineering applications and construction are concrete, steel, timber and masonry. It is essential for mechanical engineers to have a basic understanding of these construction materials, in relation to their production, properties, testing and application.
Learning outcome	To help students acquire fundamental knowledge of the production, physical and engineering properties of construction materials; understand the effects of environments on the properties and performance of these materials; familiarise themselves with the relevant engineering standards and other specifications and standards, in relation to the requirements and testing methods and interpretation of test results; improve analytical and communication skills by presenting test reports; select material in relation to specified requirements; and develop an awareness of the use of waste materials in construction.
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents

- Load, Stress and Strain, Hook's law ,
- Principal of Superposition
- Tensile Test , Factor of Safety
- Strain Energy, Resilience
- Impact Loads
- Varying Cross-section and Loads
- Strain Energy , Resilience
- Compound Bars
- Temperature Stresses

1. Requirements, variability, selection and standards relating to use of construction materials
2. Steels: production, types, usage, mechanical properties and testing and failure modes

Elective (2 pt)

Subjects
BAE513 Production Technology
BAE611 Maintenance Engineering
BAE612 Engineering Metallurgy

Refer any text book , study & prepare the report on practical application problem given by the tutor.

Professional Diploma/ Bachelor of Engineering (Civil-Building Services)

By mixing the degree level Electrical/ Mechanical & Civil Engineering subjects with Advanced Diploma level Electrical/ Mechanical & Civil subjects relevant to Civil-Building services, the individualized study plan for this professional diploma can be arranged.

Professional Diploma/ Bachelor of Engineering (Mechanical-Mechtronics)

By mixing the degree level Electrical/ Mechanical & Civil Engineering subjects with Advanced Diploma level Electrical/ Mechanical & Civil subjects relevant to Mechanical-Mechatronics, the individualized study plan for this professional diploma can be arranged.

The supporting curriculums from Information Technology & Business Management.

Engineering curriculums are supported by Information Technology & Business Management.

The details of the supporting curriculums are also presented.

Diploma/ Advanced Diploma of Engineering

At the following link, those programs can be viewed

<http://www.highlightcomputer.com/detailedcontent.htm>

Bachelor of Applied Science (Information Technology)

Year 1+2 Refer Diploma & Advanced Diploma in Information Technology Detailed Contents

Bachelor of Applied Science (Computer Science & Computer Technology)

Year (3)

Unit	Topics	Reference	Points
ICT 301	General Electrical Knowledge	EE101	3
ICT 302	Digital Electronics	EE209/H012	3
ICT 303	Amplifier	EE208/H013	3
ICT 304	Material Science	E081	3
EE204	Physics	E046	3
EE201	Mathematics 1	E050	3
EE202	Mathematics 2	E026	3
EE306	Basic Control	I008	3
BAE605	Management		3
BAE408	Analog & Digital Electronics		3
		TOTAL	30

Year (4)

Unit	Topics	Reference	Points
ICT 401	Advanced Mathematics 1	BAE401	3
ICT 402	Advanced Mathematics 2	BAE402	3
BAE604	Telecommunication System		3
BAE508	Project Management		3
ICT 305	Professional Programming (1) C++		3
ICT 403	Professional Programming (2) Object Oriented		3
ICT 404	Professional Programming (3) Java		3
ICT 405	Professional Practice (1) Network		3
ICT 406	Professional Practice (2) Website		3
ICT 407	Artificial Intelligence		3
		TOTAL	30

Refer Diploma & Advanced Diploma in Electrical Engineering Detailed Contents

ICT 305 Professional Programming (1) C++

- Introduction
- Basic program architecture
- Variables
- Console programs
- Program control
- String
- Arrays
- Object oriented programming
- Classes
- Design of classes
- Methods
- Inheritance
- The class object
- Abstract classes
- Interfaces
- Static members
- More about arrays
- Types
- Enum
- Struct
- Generic types
- Exception handling
- Comments
- Extension methods
- Collection classes
- List Stack
- Linked list
- Dictionary
- Text file
- Binary files
- Object serialization
- Lottery
- Expression

ICT 403 Professional Programming (2) Object Oriented

object-oriented-programming-using-c-sharp

- Introduction to object oriented programming
- Unified Modelling Language (UML)
- Inheritance & Method Overriding

- Object rules & the importance of polymorphism
- Overloading
- Object oriented software analysis and design
- Generic collection & how to serialize them
- C# development tools
- Creating & using exceptions
- Agile programming
- Case studies

ICT 404 Professional Programming (3) Java

object-oriented-programming-using-java

- Introduction to object oriented programming
- Unified Modelling Language (UML)
- Inheritance & Method Overriding
- Object rules & the importance of polymorphism
- Overloading
- Object oriented software analysis and design
- Collection framework
- Java development tools
- Creating & using exception
- Agile programming
- Case study

ICT 405 Professional Practice (1) Network

This competency standard unit covers develop services for network clients for emails, internet access, shared resources and the like. It encompasses safe working practices, installing and configuring Domain Name Server (DNS), email servers, Dynamic Host Configuration Protocol (DHCP), remote access servers, Network Address Translation (NAT), directory services, Authentication Servers and documenting development activities.

Essential knowledge and associated skills

This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices and developing network services.

The extent of the essential knowledge and skills required is given Volume 2 Part 2, Clauses

- **Network infrastructure**

Evidence shall show an understanding of network infrastructure to an extent indicated by the following aspects:

- a. Domain Name Service (DNS) encompassing
 - DNS Server Service
 - Root name server
 - Configuring zones
 - a. *Note:* Examples include configuring for dynamic updates and delegating zone for DNS
 - Caching – only server
 - DNS client
 - Testing DNS Server service
 - Manually creating DNS source
 - Managing and monitoring DNS
- b. Dynamic Host Configuration Protocol (DHCP)
 - Installation of DHCP Server Service
 - DHCP scopes, superscopes and multicast scopes
 - DHCP – DNS integration
 - Active Directory™
 - Managing and monitoring DHCP
- c. Network Infrastructure encompassing
 - Configuring and troubleshooting remote access
 - a. *Note:* Examples include remote access policy, configuration of remote access profile, Virtual Private Network (VPN), multi link connection, routing and remote access for DHCP
 - Managing and monitoring remote access
 - Remote access security
 - *Note.* Examples include authentication protocols, encryption protocols and access policy
- d. Network Protocols encompassing
 - Installation, configuration and troubleshooting of network protocols
 - a. *Note:* Examples include Transmission Control Protocol / Internet Protocol (TCP/IP), NWLink and network bindings
 - Configure TCP/IP packets
 - Configuring and troubleshooting network protocol security and IP Security (IPSec)
 - Managing and monitoring network traffic
- e. Internet Naming Services in a network encompassing
 - Installation, configuring and troubleshooting
 - Configuring Internet Naming Services replication
 - Configuring an application networking interface
 - Managing and monitoring Internet Naming Services
- f. IP Routing encompassing
 - Installation, configuring and troubleshooting of IP routing protocols
 - a. *Note:* This includes updating routing tables, and implementing demand-dial routing
 - Managing and monitoring IP routing
 - a. *Note:* This includes border routing, internal routing and IP routing protocols
- g. Network Address Translation (NAT) encompassing
 - Installing Internet connection sharing

- Installing NAT
- Configure NAT properties and interfaces
- h. Certificate Services encompassing
 - Installing and configuring Certificate Authority
 - Issuing and revoking certificates
 - Removing the Encrypted File System recovery keys

- **Directory services**

Evidence shall show an understanding of directory services to an extent indicated by the following aspects:

- a. Installing and configuring directory services encompassing
 - Installing forests, trees and domains including automatic domain controller
 - Creating sites, subnets, site links and connection objects
 - Configuring server objects including site membership and global catalogue designation
 - Transferring of operations master roles
 - Verification and troubleshooting of directory services installation
 - Implementation of and organisational unit structure
- b. Domain Name Service (DNS) for directory services encompassing
 - Installation and configuration of DNS for directory services
 - a. *Note:* Examples are integration with existing DNS infrastructure, configuration of zones for dynamic and secure dynamic updates and creation and configuration of DNS records
 - Management, monitoring and troubleshooting of DNS
- c. Change and Configuration Management encompassing
 - Implementing and troubleshooting Group Policy
 - a. *Note:* Examples are Group Policy Object (GPO), linking to an existing GPO, delegation of administrative control of Group Policy, filtering of Group Policy settings by using security groups and modification of Group Policy prioritisation
 - Managing and troubleshooting user environments using Group Policy
 - Configuring directory services to support Remote Installation Services (RIS) including configuration of RIS options and security.
- d. Components of a directory service infrastructure encompassing
 - Management of directory objects
 - a. *Note:* Examples are moving objects, publishing resources in the directory service infrastructure, location of objects in the directory service infrastructure, creation and management of objects manually and by scripting, access control of objects and delegation of administrative control
 - Monitoring, optimisation and troubleshooting of the directory services infrastructure performance and replication
 - Backup and restoring directory services infrastructure
 - a. *Note:* Examples are authoritative and non authoritative restoration of directory services, restoration from systems failure and the seizing of operations master roles

- e. Security encompassing
 - Applying security policies using Group Policy
 - Creating, analysing and security modification by using Security Configuration and Analysis snap-in and the Security Templates snap-in
 - Implementation of an audit policy
- f. Monitoring and analysing security events

Multi-layer switched networks

Evidence shall show an understanding of multi-layer switched networks to an extent indicated by the following aspects:

a) Campus network design encompassing:

- o core layer
- o distribution layer
- o access layer
- o selection of appropriate devices
- o defining workgroups

b) Managing Redundant Links encompassing:

- o Spanning Tree Protocol (STP)
- o Controlling STP in redundant environments
- o STP in Virtual Local Area Network (VLAN) environments
- o Configuring redundant routing protocols for a fault-tolerant routing

Note. An example is Hot Standby routing protocol (HSRP)

c) Fast layer 2 services encompassing:

- o Fast Ethernet
- o Trunking
- o Fast Ether channels

- o Gigabit services

- d) Inter VLAN Routing encompassing:
 - o Hardware vs. Software switching
 - o Overview of fast switching technologies
 - o Elements of a multi-layer switch
 - o Configuring multi-layer switches

- e) Multicast encompassing:
 - o Multi-cast group management
 - o Configuring multi-cast control at layer 2
 - o Configuring multi-cast control at layer 3

- f) Controlling Access to the Campus Network

- g) Managing Network Traffic

ICT 406 Professional Practice (2) Website

This unit covers installation, set up, implementation and provision of on-going support of web services. It encompasses working safely, installing and administering server software and databases, server side scripting, configuring access and security and documenting work activities.

Development, implementation and testing HTML pages with at least four of the following features:

Relative and absolute links, images and table formatting

Cascaded styles sheets

Forms	
New browser windows	
Validation of form data	
<u>Development, implementation and testing of server scripting for database access with at least four of the following features:</u>	
Form data input response	
Form data processing	
Database access	
Output of database table contents	
Insertion of table data to database	
Installation and administration of key features of Web and Web application servers	
	Programming elements
Evidence shall show an understanding of the programming elements to an extent indicated by the following aspects:	
a) Algorithm Design encompassing:	
o Problem Definition	
o Steps in Problem-Solving	
o Modular Design	
o Top-Down Design	
o Flow-Charts and Structured Programming	
o Pseudo-Code	
o Filtering allowable Data Input	

- o Using standard Input & Output methods
- o Object-Oriented Design (brief intro.)
- o Documentation Rationale
- o Acceptable Documentation Method

- b) Machine-Code, Assemblers and Compilers
- c) Brief History of Languages & Limitations
- d) Parameters of different programming languages encompassing:
 - o Constants and variables
 - o Data types and declarations
 - o Logical flow control
 - o Detecting breaches of structure
 - o Documentation instruction examples
 - o Procedures and function calls
 - o Parameter-passing
 - o Local and global variables
 - o Object-oriented methods
 - o Classes and objects,
 - o encapsulation and inheritance.
 - o Visual programming methods
 - o General-purpose program libraries

e) Data structures encompassing:

- o Records
- o Arrays
- o File Input/output

f) Testing and validation encompassing:

- o Sequencing the process
- o Inconsistencies detection

Note, An examples is comparing code to documentation, commonly called —Desk-Checking'.

- o Test data selection
- o Modular testing & debug
- o Problems with using

Client side programming

Evidence shall show an understanding of client side programming them to an extent indicated by the following aspects:

a) Client server architecture

b) Hyper Text Markup Language (HTML) encompassing:

- o Forms
- o Table
- o Cascading style sheets

c) Hyper Text Markup Language (HTML) scripting encompassing:

- o Exposed object model

- o Events and event handling
- o Objects methods, properties, events
- o Window, document, form, and form elements
- o String object, methods, properties
- o Form field validation

Note: Examples of scripting language are JavaScript and Visual Basic (VB) Script

d) Extendable Markup Language (XML) encompassing:

- o Syntax
- o Structure (well formed XML)
- o Schemas
- o Transformations
- o Parsing Document Object Model (DOM) and Simple API (SAX)
- o Scripting to Document Object Model (DOM)

e) Extendible Stylesheet Language (XSL) generating HTML from XML

f) Wireless thin client programming

Note. Examples include Java2 Micro Edition (JEME), Mobile Information Device Profile (MIDP), Windows CE and Palm OS

- g) Consideration for system architecture
- h) Configurations and profile overview

	Server scripting
Evidence shall show an understanding of server scripting the to an extent indicated by the following aspects:	

- a) Client server architecture
- b) Web and Application Servers
- c) Server scripting languages e.g. JSP, ASP, PHP, Perl
- d) Server script Tags
- e) Integrating script with HTML
- f) Server script object model
- g) Request, Response, Session, Application
- h) Using server objects
- i) Server components
- j) Using components in server scripts
- k) Scope of server components e.g. session, page, application
- l) Component get / set methods
- m) Deploying server components
- n) Advanced server scripting concepts

Database access

Evidence shall show an understanding of database access to an extent indicated by the following aspects:

a) Relational Databases encompassing:

- o Tables, keys, design rules and normalisation
- o Database management utilities

Note. Example include MSSQL, MYSQL and Access

b) Structural query language (SQL) queries encompassing:

- o Select, insert, update and delete processes
- o Application of conditionals `__where`, `__distinct` and `__like`
- o Create and dropping tables

c) Data Base connectivity components encompassing:

- o Drivers, data sources
- o Database connectivity component loading
- o Query connection and execution
- o ResultSets / RecordSets
- o Rows, columns, cursors, concurrency, pooling
- o Iterating through ResultSets / RecordSets

Note. Example include ODBC, JDBC, ADO

	Web applications and services
Evidence shall show an understanding of web servers to an extent indicated by the following aspects:	
a) Comparison of HTTP servers and platforms	

Note. Examples include IIS and Apache

b) Comparison of Application servers and platforms

Note. Examples include J2EE / tomcat, .NET

c) HTTP Servers encompassing:

- o Installation requirements and methods
- o Security configuration
- o Content publishing and security

d) WEB application technologies encompassing:

- o Server installation and deployment
- o Security

e) Server scripting technologies encompassing:

- o WEB application installation and deployment
- o Application server administration

f) Web services overview encompassing:

- o WEB services XML, API, RPC
- o XML API processing
- o XML DOM
- o SOAP (simple object access protocol)
- o WEB Services Security

ICT 407 Artificial Intelligence

- Paths to artificial intelligent
- Agents and environment
- Framework for agents environment
- Agent oriented programming languages
- Net logo development
- Movement, Behaviour & Decision making
- Terms of movement
- Animated mapping simulation Embodiment
- Reactive versus cognitive agents
- Emergence, Self organization
- Adaptibility evolution
- Communication
- Search behaviour
- Reasoning rules and logic
- Knowledge & reasoning using decision trees
- Intelligence
- Design objectives for artificial intelligence
- Computer problem solving ability

Bachelor of Business

Year 1 Refer Diploma in Management Detailed Contents

Year 2 Refer Diploma & Advanced Diploma in Information Technology Detailed Contents

YEAR (3)

Bachelor of Business (E-Business & Management)

The learning system will be based on self study. Read the given references study materials and prepare the project work. You need to read the books in English.

The following units common to MBA course are to be studied.

[Mgt 301 Electronics Business](#)

[Mgt 302 Information Security](#)

[Mgt 303 Management Information System](#)

[Mgt 304 Electronics Commerce](#)

[Mgt 305 Quantitative Methods for Management](#)

[Mgt 306 Human Resources Management](#)

[Mgt 307 Marketing Management](#)

[Mgt 308 Artificial Intelligence](#)

To assess Level 3, you need to write the report of 10 pages each on what you have learnt in the unit.

YEAR (4)

Mgt 401 Management Project

Mgt 402 Electronics Business Project

Mgt 301 Electronics Business

- Project Objective
- Business Capabilities
- Benefits
- Deliverables & Dependencies
- Costs
- Financial Appraisal
- Timescales & Milestones
- Success Criteria
- Risks
- the impacts of electronic commerce
- drivers and inhibitors of electronic commerce from the perspective of the CEOs
- the impacts of Electronic Commerce on the Industry Supply Chain
- Electronic Commerce Maturity Model

Mgt 302 Information Security

	Fundamentals of network security
Evidence shall show an understanding of fundamentals of network security to an extent indicated by the following aspects:	
a) Network Security fundamentals	
b) Securing Perimeter Routers	
c) Access Control Lists (ACLs)	
d) Router Authentication, Authorisation and Accounting (AAA) Security	

- e) Intrusion Detection
- f) Internet Protocol (IP) Security
- g) Virtual Private Network (VPN)
- h) Firewalls
- i) Translations and Connections
- j) Access Control Lists for Firewalls
- k) AAA and Firewalls
- l) Intrusion
- m) Intrusion Detection Systems (IDS)
- n) Firewall Failover and System Maintenance
- o) Firewall VPN's
- p) Firewall Device Management

- ❑ Introduction of Computer Networks and Internet :
 - ❖ Overview of the Internet, client/server program, circuit switching, packet switching, physical media, queuing delay and packet loss, TCP/IP Service models, Internet Protocol Stack (Layers)
- ❑ Application Layer :
 - ❖ Service requirements, WWW, HTTP, FTP, Electronic Mail, Domain Name System, Socket programming
- ❑ Transport Layer
 - ❖ Service models, Multiplexing/Demultiplexing, Connection-less transport (UDP), Principles of reliable data transfer, Connection-oriented transport (TCP), TCP congestion control
- ❑ Network Layer :
 - ❖ Routing and forwarding, IP(The Internet Protocol) IPv4, IPv6 ,Routing algorithms, Routing in the Internet, Multicast
- ❑ Link Layer and Local Area Networks :
 - ❖ Link layer services, Error detection and correction, Multiple Access Protocols, Link layer addressing, Ethernet, Hubs and switches, Point-to-Point Protocol
- ❑ understand principles of network security:
 - ❖ cryptography and its *many* uses beyond “confidentiality”
 - ❖ authentication
 - ❖ message integrity
 - ❖ key distribution

- ❖ security in practice:
- ❖ firewalls
- ❖ security in application, transport, network, link layers
- ❖ key distribution
- ❖ security in practice:
- ❖ firewalls
- ❖ security in application, transport, network, link layers

Mgt 303 Management Information System (MIS)

- The role of information system
- Hardware & software in enterprise
- Database management system
- Business Telecommunication system
- Communication network
- Network application
- Contemporary mobile service
- Examples of information systems
- Management of MIS
- Managing the Digital Firm
- Emergence of the Digital Firm
- The business information value chain
- A Business Perspective on Information Systems
- Variation in returns on information technology investment
- Sociotechnical Systems
- New Options for Organizational Design:
- The Digital Firm and the Collaborative Enterprise
- Redesigned workflow for insurance underwriting
- The Challenges of Information Systems: Key Management issues

Mgt 304 Electronics Commerce

- **Types of E-commerce**
- **Understanding E-commerce: Organizing Themes**
- **E-commerce Business Models and Concepts**
- **The Internet and World Wide Web: E-commerce Infrastructure**
- **Building an E-commerce Web Site**

- **Online Security and Payment Systems**
- **Marketing Communications**
- **E-commerce Marketing Concepts**
- **Ethical, Social, and Political Issues in E-commerce**
- **Online Retail and Services**
- **E-commerce Business Models and Concepts**
- **The Internet and World Wide Web: E-commerce Infrastructure**
- **Security and Encryption**
- **E-commerce Payment Systems**
- **E-commerce Marketing Communications**
- **Ethical, Social, and Political Issues in E-commerce**
- **Online Service Industries**
- **Supply Chain Management and Collaborative Commerce**
- **Auctions, Portals, and Communities**
- **Online Content and Media**
- **Social Networks, Auctions, and Portals**
- **Online Content Providers: Digital Media**
-

Mgt 305 Quantitative Methods for Management

- Research approach
- Data source
- Qualitative method
- Quantitative Methods
- Experiment research & observation
- Questionnaires survey
- Sampling
- Survey analysis
- Statistical analysis
- Writing research report

- Prescriptive Process Models
- Agile Development

Mgt 306 Human Resources Management

- Meeting Present and Emerging Strategic Human Resource Challenges
- **Managing Work Flow and Conducting Job Analysis**
- Understanding Equal Opportunity and the Legal Environment
- Managing Diversity
- Recruiting and Selecting Employees
- Appraising and Managing Performance
- Rewarding Performance
- Managing Compensation

Mgt 307 Marketing Management

- Company (Distributor) background (e.g. brief history, nature of business, etc.)
- Marketing objective(s) on the Chosen product/service
- S.W.O.T Analysis
- Target customers
- Product Positioning in the market
- Describe the current marketing mix:
 - Product
 - Pricing
 - Distribution
 - Marketing Communications (Promotion)
- overall competitive strategy
- planning the details of the marketing mix.
- sales& marketing materials
- understanding of company's competitors
- Marketing Recommendations for improvement
- marketing strategies

Mgt 308 Artificial Intelligence

This is the same as

<u>ICT 407</u>	<u>Artificial Intelligence</u>
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Mgt 401 Management Project

Mgt 402 Electronics Business Project

Two reports one for Management for (Mgt 303+Mgt 305+Mgt 306) & another for Electronics Business + Marketing (Mgt 301+Mgt 302+Mgt 304+Mgt 307+Mgt 308) subjects are required to be presented.

Each should contain 4000 to 6000 words of how you pursue the study in Management,, Marketing, Electronics Business subjects should be described.

The project should contain management plans, business plan & performance, task, job procedures IT integration etc of the topics of your choices.

<http://www.filefactory.com/file/3dcrz90tirvh/Dip%2BAdv%20Dip%2BB%20Bus%20S%20Course%20Outline.doc>

(HOW E-LEARNING CAN BE UTILIZED IN ENGINEERING PROGRAMS TO MEET THE MYANMAR ENGINEERING COUNCIL'S ACCREDITATION REQUIREMENTS)

IQY Technical College's academic policy & procedure in line with Myanmar Engineering Council's Accreditation Requirements & Sample of Educational Institution Documents **(By Dr Kyaw Naing)**

www.highlightcomputer.com/Accreditation.htm

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IQY Technical College's academic policy & procedure in line with Myanmar Engineering Council's Accreditation Requirements & Sample of Educational Institution Documents

www.highlightcomputer.com/Accreditation.htm

Executive Summary

This is voluntary information related to IQY Technical College's online engineering programs & this information report related to sample engineering programs, curriculums and learning materials is prepared by citing the accreditation manual of Myanmar Engineering Council

Objective

Although it is not a main objective of IQY Technical College to seek the accreditation in Myanmar, the main reason to prepare this document is to be referred by relevant course developers of the Government Technical Colleges & Technological Universities in Myanmar how to fulfil the international standard accreditation procedures as the writer of this documents have over 25 years experiences in teaching, designing & implementation of engineering programs in Fiji, Australia & New Zealand in accordance with Australian/ New Zealand standards.

It is solely aimed to share the knowledge with engineering educators in Myanmar especially to develop e-Learning which is new to most educators in Myanmar. This submission describes how e-Learning in engineering can be effectively applied to fulfil the accreditation needs of Myanmar Engineering Council because Government Technical Colleges & Technological Universities are spread throughout Myanmar & e-Learning is the only most effective way to equalize teaching & learning at different geographical locations of Myanmar.

The document contains the online links from where the relevant documents can be downloaded.

9.2.1 General Information (MEng C)

i. Provide general information on the Technological Institutions and the specific programme.

- IQY Technical College of Highlight Computer Group teaches St Clements Technological University, St Clements University Higher Education School Niue's Diploma/ Advanced Diploma and Bachelor Degree programs in Engineering, Information Technology and Management courses to the students of Myanmar at the price affordable to average working class people of Myanmar.

- E-Learning system that provides on line & off line DVD/USB based teaching system is utilized for the student to do self directed learning combined with simulated practical video/ slide shows and audio/ visual aids are utilized to effectively apply Information Technology in e-Learning & Teaching.
- The main objective of our program is to maximize the individual student's self directed learning by applying the maximum use of technology & by minimizing the teacher's assistance personally .
- Although IQY Technical College refers & applies the relevant international educational standards, IQY Technical College maintains it's academic independency.

ii. Provide detailed information on programme history of accreditation (year of accreditation, conditions imposed and actions taken). (MEng C)

Further Submission

iii. Describe any self-initiated changes made to the programme and state the year the changes were introduced (MEng C)

Further Submission

Programme Objectives.

<http://www.highlightcomputer.com/objectives.htm>

9.2.2 Programme Objectives

I State the vision and mission of the Technological Institutions. (MEng C)

- IQY Technical College of Highlight Computer Group teaches St Clements Technological University, St Clements University Higher Education School Niue's Diploma/ Advanced Diploma and Bachelor Degree programs in Engineering, Information Technology and Management courses to the students of Myanmar at the price affordable to average working class people of Myanmar.
- IQY Technical College of Highlight Computer Group will independently provide the international standard education & engineering education to the poor students of Myanmar whom are being taught by the voluntary education groups of Myanmar .
- IQY Technical College is Non Profit/ Non Government Educational Organization which assist the needy students of Myanmar as well as the students in other developing countries by co-operating with the international organizations of same objectives/ visions and missions.

li Describe the Programme Objectives and state where they are published. (MEng C)

- IQY Technical College offers three levels of Engineering Programs
 1. One year Diploma in Engineering
 2. Two years Advanced Diploma in Engineering
 3. Four years Professional Diploma in Engineering which is set at the same level of standard to Bachelor of Engineering degree
- The entry requirement for IQY Technical College is Year 12 . The students who have less than year 12 level education will need to undertake IQY Technical College's Year 11+12 programs which are set at Australian NSW State Year 12 Standard.
- Based on the entry Year 12 standard, Year one to four Academic programs are arranged.

The objectives

Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology)

IQY Technical College's one year Diploma in Engineering is designed to train the students to work as Engineering Associate or Engineering Technicians in wide ranges of industries.

It is designed to provide the following competencies.

To train the students to have a wide range of functions within engineering enterprises and engineering teams.

The training is designed for the students

- To be closely familiar with standards and codes of practice, and to become expert in their interpretation and application to a wide variety of situations.
- To develop very extensive experience of practical installations, and may well be more knowledgeable than Professional Engineers or Engineering Technologists on detailed aspects of plant and equipment that can contribute very greatly to safety, cost or effectiveness in operation.
- To develop high levels of expertise in aspects of design and development processes. These might include, for example, the use of advanced software to perform detailed design of structures, mechanical components and systems, manufacturing or process plant, electrical and electronic equipment, information and communications systems, and so on.
- To do the construction of experimental or prototype equipment.
- To develop detailed practical knowledge and experience complementing the broader or more theoretical knowledge of others.

Advanced Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology) Course Outlines

IQY Technical College's two years Advanced Diploma in Engineering is designed to train the students to work as Engineering Technologist in wide ranges of industries.

The training is designed to provide expertise to the students which may be at a high level, and fully equivalent to that of a Professional Engineer. That is designed

- to exercise the same breadth of perspective as Professional Engineers, or carry the same wide-ranging responsibilities for stakeholder interactions, for system integration, and for synthesising overall approaches to complex situations and complex engineering problems.
- to possess for a strong understanding of practical situations and applications, with the intellectual challenge of keeping abreast of leading-edge developments as a specialist in a technology domain and how these relate to established practice. For this purpose Engineering Technologists need a strong understanding of scientific and engineering principles and a well-developed capacity for analysis.
- to apply current and emerging technologies, often in new contexts; or with the application of established principles in the development of new practice.
- To contribute to the advancement of technology.
- to take responsibility for engineering projects, services, functions and facilities within a technology domain, for specific interactions with other aspects of an overall operating context and for managing
- to contribute the specialist work to a broader engineering system or solution. In these roles, Engineering
- to focus on sustainable solutions and practices which optimise technical, social, environmental and economic outcomes within the technology domain and over a whole systems life cycle.
- to have an intimate understanding of the standards and codes of practice that underpin the technology domain and ensure that technology outcomes comply with statutory requirements. Engineering Technologists are required to interact effectively with Professional Engineers and Engineering Associates, with other professionals, tradespersons, clients, stakeholders and society in general, to ensure that technology outcomes and developments fully integrate with the overall system and context.
- to ensure that all aspects of a technological product, or operation are soundly based in theory and fundamental principle.
- to understand how new developments relate to their specific field of expertise.
- to interpret technological possibilities, to investigate interfaces, limitations, consequences, costs and risks.

Professional Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology)

IQY Technical College's four years Professional Diploma in Engineering is designed to train the students to work as Engineering Technologist /Professional Engineer in wide ranges of industries.

It is designed to provide the following competencies.

- To perform the reliable functioning of all materials, components, sub-systems and technologies used; their integration to form a complete, sustainable and self-consistent system; and all interactions between the technical system and the context within which it functions. The latter includes understanding the requirements of clients, wide ranging stakeholders and of society as a whole; working to optimise social, environmental and economic outcomes over the full lifetime of the engineering product or program; interacting effectively with other disciplines, professions and people; and ensuring that the engineering contribution is properly integrated into the totality of the undertaking.
- To do interpreting technological possibilities to society, business and government; and for ensuring as far as possible that policy decisions are properly informed by such possibilities and consequences, and that costs, risks and limitations are properly understood as the desirable outcomes.
- To bring knowledge to bear from multiple sources to develop solutions to complex problems and issues, for ensuring that technical and non-technical considerations are properly integrated, and for managing risk as well as sustainability issues. While the outcomes of engineering have physical forms, the work of
- To train the students to become predominantly intellectual in nature. In a technical sense, Professional Engineers are primarily concerned with the advancement of technologies and with the development of new technologies and their applications through innovation, creativity and change. Professional Engineers may conduct research concerned with advancing the science of engineering and with developing new principles and technologies within a broad engineering discipline.
- To contribute to continual improvement in the practice of engineering, and in devising and updating the codes and standards that govern it.
- To take a particular responsibility for ensuring that all aspects of a project are soundly based in theory and fundamental principle, and for understanding clearly how new developments relate to established practice and experience and to other disciplines with which they may interact. One hallmark of a professional is the capacity to break new ground in an informed, responsible and sustainable fashion.

iii. Describe how the Programme Objectives are consistent with the vision and mission of the Technological Institutions and stakeholder requirements. (MEng C)

Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology)

The training includes feasibility investigation, scoping, establishing criteria/performance measures, assessing and reporting technical and procedural options; design and development; component,

resources and materials sourcing and procurement; construction, prototyping, manufacture, testing, installation, commissioning, service provision and de-commissioning; tools, plant, equipment and facilities acquisition, management, maintenance, calibration and upgrades; operations management; procedures documentation; presentation and reporting; maintenance systems design and management; project and facility management; quality assurance, costing and budget management; document control and quality assurance.

The training is also designed to provide a good grounding in engineering science and the principles underlying their field of expertise, to ensure that their knowledge and skills are portable across different applications and situations within the broad field of practice. Equipment, vendor or context-specific training in a particular job are not sufficient to guarantee generic competency. Given a good knowledge base, however, the graduates may build further on this through high levels of training in particular contexts and in relation to particular equipment.

The competencies of graduates to equip them to certify the quality of engineering work and the condition of equipment and systems in defined circumstances, laid down in recognised standards and codes of practice.

The training is also designed to lead or manage teams appropriate to these activities. Some may establish their own companies or may move into senior management roles in engineering and related enterprises, employing Professional Engineers, Engineering Technologists, and other specialists where appropriate.

Diploma in Electrical Engineering

This program is designed with 30 credit points integrating 15 credit points Certificate in Electrical Engineering. The completion of this program can be articulated into 60 points Advanced Diploma in Electrical Engineering & 120 credit points Professional Diploma in Electrical Engineering which is the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Diploma in Electrical Engineering can apply for Associate Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

Diploma in Mechanical Engineering

This program is designed with 30 credit points integrating 15 credit points Certificate in Mechanical Engineering. The completion of this program can be articulated into 60 points Advanced Diploma in Mechanical Engineering & Mechatronics & 120 credit points Professional Diploma in Mechanical Engineering & Mechatronics which is the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Diploma in Mechanical Engineering can apply for Associate Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

Diploma in Civil Engineering

This program is designed with 30 credit points integrating 15 credit points Certificate in Civil Engineering & Construction Studies . The completion of this program can be articulated into 60 points Advanced Diploma in Civil Engineering & 120 credit points Professional Diploma in Civil Engineering & Building Services which is the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Diploma in Civil Engineering can apply for Associate Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

Diploma in Renewable Energy Engineering

This program is designed with 30 credit points integrating 15 credit points Certificate in Renewable Energy Course Completion Certificate which is delivered through the public seminars . The completion of this program can be articulated into 120 credit points Professional Diploma in Renewable Energy Engineering which is the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Diploma in Renewable Energy Engineering can apply for Associate Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

Diploma in Computer Engineering/ Diploma in Information Technology

This program is designed with 30 credit points integrating 15 credit points Certificate in Information Technology . The completion of this program can be articulated into 60 points Advanced Diploma in Information Technology & 120 credit points Professional Diploma in Information Technology or Professional Diploma in Computer Engineering which is the award of Bachelor of Applied Science (Information Technology)/Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Diploma in Computer Engineering can apply for Associate Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

The graduates of Diploma in Information Technology can apply for membership of International Institute of Science Engineering & Management.

To be awarded Diploma in Computer Engineering, the students need to do Diploma in Information Technology & Diploma in Electrical Engineering at the same time.

Advanced Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology) Course Outlines

It is designed to provide the following competencies.

To train the students to operate within broadly-defined technical environments, and undertake a wide range of functions and responsibilities. They are often specialists in the theory and practice of a particular branch of engineering technology or engineering-related technology (the technology domain), and specifically in its application, adaptation or management, in a variety of contexts. Their expertise often lies in familiarity with the current state of development of a technology domain and most recent applications of the technology.

The training is also designed to provide the skills of Engineering Technologists who may lead teams responsible for the implementation, operation, quality assurance, safety, management, and maintenance of projects, plant, facilities, or processes within specialist practice area(s) of the technology domain. Some Engineering Technologists may establish their own companies or may move into senior management roles in engineering and related enterprises, employing Professional Engineers and other specialists where appropriate.

Advanced Diploma in Engineering can be studied in the following specializations

- Advanced Diploma in Electrical Engineering
- Advanced Diploma in Mechanical Engineering
- Advanced Diploma in Civil Engineering
- Advanced Diploma in Renewable Energy Engineering
- Advanced Diploma in Computer Engineering / Advanced Diploma in Information Technology

Advanced Diploma in Electrical Engineering

This program is designed with 60 credit points integrating 30 credit points Diploma in Electrical Engineering. The completion of this program can be articulated into 60 of 120 credit points Professional Diploma in Electrical Engineering which is the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Advanced Diploma in Electrical Engineering can apply for Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

Advanced Diploma in Mechanical Engineering

This program is designed with 60 credit points integrating 30 credit points Diploma in Mechanical Engineering. The completion of this program can be articulated into 60 of 120 credit points Professional Diploma in Mechanical Engineering which is the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Advanced Diploma in Mechanical Engineering can apply for Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

Advanced Diploma in Civil Engineering

This program is designed with 60 credit points integrating 30 credit points Diploma in Civil Engineering. The completion of this program can be articulated into 60 of 120 credit points Professional Diploma in Civil Engineering which is the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Advanced Diploma in Civil Engineering can apply for Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

Advanced Diploma in Renewable Energy Engineering

This program is designed with 60 credit points integrating 30 credit points Certificate in Renewable Energy Course Completion Certificate which is delivered through the public seminars . The completion of this program can be articulated into 120 credit points Professional Diploma in Renewable Energy Engineering which is the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Advanced Diploma in Renewable Energy Engineering can apply for Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

Advanced Diploma in Computer Engineering/ Advanced Diploma in Information Technology

This program is designed with 30 credit points integrating 30 credit points Diploma in Information Technology . The completion of this program can be articulated into 60 of 120 credit points Professional Diploma in Information Technology or Professional Diploma in Computer Engineering which is the award of Bachelor of Applied Science (Information Technology)/Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Advanced Diploma in Computer Engineering can apply for Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

The graduates of Advanced Diploma in Information Technology can apply for membership of International Institute of Science Engineering & Management.

To be awarded Advanced Diploma in Computer Engineering, the students need to do Advanced Diploma in Information Technology & Diploma in Electrical Engineering at the same time.

Professional Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology)

It is designed at the same academic requirement as to Bachelor of Engineering degree but IQY Technical College is operating as a vocational education & training college not as a university, the award is to be described as Professional Diploma. The graduates of the Professional Diploma in Engineering can be awarded Bachelor of Engineering by the universities which are affiliated to IQY Technical College.

The program is designed to train the students to become Professional Engineers who are required to take responsibility for engineering projects and programs in the most far-reaching sense.

The program is also designed to provide the skills required for the graduated to lead or manage teams appropriate to these activities, and may establish their own companies or move into senior management roles in engineering and related enterprises.

Professional Diploma in Engineering can be studied in the following specializations

- Professional Diploma in Electrical Engineering
- Professional Diploma in Mechanical Engineering
- Professional Diploma in Civil Engineering
- Professional Diploma in Renewable Energy Engineering
- Professional Diploma in Computer Engineering / Professional Diploma in Information Technology

Professional Diploma in Electrical Engineering

This program is designed with 120 credit points integrating 60 credit points Advanced Diploma in Electrical Engineering. The completion of this program can be awarded Professional Diploma in Electrical Engineering together with the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Professional Diploma in Electrical Engineering can apply for Fellow of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technologists or ASEAN Engineer.

Professional Diploma in Mechanical Engineering

This program is designed with 120 credit points integrating 60 credit points Advanced Diploma in Mechanical Engineering. The completion of this program can be awarded Professional Diploma in Mechanical Engineering together with the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Professional Diploma in Mechanical Engineering can apply for Fellow of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technologists or ASEAN Engineer.

Professional Diploma in Civil Engineering

This program is designed with 120 credit points integrating 60 credit points Advanced Diploma in Civil Engineering. The completion of this program can be awarded Professional Diploma in Civil Engineering together with the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Professional Diploma in Civil Engineering can apply for Fellow of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technologists or ASEAN Engineer.

Professional Diploma in Renewable Energy Engineering

This program is designed with 120 credit points integrating 60 credit points Advanced Diploma in Renewable Energy Engineering. The completion of this program can be awarded Professional Diploma in Renewable Energy Engineering together with the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

This program explores the way to make the best use of renewable energy technologies including solar thermal systems, photovoltaics, wind and biomass. Renewable Energy Engineering borrows much of its structure from some other areas of engineering, such as electrical engineering and photovoltaic engineering. It encompasses a broad range of renewable energy technologies including electricity generation from solar thermal systems, photovoltaics, wind and biomass. It also covers solar architecture and energy efficient housing design

The graduates of Professional Diploma in Renewable Energy Engineering can apply for Fellow of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technologists or ASEAN Engineer.

Professional Diploma in Computer Engineering/ Professional Diploma in Information Technology

This program is designed with 120 credit points integrating 60 credit points Advanced Diploma in Information Technology . Professional Diploma in Computer Engineering which is the award of Bachelor of Applied Science (Information Technology)/Bachelor of Engineering degree by the universities affiliated IQY Technical College.

The graduates of Professional Diploma in Computer Engineering can apply for Fellow of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technologist or ASEAN Engineer.

The graduates of Professional Diploma in Information Technology can apply for membership of International Institute of Science Engineering & Management.

To be awarded Professional Diploma in Computer Engineering, the students need to do some Bachelor of Engineering (Electrical) units at the same time.

iv. Describe the processes used to establish and review the Programme Objectives, and the extent to which the programme's various stakeholders are involved in these processes.

v Describe how the Technological Institutions ensures achievement of the Programme Objectives.

vi. Describe the ongoing evaluation of the level of achievement of these objectives, and the extent to which the programme's various stakeholders are involved in these processes.

vii. Describe how the results obtained from evaluation are being used to improve the effectiveness of the program (MEng C)

Please see Attachment 1.Assessment Validation Records 2.Assessment Evidences 3.Quality Assurance Records

9.2.3 Learning Outcomes

I List down the Learning Outcomes and state where are they published. (MEng C)

Diploma / Advanced Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology)

1. KNOWLEDGE AND SKILL BASE

1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain.

1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain.

1.3. In-depth understanding of specialist bodies of knowledge within the technology domain.

1.4. Discernment of knowledge development within the technology domain.

1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.

1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.

2. ENGINEERING APPLICATION ABILITY

2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.

2.2. Application of engineering techniques, tools and resources within the technology domain.

2.3. Application of systematic synthesis and design processes within the technology domain.

2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.

3. PROFESSIONAL AND PERSONAL ATTRIBUTES

- 3.1. Ethical conduct and professional accountability.
- 3.2. Effective oral and written communication in professional and lay domains.
- 3.3. Creative, innovative and pro-active demeanour.
- 3.4. Professional use and management of information.
- 3.5. Orderly management of self, and professional conduct.
- 3.6. Effective team membership and team leadership.

Professional Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology)

COMPETENCIES

1. KNOWLEDGE AND SKILL BASE

- 1.1. Comprehensive, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline.
- 1.2. Conceptual understanding of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the engineering discipline.
- 1.3. In-depth understanding of specialist bodies of knowledge within the engineering discipline.
- 1.4. Discernment of knowledge development and research directions within the engineering discipline.
- 1.5. Knowledge of engineering design practice and contextual factors impacting the engineering discipline.
- 1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the specific discipline.

2. ENGINEERING APPLICATION ABILITY

2.1. Application of established engineering methods to complex engineering problem solving.

2.2. Fluent application of engineering techniques, tools and resources.

2.3. Application of systematic engineering synthesis and design processes.

2.4. Application of systematic approaches to the conduct and management of engineering projects.

3. PROFESSIONAL AND PERSONAL ATTRIBUTES

3.1. Ethical conduct and professional accountability.

3.2. Effective oral and written communication in professional and lay domains.

3.3. Creative, innovative and pro-active demeanour.

3.4. Professional use and management of information.

3.5. Orderly management of self, and professional conduct.

3.6. Effective team membership and team leadership.

ii how the Learning Outcomes relate to the Programme Objectives.

iii. Describe the processes used to establish and review the Learning Outcomes, and the extent to which the programme's various stakeholders are involved in these processes.

i Describe the data gathered and explain the results of the assessment.

v Explain how the assessment results are applied to further develop and improve the programme.

vi. Describe the materials, including student work and other tangible materials that demonstrate

Processes and Results: (MEng C) The programme shall have a clear linkage between Programme

Objectives and Learning Outcomes (Section 4.0); a process of ongoing assessment an

evaluation that demonstrates the achievement of Programme Objectives with documented

results; and evaluation results that are used in the continual improvement of the programme.

Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology)

Program Objective	Learning Outcome
<ul style="list-style-type: none"> • To be closely familiar with standards and codes of practice, and to become expert in their interpretation and application to a wide variety of situations. • To develop very extensive experience of practical installations, and may well be more knowledgeable than Professional Engineers or Engineering Technologists on detailed aspects of plant and equipment that can contribute very greatly to safety, cost or effectiveness in operation. • 	<p><u>1. KNOWLEDGE AND SKILL BASE</u></p> <p>1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain.</p> <p>1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain.</p> <p>1.3. In-depth understanding of specialist bodies of knowledge within the technology domain.</p> <p>1.4. Discernment of knowledge development within the technology domain.</p> <p>1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.</p> <p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.</p>
<ul style="list-style-type: none"> • To develop high levels of expertise in aspects of design and development processes. These might include, for example, the use of advanced software to perform detailed design of structures, 	<p><u>2. ENGINEERING APPLICATION ABILITY</u></p> <p>2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.</p>

<p>mechanical components and systems, manufacturing or process plant, electrical and electronic equipment, information and communications systems, and so on.</p> <ul style="list-style-type: none"> • To do the construction of experimental or prototype equipment. 	<p>2.2. Application of engineering techniques, tools and resources within the technology domain.</p> <p>2.3. Application of systematic synthesis and design processes within the technology domain.</p> <p>2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.</p>
<ul style="list-style-type: none"> • To develop detailed practical knowledge and experience complementing the broader or more theoretical knowledge of others. 	<p><u>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</u></p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p> <p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>

Advanced Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology)

Program Objective	Learning Outcome
<ul style="list-style-type: none"> to exercise the same breadth of perspective as Professional Engineers, or carry the same wide-ranging responsibilities for stakeholder interactions, for system integration, and for synthesising overall approaches to complex situations and complex engineering problems. to possess for a strong understanding of practical situations and applications, with the intellectual challenge of keeping abreast of leading-edge developments as a specialist in a technology domain and how these relate to established practice. For this purpose Engineering Technologists need a strong understanding of scientific and engineering principles and a well-developed capacity for analysis. . 	<p><u>1. KNOWLEDGE AND SKILL BASE</u></p> <p>1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain.</p> <p>1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain.</p> <p>1.3. In-depth understanding of specialist bodies of knowledge within the technology domain.</p> <p>1.4. Discernment of knowledge development within the technology domain.</p> <p>1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.</p> <p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.</p>
<ul style="list-style-type: none"> to apply current and emerging technologies, often in new contexts; or with the application of established principles in the development of new practice. To contribute to the advancement of technology. to take responsibility for engineering projects, services, functions and facilities within a technology domain, for specific interactions with other aspects of an overall operating context and for managing 	<p><u>2. ENGINEERING APPLICATION ABILITY</u></p> <p>2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.</p> <p>2.2. Application of engineering techniques, tools and resources within the technology domain.</p> <p>2.3. Application of systematic synthesis and design processes within the technology domain.</p> <p>2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.</p>

<ul style="list-style-type: none"> • to contribute the specialist work to a broader engineering system or solution. In these roles, Engineering • to focus on sustainable solutions and practices which optimise technical, social, environmental and economic outcomes within the technology domain and over a whole systems life cycle. 	
<ul style="list-style-type: none"> • to have an intimate understanding of the standards and codes of practice that underpin the technology domain and ensure that technology outcomes comply with statutory requirements. Engineering Technologists are required to interact effectively with Professional Engineers and Engineering Associates, with other professionals, tradespersons, clients, stakeholders and society in general, to ensure that technology outcomes and developments fully integrate with the overall system and context. • to ensure that all aspects of a technological product, or operation are soundly based in theory and fundamental principle. • to understand how new developments relate to their specific field of expertise. • to interpret technological possibilities, to investigate interfaces, limitations, consequences, costs and risks 	<p><u>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</u></p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p> <p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>

Professional Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology)

Program Objective	Learning Outcome
<ul style="list-style-type: none"> To perform the reliable functioning of all materials, components, sub-systems and technologies used; their integration to form a complete, sustainable and self-consistent system; and all interactions between the technical system and the context within which it functions. The latter includes understanding the requirements of clients, wide ranging stakeholders and of society as a whole; working to optimise social, environmental and economic outcomes over the full lifetime of the engineering product or program; interacting effectively with other disciplines, professions and people; and ensuring that the engineering contribution is properly integrated into the totality of the undertaking. To do interpreting technological possibilities to society, business and government; and for ensuring as far as possible that policy decisions are properly informed by such possibilities and consequences, and that costs, risks and limitations are properly understood as the desirable outcomes. 	<p>1. KNOWLEDGE AND SKILL BASE</p> <p>1.1. Comprehensive, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline.</p> <p>1.2. Conceptual understanding of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the engineering discipline.</p> <p>1.3. In-depth understanding of specialist bodies of knowledge within the engineering discipline.</p> <p>1.4. Discernment of knowledge development and research directions within the engineering discipline.</p> <p>1.5. Knowledge of engineering design practice and contextual factors impacting the engineering discipline.</p> <p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the specific discipline.</p>
<ul style="list-style-type: none"> To bring knowledge to bear from multiple sources to develop solutions to complex problems and issues, for ensuring that technical and non-technical considerations are properly integrated, and for managing risk as well as sustainability issues. To train the students to become predominantly intellectual in nature. In a 	<p>2. ENGINEERING APPLICATION ABILITY</p> <p>2.1. Application of established engineering methods to complex engineering problem solving.</p> <p>2.2. Fluent application of engineering techniques, tools and resources.</p> <p>2.3. Application of systematic engineering</p>

<p>technical sense, Professional Engineers are primarily concerned with the advancement of technologies and with the development of new technologies and their applications through innovation, creativity and change. Professional Engineers may conduct research concerned with advancing the science of engineering and with developing new principles and technologies within a broad engineering discipline</p>	<p>synthesis and design processes.</p> <p>2.4. Application of systematic approaches to the conduct and management of engineering projects.</p>
<ul style="list-style-type: none"> • To contribute to continual improvement in the practice of engineering, and in devising and updating the codes and standards that govern it. • To take a particular responsibility for ensuring that all aspects of a project are soundly based in theory and fundamental principle, and for understanding clearly how new developments relate to established practice and experience and to other disciplines with which they may interact. One hallmark of a professional is the capacity to break new ground in an informed, responsible and sustainable fashion. 	<p>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p> <p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>

(iii) Stakeholders Involvement: The Technological Universities/Institutions shall provide evidence of stakeholder involvement with regard to (i) and (ii) above

Please see Attachment Industry Consultation Folder

<http://www.highlightcomputer.com/industryconsultation.htm>

8.0 Qualifying Requirements and Accreditation Criteria (MEng C)

An engineering programme shall be assessed by EAC to enable graduates of the programme to register as graduate engineers with the M.Eng.C. The assessment involves a review of qualifying

requirements of the Technological Institutions and an evaluation based on the following criteria, apart from

Programme Objectives (4.0) and Learning Outcomes (5.0):

1 Academic Curriculum

9.2.4 Academic Curriculum

- Discuss the programme structure and course contents to show how they are appropriate to, consistent with, and support the development of the range of intellectual and practical skills and attainment or achievement of the Learning Outcomes. (MEng C)

IQY Technical College's Diploma program is focussed on practical applications, use of materials, tools & equipment by combining with theoretical studies at tradesmen/ technician level, it will provide the foundation of engineering studies.

At the advanced diploma level, more complex level engineering contents, applied science & mathematics contents & cross-disciplinary engineering and management contents are included.

At the professional diploma level, the skills required for the graduated to lead or manage teams appropriate to these activities, and may establish their own companies or move into senior management roles in engineering and related enterprises are provided.

- Discuss the programme delivery and assessment methods and how these are appropriate to, consistent with, and support the development of the range of intellectual and practical skills and attainment or achievement of the Learning Outcomes. (MEng C)

Program delivery & assessment at Diploma & Advanced level

The students are provided with online lessons, study guides which include audio visual explanations in both English & Myanmar languages. The electronic text books and reference books are also provided.

For the students who can not have the access to the high speed internet are provided with DVDs, CDs and USBs consisting of the lessons.

It has established the learning platform from which the study guides & instructions, exercise, assignments, audio & video lessons can be downloaded.

<http://www.highlightcomputer.com/onlineteaching1.htm>

To provide the online teaching to be the same learning environment as to face to face class, IQY Technical College has established the online videos & Youtube videos of lectures.

Youtube videos of lectures

<http://www.highlightcomputer.com/videos2.htm>

Online videos

<http://www.highlightcomputer.com/videos1.htm>

Online practical simulation at Level 1 is also provided.

Practical is important aspect in engineering education. IQY Technical College also provides the engineering practicals by online mode.

It has established the online practical support websites to provide three levels of engineering practicals.

The sites are

<http://www.highlightcomputer.com/PracticalCourses.htm>

&

<http://www.iqytechnicalcollege.com/youtubevideos.htm>

Level 1- Tradesmen Level in which the basic trades tasks videos such as brick laying, motor winding, wiring, engine fittings, machining etc are presented.

Level 2- Technician Level in which the technician tasks such as electrical laboratory, surveying etc are presented

Level 3- Engineer Level in which use of engineering design handbooks are presented.

For all three levels, the reference books related to practical applications are presented.

Assessment

The students need to do the continuous study as per guidelines and instruction provided in study guides and do the exercises. They are required to regularly submit the assignments and sit the online MCQ tests

Online Theory & MCQ Practice

http://www.filefactory.com/file/6m8zvfek7797/n/Online_Theory_MCQ_Practice_pdf

Online Practical Practice

http://www.filefactory.com/file/3ap0vv6o8azx/n/Online_Practical_Practice_pdf

Upon satisfactory completion of the assessments, the progression is granted.

Upon completion of all units / subject in the program, the qualification is awarded.

Program delivery & assessment at Professional Diploma level

The same learning system is applied. But for the professional diploma level, the written tests as well as engineering management, project tasks, design presentation and engineering competency demonstration report writings are included in the assessment.

- The information required in items (i) and (ii) should include but is not limited to the following:
- A matrix linking courses to Learning Outcomes to identify and track the contribution of each course to the Learning Outcomes. (Overall Learning outcomes link to each unit)
- Distribution of engineering courses according to areas specific to each program

(MEng C)

Diploma in Electrical Engineering

Learning Outcome	Subjects	Study Area
<u>1. KNOWLEDGE AND SKILL BASE</u> 1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain. 1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain. 1.3. In-depth understanding of specialist bodies of knowledge within the technology domain. 1.4. Discernment of knowledge development within the technology domain.	EE101 DC Circuit Problems EE113 Electrical Fundamental EE201 Engineering Mathematics (1) EE111 Electromagnetism & Basic Electrical Machines EE112 Alternating Current Principle EE109 Electrical Control Circuits EE114 Electrical Power Principle EE115 Basic Analogue & Digital Electronics EE102 Basic Electrical Fitting & Wiring EE103 Basic Electrical Drafting EE104 Electrical Equipments Safety Protection	Electrical Maths Electrical/Science Electrical/Electronics Electrical/Drafting

<p>1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.</p> <p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.</p>	<p>EE105 Electrical Installation Design EE106 Advanced Electrical Wiring</p> <p>EE107 Electrical Equipments EE108 Electrical Fault Finding</p>	<p>Design/ Trade Work</p> <p>Instrumentation/ TradeWork</p>
<p><u>2. ENGINEERING APPLICATION ABILITY</u></p> <p>2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.</p> <p>2.2. Application of engineering techniques, tools and resources within the technology domain.</p> <p>2.3. Application of systematic synthesis and design processes within the technology domain.</p> <p>2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.</p>	<p>EE121 Electronics Power Control Device EE116 Process Control System</p> <p>EE117 Solar Electrical System EE118 Electrical Energy Supply System EE110 Computer Applications</p> <p>EE105 Electrical Installation Design EE106 Advanced Electrical Wiring</p> <p>EE119 Electrical Risk Assessment EE120 Electrical Contracting & Specification</p>	<p>Electronics/ Instrumentation</p> <p>Renewable Energy Power Engineering Computer</p> <p>Design/ Trade Work</p> <p>Project Management</p>
<p><u>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</u></p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p>	<p>EE120 Electrical Contracting & Specification</p>	<p>Project Management</p>

<p>3.3. Creative, innovative and proactive demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>	EE120 Electrical Contracting & Specification	Project Management
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Advanced Diploma in Electrical Engineering

Learning Outcome	Subjects	Study Area
<p><u>1. KNOWLEDGE AND SKILL BASE</u></p> <p>1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain.</p> <p>1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain.</p> <p>1.3. In-depth understanding of specialist bodies of knowledge within the technology domain.</p>	<p>EE201 Engineering Mathematics EE302 Advanced Engineering Mathematics</p> <p>EE202 Electrical Circuits</p> <p>EE204 Engineering Physics EE203 Three Phase Power Circuits</p> <p>EE205 Electrical Power System EE206 AC Machines EE207 DC Machine EE208 Operational Amplifiers EE209 Analogue Electronics</p>	<p>Mathematics</p> <p>Electrical</p> <p>Science</p> <p>Electrical</p> <p>Electrical</p> <p>Electronics</p>

<p>1.4. Discernment of knowledge development within the technology domain.</p> <p>1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.</p> <p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.</p>	<p>EE303 Transmission Line</p> <p>EE301 Advanced Electrical Drafting EE307 Energy Efficient Building Design</p> <p>EE308 Sustainability</p>	<p>Power Engineering</p> <p>Electrical Design</p> <p>Renewable Energy</p>
<p><u>2. ENGINEERING APPLICATION ABILITY</u></p> <p>2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.</p> <p>2.2. Application of engineering techniques, tools and resources within the technology domain.</p> <p>2.3. Application of systematic synthesis and design processes within the technology domain.</p> <p>2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.</p>	<p>EE305 Power Transformer EE306 Electro-mechanical Control</p> <p>EE301 Advanced Electrical Drafting</p> <p>EE307 Energy Efficient Building Design</p> <p>EE309 Project Management</p>	<p>Power Engineering</p> <p>Electrical Design</p> <p>Electrical Design</p> <p>Project Management</p>

<p><u>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</u></p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p> <p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>	<p>EE309 Project Management EE310 Engineering Officer Competency Report</p> <p>EE309 Project Management</p> <p>EE310 Engineering Officer Competency Report</p>	<p>Project Management</p> <p>Engineering Ethics</p> <p>Project Management</p> <p>Engineering Ethics</p>
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Professional Diploma in Electrical Engineering

Learning Outcome	Subjects	Study Area
<p>1. KNOWLEDGE AND SKILL BASE</p> <p>1.1. Comprehensive, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline.</p> <p>1.2. Conceptual understanding of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the engineering discipline.</p>	<p><u>BAE 403 Engineering Mechanics</u> (1 pt)</p> <p><u>BAE 404 Engineering Materials & Thermodynamics</u> (3 pt)</p> <p>RE001- Foundation Studies in Renewable Energy and Sustainability (2 pt)</p> <p>BAE 401 Advanced Engineering Mathematics (9 pt)</p> <p><u>BAE 402 Calculus</u> (3 pt)</p> <p>BAE 601 Computer Programming</p> <p>BAE 603 Software Engineering</p>	<p>Mechanical</p> <p>Renewable Energy</p> <p>Mathematics</p> <p>Computer</p>

1.3. In-depth understanding of specialist bodies of knowledge within the engineering discipline.	RE003- Solar and Thermal Energy Systems (2 pt)	Renewable Energy
	RE006- Wind Energy Conversion Systems (2 pt)	
1.4. Discernment of knowledge development and research directions within the engineering discipline.	RE013-Electrical Machines	Electrical
	RE014-Electronics Control	Electronics
	RE007- Energy System Efficiency	Renewable Energy
1.5. Knowledge of engineering design practice and contextual factors impacting the engineering discipline.	RE010-Engineering Materials (2 pt)	Material Science
	RE012a-Electrical Engineering Part 1 (2pt)	Electrical
	RE002- Grid Connected Photovoltaic Power Systems	Electronics
1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the specific discipline.	RE005- Renewable Energy Resource Analysis (2 pt)	Renewable Energy
	BAE 602 Computer Network	Computer
	RE004- Energy Storage Systems (2 pt)	Mechanical
	RE012b-Electrical Engineering Part 2	Electrical
2. ENGINEERING APPLICATION ABILITY		
2.1. Application of established engineering methods to complex engineering problem solving.	BAE 501 Advanced Power Systems & Power Transmission Networks	Power Engineering
	BAE 506 Power System Stability & Protection	
2.2. Fluent application of engineering techniques, tools and resources.	BAE 604 Telecommunication Engineering	Telecommunication

<p>2.3. Application of systematic engineering synthesis and design processes.</p> <p>2.4. Application of systematic approaches to the conduct and management of engineering projects.</p>	<p>RE016-Design& Management (BAE508) (2 pt)</p> <p>RE015-Electrical Project/ Practice</p>	<p>Design</p> <p>Project</p>
<p>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p> <p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>	<p>RE015-Electrical Project/ Practice</p> <p>BAE 608 Professional Engineer Competency Demonstration Report</p>	<p>Project</p> <p>Engineering Ethics+ Practice</p>

Diploma in Civil Engineering

Learning Outcome	Subjects	Study Area
<p><u>1. KNOWLEDGE AND SKILL BASE</u></p> <p>1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain.</p> <p>1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain.</p> <p>1.3. In-depth understanding of specialist bodies of knowledge within the technology domain.</p> <p>1.4. Discernment of knowledge development within the technology domain.</p> <p>1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.</p> <p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.</p>	<p>Certificate in Construction Studies</p> <p>CE 104 A Building Drawing CE 108 Electrical Principle</p> <p>CE 101 Mathematics (EE201) CE 102 Physics (EE204)</p> <p>CE 104 Fluid Dynamics CE 105 Hydraulic CE 106 Hydrology</p> <p>CE 107 Sanitation-and-Water-supply</p> <p>CE 109 Energy Efficient Building Design (EE309) CE 110 Building Construction</p> <p>EE102 Basic Electrical Fitting & Wiring</p> <p>CE 106A Detailed Construction & Building Construction Materials</p>	<p>Construction Electrical</p> <p>Maths/Science</p> <p>Civil</p> <p>Civil</p> <p>Design Construction</p> <p>Electrical/ Building Trade</p>
<p><u>2. ENGINEERING APPLICATION ABILITY</u></p> <p>2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.</p>	<p>CE 108 Electrical Principle CE 107 Sanitation-and-Water-supply</p> <p>CE 110 Building Construction CE 108 Electrical Principle</p>	<p>Electrical/ Building Trade</p>

<p>2.2. Application of engineering techniques, tools and resources within the technology domain.</p> <p>2.3. Application of systematic synthesis and design processes within the technology domain.</p> <p>2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.</p>	<p>CE 107 Sanitation-and-Water-supply</p> <p>CE 110 Building Construction</p> <p>CE 109 Energy Efficient Building Design (EE309)</p> <p>CE 110 Building Construction</p> <p>CE 109 Energy Efficient Building Design (EE309)</p>	<p>Civil</p> <p>Construction</p> <p>Electrical/ Building Trade</p>
<p><u>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</u></p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p> <p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>	<p>CE 109 Energy Efficient Building Design (EE309)</p>	<p>Design</p>

Advanced Diploma in Civil Engineering

Learning Outcome	Subjects	Study Area
<u>1. KNOWLEDGE AND SKILL BASE</u> 1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain. 1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain. 1.3. In-depth understanding of specialist bodies of knowledge within the technology domain. 1.4. Discernment of knowledge development within the technology domain. 1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain. 1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.	CE113 Structure 1 CE114 Structure 2 ME 102 Engineering Thermodynamics CE 112 Engineering Mechanics+ ME 301 Applied Mathematics ME 334 Airconditioning and Refrigeration EE106 Advanced Electrical Wiring ME 334 Airconditioning and Refrigeration EE106 Advanced Electrical Wiring EE105 Electrical Installation Design CE115 Estimating & Specification CE103-Surveying CE111A-Road+Bridges EE308 Sustainability	Structural Engineering Mechanical+Maths Mechanical Electrical Mechanical Electrical Electrical Construction Civil Renewable Energy
<u>2. ENGINEERING APPLICATION ABILITY</u> 2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.	EE104 Electrical Equipments Safety Protection CE113 Structure 1 CE114 Structure 2	Electrical Structural Engineering

<p>2.2. Application of engineering techniques, tools and resources within the technology domain.</p> <p>2.3. Application of systematic synthesis and design processes within the technology domain.</p> <p>2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.</p>	<p>CE 110 Building Construction</p> <p>CE115 Estimating & Specification</p> <p>CE111A-Road+Bridge</p> <p>CE114 Structure 2</p> <p>CE309 Project Management</p>	<p>Construction</p> <p>Civil</p> <p>Structural</p> <p>Project</p>
<p><u>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</u></p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p> <p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>	<p>CE309 Project Management</p> <p>CE310 Engineering Competency Demonstration Report</p>	<p>Project</p> <p>Engineering Ethics+ Practice</p>

Professional Diploma in Civil Engineering

Learning Outcome	Subjects	Study Area
1. KNOWLEDGE AND SKILL BASE		
1.1. Comprehensive, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline.	BAE 403 Engineering Mechanics (1 pt) BAE 404 Engineering Materials & Thermodynamics (3 pt)	Mechanical
1.2. Conceptual understanding of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the engineering discipline.	BAE 401 Advanced Engineering Mathematics (9 pt) BAE 402 Calculus (3 pt)	Mathematics
1.3. In-depth understanding of specialist bodies of knowledge within the engineering discipline.	RE001- Foundation Studies in Renewable Energy and Sustainability (2 pt) RE011a-Civil& Mechanical Engineering Part 1 (2 pt) (Assessment- Study Report)	Renewable Energy Civil/Mechanical
1.4. Discernment of knowledge development and research directions within the engineering discipline.	RE003- Solar and Thermal Energy Systems (2 pt) RE004- Energy Storage Systems (2 pt) RE012a-Electrical Engineering Part 1 (2pt)	Renewable Energy Mechanical Electrical
1.5. Knowledge of engineering design practice and contextual factors impacting the engineering discipline.	RE010-Engineering Materials (2 pt) RE016-Design& Management (BAE508) (2 pt)	Material Computer/Design
1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the specific discipline.	RE011b-Civil& Mechanical Engineering Part 2a (2 pt)(Assessment- Study Report) BAE423 Fluid Mechanics (2 pt) BAE424 Reinforced Concrete (2 pt) BAE522 Rock Mechanics (2 pt)	Civil/Mechanical Civil Structural Civil

<p>2. ENGINEERING APPLICATION ABILITY</p> <p>2.1. Application of established engineering methods to complex engineering problem solving.</p> <p>2.2. Fluent application of engineering techniques, tools and resources.</p> <p>2.3. Application of systematic engineering synthesis and design processes.</p> <p>2.4. Application of systematic approaches to the conduct and management of engineering projects.</p>	<p>BAE421 Building Construction Engineering (2 pt)</p> <p>BAE 606 Building Service Electrical & Mechanical Engineering (2 pt)</p> <p>BAE 523A Environmental Engineering (2 pt)</p> <p>BAE623 Surveying & Traffic Engineering (2 pt)</p> <p>BAE624 Water Supply , Sanitation & Finishing (2 pt)</p> <p>RE005- Renewable Energy Resource Analysis (2 pt)</p> <p>RE006- Wind Energy Conversion Systems (2 pt)</p> <p>BAE621 Structural Engineering (2 pt)</p> <p>BAE422 Estimating (2 pt)</p> <p>BAE 605 Project Management</p>	<p>Construction</p> <p>Building Services</p> <p>Civil</p> <p>Civil</p> <p>Renewable Energy</p> <p>Renewable Energy</p> <p>Structural</p> <p>Structural</p> <p>Project</p>
<p>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p>	<p>BAE 605 Project Management</p> <p>BAE 608 Professional Engineer Competency Demonstration Report</p>	<p>Project</p> <p>Ethics+ Practice</p>

3.3. Creative, innovative and pro-active demeanour.	BAE 605 Project Management	Project
3.4. Professional use and management of information.	BAE 608 Professional Engineer Competency Demonstration Report	Ethics+ Practice
3.5. Orderly management of self, and professional conduct.		
3.6. Effective team membership and team leadership.		

Diploma in Mechanical Engineering

Learning Outcome	Subjects	Study Area
<u>1. KNOWLEDGE AND SKILL BASE</u>		
1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain.	ME 102 Engineering Thermodynamics ME 103 Engineering Mechanics ME 104 Machine Principle ME 105 Electrical Principle	Mechanical/Science Electrical
1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain.	Maths 101 Engineering Mathematics (EE201) ME 101 Applied Mathematics	Mathematics
1.3. In-depth understanding of specialist bodies of knowledge within the technology domain.	ME 106 Electrical Circuits ME 107 Heat Transfer ME 108 Principle of Engines ME201 Introduction to Fluid Mechanics	Electrical Mechanical/Science Mechanical/Science
1.4. Discernment of knowledge development within the technology domain.	ME 207 Chemical Thermodynamics ME 208 Hydrocarbons ME 209 Introduction-to-polymer-science-and-technology	Mechanical/Science Mechanical/Science Mechanical/Science

<p>1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.</p> <p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.</p>	<p>ME 205 Manufacturing Processes-and-Materials</p> <p>ME 202 Introduction to Aero Dynamics</p> <p>ME 203 Control Engineering</p> <p>ME 234 Wind Turbines</p>	<p>Design</p> <p>Design</p> <p>Control</p> <p>Renewable Energy</p>
<p><u>2. ENGINEERING APPLICATION ABILITY</u></p> <p>2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.</p> <p>2.2. Application of engineering techniques, tools and resources within the technology domain.</p> <p>2.3. Application of systematic synthesis and design processes within the technology domain.</p> <p>2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.</p>	<p>ME 204 Engineering Fluid Mechanics</p> <p>ME 206 Introduction to Turbo Machinery</p> <p>ME 205 Manufacturing Processes-and-Materials</p> <p>Mgt 501 Basic Management</p>	<p>Mechanical</p> <p>Mechanical</p> <p>Design</p> <p>Management/Computer</p>
<p><u>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</u></p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p>	<p>Mgt 501 Basic Management</p>	<p>Management/Computer</p>

<p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>		
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Advanced Diploma in Mechanical Engineering

Learning Outcome	Subjects	Study Area
<p><u>1. KNOWLEDGE AND SKILL BASE</u></p> <p>1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain.</p> <p>1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain.</p> <p>1.3. In-depth understanding of specialist bodies of knowledge within the technology domain.</p> <p>1.4. Discernment of knowledge development within the technology domain.</p> <p>1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.</p>	<p>ME 306 Theory-of-waves-in-materials</p> <p>ME 301 Fluid Dynamics</p> <p>Maths 403 Engineering-Mathematics (EE302)</p> <p>ME 304 Introduction to Nonlinearity-in-control-systems</p> <p>ME 301 Fluid Dynamics</p> <p>ME 302 Automation-and-Robotics</p> <p>ME 301 Fluid Dynamics</p> <p>ME 302 Automation-and-Robotics</p> <p>ME 303 Computer Aided Design and Manufacturing</p>	<p>Science/Mechanical</p> <p>Mathematics</p> <p>Science/Mechanical</p> <p>Design/Computer</p>

1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.	ME 305 Corrosion Prevention ME 334 Airconditioning and Refrigeration	Science/Mechanical Mechanical
<u>2. ENGINEERING APPLICATION ABILITY</u> 2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain. 2.2. Application of engineering techniques, tools and resources within the technology domain. 2.3. Application of systematic synthesis and design processes within the technology domain. 2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.	ME 534 Numerical Control EE 624 Process Control ME 434 Mechtronics-Robotics ME 634 Pneumatics EE 617 Building Electrical and Mechanical System Part 1 (EE309) Mgt 503 Production & Operation Management Mgt 505 Quality Management and Manufacturing Engineering	Instrumentation Building Services Production/ Management
<u>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</u> 3.1. Ethical conduct and professional accountability. 3.2. Effective oral and written communication in professional and lay domains.	Mgt 503 Production & Operation Management Mgt 505 Quality Management and Manufacturing Engineering	Production/ Management

3.3. Creative, innovative and pro-active demeanour.	ME310 Engineering Competency Demonstration Report	Ethics+ Engineering Practice
3.4. Professional use and management of information.		
3.5. Orderly management of self, and professional conduct.		
3.6. Effective team membership and team leadership.	ME310 Engineering Competency Demonstration Report	Ethics+ Engineering Practice

Professional Diploma in Mechanical Engineering

Learning Outcome	Subjects	Study Area
1. KNOWLEDGE AND SKILL BASE		
1.1. Comprehensive, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline.	BAE 404 Engineering Materials & Thermodynamics (3 pt) RE001- Foundation Studies in Renewable Energy and Sustainability (2 pt)	Science/Mechanical Renewable Energy
1.2. Conceptual understanding of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the engineering discipline.	BAE 601 Computer Programming(2 pt) BAE 401 Advanced Engineering Mathematics (9 pt) BAE 402 Calculus (3 pt)	Mathematics/ Computer
1.3. In-depth understanding of specialist bodies of knowledge within the engineering discipline.	BAE 403 Engineering Mechanics (1 pt) RE003- Solar and Thermal Energy Systems (2 pt)	Mechanical
1.4. Discernment of knowledge development and research directions within the engineering discipline.	RE004- Energy Storage Systems (2 pt) RE005- Renewable Energy Resource Analysis (2 pt) RE006- Wind Energy Conversion Systems (2 pt)	Renewable Energy

1.5. Knowledge of engineering design practice and contextual factors impacting the engineering discipline.	RE010-Engineering Materials (2 pt) RE016-Design& Management (BAE508) (2 pt)	Design
1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the specific discipline.	RE012a-Electrical Engineering Part 1 (2pt) RE011a-Civil & Mechanical Engineering Part 1 (2 pt) (Assessment- Study Report)	Electrical Civil/Mechanical
2. ENGINEERING APPLICATION ABILITY		
2.1. Application of established engineering methods to complex engineering problem solving.	RE011b-Civil & Mechanical Engineering Part 2a (2 pt) (Assessment- Study Report)	Civil/Mechanical
2.2. Fluent application of engineering techniques, tools and resources.	BAE311 Plant Engineering (2 pt) BAE314 Mechanical Power Generation (2 pt) BAE315 Materials Engineering (2 pt) Part 1 Part 2 (2 pt) BAE511 Air-conditioning & Refrigeration Part 1 (2 pt) BAE512 Building Service Water Supply System (2 pt) BAE613 Mechanical Instrumentation Process(2 pt) BAE 606 Building Service Electrical & Mechanical Engineering (2 pt) RE007- Energy System Efficiency(2 pt)	Mechanical Building Services Instrumentation Building Services Mechanical

2.3. Application of systematic engineering synthesis and design processes.	BAE614 Machine Design (2 pt)	Design
2.4. Application of systematic approaches to the conduct and management of engineering projects.	ME309 Project Management	Project
3. PROFESSIONAL AND PERSONAL ATTRIBUTES		
3.1. Ethical conduct and professional accountability.	ME309 Project Management	Project
3.2. Effective oral and written communication in professional and lay domains.	ME310 Engineering Competency Demonstration Report	Ethics + Engineering Practice
3.3. Creative, innovative and pro-active demeanour.		
3.4. Professional use and management of information.		
3.5. Orderly management of self, and professional conduct.		
3.6. Effective team membership and team leadership.		

Criterion 1: Academic Curriculum

(curricular design)the philosophy and approach adopted in the programme structure, (MEng C)

The Diploma & Advanced Diploma level engineering curriculums are designed to provide the Engineering Competencies at Technician/ Technologist & Professional Engineer level.

They are based on Year 12 level schooling.

At the diploma level, the basic engineering theories are mixed with trades level practical knowledge and applications. Appropriate contents of mathematics, science and cross disciplinary contents are inserted.

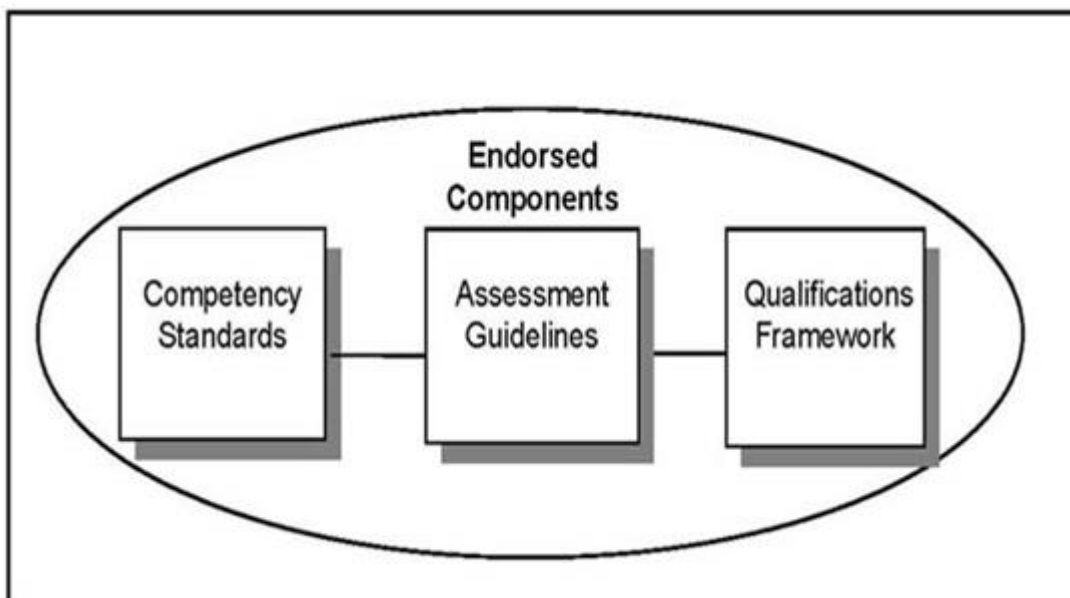
The engineering Industry is subject to high levels of legislation, regulation, codes of practice, guidelines and advisory standards, related to: research, assembly, installation, construction, diagnoses, maintenance, commissioning, programming, testing and repair of networks; systems,

circuits, equipment, components, appliances and facilities in the field of electricity and communications. The regulatory requirements are typically based on the principle of operation of the various systems and associated circuits involving equipment, apparatus and systems, public safety, safety and health of individuals who work on lines/circuits, systems and apparatus/equipment and other codes and practices related to the environment in which they are installed, operate and are maintained.

To fulfil such requirements, IQY Technical College Diploma & Advanced Diploma program are designed with the following requirements

- To provide a consistent and reliable set of components for training, recognising and assessing people's skills, and may also have optional support materials
- To enable the qualifications to be awarded through direct assessment of workplace competencies
- To apply and delivery of flexible training which suits individual and industry requirements
- To encourage learning and assessment in a work-related environment which leads to verifiable workplace outcomes.

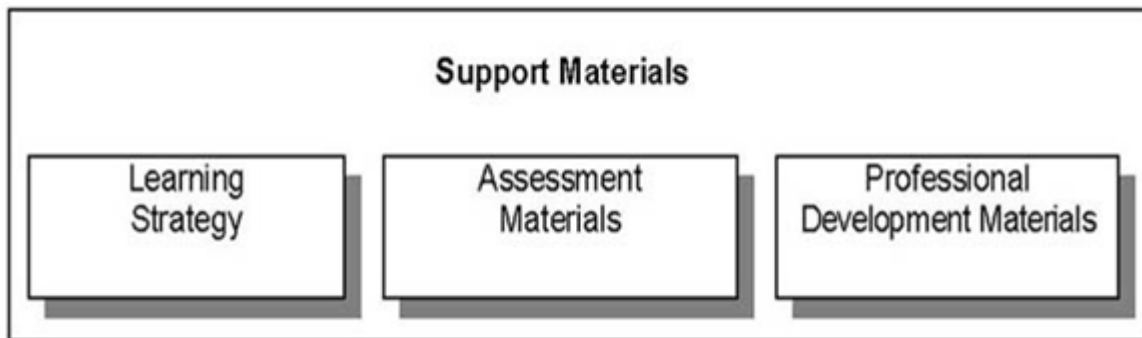
IQY Technical College's Diploma & Advanced Diploma program are largely based on Australian training system that reflect the following structure.



Competency Standards

Each unit of competency identifies a discrete workplace requirement and includes the knowledge and skills that underpin competency as well as language, literacy and numeracy; and occupational health and safety requirements. The units of competency must be adhered to in training and assessment to ensure consistency of outcomes

The online & off line learning support materials are designed with the following features.



The following competency areas are included

- A – Assembly
- C – Commercial
- D – Computer systems
- E – Cross discipline
- F – Data and voice communications
- G – Electrical
- H – Electronic
- I – Instrument and Control
- J – Refrigeration and Air Conditioning
- K – Renewable and sustainable energy
- M – Hazardous areas
- P – Restricted and specialist
- R – Research

Language, Literacy, Numeracy

The study support materials have been written to reflect the technical and operational needs of industry and include appropriate language and literacy requirements of Myanmar students. A new and specific section related to literacy and numeracy skills has been included in the competency standard. It characterises how participants are to be best equipped to achieve the relevant unit, in terms of reading, writing and numeracy skill levels.

Access, Equity and Cultural Diversity

The skills required of employees in the Engineering Industry are comprehensive and are relevant to many different employment situations. The study support materials reflect the range of knowledge and skills and their application, required in the Industry. They are written in a non-exclusive manner so as to increase the participation rates of under-represented groups and to minimise unintentional bias.

Quality Control Aspects

- *Maintenance of Contents Standards* – to initiate and respond to the need to review, vary, delete and add to the Engineering competency standard units, as part of the sector's standards inventory
- *Maintenance of Competency Delivery Processes* – to monitor the effectiveness of the delivery of competency and so initiate and respond to issues which may impact on those processes
- *Maintenance of Assessment Guidelines* – to monitor the effectiveness of the Assessment Guidelines and supporting systems; to initiate and respond to issues which impact, or are likely to impact, on the quality of the assessment systems and to promote quality improvement throughout the system
- *Maintenance of the Qualification and Recognition Systems* – to monitor the effectiveness of the application of the Qualification and Recognition Systems contained in the courses and to review/revise the system as required

Philosophy related to Learning Out comes provided by IQY Technical College Diploma & Advanced Diploma curriculums

Certificate (Part 1)

Characteristics of Learning Outcomes

- Breadth, depth and complexity of knowledge and competencies would cover selecting, adapting and transferring skills and knowledge to Australian environments and providing technical advice and some leadership in resolution of specified problems. This would be applied across a range of roles in a variety of contexts with some complexity in the extent and choice of options available.
- Performance of a defined range of skilled operations, usually within a range of broader related activities involving known routines, methods and procedures, where some discretion and judgement is required in the selection of equipment, services or contingency measures and within known time constraints.
- Applications may involve some responsibility for others. Participation in teams including group or team coordination may be involved.
- Distinguishing Features of Learning Outcomes
- Do the competencies enable an individual with this qualification to:
 - demonstrate some relevant theoretical knowledge
 - apply a range of well-developed skills
 - apply known solutions to a variety of predictable problems
 - perform processes that require a range of well-developed skills where some discretion and judgement is required
 - interpret available information, using discretion and judgement
 - take responsibility for own outputs in work and learning
- take limited responsibility for the output of others

Certificate (Part 2)

Characteristics of Learning Outcomes

- Breadth, depth and complexity of knowledge and competencies would cover a broad range of varied activities or application in a wider variety of contexts most of which are complex and non-routine. Leadership and guidance are involved when organising activities of self and others as well as contributing to technical solutions of a non-routine or contingency nature.
- Performance of a broad range of skilled applications including the requirement to evaluate and analyse current practices, develop Australian criteria and procedures for performing current practices and provision of some leadership and guidance to others in the application and planning of the skills.
- Applications involve responsibility for, and limited organisation of, others.
- Distinguishing Features of Learning Outcomes
- Do the competencies enable an individual with this qualification to:
 - demonstrate understanding of a broad knowledge base incorporating some theoretical concepts
 - apply solutions to a defined range of unpredictable problems
 - identify and apply skill and knowledge areas to a wide variety of contexts, with depth in some areas

- identify, analyse and evaluate information from a variety of sources
- take responsibility for own outputs in relation to specified quality standards
- take limited responsibility for the quantity and quality of the output of others

Diploma

Characteristics of Learning Outcomes

- Breadth, depth and complexity covering planning and initiation of alternative approaches to skills or knowledge applications across a broad range of technical and/or management requirements, evaluation and coordination.
- The self directed application of knowledge and skills, with substantial depth in some areas where judgement is required in planning and selecting appropriate equipment, services and techniques for self and others.
- Applications involve participation in development of strategic initiatives as well as personal responsibility and autonomy in performing complex technical operations or organising others. It may include participation in teams including teams concerned with planning and evaluation functions. Group or team coordination may be involved.
- The degree of emphasis on breadth as against depth of knowledge and skills may vary between qualifications granted at this level.
- Distinguishing Features of Learning Outcomes
- Do the competencies or learning outcomes enable an individual with this qualification to:
demonstrate understanding of a broad knowledge base incorporating theoretical concepts, with substantial depth in some areas
- analyse and plan approaches to technical problems or management requirements
- transfer and apply theoretical concepts and/or technical or creative skills to a range of situations
- evaluate information, using it to forecast for planning or research purposes
- take responsibility for own outputs in relation to broad quantity and quality parameters
- take some responsibility for the achievement of group outcomes

Advanced Diploma

Characteristics of Learning Outcomes

- Breadth, depth and complexity involving analysis, design, planning, execution and evaluation across a range of technical and/or management functions including development of Australian criteria or applications or knowledge or procedures.
- The application of a significant range of fundamental principles and complex techniques across a wide and often unpredictable variety of contexts in relation to either varied or highly specific functions. Contribution to the development of a broad plan, budget or strategy is involved and accountability and responsibility for self and others in achieving the outcomes is involved.
- Applications involve significant judgement in planning, design, technical or leadership/guidance functions related to products, services, operations or procedures.
- The degree of emphasis on breadth as against depth of knowledge and skills may vary between qualifications granted at this level.
- Distinguishing Features of Learning Outcomes
- Do the competencies or learning outcomes enable an individual with this qualification to:
 - demonstrate understanding of specialised knowledge with depth in some areas
 - analyse, diagnose, design and execute judgements across a broad range of technical or management functions
 - generate ideas through the analysis of information and concepts at an abstract level
 - demonstrate a command of wide-ranging, highly specialised technical, creative or conceptual skills
 - demonstrate accountability for personal outputs within broad parameters
 - demonstrate accountability for personal and group outcomes within broad parameters

Professional Diploma

Year 2+3 Learning Outcomes & Teaching /Assessment Strategies

Purpose

Development and consolidation of discipline knowledge and skills, with increasing opportunities for application

Knowledge

comprehensive understanding of the major theoretical approaches, concepts, practices, methodologies, etc.

Skills

- Consolidate and extend key academic skills including:

- high order cognitive skills in processing knowledge
- rigorous techniques of enquiry involving primary and secondary sources and a range of technologies
- problem solving and creativity using various techniques in diverse contexts
- collaborative and independent learning
- communication skills (oral, written, academic, professional) including the use of relevant technologies
- Consolidate and extend key discipline technical skills

Application of Knowledge & Skills

- apply and adapt major theoretical principles and approaches to real world contexts
- develop skills in planning, problem solving, decision-making, teamwork, communication, intellectual independence and accountability in professional practice and/or scholarship

Key Verbs

- organise
- integrate
- differentiate, examine
- distinguish
- discuss, elaborate
- calculate
- collaborate
- discover
- critically review
- explain, interpret
- compare, contrast
- summarise, paraphrase
- demonstrate
- cooperate
- use, modify
- organise

Types of assessments

- critical review
- construct a chart
- analyse data, graph
- create a database
- write a reflective journal
- analyse an argument
- compare theories
- make generalisations

- apply models
- develop and conduct a survey
- investigate an issue
- critical essay
- role play
- make a presentation
- debate
- defend a position
- quiz, test, exam
- tutorial paper

Year 4 Learning Outcomes & Teaching /Assessment Strategies

Purpose

The Professional Diploma comparable to Bachelor Degree qualifies individuals who apply a broad and coherent body of knowledge in a range of contexts to undertake professional work and as a pathway for further learning

Knowledge

- broad and coherent knowledge with depth in one or more disciplines

Skills

- cognitive skills to critically, analyse, consolidate and synthesise knowledge
- cognitive and technical skills to demonstrate a broad understanding of knowledge with depth in some areas
- cognitive and creative skills to exercise critical thinking and judgement in identifying and solving problems with intellectual independence
- communication skills to present a clear, coherent and independent exposition of knowledge and ideas

Application of Knowledge & Skills

- apply knowledge and skills with initiative and judgement in planning, problem solving and decision making in professional practice and/or scholarship
- adapt knowledge and skills in diverse contexts
- with responsibility and accountability for own learning and professional practice and in collaboration with others within broad parameters

Key Verbs

- assemble
- manage
- formulate, devise
- generate, construct
- deconstruct
- solve

- assess, estimate
- investigate, scope
- plan
- convert, translate
- justify, predict
- create, design, compose
- judge, determine, diagnose
- innovate, invent

Types of Assessment

- project
- presentation on a topic/project
- seminar paper and presentation
- report
- case study
- scenarios
- major essay
- plan
- creative writing (story, poem song)
- musical work, sculpture
- performance of a musical work, play
- film making
- translation of a text
- simulation
- organisation of an event
- work-integrated learning
- teamwork
- quiz, test/exam
- reflective journal
- posters
- portfolio
- exam
- viva voce

Preparation for Professional Engineer Program

Purpose

The Professional Engineer Status who apply a body of knowledge in a specific context to undertake professional work and as a pathway for research and further learning.

Knowledge

- coherent advanced knowledge of the principles and concepts in one or more disciplines and knowledge of research principles and methods

Skills

- cognitive skills to review, analyse, consolidate and synthesise knowledge to identify and provide solutions to complex problems with intellectual independence
- cognitive and technical skills to demonstrate a broad understanding of a body of knowledge and theoretical concepts with advanced understanding in some areas
- cognitive skills to exercise critical thinking and judgement in developing new understanding technical skills to design and use research in a project
- communication skills to present a clear and coherent exposition of knowledge and ideas to a variety of audience

Application of knowledge & Skills

- apply knowledge and skills with initiative and judgement in professional practice and/or scholarship
- adapt knowledge and skills in diverse contexts
- with responsibility and accountability for own learning and practice and in collaboration with others within broad parameters
- plan and execute project work and/or a piece of research and scholarship with some independence

Key Verbs

- research work on system/ modification/ re-engineering/ reverse engineering
- adapt the news systems / alternative system/ more efficient system
- initiate the new technology & application
- consolidate the several functions
- execute the planning & management in engineering works

Types of assessment

- literature review on application/ methods/ system report/ project report
- research paper on new engineering development & systems
- report on project
- creative work on engineering design project
- seminar paper and presentation
- conference paper
- journal article
- viva voce

Based on the above learning outcomes & teaching strategies, the curriculums are arranged & relevant contents are integrated as follows.

Detailed Contents

Detailed Contents of BE,B Bus& B App Sc (IT) Programs

[http://highlightcomputer.com/B%20E+B%20App%20Sc\(IT\)+B%20Bus%20Course%20Detailed%20Contents.htm](http://highlightcomputer.com/B%20E+B%20App%20Sc(IT)+B%20Bus%20Course%20Detailed%20Contents.htm)

Detailed Contents of Diploma + Advanced Diploma in Engineering, IT , Management & Business Programs

<http://www.highlightcomputer.com/detailedcontent.htm>

Course Outlines

<http://www.highlightcomputer.com/syllabus.htm>

Diploma Programs (IQY Technical College)

Electrical Engineering Course Outline

Management Course Outline

Information Technology Course Outline

Certificate in Information Technology Course Outline

Diploma in Information Technology Course Outline

Advanced Diploma in Information Technology Course Outline

Mechanical Engineering Course Outline

Civil Engineering Course Outline

Automotive Engineering Course Outline

Marine Engineering Course Outline

Professional Diploma + Bachelor of Engineering (Electrical, Civil, Mechanical Combined with Renewable Energy) Programs

Professional Diploma+ Bachelor Degree in Electrical Engineering

Professional Diploma+ Bachelor Degree in Civil Engineering

Professional Diploma+ Bachelor Degree in Mechanical Engineering

**Bachelor Degree Programs (St Clements University Higher Education School&
St Clements Technological University of British West Indies)**

Bachelor of Engineering (Electrical Engineering) Course Outline

Bachelor of Applied Science (Computer Science & Computer Technology)

Bachelor of Engineering (Mechanical Engineering-Mechatronics) Course Outline

Bachelor of Engineering (Civil Engineering-Building Services) Course Outline

Graduate Diploma of Civil Engineering + Bachelor of Applied Engineering (Final Year
Civil Design) Course Outline

Bachelor of Engineering (Civil) Course outline

Bachelor of Engineering (Mechanical) Course outline

Graduate Diploma of Mechanical Engineering + Bachelor of Applied Engineering
(Final Year Mechanical Design) Course Outline

Bachelor of Business /Bachelor of Applied Management Course Outline

Graduate Diploma of Engineering Practice (Computer Control Engineering) Course
Outline

Certificate in Teaching Support+ Diploma in Teaching Practice+ Bachelor of
Teaching+ Bachelor of Education (School & Vocational)

Scholarship Application Form for Volunteer Teachers

**Myanmar Engineers Board Professional Engineer (PE) (Electrical-Building
Services) Registration Support Program**

Graduate Diploma of Engineering Practice (Mechanical) Course Outline

Graduate Diploma of Engineering Practice (Civil) Course Outline

Graduate Diploma of Engineering (Electrical+ Electronics) Course Outline

AUSTRALIAN ELECTRICIAN TRAINING

Master Degree Programs (St Clements Technological University of British West Indies)

Master of Science (Information Technology)/Master of Information Technology

Master of Management

Master of Science (Engineering) / Master of Engineering

Master of Science (Renewable Energy Engineering)

Learning Outcome/Course/Assessment/ Time Allocation

Diploma in Electrical Engineering Each unit has 1 pt unless stated

Learning Outcome	Subjects	Time Allocation/ Assessment Method
<u>1. KNOWLEDGE AND SKILL BASE</u>	Each unit has 1 pt unless stated	Time Allocation
1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain.	EE101 DC Circuit Problems	1 Credit Point=24 Hr
1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain.	EE113 Electrical Fundamental (2 pt)	Assessment
1.3. In-depth understanding of specialist bodies of knowledge within the technology domain.	EE201 Engineering Mathematics (1)	Assignment/Test/ Examination/ Summative/ Formative Assessment Practical Simulation
1.4. Discernment of knowledge development within the technology domain.	EE111 Electromagnetism & Basic Electrical Machines(2 pt) EE112 Alternating Current Principle (2 pt) EE109 Electrical Control Circuits EE114 Electrical Power Principle EE115 Basic Analogue & Digital Electronics EE102 Basic Electrical Fitting & Wiring EE103 Basic Electrical Drafting EE104 Electrical Equipments Safety Protection (2 pt)	

<p>1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.</p> <p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.</p>	<p>EE105 Electrical Installation Design EE106 Advanced Electrical Wiring</p> <p>EE107 Electrical Equipments EE108 Electrical Fault Finding</p>	
<p><u>2. ENGINEERING APPLICATION ABILITY</u></p> <p>2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.</p> <p>2.2. Application of engineering techniques, tools and resources within the technology domain.</p> <p>2.3. Application of systematic synthesis and design processes within the technology domain.</p> <p>2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.</p>	<p>EE121 Electronics Power Control Device EE116 Process Control System(3 pt)</p> <p>EE117 Solar Electrical System EE118 Electrical Energy Supply System(3 pt) EE110 Computer Applications</p> <p>EE105 Electrical Installation Design EE106 Advanced Electrical Wiring</p> <p>EE119 Electrical Risk Assessment EE120 Electrical Contracting & Specification</p>	

EE120 Electrical Contracting & Specification

EE120 Electrical Contracting & Specification

Learning Outcome

Activity	Time Allocation/	Assessment Method
Introduction and Welcome	10 minutes	Self-reflection
Unit Overview	15 minutes	Self-reflection
Unit Objectives	15 minutes	Self-reflection
Unit Content	45 minutes	Self-reflection
Unit Assessment	15 minutes	Self-reflection
Unit Reflection	15 minutes	Self-reflection
Unit Summary	10 minutes	Self-reflection
Unit Conclusion	10 minutes	Self-reflection

1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain.

EE201 Engineering
Mathematics
EE302 Advanced
Engineering Mathematics

EE202 Electrical Circuits

EE204 Engineering Physics

EE203 Three Phase Power Circuits

Time Allocation

1 Credit Point=24 Hr

Assessment

Assignment/Test/
Examination/
Summative/
Formative Assessment
Practical Simulation

1.3. In-depth understanding of specialist bodies of knowledge within the technology domain.	EE205 Electrical Power System(2 pt) EE206 AC Machines(2 pt) EE207 DC Machine EE208 Operational (2 pt)Amplifiers EE209 Analogue Electronics	
1.4. Discernment of knowledge development within the technology domain.	EE303 Transmission Line (2 pt)	
1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.	EE301 Advanced Electrical Drafting EE307 Energy Efficient Building Design(2 pt)	
1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.	EE308 Sustainability	
<u>2. ENGINEERING APPLICATION ABILITY</u>		
2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.	EE305 Power Transformer (2 pt) EE306 Electro-mechanical Control (2 pt)	
2.2. Application of engineering techniques, tools and resources within the technology domain.	EE301 Advanced Electrical Drafting	
2.3. Application of systematic synthesis and design processes within the technology domain.	EE307 Energy Efficient Building Design (2 pt)	

<p>2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.</p>	<p>EE309 Project Management (2 pt)</p>	
<p><u>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</u></p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p> <p>3.3. Creative, innovative and proactive demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>	<p>EE309 Project Management (2 pt) EE310 Engineering Officer Competency Report (2 pt)</p> <p>EE309 Project Management (2 pt)</p> <p>EE310 Engineering Officer Competency Report (2 pt)</p>	

Professional Diploma in Electrical Engineering Each unit has 2 pt unless stated

Learning Outcome	Subjects	Time Allocation/ Assessment Method
<p>1. KNOWLEDGE AND SKILL BASE</p> <p>1.1. Comprehensive, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline.</p> <p>1.2. Conceptual understanding of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the engineering discipline.</p> <p>1.3. In-depth understanding of specialist bodies of knowledge within the engineering discipline.</p> <p>1.4. Discernment of knowledge development and research directions within the engineering discipline.</p> <p>1.5. Knowledge of engineering design practice and contextual factors impacting the engineering discipline.</p>	<p><u>BAE 403 Engineering Mechanics</u> (1 pt)</p> <p><u>BAE 404 Engineering Materials & Thermodynamics</u> (3 pt)</p> <p>RE001- Foundation Studies in Renewable Energy and Sustainability (2 pt)</p> <p>BAE 401 Advanced Engineering Mathematics (9 pt)</p> <p><u>BAE 402 Calculus</u> (3 pt)</p> <p>BAE 601 Computer Programming</p> <p>BAE 603 Software Engineering</p> <p>RE003- Solar and Thermal Energy Systems (2 pt)</p> <p>RE006- Wind Energy Conversion Systems (2 pt)</p> <p>RE013-Electrical Machines</p> <p>RE014-Electronics Control</p> <p>RE007- Energy System Efficiency</p> <p>RE010-Engineering Materials (2 pt)</p> <p>RE012a-Electrical Engineering Part 1 (2pt)</p> <p>RE002- Grid Connected Photovoltaic Power Systems</p>	<p>Time Allocation</p> <p>1 Credit Point=24 Hr</p> <p>Assessment</p> <p>Assignment/Test/ Examination/ Summative/ Formative Assessment Practical Simulation Research Project/ Presentation/ Competency Demonstration Report/ Design Project work</p>

<p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the specific discipline.</p>	<p>RE005- Renewable Energy Resource Analysis (2 pt)</p> <p>BAE 602 Computer Network</p> <p>RE004- Energy Storage Systems (2 pt)</p> <p>RE012b-Electrical Engineering Part 2</p>	
<p>2. ENGINEERING APPLICATION ABILITY</p> <p>2.1. Application of established engineering methods to complex engineering problem solving.</p> <p>2.2. Fluent application of engineering techniques, tools and resources.</p> <p>2.3. Application of systematic engineering synthesis and design processes.</p> <p>2.4. Application of systematic approaches to the conduct and management of engineering projects.</p>	<p>BAE 501 Advanced Power Systems & Power Transmission Networks</p> <p>BAE 506 Power System Stability & Protection</p> <p>BAE 604 Telecommunication Engineering</p> <p>RE016-Design& Management (BAE508) (2 pt)</p> <p>RE015-Electrical Project/ Practice</p>	
<p>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p>	<p>RE015-Electrical Project/ Practice</p> <p>BAE 608 Professional Engineer Competency Demonstration Report</p>	

<p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>		
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Diploma in Civil Engineering Each unit has 2.5 pt unless stated

Learning Outcome	Subjects	Time Allocation/ Assessment Method
<p><u>1. KNOWLEDGE AND SKILL BASE</u></p> <p>1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain.</p> <p>1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain.</p> <p>1.3. In-depth understanding of specialist bodies of knowledge within the technology domain.</p> <p>1.4. Discernment of knowledge development within the technology domain.</p>	<p>Certificate in Construction Studies</p> <p>CE 104 A Building Drawing CE 108 Electrical Principle</p> <p>CE 101 Mathematics (EE201) CE 102 Physics (EE204)</p> <p>CE 104 Fluid Dynamics CE 105 Hydraulic CE 106 Hydrology</p> <p>CE 107 Sanitation-and-Water-supply</p>	<p>Time Allocation</p> <p>1 Credit Point=24 Hr</p> <p>Assessment</p> <p>Assignment/Test/ Examination/ Summative/ Formative Assessment Practical Simulation</p>

<p>1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.</p> <p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.</p>	<p>CE 109 Energy Efficient Building Design (EE309) CE 110 Building Construction</p> <p>EE102 Basic Electrical Fitting & Wiring</p> <p>CE 106A Detailed Construction & Building Construction Materials</p>	
<p><u>2. ENGINEERING APPLICATION ABILITY</u></p> <p>2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.</p> <p>2.2. Application of engineering techniques, tools and resources within the technology domain.</p> <p>2.3. Application of systematic synthesis and design processes within the technology domain.</p> <p>2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.</p>	<p>CE 108 Electrical Principle CE 107 Sanitation-and-Water-supply</p> <p>CE 110 Building Construction CE 108 Electrical Principle CE 107 Sanitation-and-Water-supply</p> <p>CE 110 Building Construction</p> <p>CE 109 Energy Efficient Building Design (EE309) CE 110 Building Construction</p> <p>CE 109 Energy Efficient Building Design (EE309)</p>	
<p><u>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</u></p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p>	<p>CE 109 Energy Efficient Building Design (EE309)</p>	

3.3. Creative, innovative and pro-active demeanour. 3.4. Professional use and management of information. 3.5. Orderly management of self, and professional conduct. 3.6. Effective team membership and team leadership.		
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Advanced Diploma in Civil Engineering Each unit has 2.5 pt unless stated

Learning Outcome	Subjects	Time Allocation/ Assessment Method
<u>1. KNOWLEDGE AND SKILL BASE</u> 1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain. 1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain. 1.3. In-depth understanding of specialist bodies of knowledge within the technology domain. 1.4. Discernment of knowledge development within the technology domain.	CE113 Structure 1 CE114 Structure 2 ME 102 Engineering Thermodynamics CE 112 Engineering Mechanics+ ME 301 Applied Mathematics ME 334 Airconditioning and Refrigeration EE106 Advanced Electrical Wiring ME 334 Airconditioning and Refrigeration EE106 Advanced Electrical Wiring	Time Allocation 1 Credit Point=24 Hr Assessment Assignment/Test/ Examination/ Summative/ Formative Assessment Practical Simulation

<p>1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.</p> <p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.</p>	<p>EE105 Electrical Installation Design</p> <p>CE115 Estimating & Specification</p> <p>CE103-Surveying CE111A-Road+Bridges EE308 Sustainability</p>	
<p><u>2. ENGINEERING APPLICATION ABILITY</u></p> <p>2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.</p> <p>2.2. Application of engineering techniques, tools and resources within the technology domain.</p> <p>2.3. Application of systematic synthesis and design processes within the technology domain.</p> <p>2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.</p>	<p>EE104 Electrical Equipments Safety Protection</p> <p>CE113 Structure 1</p> <p>CE114 Structure 2</p> <p>CE 110 Building Construction</p> <p>CE115 Estimating & Specification</p> <p>CE111A-Road+Bridge CE114 Structure 2</p> <p>CE309 Project Management</p>	

<p><u>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</u></p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p> <p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>	<p>CE309 Project Management</p> <p>CE310 Engineering Competency Demonstration Report</p>	
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Professional Diploma in Civil Engineering Each unit has 2 pt unless stated

Learning Outcome	Subjects	Time Allocation/ Assessment Method
<p>1. KNOWLEDGE AND SKILL BASE</p> <p>1.1. Comprehensive, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline.</p> <p>1.2. Conceptual understanding of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the engineering discipline.</p>	<p>BAE 403 Engineering Mechanics (1 pt)</p> <p>BAE 404 Engineering Materials & Thermodynamics (3 pt)</p> <p>BAE 401 Advanced Engineering Mathematics (9 pt)</p> <p>BAE 402 Calculus (3 pt)</p>	<p>Time Allocation</p> <p>1 Credit Point=24 Hr</p> <p>Assessment</p> <p>Assignment/Test/ Examination/ Summative/ Formative Assessment Practical Simulation Research Project/ Presentation/</p>

<p>1.3. In-depth understanding of specialist bodies of knowledge within the engineering discipline.</p> <p>1.4. Discernment of knowledge development and research directions within the engineering discipline.</p> <p>1.5. Knowledge of engineering design practice and contextual factors impacting the engineering discipline.</p> <p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the specific discipline.</p>	<p>RE001- Foundation Studies in Renewable Energy and Sustainability (2 pt)</p> <p>RE011a-Civil& Mechanical Engineering Part 1 (2 pt) (Assessment- Study Report)</p> <p>RE003- Solar and Thermal Energy Systems (2 pt)</p> <p>RE004- Energy Storage Systems (2 pt)</p> <p>RE012a-Electrical Engineering Part 1 (2pt)</p> <p>RE010-Engineering Materials (2 pt)</p> <p>RE016-Design& Management (BAE508) (2 pt)</p> <p>RE011b-Civil& Mechanical Engineering Part 2a (2 pt)(Assessment- Study Report)</p> <p>BAE423 Fluid Mechanics (2 pt)</p> <p>BAE424 Reinforced Concrete (2 pt)</p> <p>BAE522 Rock Mechanics (2 pt)</p>	<p>Competency Demonstration Report/ Design Project work</p>
<p>2. ENGINEERING APPLICATION ABILITY</p> <p>2.1. Application of established engineering methods to complex engineering problem solving.</p> <p>2.2. Fluent application of engineering techniques, tools and resources.</p>	<p>BAE421 Building Construction Engineering (2 pt)</p> <p>BAE 606 Building Service Electrical & Mechanical Engineering (2 pt)</p> <p>BAE 523A Environmental Engineering (2 pt)</p> <p>BAE623 Surveying & Traffic Engineering (2 pt)</p> <p>BAE624 Water Supply , Sanitation & Finishing (2 pt)</p> <p>RE005- Renewable Energy Resource Analysis (2 pt)</p> <p>RE006- Wind Energy Conversion Systems (2 pt)</p>	

<p>2.3. Application of systematic engineering synthesis and design processes.</p> <p>2.4. Application of systematic approaches to the conduct and management of engineering projects.</p>	<p>BAE621 Structural Engineering (2 pt)</p> <p>BAE422 Estimating (2 pt)</p> <p>BAE 605 Project Management</p>	
<p>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p> <p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>	<p>BAE 605 Project Management</p> <p>BAE 608 Professional Engineer Competency Demonstration Report</p> <p>BAE 605 Project Management</p> <p>BAE 608 Professional Engineer Competency Demonstration Report</p>	

Diploma in Mechanical Engineering Each unit has 1.5 pt unless stated

Learning Outcome	Subjects	Time Allocation/ Assessment Method
<p><u>1. KNOWLEDGE AND SKILL BASE</u></p> <p>1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain.</p> <p>1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain.</p> <p>1.3. In-depth understanding of specialist bodies of knowledge within the technology domain.</p> <p>1.4. Discernment of knowledge development within the technology domain.</p> <p>1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.</p> <p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.</p>	<p>ME 102 Engineering Thermodynamics ME 103 Engineering Mechanics ME 104 Machine Principle ME 105 Electrical Principle</p> <p>Maths 101 Engineering Mathematics (EE201) ME 101 Applied Mathematics</p> <p>ME 106 Electrical Circuits ME 107 Heat Transfer ME 108 Principle of Engines ME201 Introduction to Fluid Mechanics ME 207 Chemical Thermodynamics ME 208 Hydrocarbons ME 209 Introduction-to-polymer-science-and-technology ME 205 Manufacturing Processes-and-Materials ME 202 Introduction to Aero Dynamics ME 203 Control Engineering ME 234 Wind Turbines</p>	<p>Time Allocation</p> <p>1 Credit Point=24 Hr</p> <p>Assessment</p> <p>Assignment/Test/ Examination/ Summative/ Formative Assessment Practical Simulation</p>

<p><u>2. ENGINEERING APPLICATION ABILITY</u></p> <p>2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.</p> <p>2.2. Application of engineering techniques, tools and resources within the technology domain.</p> <p>2.3. Application of systematic synthesis and design processes within the technology domain.</p> <p>2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.</p>	<p>ME 204 Engineering Fluid Mechanics</p> <p>ME 206 Introduction to Turbo Machinery</p> <p>ME 205 Manufacturing Processes-and-Materials</p> <p>Mgt 501 Basic Management</p>	
<p><u>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</u></p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p> <p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>	<p>Mgt 501 Basic Management</p>	

Advanced Diploma in Mechanical Engineering Each unit has 1.5 pt unless stated

Learning Outcome	Subjects	Time Allocation/ Assessment Method
<p><u>1. KNOWLEDGE AND SKILL BASE</u></p> <p>1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain.</p> <p>1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain.</p> <p>1.3. In-depth understanding of specialist bodies of knowledge within the technology domain.</p> <p>1.4. Discernment of knowledge development within the technology domain.</p> <p>1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.</p> <p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.</p>	<p>ME 306 Theory-of-waves-in-materials ME 301 Fluid Dynamics</p> <p>Maths 403 Engineering-Mathematics (EE302) ME 304 Introduction to Nonlinearity-in-control-systems</p> <p>ME 301 Fluid Dynamics ME 302 Automation-and-Robotics ME 301 Fluid Dynamics ME 302 Automation-and-Robotics</p> <p>ME 303 Computer Aided Design and Manufacturing</p> <p>ME 305 Corrosion Prevention ME 334 Airconditioning and Refrigeration</p>	<p>Time Allocation</p> <p>1 Credit Point=24 Hr</p> <p>Assessment</p> <p>Assignment/Test/ Examination/ Summative/ Formative Assessment Practical Simulation</p>

<p><u>2. ENGINEERING APPLICATION ABILITY</u></p> <p>2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.</p> <p>2.2. Application of engineering techniques, tools and resources within the technology domain.</p> <p>2.3. Application of systematic synthesis and design processes within the technology domain.</p> <p>2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.</p>	<p>ME 534 Numerical Control</p> <p>EE 624 Process Control</p> <p>ME 434 Mechtronics-Robotics</p> <p>ME 634 Pneumatics</p> <p>EE 617 Building Electrical and Mechanical System Part 1 (EE309)</p> <p>Mgt 503 Production & Operation Management</p> <p>Mgt 505 Quality Management and Manufacturing Engineering</p>	
<p><u>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</u></p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p> <p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>	<p>Mgt 503 Production & Operation Management</p> <p>Mgt 505 Quality Management and Manufacturing Engineering</p> <p>ME310 Engineering Competency Demonstration Report</p> <p>ME310 Engineering Competency Demonstration Report</p>	

Professional Diploma in Mechanical Engineering Each unit has 2 pt unless stated

Learning Outcome	Subjects	Time Allocation/ Assessment Method
1. KNOWLEDGE AND SKILL BASE 1.1. Comprehensive, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline. 1.2. Conceptual understanding of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the engineering discipline. 1.3. In-depth understanding of specialist bodies of knowledge within the engineering discipline. 1.4. Discernment of knowledge development and research directions within the engineering discipline. 1.5. Knowledge of engineering design practice and contextual factors impacting the engineering discipline. 1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the specific discipline.	BAE 404 Engineering Materials & Thermodynamics (3 pt) RE001- Foundation Studies in Renewable Energy and Sustainability (2 pt) BAE 601 Computer Programming(2 pt) BAE 401 Advanced Engineering Mathematics (9 pt) BAE 402 Calculus (3 pt) BAE 403 Engineering Mechanics (1 pt) RE003- Solar and Thermal Energy Systems (2 pt) RE004- Energy Storage Systems (2 pt) RE005- Renewable Energy Resource Analysis (2 pt) RE006- Wind Energy Conversion Systems (2 pt) RE010-Engineering Materials (2 pt) RE016-Design& Management (BAE508) (2 pt) RE012a-Electrical Engineering Part 1 (2pt) RE011a-Civil & Mechanical Engineering Part 1 (2 pt) (Assessment- Study Report)	Time Allocation 1 Credit Point=24 Hr Assessment Assignment/Test/ Examination/ Summative/ Formative Assessment Practical Simulation Research Project/ Presentation/ Competency Demonstration Report/ Design Project work

<p>2. ENGINEERING APPLICATION ABILITY</p> <p>2.1. Application of established engineering methods to complex engineering problem solving.</p> <p>2.2. Fluent application of engineering techniques, tools and resources.</p> <p>2.3. Application of systematic engineering synthesis and design processes.</p> <p>2.4. Application of systematic approaches to the conduct and management of engineering projects.</p>	<p>RE011b-Civil & Mechanical Engineering Part 2a (2 pt) (Assessment- Study Report)</p> <p>BAE311 Plant Engineering (2 pt)</p> <p>BAE314 Mechanical Power Generation (2 pt)</p> <p>BAE315 Materials Engineering (2 pt) Part 1 Part 2 (2 pt)</p> <p>BAE511 Air-conditioning & Refrigeration Part 1 (2 pt)</p> <p>BAE512 Building Service Water Supply System (2 pt) BAE613 Mechanical Instrumentation Process(2 pt)</p> <p>BAE 606 Building Service Electrical & Mechanical Engineering (2 pt)</p> <p>RE007- Energy System Efficiency(2 pt)</p> <p>BAE614 Machine Design (2 pt)</p> <p>ME309 Project Management</p>	
<p>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p>	<p>ME309 Project Management</p> <p>ME310 Engineering Competency Demonstration Report</p>	

3.3. Creative, innovative and pro-active demeanour. 3.4. Professional use and management of information. 3.5. Orderly management of self, and professional conduct. 3.6. Effective team membership and team leadership.		
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- the choice of the teaching-learning (delivery) methods.
- The curricular approach, the educational content and the teaching-learning
- assessment & evaluation methods for the attainment achievement of the Learning Outcomes. (MEng C)

Assessment Validation

<http://www.highlightcomputer.com/assessmentvalidation.htm>

The folder in the above link contains the assessment validation documents for IQY Technical College 's programs

- A balanced curriculum shall include all technical and non-technical attributes listed in the Learning Outcomes, (the essential elements forming the core of the programme and additional specialist or optional studies (electives). (MEng C)
- The curriculum shall integrate theory with practice through adequate exposure to laboratory work and professional engineering(MEng C)
- Time allocation
- Credit points (The academic programme component must consist of a minimum total of 120 credit (a) A minimum of 80 credit hours shall be engineering courses consisting of engineering sciences and engineering design/projects appropriate to the student's field of study. (MEng C)

(b) The remaining credit hours shall include sufficient content of general education component (such as mathematics, computing, languages, general studies, co- curriculum, management, law, accountancy, ec(MEng C)

The following curriculums are prepared to address the above issues

<http://www.highlightcomputer.com/BECurriculum.htm>

<http://www.highlightcomputer.com/DiplomaAdvancedDiplomaCivilEngineeringCurriculum.htm>

<http://www.highlightcomputer.com/DiplomaAdvancedDiplomaElectricalEngineeringCurriculum.htm>

<http://www.highlightcomputer.com/DiplomaAdvancedDiplomaMechanicalEngineeringCurriculum.htm>

Diploma in Engineering

This program is designed with 30 credit points integrating 15 credit points Certificate in Electrical Engineering. The completion of this program can be articulated into 60 points Advanced Diploma in Electrical Engineering & 120 credit points Professional Diploma in Electrical Engineering which is the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

Advanced Diploma in Electrical Engineering

This program is designed with 60 credit points integrating 30 credit points Diploma in Electrical Engineering. The completion of this program can be articulated into 60 of 120 credit points Professional Diploma in Electrical Engineering which is the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

Professional Diploma in Civil Engineering

This program is designed with 120 credit points integrating 60 credit points Advanced Diploma in Civil Engineering. The completion of this program can be awarded Professional Diploma in Civil Engineering together with the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

Curriculum Contents (MEng C)

Diploma in Electrical Engineering the curriculum content should cover the following:

(i) Engineering mathematics, science, engineering principles, skills and tools (computing, experimentation) appropriate to the discipline of study

The curriculums have been designed to cover the following aspects.

Study Areas (Overview)

Electrical circuits, Basic Electronics, Mathematics, Physics, Electrical Wiring, Electrical Machines, Electro-magnetism, Computer Applications, Control System, Process Control, Electrical Contracting, Solar Electrical System, Electrical Drafting

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

Electrical Engineering Course Outline

<http://www.highlightcomputer.com/Diploma & Advanced Diploma in Electrical Engineering Course outline.doc>

Detailed Contents of Diploma + Advanced Diploma in Engineering, IT , Management & Business Programs

<http://www.highlightcomputer.com/detailedcontent.htm>

Diploma in Mechanical Engineering

Study Areas

Mathematics, Physics, Machine Principle, Electrical Circuits, Heat Transfer, Principle of Engines, Fluid Mechanics, Engineering Mechanics, Mechanical Drawing, Hydrocarbon, Wind Turbine, Polymer Science, Turbo Machinery, Basic Management

Specialized Fields

Automotive Engineering, Marine Engineering

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

Mechanical Engineering Course Outline

<http://www.highlightcomputer.com/Diploma in Mechanical Engineering.doc>

Detailed Contents of Diploma + Advanced Diploma in Engineering, IT , Management & Business Programs

<http://www.highlightcomputer.com/detailedcontent.htm>

Diploma in Civil Engineering

Study Areas

Mathematics, Physics, Electrical Principle, Fluid Mechanics, Hydraulics, Hydrology, Building Construction, Sanitation & Water Supply, Energy Efficient Building Design

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

Civil Engineering Course Outline

http://www.highlightcomputer.com/Diploma_in_Civil_Engineering.doc

Detailed Contents of Diploma + Advanced Diploma in Engineering, IT , Management & Business Programs

<http://www.highlightcomputer.com/detailedcontent.htm>

Diploma in Renewable Energy Engineering

Study Areas

Foundation Studies in Renewable Energy and Sustainability, Grid Connected Photovoltaic Power Systems, Solar and Thermal Energy Systems, Energy Storage Systems, Renewable Energy Resource Analysis, Wind Energy Conversion Systems, Energy System Efficiency

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

Renewable Energy Engineering Public Seminar + Diploma& Bachelor of Engineering (Renewable Energy)

<http://www.highlightcomputer.com/re.pdf>

Diploma in Computer Engineering/ Diploma in Information Technology

Study Areas

IT Fundamental , Computer Application, Computer Programming, System Analysis, Software Engineering, IT Project, Business Information System

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

Diploma in Information Technology Course Outline

http://www.highlightcomputer.com/Diploma_in_Information_Technology_Course_outline.doc

Electrical Engineering Course Outline

http://www.highlightcomputer.com/Diploma_&_Advanced_Diploma_in_Electrical_Engineering_Course_outline.doc

Detailed Contents of Diploma + Advanced Diploma in Engineering, IT , Management & Business Programs

<http://www.highlightcomputer.com/detailedcontent.htm>

Advanced Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology) Course Outlines

Advanced Diploma in Engineering can be studied in the following specializations

- Advanced Diploma in Electrical Engineering
- Advanced Diploma in Mechanical Engineering
- Advanced Diploma in Civil Engineering
- Advanced Diploma in Renewable Energy Engineering
- Advanced Diploma in Computer Engineering / Advanced Diploma in Information Technology

Advanced Diploma in Electrical Engineering

Study Areas

Electrical Power Circuits, Electrical Power System, Mathematics, Physics, AC/DC Machines, Control System, Power System Protection, Energy Efficiency, Project Management, Advanced Electrical Drafting, Power Transmission Line, Engineering Officer Competency Report.

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

[Detailed Contents of Diploma + Advanced Diploma in Engineering, IT , Management & Business Programs](http://www.highlightcomputer.com/detailedcontent.htm)

<http://www.highlightcomputer.com/detailedcontent.htm>

Advanced Diploma in Mechanical Engineering

Study Areas

Higher Mathematics, Fluid Dynamics, Automation & Robotics, Computer Aided Design & Manufacturing, Control System, Manufacturing, Mechatronics, Numerical Control, Pneumatics, Building Services. Air-conditioning Refrigeration

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

[Detailed Contents of Diploma + Advanced Diploma in Engineering, IT , Management & Business Programs](http://www.highlightcomputer.com/detailedcontent.htm)

<http://www.highlightcomputer.com/detailedcontent.htm>

Advanced Diploma in Civil Engineering

Study Areas

Surveying, Road & Bridges, Structure, Estimating, Electrical Installation, Electrical Wiring, Air-conditioning Refrigeration, Engineering Mechanics

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

[Detailed Contents of Diploma + Advanced Diploma in Engineering, IT , Management & Business Programs](#)

<http://www.highlightcomputer.com/detailedcontent.htm>

Advanced Diploma in Renewable Energy Engineering

Study Areas

Advanced contents in Renewable Energy, Electrical Engineering, Basic Civil & Mechanical Engineering, Electrical Machines, Electronics Control

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

[Renewable Energy Engineering Public Seminar + Diploma& Bachelor of Engineering \(Renewable Energy\)](#)

<http://www.highlightcomputer.com/re.pdf>

Advanced Diploma in Computer Engineering/ Advanced Diploma in Information Technology

Study Areas

Organizational Behaviour, IT Networking, Information System Analysis & Design, Advanced Programming, Project Work

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

[Advanced Diploma in Information Technology Course Outline](#)

http://www.filefactory.com/file/7dmpqlojtj2fn/n/Advanced_Diploma_in_Information_Technology_pdf

[Electrical Engineering Course Outline](#)

http://www.highlightcomputer.com/Diploma & Advanced Diploma in Electrical Engineering Course_outline.doc

Detailed Contents of Diploma + Advanced Diploma in Engineering, IT , Management & Business Programs

<http://www.highlightcomputer.com/detailedcontent.htm>

Professional Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology)

It is designed at the same academic requirement as to Bachelor of Engineering degree but IQY Technical College is operating as a vocational education & training college not as a university, the award is to be described as Professional Diploma. The graduates of the Professional Diploma in Engineering can be awarded Bachelor of Engineering by the universities which are affiliated to IQY Technical College.

The program is designed to train the students to become Professional Engineers who are required to take responsibility for engineering projects and programs in the most far-reaching sense.

The program is also designed to provide the skills required for the graduated to lead or manage teams appropriate to these activities, and may establish their own companies or move into senior management roles in engineering and related enterprises.

Professional Diploma in Engineering can be studied in the following specializations

- Professional Diploma in Electrical Engineering
- Professional Diploma in Mechanical Engineering
- Professional Diploma in Civil Engineering
- Professional Diploma in Renewable Energy Engineering
- Professional Diploma in Computer Engineering / Professional Diploma in Information Technology

Professional Diploma in Electrical Engineering

Study Areas

Mathematics, Engineering Mechanics & Thermodynamics, Electrical Circuit Analysis, Electro-magnetics & Electrical Machines, Control System, Power System, Electronics, Telecommunication, Industrial Management, Computer Programming, Computer Network, Engineering Project, Building Services, Competency Demonstration Report Writing, Renewable Energy.

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

Bachelor of Engineering (Electrical Engineering) Course Outline

<http://www.filefactory.com/file/5ftv3w6yjcrrn/BACHELOR%20OF%20APPLIED%20ENGINEERING.doc>

Detailed Contents of BE,B Bus& B App Sc (IT) Programs

[http://highlightcomputer.com/B%20E+B%20App%20Sc\(IT\)+B%20Bus%20Course%20Detailed%20Contents.htm](http://highlightcomputer.com/B%20E+B%20App%20Sc(IT)+B%20Bus%20Course%20Detailed%20Contents.htm)

<http://www.highlightcomputer.com/re.pdf>

Professional Diploma in Mechanical Engineering

Study Areas

Mathematics, Engineering Mechanics & Thermodynamics, Industrial Management, Computer Programming, Computer Network, Engineering Project, Building Services, ,Air-conditioning & Refrigeration, Machine Design, Mechanical Instrumentation, Production Technology, Engineering Materials, Maintenance Engineering , Mechanical Power Generation, Applied Electrical/Electronics & Control System, Competency Demonstration Report Writing, Renewable Energy.

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

Bachelor of Engineering (Mechanical Engineering-Mechatronics) Course Outline

http://www.filefactory.com/file/113wg8regbuh/n/Bachelor_of_Applied_Engineering_Mechanical-Mechatronics_Course_Outline_doc

Bachelor of Applied Engineering (Final Year Mechanical Design) Course Outline

http://www.filefactory.com/file/7greuugxlvyh/n/Graduate_Diploma_of_Mechanical_Engineering_B_App_Eng_Mech_Course_Outline_doc

Detailed Contents of BE,B Bus& B App Sc (IT) Programs

[http://highlightcomputer.com/B%20E+B%20App%20Sc\(IT\)+B%20Bus%20Course%20Detailed%20Contents.htm](http://highlightcomputer.com/B%20E+B%20App%20Sc(IT)+B%20Bus%20Course%20Detailed%20Contents.htm)

<http://www.highlightcomputer.com/re.pdf>

Professional Diploma in Civil Engineering

Study Areas

Mathematics, Engineering Mechanics & Thermodynamics, Industrial Management, Computer Programming, Building Construction, Estimating, Fluid Mechanics, Structural Engineering, Reinforce Concrete, Timber Engineering, Soil & Rock Mechanics, Environmental Engineering, Road & Bridges, Building Service Engineering, Traffic Engineering, Surveying, Water Supply Sanitation, Engineering Competency Demonstration Report Writing, Renewable Energy.

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

Bachelor of Engineering (Civil Engineering-Building Services) Course Outline

<http://www.filefactory.com/file/npiwt5ekau5/Bachelor%20of%20Applied%20Engineering%20%28Civil-Building%20Services%29%20Course%20Outline.doc>

Bachelor of Applied Engineering (Final Year Civil Design) Course Outline

<http://www.filefactory.com/file/37twg21wx97z/Graduate%20Diploma%20of%20Civil%20Engineering%28BB%20App%20Eng%20%28Civil%29%20Course%20Outline.doc>

Detailed Contents of BE, B Bus & B App Sc (IT) Programs

[http://highlightcomputer.com/B%20E+B%20App%20Sc\(IT\)+B%20Bus%20Course%20Detailed%20Contents.htm](http://highlightcomputer.com/B%20E+B%20App%20Sc(IT)+B%20Bus%20Course%20Detailed%20Contents.htm)

<http://www.highlightcomputer.com/re.pdf>

Professional Diploma in Renewable Energy Engineering

Study Areas

Foundation Studies in Renewable Energy and Sustainability, Grid Connected Photovoltaic Power Systems, Solar and Thermal Energy Systems, Energy Storage Systems, Renewable Energy Resource Analysis, Wind Energy Conversion Systems, Energy System Efficiency, Mathematics & Physics, Engineering Materials, Civil & Mechanical Engineering, Electrical Engineering, Electrical Machines, Electronics Control, Design & Management, Project, Engineering Competency Demonstration Report Writing.

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

Renewable Energy Engineering Public Seminar + Diploma & Bachelor of Engineering (Renewable Energy)

<http://www.highlightcomputer.com/re.pdf>

Professional Diploma in Computer Engineering/ Professional Diploma in Information Technology

Study Areas

Computer

Computer Programming, Computer Network, Software Engineering, Artificial Intelligence, Telecommunication Engineering, Project Management,

Electrical/Electronics

Electrical Engineering, Analog & Digital Control, Control System, Engineering Management

Engineering Competency Demonstration Report Writing

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

Detailed Contents of BE,B Bus& B App Sc (IT) Programs

[http://highlightcomputer.com/B%20E+B%20App%20Sc\(IT\)+B%20Bus%20Course%20Detailed%20Contents.htm](http://highlightcomputer.com/B%20E+B%20App%20Sc(IT)+B%20Bus%20Course%20Detailed%20Contents.htm)

Bachelor of Engineering (Electrical Engineering) Course Outline

<http://www.filefactory.com/file/5ftv3w6yjcrr/BACHELOR%20OF%20APPLIED%20ENGINEERING.doc>

Course	Curriculum Contents Analysis
Diploma in Electrical Engineering	Electrical Principle, Application, Electrical Trade Work, Mathematics, Science, Renewable Energy, Computer Application
Advanced Diploma in Electrical Engineering	Electrical Principle, Application, Electrical Trade Work, Mathematics, Science, Renewable Energy, Computer Application/Mechanical/ Project/ Management/ Engineering Ethics/ Engineering Practice
Professional Diploma in Electrical Engineering	Renewable Energy/ Electrical/Mechanical / Civil Engineering Principle/Computer/ Mathematics/ Design/ Management/ Instrumentation /Engineering Practice/ Ethics with Electrical Power & Electronics major
Diploma in Civil Engineering	Construction & Civil Engineering Principle/ Electrical Principle, Application, Electrical Trade Work, Mathematics, Science, Renewable Energy, Computer Application
Advanced Diploma in Civil Engineering	Construction & Civil Engineering Principle, Structural Engineering/Application, Building & Electrical Trade Work, Mathematics, Science, Renewable Energy, Computer Application/Mechanical/ Project/ Management/ Engineering Ethics/

	Engineering Practice
Professional Diploma in Civil Engineering	Renewable Energy/ Electrical/Mechanical / Civil Engineering Principle/Computer/ Mathematics/ Design/ Management/ Engineering Practice/ Ethics with Civil & Structural Engineering major
Diploma in Mechanical Engineering	Engineering Mechanics & Mechanical Engineering Principle/ Electrical Principle, Application, Electrical Trade Work, Mathematics, Science, Renewable Energy, Computer Application
Advanced Diploma in Mechanical Engineering	Engineering Mechanics & Mechanical Engineering Principle, Materials Engineering /Application/uilding & Electrical Trade Work, Mathematics, Science, Renewable Energy, Computer Application/Mechanical/ Project/ Management/ Engineering Ethics/ Engineering Practice
Professional Diploma in Mechanical Engineering	Renewable Energy/ Electrical/Mechanical / Civil Engineering Principle/Computer/ Mathematics/ Design/ Management/ Instrumentation /Engineering Practice/ Ethics with Mechanical Engineering major

(ii) Engineering applications – projects (MEng C)

Engineering Project Unit

The following links contain the evidence of project works

Some students' project works.pdf File

<http://www.highlightcomputer.com/Somestudentsprojectworks.htm>

(iii) Integrated exposure to professional engineering practice, including management

Practical Training Link Level 3

www.highlightcomputer.com/PracticalCourses.htm

(iv) Laboratory work to complement the science, computing and engineering theory;

Practical Training Link Level 2

Practical Resources

www.highlightcomputer.com/PracticalResources.htm

Physical Resources

www.highlightcomputer.com/PhysicalResources.htm

Learner Resources

www.highlightcomputer.com/LearnerResources.htm

(v) Industrial training -exposure to professional engineering practice in an engineering-practice environment;

+

(vi) Exposure to engineering practice; (MEng C)

The simulated online mode of practical is provided in the following link.

Practical Training Link

www.highlightcomputer.com/PracticalCourses.htm

The folder in the above link contains the Online practical courses for IQY Technical College 's programs.

(vii) Relevant tutorial class (MEng C)

Online discussion & tutorial forums are arranged

Credit Hours (MEng C)

- For a 16-week semester (not including examination or mid-term break), one credit hour is defined as:
- One hour per week of lecture (additional independent study of two hours is assumed to have been included).
- Two hours per week of laboratory or workshop lecture (additional independent learning time of one hour is assumed to have been included).
- Two hours per week of supervised and compulsory tutorial session (additional independent learning time of one hour is assumed to have been included), subject to a maximum of one credit hour for each course in that semester.

- Three hours per week of facilitated activities involving other modes of delivery such as problem-based learning, e-learning modules, site visits, discovery learning, integrated design and coursework projects.
- Three hours per week of activities involving final year project inclusive of meeting with supervisor

One hour per week of lecture

Every 1 credit point has the weighted hour of 24 hours. The credit points are expressed in the curriculum. In online delivery mode, the time to view the videos & time to reflect the learning can be equivalent to lecture hours in face to face classes. The lecture times in the following online videos are arranged as to fulfil the class lecture time.

Online Lecture + Youtube Lecture

www.highlightcomputer.com/videos2.htm

www.highlightcomputer.com/videos1.htm

Two hours per week of laboratory or workshop lecture

The time taken to view the Practical Videos/ To read the practical instruction books/ Design Handbooks are counted as laboratory or workshop hour to do the online practicals in the following links.

www.highlightcomputer.com/PracticalCourses.htm

&

<http://www.iqytechnicalcollege.com/youtubevideos.htm>

Students Area/ Forum

<http://www.highlightcomputer.com/students.htm>

Two hours per week of supervised and compulsory tutorial session

The time allocated to download & study the Instruction Powerpoints, Listing to the audio explanations & do the exercises in the following link is arranged as tutorial sessions time.

<http://www.highlightcomputer.com/onlineteaching1.htm>

Click **HERE** to log in the lesson sequences.

Click **HERE** to log in the online study materials

Click **HERE** to log in to the Learning Platform

Three hours per week of facilitated activities

This time can be allocated for participation in online forum, reading the learning support CD/DVD, the time to write the assignments & the accumulated time to take part in residential sessions as well as working in the industry.

Industrial Training

- For industrial training, the following guideline shall be followed:
- Industrial training shall be for a minimum of 8 weeks of continuous training. One credit hour is allocated for every two weeks of training subject to a maximum of six credit hours. The training shall be adequately structured, supervised and recored in log book/ record.

The e-Learning Engineering programs are aimed to provide the on-going professional development for the workers in the industry. The work experience recorded are counted for fulfilling the practical training needs to completion the courses.

Final Year Project

- A final year project is subject to a minimum of six credit hours and a maximum of twelve credit

Some students' project works.pdf File

<http://www.highlightcomputer.com/Somestudentsprojectworks.htm>

The folder in the above link contains the students' project documents related to IQY Technical College 's programs

2 - Students (MEng C)

- Maths+Physics (Remedial)
- Teaching & Learning Environment

9.2.5 Students

- students' performance in relation to Learning Outcomes.
- the requirement and process for admission of students to the programme.
- students' workload.

- iv. Discuss students' activities and involvement in student organisations

The students who need Year 12 level Mathematics & Science are provided with Learning Support online tutorials for Maths & Science at the following link.

<http://www.highlightcomputer.com/y712lessons.htm>

3 - Academic and Support Staff (MEng C)

- (Postgraduate/ Master degree)
- 9.2.6 Academic and Support Staff
- i. Discuss the strength and competencies of the academic staff in covering all areas of the programme.
- ii. Discuss how the overall staff workload enables effective teaching, student-staff interaction, student advising and counselling, Technological Institutions and research activities, professional development and interaction with industry.
- iii. Discuss the sufficiency and competency of technical and administrative staff in providing adequate support to the educational programme.
- iv. The information required in items (i) to (iii) should include but is not limited to the following:
 - A breakdown in terms of numbers of academic staff (full-time, part-time and inter-programme) by year for the past four years
 - An analysis of all academic staff
 - academic qualifications of academic staff
 - the posts held by full time academic staff
 - A summary of teaching workload of academic staff for the current semester
 - An analysis of all support staff
 - A summary of the posts held by support staff
 - The staff: student ratio by year for all academic years for the past four years

The folders in the following links link contains teachers skilled documents of teachers who are teaching the IQY Technical College 's programs

Teacher skilled matrix

<http://www.highlightcomputer.com/teacherskillmatrix.htm>

Staff list

www.highlightcomputer.com/staff.htm

Staff competency

<http://www.highlightcomputer.com/teacherskillmatrix.htm>

4 Facilities

- Library
- Quality Management Systems
- controlling, managing, directing, organising and supervising of the overall management system planning, development, delivery and review of engineering programmes

From www.highlightcomputer.com main page, the following online facilities can be accessed by requesting the relevant links.

- Public Library
- Engineering Resources
- Reference Materials & Resources

9.2.7 Facilities

- Discuss the adequacy of teaching and learning facilities such as classrooms, learning-support facilities, study areas, information resources (library), computing and information-technology systems, laboratories and workshops.
- Describe the adequacy of support facilities such as hostels, sport and recreational centres, health centres, student centres, and transport in facilitating students' life on campus and enhancing character building.
- The information required in items (i) to (ii) should be provided in the supporting documents but is not limited to the following:

- A summary, in tabulated form, of the lecture facilities (give number, capacity, and audio video facilities available).
- A summary, in tabulated form, of the laboratories (list down the equipment available in each laboratory).
- A summary, in tabulated form, of the workshops (list down the equipment/machinery available in each workshop).
- A summary, in tabulated form, of the computer laboratories (list down the hardware and software available).
- A summary, in tabulated form, of the other supporting facilities such as the library (list down the titles of books/journals/magazines/standards of relevance to the programme).

From the following link, online practical facilities can be accessed.

Online Practical

Click **HERE** to log in to the online electrical/
mechanical/civil practical materials. You will need the
password.

The password will be issued to the enrolled students.

5 - Quality Management Systems (MEng C)

8.5.2 Programme Quality Management and Planning

- programme planning, curriculum development, and
- regular curriculum and content review must involve all academic staff. The processes include
- reviewing Programme Objectives and Learning Outcomes, tracking the contributions of individual courses to the Learning Outcomes, tracking performance assessment processes, the comments from
- External Examiners, reviewing feedback and inputs from stakeholders including students and alumni.
- The process of continual quality improvement shall be implemented with full accountability. For a new programme,
- External examiner report

8.5.4 Quality Assurance

- Student admission
- Teaching and learning
- Assessment and evaluation which include: examination regulations and criteria for pass/fail
- preparation and moderation processes
- level of assessment
- assessment processes including final year project/industrial training

From the following links, the documents related to Quality Assurance can be accessed.

Online Assessment / Test / Examination/ MCQ link

[Online Theory & MCQ Practice](#)

http://www.filefactory.com/file/6m8zvfe7797/n/Online_Theory_MCQ_Practice_pdf

[Online Practical Practice](#)

http://www.filefactory.com/file/3ap0vv6o8azx/n/Online_Practical_Practice_pdf

Assessment

From the following links, the documents related to Assessment can be accessed by clicking the relevant menus

www.highlightcomputer.com/assessment.htm

Menus

- **Assessment Cover Sheet+Assessment Information+Assessment Feedbacksheet**
- **Assessment Mapping**
- **Assessment Validation**
- **Components of Assessment Mapping**
- **Test Questions**
- **Units Evaluated by Students-Joe**
- **CC Currency_Checklist_v2.docx**
- **Evaluation-Joe+Keng Goh.docx**
- **Online MCQ Tests+Marking by Joe.doc**

9.2.8 Quality Management System (MEng C)

- Outline the organisational structure of the Technological Institutions as well as the structure within the faculty/department/programme. Discuss the level and adequacy of institutional support, operating environment, financial resources, constructive leadership, policies mechanisms for attracting, appointing, retaining and rewarding well-qualified staff and provision of professional development, and provision of infrastructure and support services to achieve Programme Objectives and assure continuity of the programme. All relevant policies are to be made available during the visit.
- Discuss the mechanism for the following: programme planning; curriculum development; curriculum , course review and course monitoring; internal audit; management review meeting; responding to feedback and inputs from stakeholders including industry advisors, students and alumni; tracking the contribution of individual courses to the Learning Outcomes; tracking outcomes of performance through assessment; responding to External Examiners comments; reviewing of Programme Objectives and Learning Outcomes; and continual quality improvement. Where these are discussed elsewhere in the report, specify their locations.
- Summarise responses to the external examiner's report.
- Discuss how the quality management system of the Technological Institutions provides quality assurance and benchmark.
- The information required items (i) to (iv) should be provided in the supporting document and is not limited to the following:

As this document provides the development of e-Learning in engineering for small and medium size colleges and institutes where the program planning and management tasks are mainly performed by one or two key staff, for the larger institutions, more complex and wider organizational structure can be designed.

1. Evidence on the participation of academic staff, support staff and students in the continual quality improvement process. (MEng C)
2. Evidence on the development of academic staff through opportunities in further education, industrial exposure, as well as research and development.
3. Policies, internal processes and practices that are in place at all levels within the Technological Institutions relating to the five criteria as stated in Section 9 of this Manual.
4. Evidence of the on-going participation of industry advisors in discussions and forums,

From the following links, the documents related to Assessment Validation & Quality Assurance can be accessed by clicking the relevant menus

Quality Assurance/

<http://www.highlightcomputer.com/QualityAssurance.htm>

Menus 1

- Audit Documents
- Assessment Validation
- Completed students assessment
- Unit asessment

Menus 2

1 Assessment Tasks & Related Information

2 Assessment Methods

3 Assessor Guide

4 Assessment Results

5 Assessment Validation

6.StudentsAssessment Information

EKAS-Assessment Validation-EE-OZ+IEAust

9.3 Supporting Material Document – Digital Format (MEng C)

This document is to provide supporting material for the programme in digital format (softcopy) as follows:

9.3.1 Supporting Information

- Provide additional information on the Technological Institutions, faculty/school/department, and programme not provided in the Self-Assessment Report.

9.3.2 Academic and Laboratory Support Staff

- Provide personal file and certificate for each staff member.

Staff file

9.3.3 Programme Structure and Contents

- Provide evidence of the use of tutorials and non-conventional delivery methods such as Problem Based Learning (PBL) techniques alongside traditional lectures. Provide a summary of industrial training schemes, and list of companies involved. Provide evidence of activities relevant to industry exposure.

From the following link, online practical facilities can be accessed.

Online Practical Link

Click **HERE** to log in to the online electrical/
mechanical/civil practical materials. You will need the
password.

The password will be issued to the enrolled students

9.3.4 Equipment, Software and Titles of Books and Journals

- Provide a list of all equipment and software used by the programme including recent additions and planned additions, as well as the titles of books, and journals for the programme.

Physical Resources folder

From the following link, practical resources can be accessed.

Practical Resources

www.highlightcomputer.com/PracticalResources.htm

Physical Resources

www.highlightcomputer.com/PhysicalResources.htm

Learner Resources

www.highlightcomputer.com/LearnerResources.htm

9.3.5 External Examiner and Advisory Board (MEng C)

- Provide the external examiner's reports and reports/minutes from advisory board meetings.

9.4 Institutional Documents and Additional Documentation to be Made Available during the Visit

- The following items, which constitute evidence to support the information requested in Sections 9.2 and 9.3 shall be made available during the visit:

9.4.1 Technological Institutions Documents

- Provide the Handbook, Calendar supplement, or other official publications relating to the faculty/school/department, and containing the statement of programme details; Technological Institutions brochure and any other documents that relate to the faculty/school/department,

9.4.2 Documents Related to Programme Objectives and Outcomes

- Provide all relevant documents and evidence related to Programme Objectives and Learning Outcomes (one copy) as follows:
- Course files – for every course offered by the programme, provide the course information to include the targeted course learning outcomes, course synopsis/syllabus, and a list of references (texts used).
- Final examination papers complete with answer scheme and graded examination papers with low, medium and high grades are also to be provided.
- Any information with regard to other learning activities and assessment measures such as projects, quizzes, tutorial questions, assignments, class projects, copies of the course notes (optional), and any other materials used for the course are also to be included. For laboratory courses,
- Objectives and outcomes assessment instruments – supporting documentation for objectives and
- outcomes assessment including sample questionnaires, portfolios, survey forms, video recordings, etc.
- All evidence related to Continual Quality improvement of the program.

The documents related to above requirements are presented in DVDs and will be available upon request.

DVD Contents

- Mixed DVD Lessons School + Higher Education/ IQY+STCTU Degrees

- Study Guides+Lessons for Adv Dip Eng+Mgt+IT ALL Combined Update Mixed
- Study Guides+Lessons for Bachelor Degree-Common Subjects 1 Mixed
- Students File/ Evidences
- BE Test
- EE Test
- CE Test
- ME Test
- Assessment/
- Assessment Cover Sheet+Assessment Information+Assessment Feedbacksheet
- Assessment Mapping
- Assessment Validation
- Components of Assessment Mapping
- Test Questions
- Unit Evaluation

Self-Assessment Report – Hardcopy (MEng C)

- A Self-Assessment Report is an account of the Technological Institutions' plan, implementation, assessment and evaluation of the programme conducted. It reflects the processes with result obtained used in continual quality improvement at all levels of the programme's activities. This appropriately bound document, ranging between 50 – 100 pages with all pages numbered and a table of contents.

A minimum of 120 credit hours of which 80 credit hours must be core engineering courses offered over a period of four years (It means 3rd, 4th, 5th, 6th).

Final year project (minimum 6 credit hours)

Industrial training (minimum of 8 weeks)

The above requirements have been provided in curriculum section

9.4.3 Final Project Reports

- For a sample of students, provide a copy of the final project report, instruction sheets, and grade
- sheets or other means of evaluation for the project.
- Provide the listing of final project titles for the past few years.

From the following links, the students project works can be accessed.

Some students' project works.pdf File

<http://www.highlightcomputer.com/Somestudentsprojectworks.htm>

9.4.4 Industrial Training Reports (MEng C)

- For a sample of students, provide a copy of the training reports, guidelines for the training, and reviews by the industry sponsors as well as the faculty mentors.

9.4.5 Laboratory Reports

- For a sample of students, provide a copy of the laboratory reports, instruction sheets, and grade sheets or other means of evaluation for the project laboratory report.

From the link below, the above 9.4.4 *& 9.4.5 and the records related to the following points can be accessed.

- Practical participation Record
- Elect Eng Students' taking parts in practicals(Joe).pdf

<http://www.highlightcomputer.com/studentstakingpartinpractical.htm>

9.4.6 Quality Assurance Records (MEng C)

- Provide minutes and records of action and improvement of meetings of the programme teaching team,

From the link below, records related to the above 9.4.6 can be accessed.

<http://www.highlightcomputer.com/QualityAssuranceRecords.htm>

ATTACHMENTS

1. Curriculum

<http://www.highlightcomputer.com/BECurriculum.htm>

2. Assessment Validation Records & Assessment Evidences

www.highlightcomputer.com/assessmentvalidation.htm

☐ **Assessment/**

☐ **Assessment Cover Sheet+Assessment Information+Assessment Feedbacksheet**

☐ **Assessment Mapping**

☐ **Assessment Validation**

☐ **Components of Assessment Mapping**

☐ **Test Questions**

☐ **Unit Evaluation**

3. Quality Assurance Records

<http://www.highlightcomputer.com/QualityAssurance.htm>

Teachers Skills Currency Check List

Students' assessment Evidences

Units evaluated by students

Units evaluated by internal & external assessors

4. Practical Resources

Practical Resources

<http://www.highlightcomputer.com/PracticalCourses.htm>

www.highlightcomputer.com/PracticalResources.htm

5. Students' work Records

<http://www.highlightcomputer.com/Somestudentsprojectworks.htm>

6. Industrial Consultation

<http://www.highlightcomputer.com/industryconsultation.htm>

7. List of Reference Textbooks utilized in Engineering Programs

<http://www.highlightcomputer.com/ReferenceTextBooks.pdf>

8. DVD Containing Lesson Materials

Study Lesson & Reading Materials

<http://www.highlightcomputer.com/studylesson1.htm>

Online Teaching

<http://www.highlightcomputer.com/onlineteaching1.htm>

Public Library

<http://www.highlightcomputer.com/gen1.htm>

Electronic Library

<http://www.highlightcomputer.com/elib.htm>

http://www.filefactory.com/file/7ife2afh5ugr/Gen13Dec2013_.htm

Reference Materials & Resources

<http://www.highlightcomputer.com/usb.htm>

Professional Engineer Support

<http://www.highlightcomputer.com/pesupport.htm>

9. DVD Containing Learner Resources

Physical Resources

www.highlightcomputer.com/PhysicalResources.htm

Learner Resources

www.highlightcomputer.com/LearnerResources.htm

☐ Study Guides+Lessons for Adv Dip Eng+Mgt+IT ALL Combined Update Mixed

☐ Study Guides+Lessons for Bachelor Degree-Common Subjects 1 Mixed

(A)LECTURES

www.highlightcomputer.com/videos1.htm

www.highlightcomputer.com/videos2.htm

www.iqytechnicalcollege.com/youtubevideos.htm

(B)SELF DIRECTED STUDY GUIDES

<http://www.highlightcomputer.com/elearningplatform.htm>

ELECTRICAL

(1) Instruction to Electrical Students

<http://www.iqytechnicalcollege.com/Instruction-Fiji-Elect Engg.pdf>

CIVIL

(1) **Instruction to Civil Students**

<http://www.iqytechnicalcollege.com/Instruction Fiji-Civil Engg.pdf>

MECHANICAL

(1) Instruction to Mechanical students

<http://www.iqytechnicalcollege.com/Instruction-Fiji-MechEngg.pdf>

RENEWABLE ENERGY

www.highlightcomputer.com/RELessons.htm

INDUSTRIAL SAFETY & HAZARDOUS PROTECTION

www.highlightcomputer.com/profdiphazardous.htm

(C)TUTORIAL

Online Class Tutoring & Study Lessons

<http://www.filefactory.com/file/290j43qtca5r/ClassTutoringLessons.htm>

www.highlightcomputer.com/onlineteaching.htm

Study Lessons

- Class Tutoring (Certificate+ Diploma+ Advanced Diploma+ Bachelor Degree) Programs in Electrical, Mechanical, Civil Engineering, Information Technology, Management & E-Business & Management

[http://www.filefactory.com/file/2j8u9ccwrlqx/Class Tutoring Lessons.htm](http://www.filefactory.com/file/2j8u9ccwrlqx/Class_Tutoring_Lessons.htm)

- Reference Lessons+Study Guides

Electrical Diploma

<http://www.filefactory.com/file/2oojs84b3ovx/highlightcomputergroup1.htm>

Electrical Engineering

[http://www.filefactory.com/file/7bdts4v3yi49/Bachelor of Applied Engineering Electrical Engineering Home.htm](http://www.filefactory.com/file/7bdts4v3yi49/Bachelor_of_Applied_Engineering_Electrical_Engineering_Home.htm)

Mechanical Engineering+ Civil Engineering

<http://www.filefactory.com/file/3ud1pk458gqp/highlightcomputergroup5.htm>

Management

<http://www.filefactory.com/file/53f1g058qq1p/highlightcomputergroup2.htm>

Information technology

http://www.filefactory.com/file/2q3y5kyc22f1/highlightcomputergroup3_htm

- Electronics Library General Technical Support Program

http://www.filefactory.com/file/1ulcpevyibu5/gtc_htm

http://www.filefactory.com/file/5vnf7v9roxd/n/E_Lib_Engg_Book_Catalogue_pdf

- Australian Electrical Trainings

http://www.filefactory.com/file/7j01gm1ixvej/electricaldiploma2013Update1_htm

10. DVD Containing Assessment Validation & Quality Assurance Materials

Teacher skilled matrix

<http://www.highlightcomputer.com/teacherskillmatrix.htm>

Staff list

www.highlightcomputer.com/staff.htm

Staff competency

<http://www.highlightcomputer.com/teacherskillmatrix.htm>

11. DVD Contents

Professional Diploma in Engineering (Electrical, Civil, Mechanical, Building Services, Mechatronics)

Tests /Assignment/Project Assessment Questions & Materials

Test Questions

MECHANICAL

P1240529.JPG (3.26MB)

<http://www.filefactory.com/file/1gel78kwehfb/n/P1240529.JPG>

Download now!

BAE 614 Machine Design.doc (0.55MB)

http://www.filefactory.com/file/gbjya1h93g5/n/BAE_614_Machine_Design.doc

[Download now!](#)

BAE512 Building Service Water.doc (0.02MB)

http://www.filefactory.com/file/4xp0xqnt8o7j/n/BAE512_Building_Service_Water.doc

[Download now!](#)

BAE 614 Machine Design.doc (0.55MB)

http://www.filefactory.com/file/1t9guppp66y5/n/BAE_614_Machine_Design.doc

[Download now!](#)

BAE512 Building Service Water.doc (0.02MB)

http://www.filefactory.com/file/40vcrk1svydp/n/BAE512_Building_Service_Water.doc

[Download now!](#)

BAE 613 Mech Instrumentation Process Test.pdf (2.65MB)

http://www.filefactory.com/file/53r4fs72o1f/n/BAE_613_Mech_Instrumentation_Process_Test.pdf

[Download now!](#)

BAE 512 Building Service water & Fluid Supply Test.pdf (6.65MB)

http://www.filefactory.com/file/32yi87dda2yr/n/BAE_512_Building_Service_water_&Fluid_Supply_Test.pdf

[Download now!](#)

BAE 315 Material Engg Test.pdf (7.03MB)

http://www.filefactory.com/file/zzlo7bx6tl9/n/BAE_315_Material_Engg_Test.pdf

[Download now!](#)

BAE 511 Air Conditioning refrigeration Heat Transfer Test.pdf (0.27MB)

http://www.filefactory.com/file/2h0bvbjw9vn5/n/BAE_511_Air_Conditioning_refrigeration_Heat_Transfer_Test.pdf

[Download now!](#)

BAE 314 Mech power Generation Test.pdf (3.58MB)

http://www.filefactory.com/file/7ivses407cl1/n/BAE_314_Mech_power_Generation_Test.pdf

[Download now!](#)

BAE 313 Environmental Control Test.pdf (3.6MB)

http://www.filefactory.com/file/4s3gyof02q9v/n/BAE_313_Environmental_Control_Test.pdf

[Download now!](#)

BAE 312 Design Engineering Test.pdf (0.38MB)

http://www.filefactory.com/file/24uqzpscjcot/n/BAE_312_Design_Engineering_Test.pdf

[Download now!](#)

BAE 311 Vibration Control Test.pdf (1.3MB)

http://www.filefactory.com/file/6cwggpepc9tz/n/BAE_311_Vibration_Control_Test.pdf

[Download now!](#)

ELECTRICAL**BAE 604 Telecommunication Engineering.pdf (0.42MB)**

http://www.filefactory.com/file/2nf488wjyc27/n/BAE_604_Telecommunication_Engineering.pdf

[Download now!](#)

BAE 607 Radio Wave Propagation.doc (0.02MB)

http://www.filefactory.com/file/5zckxsn1drj/n/BAE_607_Radio_Wave_Propagation.doc

[Download now!](#)

BAE 606 Building Service Electrical.doc (0.02MB)

http://www.filefactory.com/file/41tubyiy9ab/n/BAE_606_Building_Service_Electrical.doc

[Download now!](#)

BAE 507 Electro Mech Energy Conversion Test.pdf (3.57MB)

http://www.filefactory.com/file/1dfnbz3fn8qx/n/BAE_507_Electro_Mech_Energy_Conversion_Test.pdf

[Download now!](#)

BAE 603 Software Engineering.doc (0.02MB)

http://www.filefactory.com/file/78uis8igintn/n/BAE_603_Software_Engineering.doc

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IQY Technical College Unit/ Subject Coding

IQY QF Level	Year	Course	Coding
1	1	Certificate/Diploma	1xxxx
			2xxxx
2	2	Advanced Diploma	3xxxx
3	3+4	Bachelors degree	4xxxx
			5xxxx
			6xxxx
4	5+6	Bachelors (Hons)	6xxxx
		Graduate Diploma/Masters	7xxxx
5	7+8+9	Doctorate	6XXXX
			7xxxx
			8xxxx

Advanced Diploma in Engineering Practice (Myanmar Language) (27764)

Pre-requisite

Completion of Diploma in General Engineering OR Experience OR Completion of Certificate Level courses

Credit

Total 60 credits Each 5 Credits

Civil Engineering

CEM202-Estimating

CEM203-Drawing

CEM204-.Construction

CEM205-.Iron work

CEM206-Welding

CEM207/ EEM201-Principle of Electricity

CEM208/EEM202-Electrical Knowledge

CEM209/EEM203-Electrical safety

CEM210/MEM204-.Airconditioning

CEM211/MEM205-Ventilation

CEM21- Brick Laying Practice

[Learning Record to submit for credit for each unit](#)

Mechanical Engineering

MEM201-Principle of Engine

MEM202-.Auto Electronics

MEM203-.Auto Electricity

MEM204-.Airconditioning

MEM205-Ventilation

MEM206-Welding

MEM207/EEM201-Principle of Electricity

MEM208/EEM203-Electrical safety

MEM209-Automation and Control

MEM210-Mechatronics

MEM211/ CEM205-.Iron work

MEM212/ CEM203-Drawing

[Learning Record to submit for credit for each unit](#)

Electrical Engineering

EEM201-Principle of Electricity

EEM202-Electrical Knowledge

EEM203-Electrical safety

EEM204-Electrical Works

EEM205-AC and DC Electricity and Electronics

EEM206-Electrical Wiring

EEM207-Fault Finding

EEM208-Electrical Installation Design

EEM210- Advanced Electrical Power Principle

EEM211-Power Transmission and Distribution

Elective

EEM212 / MEM203-.Auto Electricity

OR

EEM213/ MEM204-.Airconditioning

[Learning Record to submit for credit for each unit](#)

Please note that the students who complete the entire course in Myanmar Language must attend 1 year bridging program in English to continue the degree program.

Diploma/ Advanced Diploma in Air-conditioning and Refrigeration Engineering

www.iqytechnicalcollege.com/advdipare.htm

Diploma in Air-conditioning and Refrigeration Engineering

30 credits- Each -6 credits x 5 units

MEM204-.Airconditioning

MEM205-Ventilation

MEM207/EEM201-Principle of Electricity

MEM208/EEM203-Electrical safety

MEM209 Automation and Control

Advanced Diploma in Air-conditioning and Refrigeration Engineering

Each 3 units x 10= 30 credits+ Two Practical Units

EE201 Engineering Mathematics

EE204 Engineering Physics

EE111 Electro-magnetism and Basic Electrical Machines

ME106 Electrical Circuits

ME334 Air-conditioning & Refrigeration

ME102 Engineering Thermodynamics

ME107 Heat Transfer

RE003 Solar and Thermal Energy System

BAE511 Air-conditioning and Refrigeration (Advanced)

BAE606 Building Service Electrical and Mechanical Engineering

PC8 Air-conditioning and Refrigeration Basic Servicing

PC10 Electrical Machine Winding

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This is to certify that the holder of IQY Advanced Diploma in Civil Engineering has completed the following Skills Training Subjects.



Unit Number	Unit Name
GE16	Engineering Drawing I
GE6	Occupational Health & Safety
GE7	Project Management
GE15	Building Construction
GE17	Pipe Fitting
GE19	Computer Programming
GE22	Painting & Decoration
GE23	Pneumatics
GE25	Surveying
GE26	Energy Efficient Building Design
GE28	Hydraulic
GE29	Materials & Corrosion Prevention
GE30	Bricklaying
GE31	Sprouting & Guttering
GE33	Explosion Protection
GE34	Engineering Business Management
	Additional Elective Studies

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**This is to certify that the holder of IQY Advanced
Diploma in Electrical Engineering has completed the
following Skills Training Subjects.**



Unit Number	Unit Name
GE16	Engineering Drawing I
GE1	Electrical Wiring
GE2	Electrical Machine
GE3	Electrical Distribution
GE4	Power System Operation
GE5	Power System Protection
GE6	Occupational Health & Safety
GE7	Project Management
GE8	Electronics
GE9	Process Control
GE10	Industrial Electronics
GE11	Programmable Logic Controller
GE12	Photovoltaic Solar Electrical System
GE19	Computer Programming
	Additional Elective Studies

Advanced Diploma in Electro-Mechanical and Construction Engineering

Pre-requisite

- THS –Diploma in General Engineering & Drafting OR ITC/THS- 5 Years experience
- Non year 10 passed matured workers
-

Delivery and Assessment

- Online Live Lessons+ Assignment
- Pay the fees and submit the assignment to receive transcripts
- On completion of all, the award will be issued.

Core Units (6 Credits points per unit x 10 = 60 Credits)

- ADEMC201-Sustainability and Electrical Practice
- ADEMC202-Engineering Practice
- ADEMC203-Design and Technology
- ADEMC204-General Electrical Engineering
- ADEMC205-General Civil Engineering and Construction
- ADEMC206-General Mechanical Engineering
- ADEMC207-Mathematics,Physics and Chemistry
- ADEMC208-Engineering Materials
- ADEMC209-Engineering Management
- ADMEC210-Workshop Practice and Safety

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**This is to certify that the holder of IQY Advanced Diploma
in Mechanical Engineering has completed the following
Skills Training Subjects.**



Unit Number	Unit Name
GE16	Engineering Drawing I
GE6	Occupational Health & Safety
GE7	Project Management
GE9	Process Control
GE11	Programmable Logic Controller
GE13	Principle of Engine
GE14	Fitting & Machining
GE17	Pipe Fitting
GE18	Air-conditioning & Refrigeration
GE19	Computer Programming
GE21	Welding
GE23	Pneumatics
GE24	Manufacturing Management
GE27	Machine Principle
GE28	Hydraulic
GE29	Materials & Corrosion Prevention
GE33	Explosion Protection
GE34	Engineering Business Management
	Additional Elective Studies

Advanced Diploma of Rural Development Engineering

www.highlightcomputer.com/adrde.htm

www.highlightcomputer.com/adrde.pdf

Objective of the course

This course aims to provide the necessary skills required for people in rural areas to perform the followings

- Agricultural Foods Production and Animal Handling
- Building Construction, Drawing, Water Supply, Road and Bridge Construction, Irrigation
- Electrical Supply & Solar Electrical Supply System
- Hydraulics
- Machine Repair, Welding and Machining
- Water Chemical Treatment
- Transportation & Logistics

Course Structure

The course consists of Civil, Electrical and Mechanical Engineering principle together with Transportation, Logistics and Agricultural Foods Production.

Outcome of the course

After having completed this course, the attenders can perform rural developmental engineering basic works in their regions.

Detailed Structure of the course

Credit Points- 60 points to complete Advanced Diploma of Rural Development. Diploma and Certificate in Rural Development can be awarded upon completion of the specific units.

List of Subjects

Advanced Certificate in Rural Development Engineering (16 Credits)

(MVTC Level (3) (Course Number MVTC301)

CE106 Brick Laying, Sprouting and Gutter Construction (4 Points)

CE104 Construction Drawing (4 Points)

CE110 Building Construction (4 Points)

CE107 Water Supply (4 Points)

Diploma in Rural Development (32 Credits)

(MVTC Level (4) (Course Number MVTC401)

All units in Certificate in Rural Development (16 Credits)

CE111 Road Bridge and Irrigation System Construction (4 Points)

MVTC13PC9 Electrical Wiring (4 Points)

MVTC201Agriculture+MVTC202Animal Handling(4 Points)

MVTC204 Water Chemical Treatment (4 Points)

Advanced Diploma in Rural Development (60Credits)

(MVTC Level (5) (Course Number MVTC501)

All units in Diploma in Rural Development

RE002 Grid Connected Power System (4 Points) together with EE101 DC Circuits+EE112 AC Circuits

EE118 Electrical Supply System (4 Points)

ME108 Principle of Engine+MVTC13PC7 Engine Repairs (4 Points)

ME201 Hydraulics (4 Points)

MVTC13PC6 Welding+MVTC13PC5FittingMachining (4 Points)

MVTC209 Transport Logistics (4 Points)

Mgt101 Management Studies (4 Points)

ADVANCED STUDY

The candidates who have successfully completed Advanced Diploma of Rural Development Engineering can continue the study in Professional Diploma/ Bachelor of Applied Engineering/ Bachelor of Engineering Technology in Electrical Engineering or Civil Engineering or Mechanical Engineering or Mechatronics Engineering or Renewable Energy Engineering and Bachelor of Management Programs at St Clements University or STC Technological University.

LESSONS

MVTC301-Advanced Certificate in Rural Development (16 Credits)

CE104 Construction Drawing (4 Points)

www.iqytechnicalcollege.com/CECertDip.zip

VIDEO

Lesson 1

<https://youtu.be/PLu5G9xNMtE>

Lesson 2

<https://youtu.be/g9tCFIR9HzE>

Lesson 3

<https://youtu.be/YhgQEaUbaxQ>

Lesson 4

<https://youtu.be/PK4g9r8sNhw>

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CE110 Building Construction (4 Points)

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VIDEOS



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Lesson 2

https://youtu.be/YFKdn_EJyX8

Lesson 3

<https://youtu.be/HdpiNwnuos4>

Lesson 4

<https://youtu.be/uyg6AQc5WtE>

Lesson 5

<https://youtu.be/V7C5r7lQGdE>

Lesson 6

<https://youtu.be/TZCwHVCsj0g>

Lesson 7

<https://youtu.be/-984GNIF1b0>

Lesson 8

<https://youtu.be/yzm8vB6mXBk>

Lesson 9

https://youtu.be/UTsxZ72d_c0

Lesson 10

<https://youtu.be/o6nuV8oRYkg>

Lesson 11

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Lesson 12

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Lesson 16

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Lesson 17

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Construction

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<http://youtu.be/a7UYxAY1BbA>

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Roofing

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<http://youtu.be/myuUPoIHn9U>

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Scaffolding

<http://youtu.be/xwvuwdVkFbg>

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Lesson 3

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Lesson 4

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Lesson 5

<https://youtu.be/sZziW7Jcx3c>

Lesson 6

<https://youtu.be/C1VjCawfeoY>

Lesson 7

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Lesson 9

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Lesson 10

<https://youtu.be/8UcHyDiYWP8>

Lesson 11

<https://youtu.be/Pw3BBwQw7hI>

Lesson 12

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Lesson 13

<https://youtu.be/eJW-XMexfBk>

Lesson 14

<https://youtu.be/IF3E0PdWMYs>

Lesson 15

https://youtu.be/g_d6CoaZ_TE

Lesson 16

<https://youtu.be/fPMRvSVGXs0>

Lesson 17

<https://youtu.be/ttnzRICRQ9I>

Lesson 18

<https://youtu.be/2cgvnOfAMXY>

Lesson 19

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Lesson 20

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PC 2-Certificate in Plumbing

Pipe Fitting

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https://www.youtube.com/watch?v=u_a8Ei3VvMA

Piping Analysis

https://www.youtube.com/watch?v=FH_IA8RO7iM

Pipe Fitting Training

<https://www.youtube.com/watch?v=zHVncv8d1do>

<https://www.youtube.com/watch?v=L29brZtGRJ8>

Water Installation Pipe Fitting

<https://www.youtube.com/watch?v=XojOKJPjEYw>

Steam Pipe Fitting

<https://www.youtube.com/watch?v=ztK01HMG5qs>

How to pipe fitting

<https://www.youtube.com/watch?v=60TDEDI2Ong>

Pipe Fitting Accessories

<https://www.youtube.com/watch?v=t7TeEKQov-c>

Pipe Fitting 101

<https://www.youtube.com/watch?v=X6MgBf7lmt4>

Pipe Fitting

<http://youtu.be/oVo3lpKYdgU>

<https://v.redd.it/vbx6vud8uot41>

<http://youtu.be/BrMDSHEeL6k>

<https://v.redd.it/3v9p6urpuot41>

<http://youtu.be/uUxnWvaNTs0>

<https://v.redd.it/mc3o6jkbvot41>

Plumbing

<http://youtu.be/gypTjOYnFw8>

<https://v.redd.it/beejq4u1wot41>

http://youtu.be/P1Qb_3kvsGM

<https://v.redd.it/95m2yepnwot41>

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CE 106 Brick Laying

VIDEO

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 - <https://www.youtube.com/watch?v=fbWNtD3kyGk>
 - <https://www.youtube.com/watch?v=SN0aAG-HgD8>
 - <https://www.youtube.com/watch?v=SN0aAG-HgD8>
 -
- Concrete by hand
 - <https://www.youtube.com/watch?v=KNb0IbYrK8E>
 -
- Brick Laying
 - <http://youtu.be/HB9nAUQ402s>
 - <https://v.redd.it/97nkj606mot41>
 - <http://youtu.be/UDrd2B7qRZQ>
 - <https://v.redd.it/261q39y9not41>
 - http://youtu.be/fXiO50LKS_g
 - <https://v.redd.it/v73cjk5lrot41>
- Concrete Stair Building
 - http://youtu.be/d_28wf-r_QM
 - <https://v.redd.it/alaujau6sot41>
 - <http://youtu.be/3Y9-C6392II>
 - <https://v.redd.it/yww69dtisot41>
 - <http://youtu.be/z72SeHNEN-8>
 - <https://v.redd.it/nz8bhqlgtot41>
- **Written Lesson Notes in Myanmar+ English**

- Bricklaying-See CE106 Part ½

PC1BrickLayingCourse1.pdf (64.44MB)

www.iqytechnicalcollege.com/PC1BrickLayingCourse1.pdf

PC1BrickLayingCourse2.pdf (68.98MB)

www.iqytechnicalcollege.com/PC1BrickLayingCourse2.pdf

PC1BrickLayingCourse3.pdf (55.84MB)

www.iqytechnicalcollege.com/PC1BrickLayingCourse3.pdf

Class Lesson +Audio

www.highlightcomputer.com/mvtcpracticalcourses.htm

See PC1

EXERCISE ASSIGNMENTS

<http://highlightcomputergroup4.zoomshare.com/files/pc1assignment.pdf>

PC 4-Certificate in Gutter Construction

- **Practical Demonstration Videos (Youtube)**

Wall Guttering

<http://youtu.be/b-Cdlrcjfis>

- **Written Lesson Notes in Myanmar+ English**

www.iqytechnicalcollege.com/CECertDip.zip

Building Construction (Gutter Construction)--See CE106

PC4GutterConstruction1.pdf (47.37MB)

PC4GutterConstruction1.pdf (47.37MB)

www.iqytechnicalcollege.com/PC4GutterConstruction1.pdf

PC4GutterConstruction2.pdf (42.73MB)

www.iqytechnicalcollege.com/PC4GutterConstruction2.pdf

PC4GutterConstruction3.pdf (40.51MB)

www.iqytechnicalcollege.com/PC4GutterConstruction3.pdf

PC4GutterConstruction4.pdf (56.02MB)

www.iqytechnicalcollege.com/PC4GutterConstruction4.pdf

Contents	Unit Code
Spouting/ Guttering	Building Construction

-

Contents	Unit Code
Drainage pipe, Ventilation	Building services

EXERCISE ASSIGNMENTS

<http://highlightcomputergroup4.zoomshare.com/files/pc4assignment.pdf>

Class Lesson +Audio

www.highlightcomputer.com/mvtpcpracticalcourses.htm

See PC4

MVTC401-Diploma in Rural Development (32 Credits)

CE111 Road Bridge and Irrigation System Construction (4 Points)

<http://www.mongroupsdney1.com/AdvDipCivilEnggCE111114115.zip>

VIDEOS

[Civil Video1](#)

[Civil Video2](#)

[Civil Video3](#)

VIDEO

|

Lesson 1 Stress and strain

<http://youtu.be/u1LyOKSxOfQ>

Lesson 2 Centre of mass

<http://youtu.be/EY8rM9MSE1k>

Lesson 3 Equilibrium

<http://youtu.be/YtJmMWJIZqI>

Lesson 4 Thermal expansion

<http://youtu.be/EM0DmVWSv8k>

|

Lesson 5 Strength of materials 1

|

<http://youtu.be/j1Cx4gVGSk>

Lesson 6 Structure

[BAE621B1](#)

<http://youtu.be/TNM7KTiWtr0>

Notes

www.highlightcomputer.com/CE114.pdf

www.highlightcomputer.com/CE115.pdf

www.highlightcomputer.com/CE115Part2.pdf

www.highlightcomputer.com/CE114StructurePart2Instruction.zip

Exercises Download Link

www.highlightcomputer.com/DipCivilEnggAssignments.pdf

Page 29 to 31

MVTC13PC9 Electrical Wiring (4 Points)

Electrical workshop

<u>EE102</u>	<u>Basic Electrical Fitting & Wiring</u>
<u>EE103</u>	<u>Basic Electrical Drafting</u>

LESSON VIDEO-MYANMAR+ENGLISH

Lesson 1

<https://youtu.be/zSsvWcnfL8k>

Lesson 2

<https://youtu.be/qzymoBHwc8c>

Lesson 3

<https://youtu.be/iJ7l9WnyRc8>

Lesson 4

<https://youtu.be/DzlyM4QoG7w>

Lesson 5

<https://youtu.be/HVbn9ULdtf8>

Lesson 6

<https://youtu.be/5W-tozOR3r0>

Lesson 7

<https://youtu.be/b13dBzLfYCo>

Lesson 8

<https://youtu.be/ElnP0HKifa4>

Lesson 9

<https://youtu.be/2R7-LA9V0nY>

LESSON VIDEO- ENGLISH

E001+002+005+008+033/ E101+102+105+108+137+G106

Page 128 to 136 of

[www.highlightcomputer.com/Video Lessons.pdf](http://www.highlightcomputer.com/Video%20Lessons.pdf)

Electrical workshop

[Electrical workshop Lesson 1 OHS.zip](#)

(E101)

<https://youtu.be/5A9bw-oxqfl>

[Electrical workshop Lesson 2 Workplace hazard+Fix & secure equipment.zip](#)

(E102)

<http://youtu.be/aVKhYs9ga7Y>

[Electrical workshop Lesson 3 Mechanical fixing.zip](#)

(E105)

http://youtu.be/s0SUSmL_e4E

[Electrical workshop Lesson 4 Basic electrical wiring.zip](#)

(E108)

<http://youtu.be/gTjcE8ssull>

[Electrical workshop Lesson 5 Wiring circuits.zip](#)

(E107)

SUNP0007

<http://youtu.be/m0dN0Wp6LCI>

[Electrical workshop Lesson 6 Electrical safety testing.zip](#)

(E137)

<http://youtu.be/LqRybJxm0tE>

[Electrical workshop Lesson 7 Testing insulation and polarity.zip](#)

(E137)

<http://youtu.be/9j63r3Wz6y8>

<http://youtu.be/e5MjQdEua-U>

[Electrical workshop Lesson 8 Testing lighting polarity.zip](#)

LESSON

www.iqytechnicalcollege.com/EECertDipPart1a.zip

Do EE102

[Exercises Download Link](#)

www.highlightcomputer.com/DipElectEnggAssignments.pdf

LESSON VIDEO-MYANMAR+ENGLISH

Lesson 1

<https://youtu.be/NmC1hRklQBo>

Lesson 2

https://youtu.be/n6ru_boMLZ0

Lesson 3

<https://youtu.be/iXId3EiVmCM>

Lesson 4

<https://youtu.be/LhKv6EuEjs4>

Lesson 5

<https://youtu.be/mMe9S6d8d3w>

Lesson 6

<https://youtu.be/m9jOXnOfY6c>

Lesson 7

<https://youtu.be/HL6vf9G9mFY>

Lesson 8

<https://youtu.be/IGOeWPQ-B0M>

Lesson 9

<https://youtu.be/Qgnz3mFUFB0>

LESSON VIDEO- ENGLISH

www.iqytechnicalcollege.com/EECertDipPart1a.zip

[Exercises Download Link](#)

www.highlightcomputer.com/DipElectEnggAssignments.pdf

ENGLISH LESSONS

<http://www.mongroupsdney1.com/youtubevideos.htm#a>

See EE107

Maximum Demand Calculation & Cable Selection—Thanlyin TU- 5 Jan 2016 Lecture

www.mongroupsdney1.com/CableselectionPPT.pdf

[AS3000](#)

[AS3008](#)

Advanced Electrical Wiring

EE106	Advanced Electrical Wiring

LESSON VIDEO-MYANMAR+ENGLISH

Lesson 1

<https://youtu.be/E5e-Uy6MHEM>

Lesson 2

<https://youtu.be/6LnOUyBWRTs>

Lesson 3

https://youtu.be/jSVZlejrF_w

Lesson 4

<https://youtu.be/SPGR6DnDt-M>

Lesson 5

<https://youtu.be/nT31m6zPcWg>

Lesson 6

<https://youtu.be/FFIXQ1rb4zA>

https://youtu.be/H0BWho_JfLI

Lesson 7

<https://youtu.be/qGbSbHZ21Yc>

https://youtu.be/P2-k_NLqliU

Lesson 8

https://youtu.be/ZPI3-H_MUwA

<https://youtu.be/UrJ9BRTYfoY>

Lesson 9

Lesson

www.iqytechnicalcollege.com/EECertDipPart1a.zip

Do EE105+106

[Exercises Download Link](#)

www.highlightcomputer.com/DipElectEnggAssignments.pdf

PC 9-Certificate in Electrical Wiring

- **Practical Demonstration Videos (Youtube)**

Data Cabling

<http://youtu.be/YkYEX1INbXk>

<https://v.redd.it/r1rmcz193rt41>

Dimmer Light Installation

<http://youtu.be/NONS3PCXjYU>

<https://v.redd.it/pt0d2zrs3rt41>

Install Sub Panel

http://youtu.be/_QaDJoXuVyK

<https://v.redd.it/2kkab3z24rt41>

Installing EMT+MC Cable

<http://youtu.be/wsBCmyQLd30>

<https://v.redd.it/sj2wudgb5rt41>

<http://youtu.be/1gJlzh3YER4>

<https://v.redd.it/4k8ehxgc6rt41>

Installing Feeder Wire from main busbar

<http://youtu.be/9zvRqJ83IVs>

<https://v.redd.it/ibszedss6rt41>

<http://youtu.be/bdKMbezgvrA>

<https://v.redd.it/d7ojv70d7rt41>

Main Switch Board & Socket outlet Installation

<http://youtu.be/WtiTWdZkmoc>

<https://v.redd.it/n07vs1hq7rt41>

<http://youtu.be/deY-tQvgWPM>

<https://v.redd.it/ivrx3up08rt41>

Pulling Cable

<http://youtu.be/qlyxUg8C3LU>

<https://v.redd.it/roaht01a8rt41>

<http://youtu.be/8NS4ZldzBs4>

<https://v.redd.it/9tljudjr8rt41>

Switchboard Circuit Breaker Installation

<http://youtu.be/VcVCiD3oXz8>

Download from the following link

https://mega.nz/file/YQpjhCKZ#JBBSQmSz0tMCCCmOuCOwYnmH4K27cszpuBg1oHT_bZ8

<https://youtu.be/kxKj4myhahE>

<http://youtu.be/rzDMNA2wnns>

<https://v.redd.it/0vkwa8f9rt41>

<http://youtu.be/ksxK4pcUsAw>

<https://v.redd.it/s529upjo9rt41>

UG Conduit Installation

<http://youtu.be/4TU3TePjU5M>

<https://v.redd.it/xsbqpvp9art41>

Use fish tape to pull the cable

<http://youtu.be/gRqgVgmGNmw>

<https://v.redd.it/ef8scginart41>

Wiring Trunking Assembly

<http://youtu.be/jjY6ezSZX1I>

<https://v.redd.it/y5yl7y5abrt41>

Textbooks in Myanmar Language

LMA)Fault Finding.pdf (34.92MB)

www.iqytechnicalcollege.com/LMAFaultFinding.pdf

Product_Safety_by_AyeThwin.pdf (2.71MB)

www.iqytechnicalcollege.com/Product_Safety_by_AyeThwin.pdf

LMA)Home Wiring.pdf (9.37MB)

www.iqytechnicalcollege.com/LMAHomeWiring.pdf

LMA)Electrician Training.pdf (16.06MB)

www.iqytechnicalcollege.com/LMAElectricianTraining.pdf

LMA)Electricity.pdf (2.69MB)

www.iqytechnicalcollege.com/LMAElectricity.pdf

LMA)AC to DC.pdf (13.13MB)

www.iqytechnicalcollege.com/LMAACtoDC.pdf

LMA)Electrical Knowledge).pdf (0.21MB)

www.iqytechnicalcollege.com/LMAElectricalKnowledge.pdf

Design_Electrical_Installation_Systems_by_YanKyawMoe.pdf (8.35MB)

www.iqytechnicalcollege.com/Design_Electrical_Installation_Systems_by_YanKyawMoe.pdf

Electrical_Safety_Basic_by_YanKyawMoe.pdf (1.35MB)

www.iqytechnicalcollege.com/Electrical_Safety_Basic_by_YanKyawMoe.pdf

EXERCISE ASSIGNMENTS

<http://highlightcomputergroup4.zoomshare.com/files/pc9assignment.pdf>

www.iqytechnicalcollege.com/pc9assignment.pdf

Class Lesson +Audio

www.highlightcomputer.com/mvtpcpracticalcourses.htm

See PC9

MVTC201Agriculture+MVTC202Animal Handling(4 Points)

CERTIFICATE IN AGRICULTURE FOOD PRODUCTION (MVTC201)

www.highlightcomputer.com/AgricultureLesson.pdf

CERTIFICATE IN ANIMALS HANDLING (MVTC202)

www.highlightcomputer.com/Animal1.pdf

MVTC2-4 Water Chemical Treatment (4 Points)

CERTIFICATE IN LABORATORY WATER OPERATIONS (MVTC204)

www.highlightcomputer.com/WaterChemicalNotes.pdf

MVTC501 Advanced Diploma in Rural Development (60Credits)

RE002 Grid Connected Power System (4 Points) together with EE101 DC Circuits+EE112 AC Circuits

RE002- Grid Connected Photovoltaic Power Systems

www.iqytechnicalcollege.com/RE002.zip

EE101 Dc Circuits+EE112 AC Circuits

www.iqytechnicalcollege.com/EECertDipPart1a.zip

[Exercises Download Link](#)

www.highlightcomputer.com/DipElectEnggAssignments.pdf

VIDEOS

RE002- Grid Connected Photovoltaic Power Systems-Electrical

Day 14Part 1

Grid Connected Photovoltaic Power Systems 1(Myanmar+English)

Topics-Sun Geometry, Solar Cell Connection

Grid Connected Photovoltaic Power Systems 2(Myanmar+English)

Topics-Solar Electrical System Installation

Grid Connected Photovoltaic Power Systems 3(Myanmar+English)

Topics-Power Output from solar cell, Grid Connection

Grid Connected Photovoltaic Power Systems 4(Myanmar+English)

Topics-Solar Installation Inspection

Grid Connected Photovoltaic Power Systems 5(Myanmar+English)

Topics-Lightning & Surge Protection, Metering

RE002- Grid Connected Photovoltaic Power Systems-Electrical

www.highlightcomputer.com/Day 14-Part 1-RE002- Grid Connected Photovoltaic Power Systems-Electrical.zip

RE002 Grid Connected PV system

RE 002 Part 1

Sun geometry 1

Daily irradiance 2, 9

Power output calculation 29, 31, 36

Pen circuit voltage 37,40,41,42,44

Inverter diagram 45,46,48,52,53

Grid protection 55, 56, 57, 58, 59

Lightening surge protection 62, 63

Net metering 64, 67, 68, Inspection& testing

73 PV array location 81, 82, 89, 90

PV power system 92,93,

Typical arrays 97,98,100,102,105,

Grid connected inverter 134,135,136,137,139,146

RE002 Part 2
Economy 16,20,23

Mgt101 Management Studies (4 Points)

www.highlightcomputer.com/Mgt101.zip

MVTC13PC6 Welding+MVTC13PC5FittingMachining (4 Points)

PC 7-Certificate in Engine Operation& Basic Servicing

ME 108

Principle of Engines

LESSON

<https://youtu.be/Hz4l27zBg9o>

Notes

<http://www.iqytechnicalcollege.com/MECertDipPart3.zip> Study ME108

[Exercises Download Link](#)

www.highlightcomputer.com/DipMechEnggAssignments.pdf

Page 36 to 38

- **Practical Demonstration Videos (Youtube)**

Engine

PC 7-Certificate in Engine Operation & Basic Servicing

- **Practical Demonstration Videos (Youtube)**

Engine

Engine Operation

http://youtu.be/D2oRi_Ah3Qw

<https://v.redd.it/tmklrwpwipt41>

<https://v.redd.it/lg9dif73jpt41>

<http://youtu.be/134v3KwjfOo>

<https://v.redd.it/xvpi19jijpt41>

<https://v.redd.it/9laqu0zsnpt41>

<http://youtu.be/hX5JsvqQdYY>

<https://v.redd.it/xtf2ddq1ppt41>

Engine Assembly

<http://youtu.be/kSo7QLPWous>

<https://v.redd.it/cdv7famkppt41>

http://youtu.be/873FS9_69XQ

<https://v.redd.it/8gifzwm1qpt41>

<http://youtu.be/6Fe1XoZ2EsM>

<https://v.redd.it/3bxb5gz1spt41>

<http://youtu.be/t4YVfT0zgjc>

<https://v.redd.it/3bt82vzyspt41>

Engine Operation+ Maintenance+ Servicing

<http://youtu.be/NdT6sC8vZoA>

<https://v.redd.it/6oc7rj0avpt41>

<http://youtu.be/Y64KllvgFp0>

<https://v.redd.it/eg3tzzrhvpt41>

<http://youtu.be/UP1hjxiTRqc>

<https://v.redd.it/si4wowr7wpt41>

Gear Box

<http://youtu.be/aEpt5k9StnA>

<https://v.redd.it/ig4j5aoxwpt41>

<http://youtu.be/9cEqWWSFM6w>

<https://v.redd.it/36hqum1xxpt41>

Hydraulic pump

<http://youtu.be/0lUGOJovRr0>

<https://v.redd.it/4tg7a61oypt41>

Ignition

<http://youtu.be/fD3CeDKnDXQ>

<https://v.redd.it/i8inmho30qt41>

Power Steering

<http://youtu.be/aLIDMkLhtgQ>

<https://v.redd.it/faggddiu0qt41>

<http://youtu.be/3xFRPInWxks>

<https://v.redd.it/894fon8p1qt41>

<http://youtu.be/E3JNnE14kOQ>

<https://v.redd.it/hcqelu5q2qt41>

<http://youtu.be/ljk7dFtc6iw>

<https://v.redd.it/bk5vg1a94qt41>

Steering

http://youtu.be/e_fUAoA8_Nk

<https://v.redd.it/2o64a0115qt41>

<http://youtu.be/8wwue7d8LsM>

<https://v.redd.it/uryarbzc5qt41>

<http://youtu.be/FUr6Jlca0jM>

<https://v.redd.it/d0x83c2k5qt41>

<http://youtu.be/AQupRDqe1hU>

<https://v.redd.it/1w1kk9c39qt41>

Oil Pump

<http://youtu.be/yQFeOQPpSI>

<https://v.redd.it/nr2dh59qaqt41>

<http://youtu.be/F1LTndD89Eo>

<https://v.redd.it/lkry58o3cqt41>

Pump assembly

http://youtu.be/9G0Qjf_aPp4

<https://v.redd.it/c4ze5oohvqt41>

<http://youtu.be/4318Rkolnwg>

<https://v.redd.it/hgs6ru3zvqt41>

Compressor

<http://youtu.be/gnHHTX2ybg0>

<https://v.redd.it/ophunjo9wqt41>

http://youtu.be/t8s_LodB3t8

<https://v.redd.it/5jaafjk2xqt41>

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PC7Engine2.pdf (91.37MB)

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PC7Engine3.pdf (96.42MB)

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PC7Engine4.pdf (125.64MB)

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PC7Engine5.pdf (85.97MB)

www.iqytechnicalcollege.com/PC7Engine5.pdf

PC7Engine6.pdf (54.66MB)

www.iqytechnicalcollege.com/PC7Engine6.pdf

Textbooks in Myanmar Language

LMA)Automotive 1.pdf (63.9MB)

www.iqytechnicalcollege.com/LMAAutomotive1.pdf

LMAAuto EFI .pdf (42.17MB)

www.iqytechnicalcollege.com/LMAAutoEFI.pdf

LMA)AutoElectricity.pdf (80.31MB)

www.iqytechnicalcollege.com/LMAAutoElectricity.pdf

EXERCISE ASSIGNMENTS

pc7assignment.pdf (21.55MB)

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See PC7

EXERCISE ASSIGNMENTS

<http://highlightcomputergroup4.zoomshare.com/files/pc7assignment.pdf>

MVTC13PC6 Welding+MVTC13PC5FittingMachining (4 Points)

PC 6-Certificate in Welding

- Practical Demonstration Videos (Youtube)

Welding

<http://youtu.be/JQDXMNokDfk>

<https://v.redd.it/ay1aoz7jfpt41>

<http://youtu.be/Br1wBGZpqcc>

<https://v.redd.it/qdcqyv3xhpt41>

- Written Lesson Notes in Myanmar+ English

PC6 Welding Myanmar Notes + Assignment

Notes

www.iqytechnicalcollege.com/PC6WeldingMyanmarNotes.pdf

Assignment

www.iqytechnicalcollege.com/PC6WeldingMyanmarNotesAssignment.pdf

PC6Welding1.pdf (102.44MB)

www.iqytechnicalcollege.com/PC6Welding1.pdf

PC6Welding2.pdf (104.91MB)

www.iqytechnicalcollege.com/PC6Welding2.pdf

PC6Welding3.pdf (110.26MB)

www.iqytechnicalcollege.com/PC6Welding3.pdf

PC6Welding4.pdf (103.43MB)

www.iqytechnicalcollege.com/PC6Welding4.pdf

PC6Welding5.pdf (101.34MB)

www.iqytechnicalcollege.com/PC6Welding5.pdf

EXERCISE ASSIGNMENTS

pc6assignment.pdf (12.98MB)

www.iqytechnicalcollege.com/pc6assignment.pdf

PC 5-Certificate in Fitting & Machining

- **Practical Demonstration Videos (Youtube)**

Workshop

Drilling

<http://youtu.be/7XHyRDCcPO0>

<https://v.redd.it/6jfaoivw1pt41>

<http://youtu.be/xQgHiPkWUT4>

<https://v.redd.it/lqulxv7k2pt41>

Lathe

<http://youtu.be/9ONbdNyK7Rk>

<https://v.redd.it/v7ktj942bpt41>

Milling

http://youtu.be/T3yxKBJ_YQg

<https://v.redd.it/9zvf799ybpt41>

Shaping

<http://youtu.be/aVvEmbzKpyY>

<https://v.redd.it/vsk1668fcpt41>

<http://youtu.be/SKG0SD05Jic>

<https://v.redd.it/z8263aa4ept41>

Written Lesson Notes in Myanmar+ English

PC5FittingMachining1.pdf (115.17MB)

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PC5FittingMachining2.pdf (111.92MB)

www.iqytechnicalcollege.com/PC5FittingMachining2.pdf

PC5FittingMachining3.pdf (120.08MB)

www.iqytechnicalcollege.com/PC5FittingMachining3.pdf

PC5FittingMachining4.pdf (115.86MB)

www.iqytechnicalcollege.com/PC5FittingMachining4.pdf

PC5FittingMachining5.pdf (125.88MB)

www.iqytechnicalcollege.com/PC5FittingMachining5.pdf

PC5FittingMachining6.pdf (108.76MB)

www.iqytechnicalcollege.com/PC5FittingMachining6.pdf

PC5FittingMachining7.pdf (51MB)

www.iqytechnicalcollege.com/PC5FittingMachining7.pdf

Class Lesson +Audio

www.highlightcomputer.com/mvtcpracticalcourses.htm

See PC6

EXERCISE ASSIGNMENTS

<http://highlightcomputergroup4.zoomshare.com/files/pc5assignment.pdf>

MVTC209 Transport Logistics (4 Points)

www.highlightcomputer.com/LogisticNotes.pdf

ME201 Hydraulics (4 Points)

ME201 Fluid Mechanics

VIDEO

Lesson 1

<https://youtu.be/EDL0FEp7tS0>

Lesson 2

<https://youtu.be/TfggYG-cSqc>

Lesson 3

<https://youtu.be/F8HYmLYHSQM>

Notes

To download, do not click the link, copy the link into address bar of the new browser page and then press “Enter”

www.iqytechnicalcollege.com/CECertDip.zip Study CE107

ME201 Fluid Mechanics

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Study ME201

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[Mechanical Video](#)

EE118 Electrical Supply System (4 Points)

EE118	Electrical Energy Supply System
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Lesson 1

<https://youtu.be/fsVjRrMj3fw>

Lesson 2

https://youtu.be/og-n_8RzqQE

Lesson 3

<https://youtu.be/wjAtPNwGKOQ>

Lesson 4

<https://youtu.be/wjAtPNwGKOQ>

Lesson 5

https://youtu.be/-FNsW_NYtp8

Lesson 6

<https://youtu.be/OHFFNtw9X8s>

LESSON

www.iqytechnicalcollege.com/EECertDipPart1b.zip

Do EE118

[Exercises Download Link](#)

www.highlightcomputer.com/DipElectEnggAssignments.pdf

ENGLISH LESSONS

<http://www.mongroupsytdney1.com/youtubevideos.htm#a>

See EE118

www.iqytechnicalcollege.com/EECertDipPart1b.zip

[Exercises Download Link](#)

www.highlightcomputer.com/DipElectEnggAssignments.pdf

ELECTRICAL VIDEOS

[Electrical Video1](#)

[Electrical Video2](#)

[Electrical Video3](#)

[Electrical Video4](#)

Electrical Video5

Electrical Video6

Electrical Video7

MVTC601-Professional Diploma of Rural Development Engineering

(Bachelor of Applied Engineering-Rural Development)

(St Clements University/ STC Technological University)

TOTAL 24 Units at 60 Credit points

BE General Discipline (Total 12 units)

(Each 2 Credit points)

YEAR 2+3

Professional Diploma in Engineering (Year 3)

www.iqytechnicalcollege.com/profdipengg.htm

1 BAE 401 Advanced Engineering Mathematics (2 pt)

2 BAE 402 Calculus (2 pt)

3 BAE 403 Engineering Mechanics (2 pt)

4 BAE 404 Engineering Materials & Thermodynamics (2 pt)

5 RE001- Foundation Studies in Renewable Energy and Sustainability (2 pt)

6.RE003- Solar and Thermal Energy Systems (2 pt)

7.RE004- Energy Storage Systems(2 pt)

10 RE010-Engineering Materials(2 pt)

11 RE012a-Electrical Engineering Part 1(2 pt)

12RE016-Design& Management (2 pt)

Professional Diploma/BE (Rural Development)

(Total 12 units) (Each 2 Credit points)

YEAR 4+5

13.RE013-Electrical Machines (2 pt)

<http://www.iqytechnicalcollege.com/profdipelectengg.htm#z6>

14.BAE 501 Advanced Power Systems & Power Transmission Networks

<http://www.iqytechnicalcollege.com/profdipelectengg.htm#z9>

Rural Electrical Power Supply System

<http://www.iqytechnicalcollege.com/BRDE-BAE501R Rural Power Supply.pdf>

16.BAE 604 Telecommunication Engineering

<http://www.iqytechnicalcollege.com/profdipelectengg.htm#z11>

Rural Telecommunication System

<http://www.iqytechnicalcollege.com/BRDE-BAE604R Rural Telecommunication.pdf>

<http://www.iqytechnicalcollege.com/BRDE-BAE 604 Part 2.pdf>

17.BAE421 Building Construction Engineering (2 pt)

<http://www.iqytechnicalcollege.com/profdipcivilengg.htm#z3>

18. BAE422 Estimating (2 pt)

<http://www.iqytechnicalcollege.com/profdipcivilengg.htm#z7>

19. BAE423 Fluid Mechanics (2 pt)

<http://www.iqytechnicalcollege.com/profdipcivilengg.htm#z6>

20. BAE424 Reinforced Concrete (2 pt)

<http://www.iqytechnicalcollege.com/profdipcivilengg.htm#z8>

22. BAE 523A Environmental Engineering (2 pt)

<http://www.iqytechnicalcollege.com/profdipcivilengg.htm#z10>

23. BAE621 Structural Engineering (2 pt)

<http://www.iqytechnicalcollege.com/profdipcivilengg.htm#z11>

24. BAE511 Air-conditioning & Refrigeration (2 pt)

<http://www.iqytechnicalcollege.com/profdipmechengg.htm#z8>

Solar Powered Refrigeration for Rural Area

<http://www.iqytechnicalcollege.com/BAE511R Solar Refrigeration.pdf>

<http://www.iqytechnicalcollege.com/BAE511RPart 2.pdf>

Engineering Competency Demonstration Report

25. BAE608 Engineering Competency Demonstration Report (2 credit points)

Engineering Handbook Applications

www.iqytechnicalcollege.com/Form185engghandbookapplication.htm

ဒေါက်တာကျော်နိုင်ကိုယ်တိုင် Facebook (Myanmar Professional Engineers Group) တွင် Live ထုတ်လွှင့်သင်မည့်သင်တန်း၊

Online Live ထုတ်လွှင့်သည်ကိုတက်ပြီးနောက် IQY Technical College တွင် Assignment တင်

စိစစ်ခပေးကာတစ်ဘာသာချင်းသို့မဟုတ်ဘာသာများစုပေါင်းကာ Transcript ရယူပြီးအားလုံးပြီးက Advanced Diploma ထုတ်ပေးသောစံနှစ်ဖြစ်သည်။

Advanced Diploma in Electro-Mechanical and Construction Engineering

Pre-requisite

- THS –Diploma in General Engineering & Drafting OR ITC/THS- 5 Years experience
- Non year 10 passed matured workers

Delivery and Assessment

- Online Live Lessons+ Assignment
- Pay the fees and submit the assignment to receive transcripts
- On completion of all, the award will be issued.

Core Units (6 Credits points per unit x 10 = 60 Credits)

- ADEMC201-Sustainability and Electrical Practice
- ADEMC202-Engineering Practice
- ADEMC203-Design and Technology
- ADEMC204-General Electrical Engineering
- ADEMC205-General Civil Engineering and Construction
- ADEMC206-General Mechanical Engineering
- ADEMC207-Mathematics,Physics and Chemistry
- ADEMC208-Engineering Materials
- ADEMC209-Engineering Management
- ADMEC210-Workshop Practice and Safety

Optional Tertiary Preparation course for Non Engineering Students+ Engineering Students

- ADEMEC211(EE110)-Information Processing
(Also Tertiary Preparation course for Non Engineering Students)
- ADEMEC212 (Mgt207G)-Business English
(Also Tertiary Preparation course for Non Engineering Students)
- ADEMEC213(Mgt101G)-Business and Management Principle
(Also Tertiary Preparation course for Non Engineering Students)

Advanced Course

BE Degree courses (Year 3+4)

32115 Advanced Diploma in General Engineering and Drafting (with Basic Business and IT)

For the students who have not passed Year 10/ University Entrance Examination.

Tutoring for the university entrance examination level subjects are concurrently provided

Unit number & Points	Unit name	Credit Points
EE201G	Mathematics	3 Pt
EE204G	Physics	3 Pt
ME 207G	Chemistry	3 Pt
EE101	DC Circuit Problems	3 Pt
EE102	Basic Electrical Fitting & Wiring /MVTC 213-PC9 Certificate in Electrical Wiring	3 Pt
EE103	Basic Electrical Drafting / MVTC 213-PC9Certificate in Electrical Wiring	3 Pt
EE105	Electrical Installation Design / MVTC 213-PC9Certificate in Electrical Wiring	3 Pt
EE110	Computer Applications	3 Pt
CE 106A	Detailed Construction & Building Construction Materials/MVTC213 PC1 Certificate in Brick Laying and Masonry	3 Pt
CE 104 A	Building Drawing/ MVTC213 PC1 Certificate in Brick Laying and Masonry	3 Pt

CE 110	Building Construction/MVTC213 PC3 Certificate in Building Construction	3 Pt
CE 107	Sanitation-and-Water-supply/MVTC213 PC2 Certificate in Plumbing	3 Pt
EE107	Electrical Equipment / MVTC 213-PC9Certificate in Electrical Wiring	3 Pt
ME103	Engineering Mechanics	3 Pt
ME 108	Principles of Engines/ PC 7-Certificate in Engine Operation & Basic Servicing	3 Pt
MVTC213 PC5	Certificate in Fitting and Machining	3 Pt
Mgt101G	Business and Management Principle	3 Pt
EE104	Electrical Equipment Safety Protection	3 Pt
Mgt207G	Business Letter Writing/ Business English	3 Pt
EE109	Electrical Control Circuits /MVTC213 PC15 Certificate in Basic Electronics	3 Pt
	Total	60 Pt

The students who complete this course can continue to the study in Advanced Diploma in Electrical/ Civil/ Mechanical Engineering Courses.

The students who do not want to do engineering can do only Mgt101G, Mgt207G and EE110 and then attend Advanced Diploma in Management (OR) Advanced Diploma in Information Technology.

Agricultural Engineering (67443321)

Professional Diploma in Agricultural Engineering Bachelor of Agricultural Engineering

Preliminary Course

Diploma in General Engineering

(First 6 months)(Foundation Year)

FE101 Engineering Mathematics (for Mathematics 1)

FE102 Engineering Physics (For Physics 1)

FE103 Engineering Workshop

FE104 Engineering Drawing (For Technical Drawing)

FE105 Sustainability

Diploma in Agricultural Engineering

YEAR 1

6 credits/ unit x 5=30 Credits

AGRE101 Chemistry (For General Chemistry) (6 Credit)

To complete Chemistry

AGRE 102 Statistics (For Basic Statics) (6 Credit)

AGRE 103 Botany (For Botany) (6 Credit)

(To complete Science)

AGRE 104 Computer (For Computer) (6 Credit)

(To complete Software Design)

AGRE105 Culture Plants (for Morphology of Culture Plants 1+2) (6 Credit)

This subject consists of the following units taken from Australian Agricultural Training Package

AHCNSY306 Implement a propagation plan

AHCNSY306 မျိုးပွား ဖြန့်ဖြူးရေးအစီအစဉ်ကိုအကောင်အထည်ဖော်ပါ

V55

AHCORG403 Manage organic soil improvement

AHCORG403 အော်ဂဲနစ်မြေဆီလွှာတိုးတက်မှုကိုစီမံပါ

V56

AHCPCM301 Implement a plant nutrition program

AHCPCM301 အပင်အာဟာရအစီအစဉ်ကိုအကောင်အထည်ဖော်ပါ

V57

AHCPCM302 Provide information on plants and their culture

AHCPCM302 အပင်များနှင့်၎င်းတို့၏သဘာဝအကြောင်းသတင်းအချက်အလက်ပေးပါ

V58

AHCPCM304 Report on health and condition of trees

AHCPCM304 သစ်ပင်၏ကျန်းမာရေးနှင့်အခြေအနေ

V59

The students will need to do internet research for the activities given by teachers

Reference Textbook

The students will need to submit 20 pages study report by reading the reference book.

Advanced Diploma in Agricultural Engineering

YEAR 2

6 credits/ unit x 5=30 Credits

AGRE201 Analytical Chemistry (for Analytical Chemistry)(6 credits)

ECh11011	Engineering Chemistry I

The students will need to submit 20 pages study report by reading the reference book.

AGRE202 Organic Chemistry (for Organic Chemistry) (6 credits)

ChE 11001	Organic Chemistry
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The students will need to submit 20 pages study report by reading the reference book.

AGRE203/CE115 Estimating (Civil Engineering) (6 credits)

BAE 644-Estimating

BAE 690-Mechanical Estimating

AGRE204 Meterology (6 credits)

Textbook

The students will need to submit 20 pages study report by reading the reference book.

AGRE205 General Civil Engineering for Agriculture (6 credits)

As part of Agricultural Engineering, the students are required to complete some units
Diploma in Civil Engineering at Year 2

CE105 Hydraulics

CE-106 Brick Laying

CE107 Sanitation Water Supply

Professional Diploma in Agricultural Engineering Technology
Bachelor of Technology (Agricultural Engineering)

YEAR 3

6 credits/ unit x 5=30 Credits

AGRE301 Agriculture of Garden Plants (for Agriculture of Garden Plants) (6 credits)

This subject consists of the following units taken from Australian Agricultural Training Package

AHCPHT306 ဟင်းသီးဟင်းရွက်သီးနှံများစိုက်ပျိုးပါ

V63

AHCPHT307 - Prepare raw materials and compost feedstock

AHCPHT307 - ကုန်ကြမ်းများနှင့်မွေးမြူရေးပစ္စည်းများပြင်ဆင်ပါ

V64

AHCPHT310 Coordinate horticultural crop harvesting

AHCPHT310 ဟင်းသီးဟင်းရွက်သီးနှံရိတ်သိမ်းမှုညှိနှိုင်းဆောင်ရွက်သည်

V65

The students will need to do internet research for the activities given by teachers

Reference Textbook

- horti2008

from the following link

The students will need to submit 20 pages study report by reading the reference book.

AGRE302 Agriculture of Plantation Plants, Plant Feeding & Plant Protection for (Agriculture of Plantation Plants, Plant Feeding & Plant Protection) (6 credits)

This subject consists of the following units taken from Australian Agricultural Training Package

AHCPGD301 Implement a plant establishment program

AHCPGD301 စက်ရုံတည်ထောင်ခြင်းအစီအစဉ်ကိုအကောင်အထည်ဖော်ပါ

V60

AHCPHT303 Implement a post-harvest program

AHCPHT303 ရိတ်သိမ်းချိန်လွန်အစီအစဉ်ကိုအကောင်အထည်ဖော်ပါ

V61

AHCPHT305 Regulate crops

AHCPHT305 ကောက်ပဲသီးနှံများကိုထိန်းညှိပါ

V62

AHCPHT306 Establish horticultural crops

AHCPMG301 Control weeds

AHCPMG301 ထိန်းချုပ်မှုပေါင်းပင်

V66

AHCPMG302 Control plant pests, diseases and disorders

AHCPMG302 စက်ရုံပိုးမွှားများ၊ ရောဂါများနှင့်ရောဂါများကိုထိန်းချုပ်သည်

V67

AHCPMG305 Survey pests

AHCPMG305 ပိုးမွှားစစ်တမ်း

V68

AHCSS00027 Agricultural Chemical Skill Set.

AHCSS00027 စိုက်ပျိုးရေးဓာတုကျွမ်းကျင်မှုသတ်မှတ်။

V70

AHCSS00074 Agricultural Chemical Skill Set.

AHCSS00074 စိုက်ပျိုးရေးဓာတုကျွမ်းကျင်မှုအစုံ။

V71

AHCWHS301 Contribute to work health and safety processes

AHCWHS401 Maintain work health and safety processes.

AHCWHS401 အလုပ်ကျန်းမာရေးနှင့်ဘေးကင်းရေးလုပ်ငန်းစဉ်များကိုထိန်းသိမ်းပါ။

V72

The students will need to do internet research for the activities given by teachers

Reference Textbook

- AgriculturalProducts&YouPPT
- Gardening_pleasures

from the following link

The students will need to submit 20 pages study report by reading the reference book.

AGRE303 Agricultural Economy (for Agricultural Economy)

Read

- GlobalTrendsInAgriculture
- HumanNeeds&FoodProducts
- Conservation_on_private_land

from the following link

The students will need to submit 20 pages study report by reading the reference book.

AGRE303 Food Science and Technology (6 credits)

Read

- CareersinFoodSciencePPT
- HumanNeeds&FoodProducts
- Sustainable Agriculture

from the following link

Video

Read any two textbooks
from the following link

The students will need to submit 20 pages study report by reading the reference book.

AGRE304 Agricultural Ecology (6 credits)

Read

- Agriculture_and_Ecosystems-Lesson

from the following link

The students will need to submit 20 pages study report by reading the reference book.

AGRE305 Plant Physiology (6 credits)

Read

The students will need to submit 20 pages study report by reading the reference book.

Professional Diploma in Agricultural Engineering

Bachelor of Engineering (Agricultural Engineering)

YEAR 4

6 credits/ unit x 5=30 Credits

AGRE401 Agricultural Water and Drainage (6 Credits)

CPCPCM3022A Weld polyethylene and polypropylene pipes using fusion method

CPCPCM3023A Fabricate and install non-ferrous pressure piping

CPCPCM4012A Estimate and cost work

CPCPDR2021A Locate and clear blockages.

CPCPDR2022A - Install domestic treatment plants

CPCPDR2023A Maintain effluent disinfection systems

CPCPDR2024A Install stormwater and sub-soil drainage systems

CPCPDR2025A Drain work site

CPCPDR2026A Install prefabricated inspection openings and enclosures

CPCPDR3021A Plan layout of a residential sanitary drainage system

CPCPDR3022A - Install below ground sanitary drainage systems.

CPCPDR3023A - Install on-site disposal systems

CPCPFS3031A - Fabricate and install fire hydrant and hose reel systems

CPCPSN3025A Install pre-treatment facilities.

CPCPWT3020A - Connect and install storage tanks to a domestic water supply

CPCPWT3021A Set out and install water services.

CPCPWT3022A - Install and adjust water service controls and devices.

CPCPWT3023A - Install and commission water heating systems

CPCPWT3025A Install water pumpset

CPCPWT3027A Connect irrigation systems from drinking water supply

CPCPWT4011B Design and size heated and cold water services and systems.

RIICBS208D Conduct road maintenance operations

RIICBS303D - Conduct materials transfer vehicle operations

RIICCM201D - Carry out measurements and calculations

RIICCM202D – Identify, locate and protect underground services

RIICCM203D - Read and interpret plans and job specifications

RIICCM205D Carry out manual excavation

RIICCM206D - Support plant operations

RIICCM207D - Spread and compact materials manually

RIICCM208D Carry out basic levelling.

RIICCM209D Carry out concrete work.

RIICCM210D - Install trench support

RIICCM211D - Erect and dismantle temporary fencing and gates

RIICCM301D Construct and dismantle fences and gates

RIICPL301D Install water mains pipelines

RIICPL302D Install stormwater systems

RIICPL303D Install sewer pipelines

RIICRC203D Install sub-soil drainage.

RIICRC204D Install and maintain roadside fixtures.

RIICRC208D - Lay pipes

RIICRC301D Maintain drainage system

RIICRC304D Maintain sealed road

The students will need to submit 20 pages study report by viewing the reference videos

Read

- water_sampling
- Water sampling and analysis
- Surface water sampling methods and analysis

from the following link

(Note when you Unzip, some files need to be skipped)

The students will need to submit 20 pages study report by reading the reference book

AGRE402 General Zootechnics (6 Credits)

This subject consists of the following units taken from Australian Agricultural Training Package

Video

Read

- Animal Handling and Transport

from the following link

The students will need to submit 20 pages study report by reading the reference book

AGRE403 Agricultural Mechanisation

As part of this subject, the students will need to do some Mechanical Units

ME101 Applied Mechanics

ME108 Principle of Engine

ME103 Engineering Mechanics

ME104 Machine Principle

ME106 Electrical Principle

ME102+107 Engineering Thermodynamics

ME334 Airconditioning and Refrigeration

ME234 Wind Energy Conversion System

Read

- Agricultural_Process_Engineering

from the following link

The students will need to submit 20 pages study report by reading the reference book

AGRE403 Soil Knowledge (6 Credits)

AHCSOL401 Sample soils and interpret results

AHCSOL401 မြေဆီလွှာကိုနမူနာယူပြီးရလဒ်များကိုဘာသာပြန်ပါ

V69

Read

- Conservation_on_private_land

from the following link

The students will need to submit 20 pages study report by reading the reference book

AGRE404 Brand Management (6 Credits)

As part of this subject, the students will need to study some units from Diploma in Management Program

Study

- Mgt101 Management ,
- Mgr105 Quality Management

BAE608 Engineering Competency Demonstration Report (6 Credits)

The Institution of Professional Engineers Myanmar

AGTI to BE Conversion Program

AGTI

3 Years Attendance	2 Years Attendance
<p><u>ENG601- Engineering Studies</u> AGTI Certificate (60 Credits)</p> <p><u>ENG602-Engineering Applications</u> Work Experience Curriculum Vitae (10 Credits)</p> <p><u>ENG603-Engineering Practicals</u> Engineering Practice Report or Experience Portfolio (10 Credits)</p> <p><u>BAE705 Engineering Competency Development</u> Other degree OR Appropriate Self Study Record Continuing Professional Development (10 Credits)</p> <p>Degree Level Study -Engineering Mathematics+Materials+Mechanic Seminars (4 days) BAE401 Engineering Mathematics BAE402 Calculus RE010 Engineering Materials BAE403 Engineering Mechanics (10 Credits)</p> <p>Degree Level Study -Engineering Management Seminars (2 days) BAE508 Management BAE605 Engineering Management (10 Credits)</p> <p>Degree Level Study -Engineering Subjects Seminars (4 days) 3 or 4 subjects at BE Final Level (10 Credits)</p>	<p>Enrol IQY Professional Diploma in Engineering Final Stage</p> <p>http://www.iqytechnicalcollege.com/enrolment.htm</p> <p>THS/GTI-Equivalent /BE Bridging Program Enrolment</p>
Total 120 Credits	

Degree Level Study -Engineering Subjects Seminars (4 days)

Electrical Power

BAE 501 Advanced Power Systems & Power Transmission Networks

BAE 506 Power System Stability & Protection

RE013-Electrical Machines

Electronics

RE014-Electronics Control

BAE 604 Telecommunication Engineering

BAE 601 Computer Programming

Or other subjects by discussing with trainer

Civil

BAE621 Structural Engineering

BAE421 Building Construction Engineering

BAE623 Surveying & Traffic Engineering

Or other subjects by discussing with trainer

Mechanical

BAE613 Mechanical Instrumentation Process

BAE311 Plant Engineering

BAE614 Machine Design

Or other subjects by discussing with trainer

ICT

ICT 403 Professional Programming

ICT 405 Professional Practice (1) Network

BAE408 Analog & Digital Electronics

Or other subjects by discussing with trainer

Contact

Secretary -U Ye Htet Naing Phone- 09 43064330

Training Officer (Academic)-Dr Thwin Thu Lynn (IQY)- Ph-09785048872

(HOW E-LEARNING CAN BE UTILIZED IN ENGINEERING PROGRAMS TO MEET THE MYANMAR ENGINEERING COUNCIL'S ACCREDITATION REQUIREMENTS)

IQY Technical College's academic policy & procedure in line with Myanmar Engineering Council's Accreditation Requirements & Sample of Educational Institution Documents **(By Dr Kyaw Naing)**

www.highlightcomputer.com/Accreditation.htm

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18	Quality Management, Quality Assurance	94, 95
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IQY Technical College's academic policy & procedure in line with Myanmar Engineering Council's Accreditation Requirements & Sample of Educational Institution Documents

www.highlightcomputer.com/Accreditation.htm

Executive Summary

This is voluntary information related to IQY Technical College's online engineering programs & this information report related to sample engineering programs, curriculums and learning materials is prepared by citing the accreditation manual of Myanmar Engineering Council

Objective

Although it is not a main objective of IQY Technical College to seek the accreditation in Myanmar, the main reason to prepare this document is to be referred by relevant course developers of the Government Technical Colleges & Technological Universities in Myanmar how to fulfil the international standard accreditation procedures as the writer of this documents have over 25 years experiences in teaching, designing & implementation of engineering programs in Fiji, Australia & New Zealand in accordance with Australian/ New Zealand standards.

It is solely aimed to share the knowledge with engineering educators in Myanmar especially to develop e-Learning which is new to most educators in Myanmar. This submission describes how e-Learning in engineering can be effectively applied to fulfil the accreditation needs of Myanmar Engineering Council because Government Technical Colleges & Technological Universities are spread throughout Myanmar & e-Learning is the only most effective way to equalize teaching & learning at different geographical locations of Myanmar.

The document contains the online links from where the relevant documents can be downloaded.

9.2.1 General Information (MEng C)

i. Provide general information on the Technological Institutions and the specific programme.

- IQY Technical College of Highlight Computer Group teaches St Clements Technological University, St Clements University Higher Education School Niue's Diploma/ Advanced Diploma and Bachelor Degree programs in Engineering, Information Technology and Management courses to the students of Myanmar at the price affordable to average working class people of Myanmar.

- E-Learning system that provides on line & off line DVD/USB based teaching system is utilized for the student to do self directed learning combined with simulated practical video/ slide shows and audio/ visual aids are utilized to effectively apply Information Technology in e-Learning & Teaching.
- The main objective of our program is to maximize the individual student's self directed learning by applying the maximum use of technology & by minimizing the teacher's assistance personally .
- Although IQY Technical College refers & applies the relevant international educational standards, IQY Technical College maintains it's academic independency.

ii. Provide detailed information on programme history of accreditation (year of accreditation, conditions imposed and actions taken). (MEng C)

Further Submission

iii. Describe any self-initiated changes made to the programme and state the year the changes were introduced (MEng C)

Further Submission

Programme Objectives.

<http://www.highlightcomputer.com/objectives.htm>

9.2.2 Programme Objectives

I State the vision and mission of the Technological Institutions. (MEng C)

- IQY Technical College of Highlight Computer Group teaches St Clements Technological University, St Clements University Higher Education School Niue's Diploma/ Advanced Diploma and Bachelor Degree programs in Engineering, Information Technology and Management courses to the students of Myanmar at the price affordable to average working class people of Myanmar.
- IQY Technical College of Highlight Computer Group will independently provide the international standard education & engineering education to the poor students of Myanmar whom are being taught by the voluntary education groups of Myanmar .
- IQY Technical College is Non Profit/ Non Government Educational Organization which assist the needy students of Myanmar as well as the students in other developing countries by co-operating with the international organizations of same objectives/ visions and missions.

li Describe the Programme Objectives and state where they are published. (MEng C)

- IQY Technical College offers three levels of Engineering Programs
 1. One year Diploma in Engineering
 2. Two years Advanced Diploma in Engineering
 3. Four years Professional Diploma in Engineering which is set at the same level of standard to Bachelor of Engineering degree
- The entry requirement for IQY Technical College is Year 12 . The students who have less than year 12 level education will need to undertake IQY Technical College's Year 11+12 programs which are set at Australian NSW State Year 12 Standard.
- Based on the entry Year 12 standard, Year one to four Academic programs are arranged.

The objectives

Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology)

IQY Technical College's one year Diploma in Engineering is designed to train the students to work as Engineering Associate or Engineering Technicians in wide ranges of industries.

It is designed to provide the following competencies.

To train the students to have a wide range of functions within engineering enterprises and engineering teams.

The training is designed for the students

- To be closely familiar with standards and codes of practice, and to become expert in their interpretation and application to a wide variety of situations.
- To develop very extensive experience of practical installations, and may well be more knowledgeable than Professional Engineers or Engineering Technologists on detailed aspects of plant and equipment that can contribute very greatly to safety, cost or effectiveness in operation.
- To develop high levels of expertise in aspects of design and development processes. These might include, for example, the use of advanced software to perform detailed design of structures, mechanical components and systems, manufacturing or process plant, electrical and electronic equipment, information and communications systems, and so on.
- To do the construction of experimental or prototype equipment.
- To develop detailed practical knowledge and experience complementing the broader or more theoretical knowledge of others.

Advanced Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology) Course Outlines

IQY Technical College's two years Advanced Diploma in Engineering is designed to train the students to work as Engineering Technologist in wide ranges of industries.

The training is designed to provide expertise to the students which may be at a high level, and fully equivalent to that of a Professional Engineer. That is designed

- to exercise the same breadth of perspective as Professional Engineers, or carry the same wide-ranging responsibilities for stakeholder interactions, for system integration, and for synthesising overall approaches to complex situations and complex engineering problems.
- to possess for a strong understanding of practical situations and applications, with the intellectual challenge of keeping abreast of leading-edge developments as a specialist in a technology domain and how these relate to established practice. For this purpose Engineering Technologists need a strong understanding of scientific and engineering principles and a well-developed capacity for analysis.
- to apply current and emerging technologies, often in new contexts; or with the application of established principles in the development of new practice.
- To contribute to the advancement of technology.
- to take responsibility for engineering projects, services, functions and facilities within a technology domain, for specific interactions with other aspects of an overall operating context and for managing
- to contribute the specialist work to a broader engineering system or solution. In these roles, Engineering
- to focus on sustainable solutions and practices which optimise technical, social, environmental and economic outcomes within the technology domain and over a whole systems life cycle.
- to have an intimate understanding of the standards and codes of practice that underpin the technology domain and ensure that technology outcomes comply with statutory requirements. Engineering Technologists are required to interact effectively with Professional Engineers and Engineering Associates, with other professionals, tradespersons, clients, stakeholders and society in general, to ensure that technology outcomes and developments fully integrate with the overall system and context.
- to ensure that all aspects of a technological product, or operation are soundly based in theory and fundamental principle.
- to understand how new developments relate to their specific field of expertise.
- to interpret technological possibilities, to investigate interfaces, limitations, consequences, costs and risks.

Professional Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology)

IQY Technical College's four years Professional Diploma in Engineering is designed to train the students to work as Engineering Technologist /Professional Engineer in wide ranges of industries.

It is designed to provide the following competencies.

- To perform the reliable functioning of all materials, components, sub-systems and technologies used; their integration to form a complete, sustainable and self-consistent system; and all interactions between the technical system and the context within which it functions. The latter includes understanding the requirements of clients, wide ranging stakeholders and of society as a whole; working to optimise social, environmental and economic outcomes over the full lifetime of the engineering product or program; interacting effectively with other disciplines, professions and people; and ensuring that the engineering contribution is properly integrated into the totality of the undertaking.
- To do interpreting technological possibilities to society, business and government; and for ensuring as far as possible that policy decisions are properly informed by such possibilities and consequences, and that costs, risks and limitations are properly understood as the desirable outcomes.
- To bring knowledge to bear from multiple sources to develop solutions to complex problems and issues, for ensuring that technical and non-technical considerations are properly integrated, and for managing risk as well as sustainability issues. While the outcomes of engineering have physical forms, the work of
- To train the students to become predominantly intellectual in nature. In a technical sense, Professional Engineers are primarily concerned with the advancement of technologies and with the development of new technologies and their applications through innovation, creativity and change. Professional Engineers may conduct research concerned with advancing the science of engineering and with developing new principles and technologies within a broad engineering discipline.
- To contribute to continual improvement in the practice of engineering, and in devising and updating the codes and standards that govern it.
- To take a particular responsibility for ensuring that all aspects of a project are soundly based in theory and fundamental principle, and for understanding clearly how new developments relate to established practice and experience and to other disciplines with which they may interact. One hallmark of a professional is the capacity to break new ground in an informed, responsible and sustainable fashion.

iii. Describe how the Programme Objectives are consistent with the vision and mission of the Technological Institutions and stakeholder requirements. (MEng C)

Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology)

The training includes feasibility investigation, scoping, establishing criteria/performance measures, assessing and reporting technical and procedural options; design and development; component,

resources and materials sourcing and procurement; construction, prototyping, manufacture, testing, installation, commissioning, service provision and de-commissioning; tools, plant, equipment and facilities acquisition, management, maintenance, calibration and upgrades; operations management; procedures documentation; presentation and reporting; maintenance systems design and management; project and facility management; quality assurance, costing and budget management; document control and quality assurance.

The training is also designed to provide a good grounding in engineering science and the principles underlying their field of expertise, to ensure that their knowledge and skills are portable across different applications and situations within the broad field of practice. Equipment, vendor or context-specific training in a particular job are not sufficient to guarantee generic competency. Given a good knowledge base, however, the graduates may build further on this through high levels of training in particular contexts and in relation to particular equipment.

The competencies of graduates to equip them to certify the quality of engineering work and the condition of equipment and systems in defined circumstances, laid down in recognised standards and codes of practice.

The training is also designed to lead or manage teams appropriate to these activities. Some may establish their own companies or may move into senior management roles in engineering and related enterprises, employing Professional Engineers, Engineering Technologists, and other specialists where appropriate.

Diploma in Electrical Engineering

This program is designed with 30 credit points integrating 15 credit points Certificate in Electrical Engineering. The completion of this program can be articulated into 60 points Advanced Diploma in Electrical Engineering & 120 credit points Professional Diploma in Electrical Engineering which is the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Diploma in Electrical Engineering can apply for Associate Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

Diploma in Mechanical Engineering

This program is designed with 30 credit points integrating 15 credit points Certificate in Mechanical Engineering. The completion of this program can be articulated into 60 points Advanced Diploma in Mechanical Engineering & Mechatronics & 120 credit points Professional Diploma in Mechanical Engineering & Mechatronics which is the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Diploma in Mechanical Engineering can apply for Associate Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

Diploma in Civil Engineering

This program is designed with 30 credit points integrating 15 credit points Certificate in Civil Engineering & Construction Studies . The completion of this program can be articulated into 60 points Advanced Diploma in Civil Engineering & 120 credit points Professional Diploma in Civil Engineering & Building Services which is the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Diploma in Civil Engineering can apply for Associate Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

Diploma in Renewable Energy Engineering

This program is designed with 30 credit points integrating 15 credit points Certificate in Renewable Energy Course Completion Certificate which is delivered through the public seminars . The completion of this program can be articulated into 120 credit points Professional Diploma in Renewable Energy Engineering which is the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Diploma in Renewable Energy Engineering can apply for Associate Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

Diploma in Computer Engineering/ Diploma in Information Technology

This program is designed with 30 credit points integrating 15 credit points Certificate in Information Technology . The completion of this program can be articulated into 60 points Advanced Diploma in Information Technology & 120 credit points Professional Diploma in Information Technology or Professional Diploma in Computer Engineering which is the award of Bachelor of Applied Science (Information Technology)/Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Diploma in Computer Engineering can apply for Associate Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

The graduates of Diploma in Information Technology can apply for membership of International Institute of Science Engineering & Management.

To be awarded Diploma in Computer Engineering, the students need to do Diploma in Information Technology & Diploma in Electrical Engineering at the same time.

Advanced Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology) Course Outlines

It is designed to provide the following competencies.

To train the students to operate within broadly-defined technical environments, and undertake a wide range of functions and responsibilities. They are often specialists in the theory and practice of a particular branch of engineering technology or engineering-related technology (the technology domain), and specifically in its application, adaptation or management, in a variety of contexts. Their expertise often lies in familiarity with the current state of development of a technology domain and most recent applications of the technology.

The training is also designed to provide the skills of Engineering Technologists who may lead teams responsible for the implementation, operation, quality assurance, safety, management, and maintenance of projects, plant, facilities, or processes within specialist practice area(s) of the technology domain. Some Engineering Technologists may establish their own companies or may move into senior management roles in engineering and related enterprises, employing Professional Engineers and other specialists where appropriate.

Advanced Diploma in Engineering can be studied in the following specializations

- Advanced Diploma in Electrical Engineering
- Advanced Diploma in Mechanical Engineering
- Advanced Diploma in Civil Engineering
- Advanced Diploma in Renewable Energy Engineering
- Advanced Diploma in Computer Engineering / Advanced Diploma in Information Technology

Advanced Diploma in Electrical Engineering

This program is designed with 60 credit points integrating 30 credit points Diploma in Electrical Engineering. The completion of this program can be articulated into 60 of 120 credit points Professional Diploma in Electrical Engineering which is the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Advanced Diploma in Electrical Engineering can apply for Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

Advanced Diploma in Mechanical Engineering

This program is designed with 60 credit points integrating 30 credit points Diploma in Mechanical Engineering. The completion of this program can be articulated into 60 of 120 credit points Professional Diploma in Mechanical Engineering which is the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Advanced Diploma in Mechanical Engineering can apply for Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

Advanced Diploma in Civil Engineering

This program is designed with 60 credit points integrating 30 credit points Diploma in Civil Engineering. The completion of this program can be articulated into 60 of 120 credit points Professional Diploma in Civil Engineering which is the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Advanced Diploma in Civil Engineering can apply for Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

Advanced Diploma in Renewable Energy Engineering

This program is designed with 60 credit points integrating 30 credit points Certificate in Renewable Energy Course Completion Certificate which is delivered through the public seminars . The completion of this program can be articulated into 120 credit points Professional Diploma in Renewable Energy Engineering which is the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Advanced Diploma in Renewable Energy Engineering can apply for Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

Advanced Diploma in Computer Engineering/ Advanced Diploma in Information Technology

This program is designed with 30 credit points integrating 30 credit points Diploma in Information Technology . The completion of this program can be articulated into 60 of 120 credit points Professional Diploma in Information Technology or Professional Diploma in Computer Engineering which is the award of Bachelor of Applied Science (Information Technology)/Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Advanced Diploma in Computer Engineering can apply for Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

The graduates of Advanced Diploma in Information Technology can apply for membership of International Institute of Science Engineering & Management.

To be awarded Advanced Diploma in Computer Engineering, the students need to do Advanced Diploma in Information Technology & Diploma in Electrical Engineering at the same time.

Professional Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology)

It is designed at the same academic requirement as to Bachelor of Engineering degree but IQY Technical College is operating as a vocational education & training college not as a university, the award is to be described as Professional Diploma. The graduates of the Professional Diploma in Engineering can be awarded Bachelor of Engineering by the universities which are affiliated to IQY Technical College.

The program is designed to train the students to become Professional Engineers who are required to take responsibility for engineering projects and programs in the most far-reaching sense.

The program is also designed to provide the skills required for the graduated to lead or manage teams appropriate to these activities, and may establish their own companies or move into senior management roles in engineering and related enterprises.

Professional Diploma in Engineering can be studied in the following specializations

- Professional Diploma in Electrical Engineering
- Professional Diploma in Mechanical Engineering
- Professional Diploma in Civil Engineering
- Professional Diploma in Renewable Energy Engineering
- Professional Diploma in Computer Engineering / Professional Diploma in Information Technology

Professional Diploma in Electrical Engineering

This program is designed with 120 credit points integrating 60 credit points Advanced Diploma in Electrical Engineering. The completion of this program can be awarded Professional Diploma in Electrical Engineering together with the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Professional Diploma in Electrical Engineering can apply for Fellow of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technologists or ASEAN Engineer.

Professional Diploma in Mechanical Engineering

This program is designed with 120 credit points integrating 60 credit points Advanced Diploma in Mechanical Engineering. The completion of this program can be awarded Professional Diploma in Mechanical Engineering together with the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Professional Diploma in Mechanical Engineering can apply for Fellow of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technologists or ASEAN Engineer.

Professional Diploma in Civil Engineering

This program is designed with 120 credit points integrating 60 credit points Advanced Diploma in Civil Engineering. The completion of this program can be awarded Professional Diploma in Civil Engineering together with the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Professional Diploma in Civil Engineering can apply for Fellow of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technologists or ASEAN Engineer.

Professional Diploma in Renewable Energy Engineering

This program is designed with 120 credit points integrating 60 credit points Advanced Diploma in Renewable Energy Engineering. The completion of this program can be awarded Professional Diploma in Renewable Energy Engineering together with the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

This program explores the way to make the best use of renewable energy technologies including solar thermal systems, photovoltaics, wind and biomass. Renewable Energy Engineering borrows much of its structure from some other areas of engineering, such as electrical engineering and photovoltaic engineering. It encompasses a broad range of renewable energy technologies including electricity generation from solar thermal systems, photovoltaics, wind and biomass. It also covers solar architecture and energy efficient housing design

The graduates of Professional Diploma in Renewable Energy Engineering can apply for Fellow of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technologists or ASEAN Engineer.

Professional Diploma in Computer Engineering/ Professional Diploma in Information Technology

This program is designed with 120 credit points integrating 60 credit points Advanced Diploma in Information Technology . Professional Diploma in Computer Engineering which is the award of Bachelor of Applied Science (Information Technology)/Bachelor of Engineering degree by the universities affiliated IQY Technical College.

The graduates of Professional Diploma in Computer Engineering can apply for Fellow of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technologist or ASEAN Engineer.

The graduates of Professional Diploma in Information Technology can apply for membership of International Institute of Science Engineering & Management.

To be awarded Professional Diploma in Computer Engineering, the students need to do some Bachelor of Engineering (Electrical) units at the same time.

iv. Describe the processes used to establish and review the Programme Objectives, and the extent to which the programme's various stakeholders are involved in these processes.

v Describe how the Technological Institutions ensures achievement of the Programme Objectives.

vi. Describe the ongoing evaluation of the level of achievement of these objectives, and the extent to which the programme's various stakeholders are involved in these processes.

vii. Describe how the results obtained from evaluation are being used to improve the effectiveness of the program (MEng C)

Please see Attachment 1.Assessment Validation Records 2.Assessment Evidences 3.Quality Assurance Records

9.2.3 Learning Outcomes

I List down the Learning Outcomes and state where are they published. (MEng C)

Diploma / Advanced Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology)

1. KNOWLEDGE AND SKILL BASE

1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain.

1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain.

1.3. In-depth understanding of specialist bodies of knowledge within the technology domain.

1.4. Discernment of knowledge development within the technology domain.

1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.

1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.

2. ENGINEERING APPLICATION ABILITY

2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.

2.2. Application of engineering techniques, tools and resources within the technology domain.

2.3. Application of systematic synthesis and design processes within the technology domain.

2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.

3. PROFESSIONAL AND PERSONAL ATTRIBUTES

- 3.1. Ethical conduct and professional accountability.
- 3.2. Effective oral and written communication in professional and lay domains.
- 3.3. Creative, innovative and pro-active demeanour.
- 3.4. Professional use and management of information.
- 3.5. Orderly management of self, and professional conduct.
- 3.6. Effective team membership and team leadership.

Professional Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology)

COMPETENCIES

1. KNOWLEDGE AND SKILL BASE

- 1.1. Comprehensive, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline.
- 1.2. Conceptual understanding of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the engineering discipline.
- 1.3. In-depth understanding of specialist bodies of knowledge within the engineering discipline.
- 1.4. Discernment of knowledge development and research directions within the engineering discipline.
- 1.5. Knowledge of engineering design practice and contextual factors impacting the engineering discipline.
- 1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the specific discipline.

2. ENGINEERING APPLICATION ABILITY

2.1. Application of established engineering methods to complex engineering problem solving.

2.2. Fluent application of engineering techniques, tools and resources.

2.3. Application of systematic engineering synthesis and design processes.

2.4. Application of systematic approaches to the conduct and management of engineering projects.

3. PROFESSIONAL AND PERSONAL ATTRIBUTES

3.1. Ethical conduct and professional accountability.

3.2. Effective oral and written communication in professional and lay domains.

3.3. Creative, innovative and pro-active demeanour.

3.4. Professional use and management of information.

3.5. Orderly management of self, and professional conduct.

3.6. Effective team membership and team leadership.

ii how the Learning Outcomes relate to the Programme Objectives.

iii. Describe the processes used to establish and review the Learning Outcomes, and the extent to which the programme's various stakeholders are involved in these processes.

i Describe the data gathered and explain the results of the assessment.

v Explain how the assessment results are applied to further develop and improve the programme.

vi. Describe the materials, including student work and other tangible materials that demonstrate

Processes and Results: (MEng C) The programme shall have a clear linkage between Programme

Objectives and Learning Outcomes (Section 4.0); a process of ongoing assessment an

evaluation that demonstrates the achievement of Programme Objectives with documented

results; and evaluation results that are used in the continual improvement of the programme.

Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology)

Program Objective	Learning Outcome
<ul style="list-style-type: none"> • To be closely familiar with standards and codes of practice, and to become expert in their interpretation and application to a wide variety of situations. • To develop very extensive experience of practical installations, and may well be more knowledgeable than Professional Engineers or Engineering Technologists on detailed aspects of plant and equipment that can contribute very greatly to safety, cost or effectiveness in operation. • 	<p><u>1. KNOWLEDGE AND SKILL BASE</u></p> <p>1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain.</p> <p>1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain.</p> <p>1.3. In-depth understanding of specialist bodies of knowledge within the technology domain.</p> <p>1.4. Discernment of knowledge development within the technology domain.</p> <p>1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.</p> <p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.</p>
<ul style="list-style-type: none"> • To develop high levels of expertise in aspects of design and development processes. These might include, for example, the use of advanced software to perform detailed design of structures, 	<p><u>2. ENGINEERING APPLICATION ABILITY</u></p> <p>2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.</p>

<p>mechanical components and systems, manufacturing or process plant, electrical and electronic equipment, information and communications systems, and so on.</p> <ul style="list-style-type: none"> • To do the construction of experimental or prototype equipment. 	<p>2.2. Application of engineering techniques, tools and resources within the technology domain.</p> <p>2.3. Application of systematic synthesis and design processes within the technology domain.</p> <p>2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.</p>
<ul style="list-style-type: none"> • To develop detailed practical knowledge and experience complementing the broader or more theoretical knowledge of others. 	<p><u>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</u></p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p> <p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>

Advanced Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology)

Program Objective	Learning Outcome
<ul style="list-style-type: none"> to exercise the same breadth of perspective as Professional Engineers, or carry the same wide-ranging responsibilities for stakeholder interactions, for system integration, and for synthesising overall approaches to complex situations and complex engineering problems. to possess for a strong understanding of practical situations and applications, with the intellectual challenge of keeping abreast of leading-edge developments as a specialist in a technology domain and how these relate to established practice. For this purpose Engineering Technologists need a strong understanding of scientific and engineering principles and a well-developed capacity for analysis. . 	<p><u>1. KNOWLEDGE AND SKILL BASE</u></p> <p>1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain.</p> <p>1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain.</p> <p>1.3. In-depth understanding of specialist bodies of knowledge within the technology domain.</p> <p>1.4. Discernment of knowledge development within the technology domain.</p> <p>1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.</p> <p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.</p>
<ul style="list-style-type: none"> to apply current and emerging technologies, often in new contexts; or with the application of established principles in the development of new practice. To contribute to the advancement of technology. to take responsibility for engineering projects, services, functions and facilities within a technology domain, for specific interactions with other aspects of an overall operating context and for managing 	<p><u>2. ENGINEERING APPLICATION ABILITY</u></p> <p>2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.</p> <p>2.2. Application of engineering techniques, tools and resources within the technology domain.</p> <p>2.3. Application of systematic synthesis and design processes within the technology domain.</p> <p>2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.</p>

<ul style="list-style-type: none"> • to contribute the specialist work to a broader engineering system or solution. In these roles, Engineering • to focus on sustainable solutions and practices which optimise technical, social, environmental and economic outcomes within the technology domain and over a whole systems life cycle. 	
<ul style="list-style-type: none"> • to have an intimate understanding of the standards and codes of practice that underpin the technology domain and ensure that technology outcomes comply with statutory requirements. Engineering Technologists are required to interact effectively with Professional Engineers and Engineering Associates, with other professionals, tradespersons, clients, stakeholders and society in general, to ensure that technology outcomes and developments fully integrate with the overall system and context. • to ensure that all aspects of a technological product, or operation are soundly based in theory and fundamental principle. • to understand how new developments relate to their specific field of expertise. • to interpret technological possibilities, to investigate interfaces, limitations, consequences, costs and risks 	<p><u>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</u></p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p> <p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>

Professional Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology)

Program Objective	Learning Outcome
<ul style="list-style-type: none"> To perform the reliable functioning of all materials, components, sub-systems and technologies used; their integration to form a complete, sustainable and self-consistent system; and all interactions between the technical system and the context within which it functions. The latter includes understanding the requirements of clients, wide ranging stakeholders and of society as a whole; working to optimise social, environmental and economic outcomes over the full lifetime of the engineering product or program; interacting effectively with other disciplines, professions and people; and ensuring that the engineering contribution is properly integrated into the totality of the undertaking. To do interpreting technological possibilities to society, business and government; and for ensuring as far as possible that policy decisions are properly informed by such possibilities and consequences, and that costs, risks and limitations are properly understood as the desirable outcomes. 	<p>1. KNOWLEDGE AND SKILL BASE</p> <p>1.1. Comprehensive, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline.</p> <p>1.2. Conceptual understanding of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the engineering discipline.</p> <p>1.3. In-depth understanding of specialist bodies of knowledge within the engineering discipline.</p> <p>1.4. Discernment of knowledge development and research directions within the engineering discipline.</p> <p>1.5. Knowledge of engineering design practice and contextual factors impacting the engineering discipline.</p> <p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the specific discipline.</p>
<ul style="list-style-type: none"> To bring knowledge to bear from multiple sources to develop solutions to complex problems and issues, for ensuring that technical and non-technical considerations are properly integrated, and for managing risk as well as sustainability issues. To train the students to become predominantly intellectual in nature. In a 	<p>2. ENGINEERING APPLICATION ABILITY</p> <p>2.1. Application of established engineering methods to complex engineering problem solving.</p> <p>2.2. Fluent application of engineering techniques, tools and resources.</p> <p>2.3. Application of systematic engineering</p>

<p>technical sense, Professional Engineers are primarily concerned with the advancement of technologies and with the development of new technologies and their applications through innovation, creativity and change. Professional Engineers may conduct research concerned with advancing the science of engineering and with developing new principles and technologies within a broad engineering discipline</p>	<p>synthesis and design processes.</p> <p>2.4. Application of systematic approaches to the conduct and management of engineering projects.</p>
<ul style="list-style-type: none"> • To contribute to continual improvement in the practice of engineering, and in devising and updating the codes and standards that govern it. • To take a particular responsibility for ensuring that all aspects of a project are soundly based in theory and fundamental principle, and for understanding clearly how new developments relate to established practice and experience and to other disciplines with which they may interact. One hallmark of a professional is the capacity to break new ground in an informed, responsible and sustainable fashion. 	<p>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p> <p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>

(iii) Stakeholders Involvement: The Technological Universities/Institutions shall provide evidence of stakeholder involvement with regard to (i) and (ii) above

Please see Attachment Industry Consultation Folder

<http://www.highlightcomputer.com/industryconsultation.htm>

8.0 Qualifying Requirements and Accreditation Criteria (MEng C)

An engineering programme shall be assessed by EAC to enable graduates of the programme to register as graduate engineers with the M.Eng.C. The assessment involves a review of qualifying

requirements of the Technological Institutions and an evaluation based on the following criteria, apart from

Programme Objectives (4.0) and Learning Outcomes (5.0):

1 Academic Curriculum

9.2.4 Academic Curriculum

- Discuss the programme structure and course contents to show how they are appropriate to, consistent with, and support the development of the range of intellectual and practical skills and attainment or achievement of the Learning Outcomes. (MEng C)

IQY Technical College's Diploma program is focussed on practical applications, use of materials, tools & equipment by combining with theoretical studies at tradesmen/ technician level, it will provide the foundation of engineering studies.

At the advanced diploma level, more complex level engineering contents, applied science & mathematics contents & cross-disciplinary engineering and management contents are included.

At the professional diploma level, the skills required for the graduated to lead or manage teams appropriate to these activities, and may establish their own companies or move into senior management roles in engineering and related enterprises are provided.

- Discuss the programme delivery and assessment methods and how these are appropriate to, consistent with, and support the development of the range of intellectual and practical skills and attainment or achievement of the Learning Outcomes. (MEng C)

Program delivery & assessment at Diploma & Advanced level

The students are provided with online lessons, study guides which include audio visual explanations in both English & Myanmar languages. The electronic text books and reference books are also provided.

For the students who can not have the access to the high speed internet are provided with DVDs, CDs and USBs consisting of the lessons.

It has established the learning platform from which the study guides & instructions, exercise, assignments, audio & video lessons can be downloaded.

<http://www.highlightcomputer.com/onlineteaching1.htm>

To provide the online teaching to be the same learning environment as to face to face class, IQY Technical College has established the online videos & Youtube videos of lectures.

Youtube videos of lectures

<http://www.highlightcomputer.com/videos2.htm>

Online videos

<http://www.highlightcomputer.com/videos1.htm>

Online practical simulation at Level 1 is also provided.

Practical is important aspect in engineering education. IQY Technical College also provides the engineering practicals by online mode.

It has established the online practical support websites to provide three levels of engineering practicals.

The sites are

<http://www.highlightcomputer.com/PracticalCourses.htm>

&

<http://www.iqytechnicalcollege.com/youtubevideos.htm>

Level 1- Tradesmen Level in which the basic trades tasks videos such as brick laying, motor winding, wiring, engine fittings, machining etc are presented.

Level 2- Technician Level in which the technician tasks such as electrical laboratory, surveying etc are presented

Level 3- Engineer Level in which use of engineering design handbooks are presented.

For all three levels, the reference books related to practical applications are presented.

Assessment

The students need to do the continuous study as per guidelines and instruction provided in study guides and do the exercises. They are required to regularly submit the assignments and sit the online MCQ tests

Online Theory & MCQ Practice

http://www.filefactory.com/file/6m8zvfek7797/n/Online_Theory_MCQ_Practice_pdf

Online Practical Practice

http://www.filefactory.com/file/3ap0vv6o8azx/n/Online_Practical_Practice_pdf

Upon satisfactory completion of the assessments, the progression is granted.

Upon completion of all units / subject in the program, the qualification is awarded.

Program delivery & assessment at Professional Diploma level

The same learning system is applied. But for the professional diploma level, the written tests as well as engineering management, project tasks, design presentation and engineering competency demonstration report writings are included in the assessment.

- The information required in items (i) and (ii) should include but is not limited to the following:
- A matrix linking courses to Learning Outcomes to identify and track the contribution of each course to the Learning Outcomes. (Overall Learning outcomes link to each unit)
- Distribution of engineering courses according to areas specific to each program

(MEng C)

Diploma in Electrical Engineering

Learning Outcome	Subjects	Study Area
<u>1. KNOWLEDGE AND SKILL BASE</u> 1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain. 1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain. 1.3. In-depth understanding of specialist bodies of knowledge within the technology domain. 1.4. Discernment of knowledge development within the technology domain.	EE101 DC Circuit Problems EE113 Electrical Fundamental EE201 Engineering Mathematics (1) EE111 Electromagnetism & Basic Electrical Machines EE112 Alternating Current Principle EE109 Electrical Control Circuits EE114 Electrical Power Principle EE115 Basic Analogue & Digital Electronics EE102 Basic Electrical Fitting & Wiring EE103 Basic Electrical Drafting EE104 Electrical Equipments Safety Protection	Electrical Maths Electrical/Science Electrical/Electronics Electrical/Drafting

<p>1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.</p> <p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.</p>	<p>EE105 Electrical Installation Design EE106 Advanced Electrical Wiring</p> <p>EE107 Electrical Equipments EE108 Electrical Fault Finding</p>	<p>Design/ Trade Work</p> <p>Instrumentation/ TradeWork</p>
<p><u>2. ENGINEERING APPLICATION ABILITY</u></p> <p>2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.</p> <p>2.2. Application of engineering techniques, tools and resources within the technology domain.</p> <p>2.3. Application of systematic synthesis and design processes within the technology domain.</p> <p>2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.</p>	<p>EE121 Electronics Power Control Device EE116 Process Control System</p> <p>EE117 Solar Electrical System EE118 Electrical Energy Supply System EE110 Computer Applications</p> <p>EE105 Electrical Installation Design EE106 Advanced Electrical Wiring</p> <p>EE119 Electrical Risk Assessment EE120 Electrical Contracting & Specification</p>	<p>Electronics/ Instrumentation</p> <p>Renewable Energy Power Engineering Computer</p> <p>Design/ Trade Work</p> <p>Project Management</p>
<p><u>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</u></p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p>	<p>EE120 Electrical Contracting & Specification</p>	<p>Project Management</p>

<p>3.3. Creative, innovative and proactive demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>	EE120 Electrical Contracting & Specification	Project Management
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Advanced Diploma in Electrical Engineering

Learning Outcome	Subjects	Study Area
<p><u>1. KNOWLEDGE AND SKILL BASE</u></p> <p>1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain.</p> <p>1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain.</p> <p>1.3. In-depth understanding of specialist bodies of knowledge within the technology domain.</p>	<p>EE201 Engineering Mathematics EE302 Advanced Engineering Mathematics</p> <p>EE202 Electrical Circuits</p> <p>EE204 Engineering Physics EE203 Three Phase Power Circuits</p> <p>EE205 Electrical Power System EE206 AC Machines EE207 DC Machine EE208 Operational Amplifiers EE209 Analogue Electronics</p>	<p>Mathematics</p> <p>Electrical</p> <p>Science</p> <p>Electrical</p> <p>Electrical</p> <p>Electronics</p>

<p>1.4. Discernment of knowledge development within the technology domain.</p> <p>1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.</p> <p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.</p>	<p>EE303 Transmission Line</p> <p>EE301 Advanced Electrical Drafting EE307 Energy Efficient Building Design</p> <p>EE308 Sustainability</p>	<p>Power Engineering</p> <p>Electrical Design</p> <p>Renewable Energy</p>
<p><u>2. ENGINEERING APPLICATION ABILITY</u></p> <p>2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.</p> <p>2.2. Application of engineering techniques, tools and resources within the technology domain.</p> <p>2.3. Application of systematic synthesis and design processes within the technology domain.</p> <p>2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.</p>	<p>EE305 Power Transformer EE306 Electro-mechanical Control</p> <p>EE301 Advanced Electrical Drafting</p> <p>EE307 Energy Efficient Building Design</p> <p>EE309 Project Management</p>	<p>Power Engineering</p> <p>Electrical Design</p> <p>Electrical Design</p> <p>Project Management</p>

<p><u>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</u></p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p> <p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>	<p>EE309 Project Management EE310 Engineering Officer Competency Report</p> <p>EE309 Project Management</p> <p>EE310 Engineering Officer Competency Report</p>	<p>Project Management</p> <p>Engineering Ethics</p> <p>Project Management</p> <p>Engineering Ethics</p>
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Professional Diploma in Electrical Engineering

Learning Outcome	Subjects	Study Area
<p>1. KNOWLEDGE AND SKILL BASE</p> <p>1.1. Comprehensive, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline.</p> <p>1.2. Conceptual understanding of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the engineering discipline.</p>	<p><u>BAE 403 Engineering Mechanics</u> (1 pt)</p> <p><u>BAE 404 Engineering Materials & Thermodynamics</u> (3 pt)</p> <p>RE001- Foundation Studies in Renewable Energy and Sustainability (2 pt)</p> <p>BAE 401 Advanced Engineering Mathematics (9 pt)</p> <p><u>BAE 402 Calculus</u> (3 pt)</p> <p>BAE 601 Computer Programming</p> <p>BAE 603 Software Engineering</p>	<p>Mechanical</p> <p>Renewable Energy</p> <p>Mathematics</p> <p>Computer</p>

1.3. In-depth understanding of specialist bodies of knowledge within the engineering discipline.	RE003- Solar and Thermal Energy Systems (2 pt)	Renewable Energy
	RE006- Wind Energy Conversion Systems (2 pt)	
1.4. Discernment of knowledge development and research directions within the engineering discipline.	RE013-Electrical Machines	Electrical
	RE014-Electronics Control	Electronics
	RE007- Energy System Efficiency	Renewable Energy
1.5. Knowledge of engineering design practice and contextual factors impacting the engineering discipline.	RE010-Engineering Materials (2 pt)	Material Science
	RE012a-Electrical Engineering Part 1 (2pt)	Electrical
	RE002- Grid Connected Photovoltaic Power Systems	Electronics
1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the specific discipline.	RE005- Renewable Energy Resource Analysis (2 pt)	Renewable Energy
	BAE 602 Computer Network	Computer
	RE004- Energy Storage Systems (2 pt)	Mechanical
	RE012b-Electrical Engineering Part 2	Electrical
2. ENGINEERING APPLICATION ABILITY		
2.1. Application of established engineering methods to complex engineering problem solving.	BAE 501 Advanced Power Systems & Power Transmission Networks	Power Engineering
	BAE 506 Power System Stability & Protection	
2.2. Fluent application of engineering techniques, tools and resources.	BAE 604 Telecommunication Engineering	Telecommunication

<p>2.3. Application of systematic engineering synthesis and design processes.</p> <p>2.4. Application of systematic approaches to the conduct and management of engineering projects.</p>	<p>RE016-Design& Management (BAE508) (2 pt)</p> <p>RE015-Electrical Project/ Practice</p>	<p>Design</p> <p>Project</p>
<p>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p> <p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>	<p>RE015-Electrical Project/ Practice</p> <p>BAE 608 Professional Engineer Competency Demonstration Report</p>	<p>Project</p> <p>Engineering Ethics+ Practice</p>

Diploma in Civil Engineering

Learning Outcome	Subjects	Study Area
<p><u>1. KNOWLEDGE AND SKILL BASE</u></p> <p>1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain.</p> <p>1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain.</p> <p>1.3. In-depth understanding of specialist bodies of knowledge within the technology domain.</p> <p>1.4. Discernment of knowledge development within the technology domain.</p> <p>1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.</p> <p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.</p>	<p>Certificate in Construction Studies</p> <p>CE 104 A Building Drawing CE 108 Electrical Principle</p> <p>CE 101 Mathematics (EE201) CE 102 Physics (EE204)</p> <p>CE 104 Fluid Dynamics CE 105 Hydraulic CE 106 Hydrology</p> <p>CE 107 Sanitation-and-Water-supply</p> <p>CE 109 Energy Efficient Building Design (EE309) CE 110 Building Construction</p> <p>EE102 Basic Electrical Fitting & Wiring</p> <p>CE 106A Detailed Construction & Building Construction Materials</p>	<p>Construction Electrical</p> <p>Maths/Science</p> <p>Civil</p> <p>Civil</p> <p>Design Construction</p> <p>Electrical/ Building Trade</p>
<p><u>2. ENGINEERING APPLICATION ABILITY</u></p> <p>2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.</p>	<p>CE 108 Electrical Principle CE 107 Sanitation-and-Water-supply</p> <p>CE 110 Building Construction CE 108 Electrical Principle</p>	<p>Electrical/ Building Trade</p>

<p>2.2. Application of engineering techniques, tools and resources within the technology domain.</p> <p>2.3. Application of systematic synthesis and design processes within the technology domain.</p> <p>2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.</p>	<p>CE 107 Sanitation-and-Water-supply</p> <p>CE 110 Building Construction</p> <p>CE 109 Energy Efficient Building Design (EE309)</p> <p>CE 110 Building Construction</p> <p>CE 109 Energy Efficient Building Design (EE309)</p>	<p>Civil</p> <p>Construction</p> <p>Electrical/ Building Trade</p>
<p><u>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</u></p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p> <p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>	<p>CE 109 Energy Efficient Building Design (EE309)</p>	<p>Design</p>

Advanced Diploma in Civil Engineering

Learning Outcome	Subjects	Study Area
<u>1. KNOWLEDGE AND SKILL BASE</u> 1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain. 1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain. 1.3. In-depth understanding of specialist bodies of knowledge within the technology domain. 1.4. Discernment of knowledge development within the technology domain. 1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain. 1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.	CE113 Structure 1 CE114 Structure 2 ME 102 Engineering Thermodynamics CE 112 Engineering Mechanics+ ME 301 Applied Mathematics ME 334 Airconditioning and Refrigeration EE106 Advanced Electrical Wiring ME 334 Airconditioning and Refrigeration EE106 Advanced Electrical Wiring EE105 Electrical Installation Design CE115 Estimating & Specification CE103-Surveying CE111A-Road+Bridges EE308 Sustainability	Structural Engineering Mechanical+Maths Mechanical Electrical Mechanical Electrical Electrical Construction Civil Renewable Energy
<u>2. ENGINEERING APPLICATION ABILITY</u> 2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.	EE104 Electrical Equipments Safety Protection CE113 Structure 1 CE114 Structure 2	Electrical Structural Engineering

<p>2.2. Application of engineering techniques, tools and resources within the technology domain.</p> <p>2.3. Application of systematic synthesis and design processes within the technology domain.</p> <p>2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.</p>	<p>CE 110 Building Construction</p> <p>CE115 Estimating & Specification</p> <p>CE111A-Road+Bridge</p> <p>CE114 Structure 2</p> <p>CE309 Project Management</p>	<p>Construction</p> <p>Civil</p> <p>Structural</p> <p>Project</p>
<p><u>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</u></p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p> <p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>	<p>CE309 Project Management</p> <p>CE310 Engineering Competency Demonstration Report</p>	<p>Project</p> <p>Engineering Ethics+ Practice</p>

Professional Diploma in Civil Engineering

Learning Outcome	Subjects	Study Area
1. KNOWLEDGE AND SKILL BASE		
1.1. Comprehensive, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline.	BAE 403 Engineering Mechanics (1 pt) BAE 404 Engineering Materials & Thermodynamics (3 pt)	Mechanical
1.2. Conceptual understanding of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the engineering discipline.	BAE 401 Advanced Engineering Mathematics (9 pt) BAE 402 Calculus (3 pt)	Mathematics
1.3. In-depth understanding of specialist bodies of knowledge within the engineering discipline.	RE001- Foundation Studies in Renewable Energy and Sustainability (2 pt) RE011a-Civil& Mechanical Engineering Part 1 (2 pt) (Assessment- Study Report)	Renewable Energy Civil/Mechanical
1.4. Discernment of knowledge development and research directions within the engineering discipline.	RE003- Solar and Thermal Energy Systems (2 pt) RE004- Energy Storage Systems (2 pt) RE012a-Electrical Engineering Part 1 (2pt)	Renewable Energy Mechanical Electrical
1.5. Knowledge of engineering design practice and contextual factors impacting the engineering discipline.	RE010-Engineering Materials (2 pt) RE016-Design& Management (BAE508) (2 pt)	Material Computer/Design
1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the specific discipline.	RE011b-Civil& Mechanical Engineering Part 2a (2 pt)(Assessment- Study Report) BAE423 Fluid Mechanics (2 pt) BAE424 Reinforced Concrete (2 pt) BAE522 Rock Mechanics (2 pt)	Civil/Mechanical Civil Structural Civil

<p>2. ENGINEERING APPLICATION ABILITY</p> <p>2.1. Application of established engineering methods to complex engineering problem solving.</p> <p>2.2. Fluent application of engineering techniques, tools and resources.</p> <p>2.3. Application of systematic engineering synthesis and design processes.</p> <p>2.4. Application of systematic approaches to the conduct and management of engineering projects.</p>	<p>BAE421 Building Construction Engineering (2 pt)</p> <p>BAE 606 Building Service Electrical & Mechanical Engineering (2 pt)</p> <p>BAE 523A Environmental Engineering (2 pt)</p> <p>BAE623 Surveying & Traffic Engineering (2 pt)</p> <p>BAE624 Water Supply , Sanitation & Finishing (2 pt)</p> <p>RE005- Renewable Energy Resource Analysis (2 pt)</p> <p>RE006- Wind Energy Conversion Systems (2 pt)</p> <p>BAE621 Structural Engineering (2 pt)</p> <p>BAE422 Estimating (2 pt)</p> <p>BAE 605 Project Management</p>	<p>Construction</p> <p>Building Services</p> <p>Civil</p> <p>Civil</p> <p>Renewable Energy</p> <p>Renewable Energy</p> <p>Structural</p> <p>Structural</p> <p>Project</p>
<p>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p>	<p>BAE 605 Project Management</p> <p>BAE 608 Professional Engineer Competency Demonstration Report</p>	<p>Project</p> <p>Ethics+ Practice</p>

3.3. Creative, innovative and pro-active demeanour.	BAE 605 Project Management	Project
3.4. Professional use and management of information.	BAE 608 Professional Engineer Competency Demonstration Report	Ethics+ Practice
3.5. Orderly management of self, and professional conduct.		
3.6. Effective team membership and team leadership.		

Diploma in Mechanical Engineering

Learning Outcome	Subjects	Study Area
<u>1. KNOWLEDGE AND SKILL BASE</u>		
1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain.	ME 102 Engineering Thermodynamics ME 103 Engineering Mechanics ME 104 Machine Principle ME 105 Electrical Principle	Mechanical/Science Electrical
1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain.	Maths 101 Engineering Mathematics (EE201) ME 101 Applied Mathematics	Mathematics
1.3. In-depth understanding of specialist bodies of knowledge within the technology domain.	ME 106 Electrical Circuits ME 107 Heat Transfer ME 108 Principle of Engines ME201 Introduction to Fluid Mechanics	Electrical Mechanical/Science Mechanical/Science
1.4. Discernment of knowledge development within the technology domain.	ME 207 Chemical Thermodynamics ME 208 Hydrocarbons ME 209 Introduction-to-polymer-science-and-technology	Mechanical/Science Mechanical/Science Mechanical/Science

<p>1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.</p> <p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.</p>	<p>ME 205 Manufacturing Processes-and-Materials</p> <p>ME 202 Introduction to Aero Dynamics</p> <p>ME 203 Control Engineering</p> <p>ME 234 Wind Turbines</p>	<p>Design</p> <p>Design</p> <p>Control</p> <p>Renewable Energy</p>
<p><u>2. ENGINEERING APPLICATION ABILITY</u></p> <p>2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.</p> <p>2.2. Application of engineering techniques, tools and resources within the technology domain.</p> <p>2.3. Application of systematic synthesis and design processes within the technology domain.</p> <p>2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.</p>	<p>ME 204 Engineering Fluid Mechanics</p> <p>ME 206 Introduction to Turbo Machinery</p> <p>ME 205 Manufacturing Processes-and-Materials</p> <p>Mgt 501 Basic Management</p>	<p>Mechanical</p> <p>Mechanical</p> <p>Design</p> <p>Management/Computer</p>
<p><u>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</u></p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p>	<p>Mgt 501 Basic Management</p>	<p>Management/Computer</p>

<p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>		
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Advanced Diploma in Mechanical Engineering

Learning Outcome	Subjects	Study Area
<p><u>1. KNOWLEDGE AND SKILL BASE</u></p> <p>1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain.</p> <p>1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain.</p> <p>1.3. In-depth understanding of specialist bodies of knowledge within the technology domain.</p> <p>1.4. Discernment of knowledge development within the technology domain.</p> <p>1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.</p>	<p>ME 306 Theory-of-waves-in-materials</p> <p>ME 301 Fluid Dynamics</p> <p>Maths 403 Engineering-Mathematics (EE302)</p> <p>ME 304 Introduction to Nonlinearity-in-control-systems</p> <p>ME 301 Fluid Dynamics</p> <p>ME 302 Automation-and-Robotics</p> <p>ME 301 Fluid Dynamics</p> <p>ME 302 Automation-and-Robotics</p> <p>ME 303 Computer Aided Design and Manufacturing</p>	<p>Science/Mechanical</p> <p>Mathematics</p> <p>Science/Mechanical</p> <p>Design/Computer</p>

1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.	ME 305 Corrosion Prevention ME 334 Airconditioning and Refrigeration	Science/Mechanical Mechanical
<u>2. ENGINEERING APPLICATION ABILITY</u> 2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain. 2.2. Application of engineering techniques, tools and resources within the technology domain. 2.3. Application of systematic synthesis and design processes within the technology domain. 2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.	ME 534 Numerical Control EE 624 Process Control ME 434 Mechtronics-Robotics ME 634 Pneumatics EE 617 Building Electrical and Mechanical System Part 1 (EE309) Mgt 503 Production & Operation Management Mgt 505 Quality Management and Manufacturing Engineering	Instrumentation Building Services Production/ Management
<u>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</u> 3.1. Ethical conduct and professional accountability. 3.2. Effective oral and written communication in professional and lay domains.	Mgt 503 Production & Operation Management Mgt 505 Quality Management and Manufacturing Engineering	Production/ Management

3.3. Creative, innovative and pro-active demeanour.	ME310 Engineering Competency Demonstration Report	Ethics+ Engineering Practice
3.4. Professional use and management of information.		
3.5. Orderly management of self, and professional conduct.		
3.6. Effective team membership and team leadership.	ME310 Engineering Competency Demonstration Report	Ethics+ Engineering Practice

Professional Diploma in Mechanical Engineering

Learning Outcome	Subjects	Study Area
1. KNOWLEDGE AND SKILL BASE		
1.1. Comprehensive, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline.	BAE 404 Engineering Materials & Thermodynamics (3 pt) RE001- Foundation Studies in Renewable Energy and Sustainability (2 pt)	Science/Mechanical Renewable Energy
1.2. Conceptual understanding of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the engineering discipline.	BAE 601 Computer Programming(2 pt) BAE 401 Advanced Engineering Mathematics (9 pt) BAE 402 Calculus (3 pt)	Mathematics/ Computer
1.3. In-depth understanding of specialist bodies of knowledge within the engineering discipline.	BAE 403 Engineering Mechanics (1 pt) RE003- Solar and Thermal Energy Systems (2 pt)	Mechanical
1.4. Discernment of knowledge development and research directions within the engineering discipline.	RE004- Energy Storage Systems (2 pt) RE005- Renewable Energy Resource Analysis (2 pt) RE006- Wind Energy Conversion Systems (2 pt)	Renewable Energy

1.5. Knowledge of engineering design practice and contextual factors impacting the engineering discipline.	RE010-Engineering Materials (2 pt) RE016-Design& Management (BAE508) (2 pt)	Design
1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the specific discipline.	RE012a-Electrical Engineering Part 1 (2pt) RE011a-Civil & Mechanical Engineering Part 1 (2 pt) (Assessment- Study Report)	Electrical Civil/Mechanical
2. ENGINEERING APPLICATION ABILITY		
2.1. Application of established engineering methods to complex engineering problem solving.	RE011b-Civil & Mechanical Engineering Part 2a (2 pt) (Assessment- Study Report)	Civil/Mechanical
2.2. Fluent application of engineering techniques, tools and resources.	BAE311 Plant Engineering (2 pt) BAE314 Mechanical Power Generation (2 pt) BAE315 Materials Engineering (2 pt) Part 1 Part 2 (2 pt) BAE511 Air-conditioning & Refrigeration Part 1 (2 pt) BAE512 Building Service Water Supply System (2 pt) BAE613 Mechanical Instrumentation Process(2 pt) BAE 606 Building Service Electrical & Mechanical Engineering (2 pt) RE007- Energy System Efficiency(2 pt)	Mechanical Building Services Instrumentation Building Services Mechanical

2.3. Application of systematic engineering synthesis and design processes.	BAE614 Machine Design (2 pt)	Design
2.4. Application of systematic approaches to the conduct and management of engineering projects.	ME309 Project Management	Project
3. PROFESSIONAL AND PERSONAL ATTRIBUTES		
3.1. Ethical conduct and professional accountability.	ME309 Project Management	Project
3.2. Effective oral and written communication in professional and lay domains.	ME310 Engineering Competency Demonstration Report	Ethics + Engineering Practice
3.3. Creative, innovative and pro-active demeanour.		
3.4. Professional use and management of information.		
3.5. Orderly management of self, and professional conduct.		
3.6. Effective team membership and team leadership.		

Criterion 1: Academic Curriculum

(curricular design)the philosophy and approach adopted in the programme structure, (MEng C)

The Diploma & Advanced Diploma level engineering curriculums are designed to provide the Engineering Competencies at Technician/ Technologist & Professional Engineer level.

They are based on Year 12 level schooling.

At the diploma level, the basic engineering theories are mixed with trades level practical knowledge and applications. Appropriate contents of mathematics, science and cross disciplinary contents are inserted.

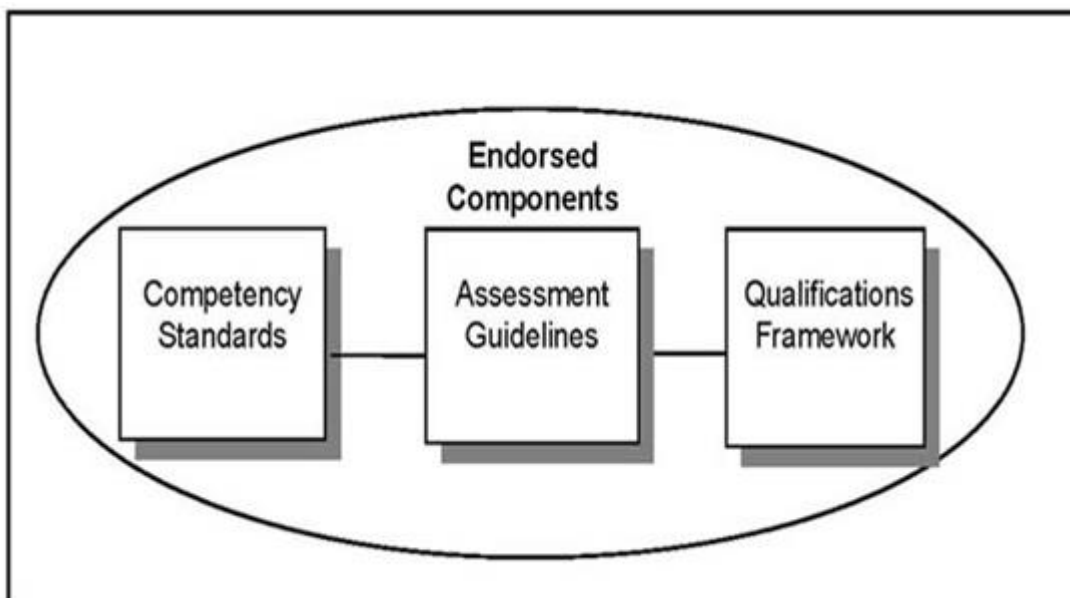
The engineering Industry is subject to high levels of legislation, regulation, codes of practice, guidelines and advisory standards, related to: research, assembly, installation, construction, diagnoses, maintenance, commissioning, programming, testing and repair of networks; systems,

circuits, equipment, components, appliances and facilities in the field of electricity and communications. The regulatory requirements are typically based on the principle of operation of the various systems and associated circuits involving equipment, apparatus and systems, public safety, safety and health of individuals who work on lines/circuits, systems and apparatus/equipment and other codes and practices related to the environment in which they are installed, operate and are maintained.

To fulfil such requirements, IQY Technical College Diploma & Advanced Diploma program are designed with the following requirements

- To provide a consistent and reliable set of components for training, recognising and assessing people's skills, and may also have optional support materials
- To enable the qualifications to be awarded through direct assessment of workplace competencies
- To apply and delivery of flexible training which suits individual and industry requirements
- To encourage learning and assessment in a work-related environment which leads to verifiable workplace outcomes.

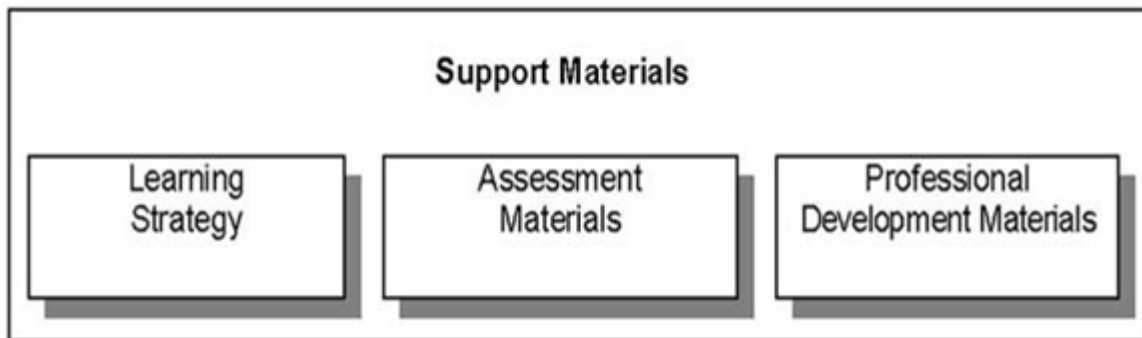
IQY Technical College's Diploma & Advanced Diploma program are largely based on Australian training system that reflect the following structure.



Competency Standards

Each unit of competency identifies a discrete workplace requirement and includes the knowledge and skills that underpin competency as well as language, literacy and numeracy; and occupational health and safety requirements. The units of competency must be adhered to in training and assessment to ensure consistency of outcomes

The online & off line learning support materials are designed with the following features.



The following competency areas are included

- A – Assembly
- C – Commercial
- D – Computer systems
- E – Cross discipline
- F – Data and voice communications
- G – Electrical
- H – Electronic
- I – Instrument and Control
- J – Refrigeration and Air Conditioning
- K – Renewable and sustainable energy
- M – Hazardous areas
- P – Restricted and specialist
- R – Research

Language, Literacy, Numeracy

The study support materials have been written to reflect the technical and operational needs of industry and include appropriate language and literacy requirements of Myanmar students. A new and specific section related to literacy and numeracy skills has been included in the competency standard. It characterises how participants are to be best equipped to achieve the relevant unit, in terms of reading, writing and numeracy skill levels.

Access, Equity and Cultural Diversity

The skills required of employees in the Engineering Industry are comprehensive and are relevant to many different employment situations. The study support materials reflect the range of knowledge and skills and their application, required in the Industry. They are written in a non-exclusive manner so as to increase the participation rates of under-represented groups and to minimise unintentional bias.

Quality Control Aspects

- *Maintenance of Contents Standards* – to initiate and respond to the need to review, vary, delete and add to the Engineering competency standard units, as part of the sector's standards inventory
- *Maintenance of Competency Delivery Processes* – to monitor the effectiveness of the delivery of competency and so initiate and respond to issues which may impact on those processes
- *Maintenance of Assessment Guidelines* – to monitor the effectiveness of the Assessment Guidelines and supporting systems; to initiate and respond to issues which impact, or are likely to impact, on the quality of the assessment systems and to promote quality improvement throughout the system
- *Maintenance of the Qualification and Recognition Systems* – to monitor the effectiveness of the application of the Qualification and Recognition Systems contained in the courses and to review/revise the system as required

Philosophy related to Learning Out comes provided by IQY Technical College Diploma & Advanced Diploma curriculums

Certificate (Part 1)

Characteristics of Learning Outcomes

- Breadth, depth and complexity of knowledge and competencies would cover selecting, adapting and transferring skills and knowledge to Australian environments and providing technical advice and some leadership in resolution of specified problems. This would be applied across a range of roles in a variety of contexts with some complexity in the extent and choice of options available.
- Performance of a defined range of skilled operations, usually within a range of broader related activities involving known routines, methods and procedures, where some discretion and judgement is required in the selection of equipment, services or contingency measures and within known time constraints.
- Applications may involve some responsibility for others. Participation in teams including group or team coordination may be involved.
- Distinguishing Features of Learning Outcomes
- Do the competencies enable an individual with this qualification to:
 - demonstrate some relevant theoretical knowledge
 - apply a range of well-developed skills
 - apply known solutions to a variety of predictable problems
 - perform processes that require a range of well-developed skills where some discretion and judgement is required
 - interpret available information, using discretion and judgement
 - take responsibility for own outputs in work and learning
- take limited responsibility for the output of others

Certificate (Part 2)

Characteristics of Learning Outcomes

- Breadth, depth and complexity of knowledge and competencies would cover a broad range of varied activities or application in a wider variety of contexts most of which are complex and non-routine. Leadership and guidance are involved when organising activities of self and others as well as contributing to technical solutions of a non-routine or contingency nature.
- Performance of a broad range of skilled applications including the requirement to evaluate and analyse current practices, develop Australian criteria and procedures for performing current practices and provision of some leadership and guidance to others in the application and planning of the skills.
- Applications involve responsibility for, and limited organisation of, others.
- Distinguishing Features of Learning Outcomes
- Do the competencies enable an individual with this qualification to:
 - demonstrate understanding of a broad knowledge base incorporating some theoretical concepts
 - apply solutions to a defined range of unpredictable problems
 - identify and apply skill and knowledge areas to a wide variety of contexts, with depth in some areas

- identify, analyse and evaluate information from a variety of sources
- take responsibility for own outputs in relation to specified quality standards
- take limited responsibility for the quantity and quality of the output of others

Diploma

Characteristics of Learning Outcomes

- Breadth, depth and complexity covering planning and initiation of alternative approaches to skills or knowledge applications across a broad range of technical and/or management requirements, evaluation and coordination.
- The self directed application of knowledge and skills, with substantial depth in some areas where judgement is required in planning and selecting appropriate equipment, services and techniques for self and others.
- Applications involve participation in development of strategic initiatives as well as personal responsibility and autonomy in performing complex technical operations or organising others. It may include participation in teams including teams concerned with planning and evaluation functions. Group or team coordination may be involved.
- The degree of emphasis on breadth as against depth of knowledge and skills may vary between qualifications granted at this level.
- Distinguishing Features of Learning Outcomes
- Do the competencies or learning outcomes enable an individual with this qualification to:
demonstrate understanding of a broad knowledge base incorporating theoretical concepts, with substantial depth in some areas
- analyse and plan approaches to technical problems or management requirements
- transfer and apply theoretical concepts and/or technical or creative skills to a range of situations
- evaluate information, using it to forecast for planning or research purposes
- take responsibility for own outputs in relation to broad quantity and quality parameters
- take some responsibility for the achievement of group outcomes

Advanced Diploma

Characteristics of Learning Outcomes

- Breadth, depth and complexity involving analysis, design, planning, execution and evaluation across a range of technical and/or management functions including development of Australian criteria or applications or knowledge or procedures.
- The application of a significant range of fundamental principles and complex techniques across a wide and often unpredictable variety of contexts in relation to either varied or highly specific functions. Contribution to the development of a broad plan, budget or strategy is involved and accountability and responsibility for self and others in achieving the outcomes is involved.
- Applications involve significant judgement in planning, design, technical or leadership/guidance functions related to products, services, operations or procedures.
- The degree of emphasis on breadth as against depth of knowledge and skills may vary between qualifications granted at this level.
- Distinguishing Features of Learning Outcomes
- Do the competencies or learning outcomes enable an individual with this qualification to:
 - demonstrate understanding of specialised knowledge with depth in some areas
 - analyse, diagnose, design and execute judgements across a broad range of technical or management functions
 - generate ideas through the analysis of information and concepts at an abstract level
 - demonstrate a command of wide-ranging, highly specialised technical, creative or conceptual skills
 - demonstrate accountability for personal outputs within broad parameters
 - demonstrate accountability for personal and group outcomes within broad parameters

Professional Diploma

Year 2+3 Learning Outcomes & Teaching /Assessment Strategies

Purpose

Development and consolidation of discipline knowledge and skills, with increasing opportunities for application

Knowledge

comprehensive understanding of the major theoretical approaches, concepts, practices, methodologies, etc.

Skills

- Consolidate and extend key academic skills including:

- high order cognitive skills in processing knowledge
- rigorous techniques of enquiry involving primary and secondary sources and a range of technologies
- problem solving and creativity using various techniques in diverse contexts
- collaborative and independent learning
- communication skills (oral, written, academic, professional) including the use of relevant technologies
- Consolidate and extend key discipline technical skills

Application of Knowledge & Skills

- apply and adapt major theoretical principles and approaches to real world contexts
- develop skills in planning, problem solving, decision-making, teamwork, communication, intellectual independence and accountability in professional practice and/or scholarship

Key Verbs

- organise
- integrate
- differentiate, examine
- distinguish
- discuss, elaborate
- calculate
- collaborate
- discover
- critically review
- explain, interpret
- compare, contrast
- summarise, paraphrase
- demonstrate
- cooperate
- use, modify
- organise

Types of assessments

- critical review
- construct a chart
- analyse data, graph
- create a database
- write a reflective journal
- analyse an argument
- compare theories
- make generalisations

- apply models
- develop and conduct a survey
- investigate an issue
- critical essay
- role play
- make a presentation
- debate
- defend a position
- quiz, test, exam
- tutorial paper

Year 4 Learning Outcomes & Teaching /Assessment Strategies

Purpose

The Professional Diploma comparable to Bachelor Degree qualifies individuals who apply a broad and coherent body of knowledge in a range of contexts to undertake professional work and as a pathway for further learning

Knowledge

- broad and coherent knowledge with depth in one or more disciplines

Skills

- cognitive skills to critically, analyse, consolidate and synthesise knowledge
- cognitive and technical skills to demonstrate a broad understanding of knowledge with depth in some areas
- cognitive and creative skills to exercise critical thinking and judgement in identifying and solving problems with intellectual independence
- communication skills to present a clear, coherent and independent exposition of knowledge and ideas

Application of Knowledge & Skills

- apply knowledge and skills with initiative and judgement in planning, problem solving and decision making in professional practice and/or scholarship
- adapt knowledge and skills in diverse contexts
- with responsibility and accountability for own learning and professional practice and in collaboration with others within broad parameters

Key Verbs

- assemble
- manage
- formulate, devise
- generate, construct
- deconstruct
- solve

- assess, estimate
- investigate, scope
- plan
- convert, translate
- justify, predict
- create, design, compose
- judge, determine, diagnose
- innovate, invent

Types of Assessment

- project
- presentation on a topic/project
- seminar paper and presentation
- report
- case study
- scenarios
- major essay
- plan
- creative writing (story, poem song)
- musical work, sculpture
- performance of a musical work, play
- film making
- translation of a text
- simulation
- organisation of an event
- work-integrated learning
- teamwork
- quiz, test/exam
- reflective journal
- posters
- portfolio
- exam
- viva voce

Preparation for Professional Engineer Program

Purpose

The Professional Engineer Status who apply a body of knowledge in a specific context to undertake professional work and as a pathway for research and further learning.

Knowledge

- coherent advanced knowledge of the principles and concepts in one or more disciplines and knowledge of research principles and methods

Skills

- cognitive skills to review, analyse, consolidate and synthesise knowledge to identify and provide solutions to complex problems with intellectual independence
- cognitive and technical skills to demonstrate a broad understanding of a body of knowledge and theoretical concepts with advanced understanding in some areas
- cognitive skills to exercise critical thinking and judgement in developing new understanding technical skills to design and use research in a project
- communication skills to present a clear and coherent exposition of knowledge and ideas to a variety of audience

Application of knowledge & Skills

- apply knowledge and skills with initiative and judgement in professional practice and/or scholarship
- adapt knowledge and skills in diverse contexts
- with responsibility and accountability for own learning and practice and in collaboration with others within broad parameters
- plan and execute project work and/or a piece of research and scholarship with some independence

Key Verbs

- research work on system/ modification/ re-engineering/ reverse engineering
- adapt the news systems / alternative system/ more efficient system
- initiate the new technology & application
- consolidate the several functions
- execute the planning & management in engineering works

Types of assessment

- literature review on application/ methods/ system report/ project report
- research paper on new engineering development & systems
- report on project
- creative work on engineering design project
- seminar paper and presentation
- conference paper
- journal article
- viva voce

Based on the above learning outcomes & teaching strategies, the curriculums are arranged & relevant contents are integrated as follows.

Detailed Contents

Detailed Contents of BE,B Bus& B App Sc (IT) Programs

[http://highlightcomputer.com/B%20E+B%20App%20Sc\(IT\)+B%20Bus%20Course%20Detailed%20Contents.htm](http://highlightcomputer.com/B%20E+B%20App%20Sc(IT)+B%20Bus%20Course%20Detailed%20Contents.htm)

Detailed Contents of Diploma + Advanced Diploma in Engineering, IT , Management & Business Programs

<http://www.highlightcomputer.com/detailedcontent.htm>

Course Outlines

<http://www.highlightcomputer.com/syllabus.htm>

Diploma Programs (IQY Technical College)

Electrical Engineering Course Outline

Management Course Outline

Information Technology Course Outline

Certificate in Information Technology Course Outline

Diploma in Information Technology Course Outline

Advanced Diploma in Information Technology Course Outline

Mechanical Engineering Course Outline

Civil Engineering Course Outline

Automotive Engineering Course Outline

Marine Engineering Course Outline

Professional Diploma + Bachelor of Engineering (Electrical, Civil, Mechanical Combined with Renewable Energy) Programs

Professional Diploma+ Bachelor Degree in Electrical Engineering

Professional Diploma+ Bachelor Degree in Civil Engineering

Professional Diploma+ Bachelor Degree in Mechanical Engineering

**Bachelor Degree Programs (St Clements University Higher Education School&
St Clements Technological University of British West Indies)**

Bachelor of Engineering (Electrical Engineering) Course Outline

Bachelor of Applied Science (Computer Science & Computer Technology)

Bachelor of Engineering (Mechanical Engineering-Mechatronics) Course Outline

Bachelor of Engineering (Civil Engineering-Building Services) Course Outline

Graduate Diploma of Civil Engineering + Bachelor of Applied Engineering (Final Year
Civil Design) Course Outline

Bachelor of Engineering (Civil) Course outline

Bachelor of Engineering (Mechanical) Course outline

Graduate Diploma of Mechanical Engineering + Bachelor of Applied Engineering
(Final Year Mechanical Design) Course Outline

Bachelor of Business /Bachelor of Applied Management Course Outline

Graduate Diploma of Engineering Practice (Computer Control Engineering) Course
Outline

Certificate in Teaching Support+ Diploma in Teaching Practice+ Bachelor of
Teaching+ Bachelor of Education (School & Vocational)

Scholarship Application Form for Volunteer Teachers

**Myanmar Engineers Board Professional Engineer (PE) (Electrical-Building
Services) Registration Support Program**

Graduate Diploma of Engineering Practice (Mechanical) Course Outline

Graduate Diploma of Engineering Practice (Civil) Course Outline

Graduate Diploma of Engineering (Electrical+ Electronics) Course Outline

AUSTRALIAN ELECTRICIAN TRAINING

Master Degree Programs (St Clements Technological University of British West Indies)

Master of Science (Information Technology)/Master of Information Technology

Master of Management

Master of Science (Engineering) / Master of Engineering

Master of Science (Renewable Energy Engineering)

Learning Outcome/Course/Assessment/ Time Allocation

Diploma in Electrical Engineering Each unit has 1 pt unless stated

Learning Outcome	Subjects	Time Allocation/ Assessment Method
<u>1. KNOWLEDGE AND SKILL BASE</u>	Each unit has 1 pt unless stated	Time Allocation
1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain.	EE101 DC Circuit Problems	1 Credit Point=24 Hr
1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain.	EE113 Electrical Fundamental (2 pt)	Assessment
1.3. In-depth understanding of specialist bodies of knowledge within the technology domain.	EE201 Engineering Mathematics (1)	Assignment/Test/ Examination/ Summative/ Formative Assessment Practical Simulation
1.4. Discernment of knowledge development within the technology domain.	EE111 Electromagnetism & Basic Electrical Machines(2 pt) EE112 Alternating Current Principle (2 pt) EE109 Electrical Control Circuits EE114 Electrical Power Principle EE115 Basic Analogue & Digital Electronics EE102 Basic Electrical Fitting & Wiring EE103 Basic Electrical Drafting EE104 Electrical Equipments Safety Protection (2 pt)	

<p>1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.</p> <p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.</p>	<p>EE105 Electrical Installation Design EE106 Advanced Electrical Wiring</p> <p>EE107 Electrical Equipments EE108 Electrical Fault Finding</p>	
<p><u>2. ENGINEERING APPLICATION ABILITY</u></p> <p>2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.</p> <p>2.2. Application of engineering techniques, tools and resources within the technology domain.</p> <p>2.3. Application of systematic synthesis and design processes within the technology domain.</p> <p>2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.</p>	<p>EE121 Electronics Power Control Device EE116 Process Control System(3 pt)</p> <p>EE117 Solar Electrical System EE118 Electrical Energy Supply System(3 pt) EE110 Computer Applications</p> <p>EE105 Electrical Installation Design EE106 Advanced Electrical Wiring</p> <p>EE119 Electrical Risk Assessment EE120 Electrical Contracting & Specification</p>	

<p><u>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</u></p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p> <p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>	<p>EE120 Electrical Contracting & Specification</p> <p>EE120 Electrical Contracting & Specification</p>	
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Advanced Diploma in Electrical Engineering Each unit has 1 pt unless stated

Learning Outcome	Subjects	Time Allocation/ Assessment Method
<p><u>1. KNOWLEDGE AND SKILL BASE</u></p> <p>1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain.</p> <p>1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain.</p>	<p>EE201 Engineering Mathematics EE302 Advanced Engineering Mathematics</p> <p>EE202 Electrical Circuits</p> <p>EE204 Engineering Physics</p> <p>EE203 Three Phase Power Circuits</p>	<p>Time Allocation</p> <p>1 Credit Point=24 Hr</p> <p>Assessment</p> <p>Assignment/Test/ Examination/ Summative/ Formative Assessment Practical Simulation</p>

1.3. In-depth understanding of specialist bodies of knowledge within the technology domain.	EE205 Electrical Power System(2 pt) EE206 AC Machines(2 pt) EE207 DC Machine EE208 Operational (2 pt)Amplifiers EE209 Analogue Electronics	
1.4. Discernment of knowledge development within the technology domain.	EE303 Transmission Line (2 pt)	
1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.	EE301 Advanced Electrical Drafting EE307 Energy Efficient Building Design(2 pt)	
1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.	EE308 Sustainability	
<u>2. ENGINEERING APPLICATION ABILITY</u>		
2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.	EE305 Power Transformer (2 pt) EE306 Electro-mechanical Control (2 pt)	
2.2. Application of engineering techniques, tools and resources within the technology domain.	EE301 Advanced Electrical Drafting	
2.3. Application of systematic synthesis and design processes within the technology domain.	EE307 Energy Efficient Building Design (2 pt)	

<p>2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.</p>	<p>EE309 Project Management (2 pt)</p>	
<p><u>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</u></p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p> <p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>	<p>EE309 Project Management (2 pt) EE310 Engineering Officer Competency Report (2 pt)</p> <p>EE309 Project Management (2 pt)</p> <p>EE310 Engineering Officer Competency Report (2 pt)</p>	

Professional Diploma in Electrical Engineering Each unit has 2 pt unless stated

Learning Outcome	Subjects	Time Allocation/ Assessment Method
<p>1. KNOWLEDGE AND SKILL BASE</p> <p>1.1. Comprehensive, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline.</p> <p>1.2. Conceptual understanding of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the engineering discipline.</p> <p>1.3. In-depth understanding of specialist bodies of knowledge within the engineering discipline.</p> <p>1.4. Discernment of knowledge development and research directions within the engineering discipline.</p> <p>1.5. Knowledge of engineering design practice and contextual factors impacting the engineering discipline.</p>	<p><u>BAE 403 Engineering Mechanics</u> (1 pt)</p> <p><u>BAE 404 Engineering Materials & Thermodynamics</u> (3 pt)</p> <p>RE001- Foundation Studies in Renewable Energy and Sustainability (2 pt)</p> <p>BAE 401 Advanced Engineering Mathematics (9 pt)</p> <p><u>BAE 402 Calculus</u> (3 pt)</p> <p>BAE 601 Computer Programming</p> <p>BAE 603 Software Engineering</p> <p>RE003- Solar and Thermal Energy Systems (2 pt)</p> <p>RE006- Wind Energy Conversion Systems (2 pt)</p> <p>RE013-Electrical Machines</p> <p>RE014-Electronics Control</p> <p>RE007- Energy System Efficiency</p> <p>RE010-Engineering Materials (2 pt)</p> <p>RE012a-Electrical Engineering Part 1 (2pt)</p> <p>RE002- Grid Connected Photovoltaic Power Systems</p>	<p>Time Allocation</p> <p>1 Credit Point=24 Hr</p> <p>Assessment</p> <p>Assignment/Test/ Examination/ Summative/ Formative Assessment Practical Simulation Research Project/ Presentation/ Competency Demonstration Report/ Design Project work</p>

<p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the specific discipline.</p>	<p>RE005- Renewable Energy Resource Analysis (2 pt)</p> <p>BAE 602 Computer Network</p> <p>RE004- Energy Storage Systems (2 pt)</p> <p>RE012b-Electrical Engineering Part 2</p>	
<p>2. ENGINEERING APPLICATION ABILITY</p> <p>2.1. Application of established engineering methods to complex engineering problem solving.</p> <p>2.2. Fluent application of engineering techniques, tools and resources.</p> <p>2.3. Application of systematic engineering synthesis and design processes.</p> <p>2.4. Application of systematic approaches to the conduct and management of engineering projects.</p>	<p>BAE 501 Advanced Power Systems & Power Transmission Networks</p> <p>BAE 506 Power System Stability & Protection</p> <p>BAE 604 Telecommunication Engineering</p> <p>RE016-Design& Management (BAE508) (2 pt)</p> <p>RE015-Electrical Project/ Practice</p>	
<p>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p>	<p>RE015-Electrical Project/ Practice</p> <p>BAE 608 Professional Engineer Competency Demonstration Report</p>	

<p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>		
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Diploma in Civil Engineering Each unit has 2.5 pt unless stated

Learning Outcome	Subjects	Time Allocation/ Assessment Method
<p><u>1. KNOWLEDGE AND SKILL BASE</u></p> <p>1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain.</p> <p>1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain.</p> <p>1.3. In-depth understanding of specialist bodies of knowledge within the technology domain.</p> <p>1.4. Discernment of knowledge development within the technology domain.</p>	<p>Certificate in Construction Studies</p> <p>CE 104 A Building Drawing CE 108 Electrical Principle</p> <p>CE 101 Mathematics (EE201) CE 102 Physics (EE204)</p> <p>CE 104 Fluid Dynamics CE 105 Hydraulic CE 106 Hydrology</p> <p>CE 107 Sanitation-and-Water-supply</p>	<p>Time Allocation</p> <p>1 Credit Point=24 Hr</p> <p>Assessment</p> <p>Assignment/Test/ Examination/ Summative/ Formative Assessment Practical Simulation</p>

<p>1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.</p> <p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.</p>	<p>CE 109 Energy Efficient Building Design (EE309) CE 110 Building Construction</p> <p>EE102 Basic Electrical Fitting & Wiring</p> <p>CE 106A Detailed Construction & Building Construction Materials</p>	
<p><u>2. ENGINEERING APPLICATION ABILITY</u></p> <p>2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.</p> <p>2.2. Application of engineering techniques, tools and resources within the technology domain.</p> <p>2.3. Application of systematic synthesis and design processes within the technology domain.</p> <p>2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.</p>	<p>CE 108 Electrical Principle CE 107 Sanitation-and-Water-supply</p> <p>CE 110 Building Construction CE 108 Electrical Principle CE 107 Sanitation-and-Water-supply</p> <p>CE 110 Building Construction</p> <p>CE 109 Energy Efficient Building Design (EE309) CE 110 Building Construction</p> <p>CE 109 Energy Efficient Building Design (EE309)</p>	
<p><u>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</u></p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p>	<p>CE 109 Energy Efficient Building Design (EE309)</p>	

3.3. Creative, innovative and pro-active demeanour. 3.4. Professional use and management of information. 3.5. Orderly management of self, and professional conduct. 3.6. Effective team membership and team leadership.		
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Advanced Diploma in Civil Engineering Each unit has 2.5 pt unless stated

Learning Outcome	Subjects	Time Allocation/ Assessment Method
<u>1. KNOWLEDGE AND SKILL BASE</u> 1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain. 1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain. 1.3. In-depth understanding of specialist bodies of knowledge within the technology domain. 1.4. Discernment of knowledge development within the technology domain.	CE113 Structure 1 CE114 Structure 2 ME 102 Engineering Thermodynamics CE 112 Engineering Mechanics+ ME 301 Applied Mathematics ME 334 Airconditioning and Refrigeration EE106 Advanced Electrical Wiring ME 334 Airconditioning and Refrigeration EE106 Advanced Electrical Wiring	Time Allocation 1 Credit Point=24 Hr Assessment Assignment/Test/ Examination/ Summative/ Formative Assessment Practical Simulation

<p>1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.</p> <p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.</p>	<p>EE105 Electrical Installation Design</p> <p>CE115 Estimating & Specification</p> <p>CE103-Surveying CE111A-Road+Bridges EE308 Sustainability</p>	
<p><u>2. ENGINEERING APPLICATION ABILITY</u></p> <p>2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.</p> <p>2.2. Application of engineering techniques, tools and resources within the technology domain.</p> <p>2.3. Application of systematic synthesis and design processes within the technology domain.</p> <p>2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.</p>	<p>EE104 Electrical Equipments Safety Protection</p> <p>CE113 Structure 1</p> <p>CE114 Structure 2</p> <p>CE 110 Building Construction</p> <p>CE115 Estimating & Specification</p> <p>CE111A-Road+Bridge CE114 Structure 2</p> <p>CE309 Project Management</p>	

<p><u>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</u></p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p> <p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>	<p>CE309 Project Management</p> <p>CE310 Engineering Competency Demonstration Report</p>	
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Professional Diploma in Civil Engineering Each unit has 2 pt unless stated

Learning Outcome	Subjects	Time Allocation/ Assessment Method
<p>1. KNOWLEDGE AND SKILL BASE</p> <p>1.1. Comprehensive, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline.</p> <p>1.2. Conceptual understanding of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the engineering discipline.</p>	<p>BAE 403 Engineering Mechanics (1 pt)</p> <p>BAE 404 Engineering Materials & Thermodynamics (3 pt)</p> <p>BAE 401 Advanced Engineering Mathematics (9 pt)</p> <p>BAE 402 Calculus (3 pt)</p>	<p>Time Allocation</p> <p>1 Credit Point=24 Hr</p> <p>Assessment</p> <p>Assignment/Test/ Examination/ Summative/ Formative Assessment</p> <p>Practical Simulation</p> <p>Research Project/ Presentation/</p>

<p>1.3. In-depth understanding of specialist bodies of knowledge within the engineering discipline.</p> <p>1.4. Discernment of knowledge development and research directions within the engineering discipline.</p> <p>1.5. Knowledge of engineering design practice and contextual factors impacting the engineering discipline.</p> <p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the specific discipline.</p>	<p>RE001- Foundation Studies in Renewable Energy and Sustainability (2 pt)</p> <p>RE011a-Civil& Mechanical Engineering Part 1 (2 pt) (Assessment- Study Report)</p> <p>RE003- Solar and Thermal Energy Systems (2 pt)</p> <p>RE004- Energy Storage Systems (2 pt)</p> <p>RE012a-Electrical Engineering Part 1 (2pt)</p> <p>RE010-Engineering Materials (2 pt)</p> <p>RE016-Design& Management (BAE508) (2 pt)</p> <p>RE011b-Civil& Mechanical Engineering Part 2a (2 pt)(Assessment- Study Report)</p> <p>BAE423 Fluid Mechanics (2 pt)</p> <p>BAE424 Reinforced Concrete (2 pt)</p> <p>BAE522 Rock Mechanics (2 pt)</p>	<p>Competency Demonstration Report/ Design Project work</p>
<p>2. ENGINEERING APPLICATION ABILITY</p> <p>2.1. Application of established engineering methods to complex engineering problem solving.</p> <p>2.2. Fluent application of engineering techniques, tools and resources.</p>	<p>BAE421 Building Construction Engineering (2 pt)</p> <p>BAE 606 Building Service Electrical & Mechanical Engineering (2 pt)</p> <p>BAE 523A Environmental Engineering (2 pt)</p> <p>BAE623 Surveying & Traffic Engineering (2 pt)</p> <p>BAE624 Water Supply , Sanitation & Finishing (2 pt)</p> <p>RE005- Renewable Energy Resource Analysis (2 pt)</p> <p>RE006- Wind Energy Conversion Systems (2 pt)</p>	

<p>2.3. Application of systematic engineering synthesis and design processes.</p> <p>2.4. Application of systematic approaches to the conduct and management of engineering projects.</p>	<p>BAE621 Structural Engineering (2 pt)</p> <p>BAE422 Estimating (2 pt)</p> <p>BAE 605 Project Management</p>	
<p>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p> <p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>	<p>BAE 605 Project Management</p> <p>BAE 608 Professional Engineer Competency Demonstration Report</p> <p>BAE 605 Project Management</p> <p>BAE 608 Professional Engineer Competency Demonstration Report</p>	

Diploma in Mechanical Engineering Each unit has 1.5 pt unless stated

Learning Outcome	Subjects	Time Allocation/ Assessment Method
<p><u>1. KNOWLEDGE AND SKILL BASE</u></p> <p>1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain.</p> <p>1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain.</p> <p>1.3. In-depth understanding of specialist bodies of knowledge within the technology domain.</p> <p>1.4. Discernment of knowledge development within the technology domain.</p> <p>1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.</p> <p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.</p>	<p>ME 102 Engineering Thermodynamics ME 103 Engineering Mechanics ME 104 Machine Principle ME 105 Electrical Principle</p> <p>Maths 101 Engineering Mathematics (EE201) ME 101 Applied Mathematics</p> <p>ME 106 Electrical Circuits ME 107 Heat Transfer ME 108 Principle of Engines ME201 Introduction to Fluid Mechanics ME 207 Chemical Thermodynamics ME 208 Hydrocarbons ME 209 Introduction-to-polymer-science-and-technology ME 205 Manufacturing Processes-and-Materials ME 202 Introduction to Aero Dynamics ME 203 Control Engineering ME 234 Wind Turbines</p>	<p>Time Allocation</p> <p>1 Credit Point=24 Hr</p> <p>Assessment</p> <p>Assignment/Test/ Examination/ Summative/ Formative Assessment Practical Simulation</p>

<p><u>2. ENGINEERING APPLICATION ABILITY</u></p> <p>2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.</p> <p>2.2. Application of engineering techniques, tools and resources within the technology domain.</p> <p>2.3. Application of systematic synthesis and design processes within the technology domain.</p> <p>2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.</p>	<p>ME 204 Engineering Fluid Mechanics</p> <p>ME 206 Introduction to Turbo Machinery</p> <p>ME 205 Manufacturing Processes-and-Materials</p> <p>Mgt 501 Basic Management</p>	
<p><u>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</u></p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p> <p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>	<p>Mgt 501 Basic Management</p>	

Advanced Diploma in Mechanical Engineering Each unit has 1.5 pt unless stated

Learning Outcome	Subjects	Time Allocation/ Assessment Method
<p><u>1. KNOWLEDGE AND SKILL BASE</u></p> <p>1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain.</p> <p>1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain.</p> <p>1.3. In-depth understanding of specialist bodies of knowledge within the technology domain.</p> <p>1.4. Discernment of knowledge development within the technology domain.</p> <p>1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.</p> <p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.</p>	<p>ME 306 Theory-of-waves-in-materials ME 301 Fluid Dynamics</p> <p>Maths 403 Engineering-Mathematics (EE302) ME 304 Introduction to Nonlinearity-in-control-systems</p> <p>ME 301 Fluid Dynamics ME 302 Automation-and-Robotics ME 301 Fluid Dynamics ME 302 Automation-and-Robotics</p> <p>ME 303 Computer Aided Design and Manufacturing</p> <p>ME 305 Corrosion Prevention ME 334 Airconditioning and Refrigeration</p>	<p>Time Allocation</p> <p>1 Credit Point=24 Hr</p> <p>Assessment</p> <p>Assignment/Test/ Examination/ Summative/ Formative Assessment Practical Simulation</p>

<p><u>2. ENGINEERING APPLICATION ABILITY</u></p> <p>2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.</p> <p>2.2. Application of engineering techniques, tools and resources within the technology domain.</p> <p>2.3. Application of systematic synthesis and design processes within the technology domain.</p> <p>2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.</p>	<p>ME 534 Numerical Control</p> <p>EE 624 Process Control</p> <p>ME 434 Mechtronics-Robotics</p> <p>ME 634 Pneumatics</p> <p>EE 617 Building Electrical and Mechanical System Part 1 (EE309)</p> <p>Mgt 503 Production & Operation Management</p> <p>Mgt 505 Quality Management and Manufacturing Engineering</p>	
<p><u>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</u></p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p> <p>3.3. Creative, innovative and pro-active demeanour.</p> <p>3.4. Professional use and management of information.</p> <p>3.5. Orderly management of self, and professional conduct.</p> <p>3.6. Effective team membership and team leadership.</p>	<p>Mgt 503 Production & Operation Management</p> <p>Mgt 505 Quality Management and Manufacturing Engineering</p> <p>ME310 Engineering Competency Demonstration Report</p> <p>ME310 Engineering Competency Demonstration Report</p>	

Professional Diploma in Mechanical Engineering Each unit has 2 pt unless stated

Learning Outcome	Subjects	Time Allocation/ Assessment Method
<p>1. KNOWLEDGE AND SKILL BASE</p> <p>1.1. Comprehensive, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline.</p> <p>1.2. Conceptual understanding of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the engineering discipline.</p> <p>1.3. In-depth understanding of specialist bodies of knowledge within the engineering discipline.</p> <p>1.4. Discernment of knowledge development and research directions within the engineering discipline.</p> <p>1.5. Knowledge of engineering design practice and contextual factors impacting the engineering discipline.</p> <p>1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the specific discipline.</p>	<p>BAE 404 Engineering Materials & Thermodynamics (3 pt)</p> <p>RE001- Foundation Studies in Renewable Energy and Sustainability (2 pt)</p> <p>BAE 601 Computer Programming(2 pt) BAE 401 Advanced Engineering Mathematics (9 pt) BAE 402 Calculus (3 pt)</p> <p>BAE 403 Engineering Mechanics (1 pt) RE003- Solar and Thermal Energy Systems (2 pt)</p> <p>RE004- Energy Storage Systems (2 pt) RE005- Renewable Energy Resource Analysis (2 pt) RE006- Wind Energy Conversion Systems (2 pt)</p> <p>RE010-Engineering Materials (2 pt) RE016-Design& Management (BAE508) (2 pt)</p> <p>RE012a-Electrical Engineering Part 1 (2pt)</p> <p>RE011a-Civil & Mechanical Engineering Part 1 (2 pt) (Assessment- Study Report)</p>	<p>Time Allocation</p> <p>1 Credit Point=24 Hr</p> <p>Assessment</p> <p>Assignment/Test/ Examination/ Summative/ Formative Assessment Practical Simulation Research Project/ Presentation/ Competency Demonstration Report/ Design Project work</p>

<p>2. ENGINEERING APPLICATION ABILITY</p> <p>2.1. Application of established engineering methods to complex engineering problem solving.</p> <p>2.2. Fluent application of engineering techniques, tools and resources.</p> <p>2.3. Application of systematic engineering synthesis and design processes.</p> <p>2.4. Application of systematic approaches to the conduct and management of engineering projects.</p>	<p>RE011b-Civil & Mechanical Engineering Part 2a (2 pt) (Assessment- Study Report)</p> <p>BAE311 Plant Engineering (2 pt)</p> <p>BAE314 Mechanical Power Generation (2 pt)</p> <p>BAE315 Materials Engineering (2 pt) Part 1 Part 2 (2 pt)</p> <p>BAE511 Air-conditioning & Refrigeration Part 1 (2 pt)</p> <p>BAE512 Building Service Water Supply System (2 pt) BAE613 Mechanical Instrumentation Process(2 pt)</p> <p>BAE 606 Building Service Electrical & Mechanical Engineering (2 pt)</p> <p>RE007- Energy System Efficiency(2 pt)</p> <p>BAE614 Machine Design (2 pt)</p> <p>ME309 Project Management</p>	
<p>3. PROFESSIONAL AND PERSONAL ATTRIBUTES</p> <p>3.1. Ethical conduct and professional accountability.</p> <p>3.2. Effective oral and written communication in professional and lay domains.</p>	<p>ME309 Project Management</p> <p>ME310 Engineering Competency Demonstration Report</p>	

3.3. Creative, innovative and pro-active demeanour. 3.4. Professional use and management of information. 3.5. Orderly management of self, and professional conduct. 3.6. Effective team membership and team leadership.		
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- the choice of the teaching-learning (delivery) methods.
- The curricular approach, the educational content and the teaching-learning
- assessment & evaluation methods for the attainment achievement of the Learning Outcomes. (MEng C)

Assessment Validation

<http://www.highlightcomputer.com/assessmentvalidation.htm>

The folder in the above link contains the assessment validation documents for IQY Technical College 's programs

- A balanced curriculum shall include all technical and non-technical attributes listed in the Learning Outcomes, (the essential elements forming the core of the programme and additional specialist or optional studies (electives). (MEng C)
- The curriculum shall integrate theory with practice through adequate exposure to laboratory work and professional engineering(MEng C)
- Time allocation
- Credit points (The academic programme component must consist of a minimum total of 120 credit (a) A minimum of 80 credit hours shall be engineering courses consisting of engineering sciences and engineering design/projects appropriate to the student's field of study. (MEng C)

(b) The remaining credit hours shall include sufficient content of general education component (such as mathematics, computing, languages, general studies, co- curriculum, management, law, accountancy, ec(MEng C)

The following curriculums are prepared to address the above issues

<http://www.highlightcomputer.com/BECurriculum.htm>

<http://www.highlightcomputer.com/DiplomaAdvancedDiplomaCivilEngineeringCurriculum.htm>

<http://www.highlightcomputer.com/DiplomaAdvancedDiplomaElectricalEngineeringCurriculum.htm>

<http://www.highlightcomputer.com/DiplomaAdvancedDiplomaMechanicalEngineeringCurriculum.htm>

Diploma in Engineering

This program is designed with 30 credit points integrating 15 credit points Certificate in Electrical Engineering. The completion of this program can be articulated into 60 points Advanced Diploma in Electrical Engineering & 120 credit points Professional Diploma in Electrical Engineering which is the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

Advanced Diploma in Electrical Engineering

This program is designed with 60 credit points integrating 30 credit points Diploma in Electrical Engineering. The completion of this program can be articulated into 60 of 120 credit points Professional Diploma in Electrical Engineering which is the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

Professional Diploma in Civil Engineering

This program is designed with 120 credit points integrating 60 credit points Advanced Diploma in Civil Engineering. The completion of this program can be awarded Professional Diploma in Civil Engineering together with the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

Curriculum Contents (MEng C)

Diploma in Electrical Engineering the curriculum content should cover the following:

(i) Engineering mathematics, science, engineering principles, skills and tools (computing, experimentation) appropriate to the discipline of study

The curriculums have been designed to cover the following aspects.

Study Areas (Overview)

Electrical circuits, Basic Electronics, Mathematics, Physics, Electrical Wiring, Electrical Machines, Electro-magnetism, Computer Applications, Control System, Process Control, Electrical Contracting, Solar Electrical System, Electrical Drafting

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

Electrical Engineering Course Outline

<http://www.highlightcomputer.com/Diploma & Advanced Diploma in Electrical Engineering Course outline.doc>

Detailed Contents of Diploma + Advanced Diploma in Engineering, IT , Management & Business Programs

<http://www.highlightcomputer.com/detailedcontent.htm>

Diploma in Mechanical Engineering

Study Areas

Mathematics, Physics, Machine Principle, Electrical Circuits, Heat Transfer, Principle of Engines, Fluid Mechanics, Engineering Mechanics, Mechanical Drawing, Hydrocarbon, Wind Turbine, Polymer Science, Turbo Machinery, Basic Management

Specialized Fields

Automotive Engineering, Marine Engineering

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

Mechanical Engineering Course Outline

<http://www.highlightcomputer.com/Diploma in Mechanical Engineering.doc>

Detailed Contents of Diploma + Advanced Diploma in Engineering, IT , Management & Business Programs

<http://www.highlightcomputer.com/detailedcontent.htm>

Diploma in Civil Engineering

Study Areas

Mathematics, Physics, Electrical Principle, Fluid Mechanics, Hydraulics, Hydrology, Building Construction, Sanitation & Water Supply, Energy Efficient Building Design

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

Civil Engineering Course Outline

http://www.highlightcomputer.com/Diploma_in_Civil_Engineering.doc

Detailed Contents of Diploma + Advanced Diploma in Engineering, IT , Management & Business Programs

<http://www.highlightcomputer.com/detailedcontent.htm>

Diploma in Renewable Energy Engineering

Study Areas

Foundation Studies in Renewable Energy and Sustainability, Grid Connected Photovoltaic Power Systems, Solar and Thermal Energy Systems, Energy Storage Systems, Renewable Energy Resource Analysis, Wind Energy Conversion Systems, Energy System Efficiency

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

Renewable Energy Engineering Public Seminar + Diploma& Bachelor of Engineering (Renewable Energy)

<http://www.highlightcomputer.com/re.pdf>

Diploma in Computer Engineering/ Diploma in Information Technology

Study Areas

IT Fundamental , Computer Application, Computer Programming, System Analysis, Software Engineering, IT Project, Business Information System

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

Diploma in Information Technology Course Outline

http://www.highlightcomputer.com/Diploma_in_Information_Technology_Course_outline.doc

Electrical Engineering Course Outline

http://www.highlightcomputer.com/Diploma_&_Advanced_Diploma_in_Electrical_Engineering_Course_outline.doc

Detailed Contents of Diploma + Advanced Diploma in Engineering, IT , Management & Business Programs

<http://www.highlightcomputer.com/detailedcontent.htm>

Advanced Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology) Course Outlines

Advanced Diploma in Engineering can be studied in the following specializations

- Advanced Diploma in Electrical Engineering
- Advanced Diploma in Mechanical Engineering
- Advanced Diploma in Civil Engineering
- Advanced Diploma in Renewable Energy Engineering
- Advanced Diploma in Computer Engineering / Advanced Diploma in Information Technology

Advanced Diploma in Electrical Engineering

Study Areas

Electrical Power Circuits, Electrical Power System, Mathematics, Physics, AC/DC Machines, Control System, Power System Protection, Energy Efficiency, Project Management, Advanced Electrical Drafting, Power Transmission Line, Engineering Officer Competency Report.

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

[Detailed Contents of Diploma + Advanced Diploma in Engineering, IT , Management & Business Programs](http://www.highlightcomputer.com/detailedcontent.htm)

<http://www.highlightcomputer.com/detailedcontent.htm>

Advanced Diploma in Mechanical Engineering

Study Areas

Higher Mathematics, Fluid Dynamics, Automation & Robotics, Computer Aided Design & Manufacturing, Control System, Manufacturing, Mechatronics, Numerical Control, Pneumatics, Building Services. Air-conditioning Refrigeration

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

[Detailed Contents of Diploma + Advanced Diploma in Engineering, IT , Management & Business Programs](http://www.highlightcomputer.com/detailedcontent.htm)

<http://www.highlightcomputer.com/detailedcontent.htm>

Advanced Diploma in Civil Engineering

Study Areas

Surveying, Road & Bridges, Structure, Estimating, Electrical Installation, Electrical Wiring, Air-conditioning Refrigeration, Engineering Mechanics

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

[Detailed Contents of Diploma + Advanced Diploma in Engineering, IT , Management & Business Programs](#)

<http://www.highlightcomputer.com/detailedcontent.htm>

Advanced Diploma in Renewable Energy Engineering

Study Areas

Advanced contents in Renewable Energy, Electrical Engineering, Basic Civil & Mechanical Engineering, Electrical Machines, Electronics Control

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

[Renewable Energy Engineering Public Seminar + Diploma& Bachelor of Engineering \(Renewable Energy\)](#)

<http://www.highlightcomputer.com/re.pdf>

Advanced Diploma in Computer Engineering/ Advanced Diploma in Information Technology

Study Areas

Organizational Behaviour, IT Networking, Information System Analysis & Design, Advanced Programming, Project Work

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

[Advanced Diploma in Information Technology Course Outline](#)

http://www.filefactory.com/file/7dmpqlotj2fn/n/Advanced_Diploma_in_Information_Technology_pdf

[Electrical Engineering Course Outline](#)

http://www.highlightcomputer.com/Diploma & Advanced Diploma in Electrical Engineering Course_outline.doc

Detailed Contents of Diploma + Advanced Diploma in Engineering, IT , Management & Business Programs

<http://www.highlightcomputer.com/detailedcontent.htm>

Professional Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology)

It is designed at the same academic requirement as to Bachelor of Engineering degree but IQY Technical College is operating as a vocational education & training college not as a university, the award is to be described as Professional Diploma. The graduates of the Professional Diploma in Engineering can be awarded Bachelor of Engineering by the universities which are affiliated to IQY Technical College.

The program is designed to train the students to become Professional Engineers who are required to take responsibility for engineering projects and programs in the most far-reaching sense.

The program is also designed to provide the skills required for the graduated to lead or manage teams appropriate to these activities, and may establish their own companies or move into senior management roles in engineering and related enterprises.

Professional Diploma in Engineering can be studied in the following specializations

- Professional Diploma in Electrical Engineering
- Professional Diploma in Mechanical Engineering
- Professional Diploma in Civil Engineering
- Professional Diploma in Renewable Energy Engineering
- Professional Diploma in Computer Engineering / Professional Diploma in Information Technology

Professional Diploma in Electrical Engineering

Study Areas

Mathematics, Engineering Mechanics & Thermodynamics, Electrical Circuit Analysis, Electro-magnetics & Electrical Machines, Control System, Power System, Electronics, Telecommunication, Industrial Management, Computer Programming, Computer Network, Engineering Project, Building Services, Competency Demonstration Report Writing, Renewable Energy.

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

Bachelor of Engineering (Electrical Engineering) Course Outline

<http://www.filefactory.com/file/5ftv3w6yjcrr/BACHELOR%20OF%20APPLIED%20ENGINEERING.doc>

Detailed Contents of BE,B Bus& B App Sc (IT) Programs

[http://highlightcomputer.com/B%20E+B%20App%20Sc\(IT\)+B%20Bus%20Course%20Detailed%20Contents.htm](http://highlightcomputer.com/B%20E+B%20App%20Sc(IT)+B%20Bus%20Course%20Detailed%20Contents.htm)

<http://www.highlightcomputer.com/re.pdf>

Professional Diploma in Mechanical Engineering

Study Areas

Mathematics, Engineering Mechanics & Thermodynamics, Industrial Management, Computer Programming, Computer Network, Engineering Project, Building Services, ,Air-conditioning & Refrigeration, Machine Design, Mechanical Instrumentation, Production Technology, Engineering Materials, Maintenance Engineering , Mechanical Power Generation, Applied Electrical/Electronics & Control System, Competency Demonstration Report Writing, Renewable Energy.

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

Bachelor of Engineering (Mechanical Engineering-Mechatronics) Course Outline

http://www.filefactory.com/file/113wg8regbuh/n/Bachelor_of_Applied_Engineering_Mechanical-Mechatronics_Course_Outline_doc

Bachelor of Applied Engineering (Final Year Mechanical Design) Course Outline

http://www.filefactory.com/file/7greuugxlvyh/n/Graduate_Diploma_of_Mechanical_Engineering_B_App_Eng_Mech_Course_Outline_doc

Detailed Contents of BE,B Bus& B App Sc (IT) Programs

[http://highlightcomputer.com/B%20E+B%20App%20Sc\(IT\)+B%20Bus%20Course%20Detailed%20Contents.htm](http://highlightcomputer.com/B%20E+B%20App%20Sc(IT)+B%20Bus%20Course%20Detailed%20Contents.htm)

<http://www.highlightcomputer.com/re.pdf>

Professional Diploma in Civil Engineering

Study Areas

Mathematics, Engineering Mechanics & Thermodynamics, Industrial Management, Computer Programming, Building Construction, Estimating, Fluid Mechanics, Structural Engineering, Reinforce Concrete, Timber Engineering, Soil & Rock Mechanics, Environmental Engineering, Road & Bridges, Building Service Engineering, Traffic Engineering, Surveying, Water Supply Sanitation, Engineering Competency Demonstration Report Writing, Renewable Energy.

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

Bachelor of Engineering (Civil Engineering-Building Services) Course Outline

<http://www.filefactory.com/file/npiwt5ekau5/Bachelor%20of%20Applied%20Engineering%20%28Civil-Building%20Services%29%20Course%20Outline.doc>

Bachelor of Applied Engineering (Final Year Civil Design) Course Outline

<http://www.filefactory.com/file/37twg21wx97z/Graduate%20Diploma%20of%20Civil%20Engineering%28BB%20App%20Eng%20%28Civil%29%20Course%20Outline.doc>

Detailed Contents of BE, B Bus & B App Sc (IT) Programs

[http://highlightcomputer.com/B%20E+B%20App%20Sc\(IT\)+B%20Bus%20Course%20Detailed%20Contents.htm](http://highlightcomputer.com/B%20E+B%20App%20Sc(IT)+B%20Bus%20Course%20Detailed%20Contents.htm)

<http://www.highlightcomputer.com/re.pdf>

Professional Diploma in Renewable Energy Engineering

Study Areas

Foundation Studies in Renewable Energy and Sustainability, Grid Connected Photovoltaic Power Systems, Solar and Thermal Energy Systems, Energy Storage Systems, Renewable Energy Resource Analysis, Wind Energy Conversion Systems, Energy System Efficiency, Mathematics & Physics, Engineering Materials, Civil & Mechanical Engineering, Electrical Engineering, Electrical Machines, Electronics Control, Design & Management, Project, Engineering Competency Demonstration Report Writing.

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

Renewable Energy Engineering Public Seminar + Diploma & Bachelor of Engineering (Renewable Energy)

<http://www.highlightcomputer.com/re.pdf>

Professional Diploma in Computer Engineering/ Professional Diploma in Information Technology

Study Areas

Computer

Computer Programming, Computer Network, Software Engineering, Artificial Intelligence, Telecommunication Engineering, Project Management,

Electrical/Electronics

Electrical Engineering, Analog & Digital Control, Control System, Engineering Management

Engineering Competency Demonstration Report Writing

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

Detailed Contents of BE,B Bus& B App Sc (IT) Programs

[http://highlightcomputer.com/B%20E+B%20App%20Sc\(IT\)+B%20Bus%20Course%20Detailed%20Contents.htm](http://highlightcomputer.com/B%20E+B%20App%20Sc(IT)+B%20Bus%20Course%20Detailed%20Contents.htm)

Bachelor of Engineering (Electrical Engineering) Course Outline

<http://www.filefactory.com/file/5ftv3w6yjcrr/BACHELOR%20OF%20APPLIED%20ENGINEERING.doc>

Course	Curriculum Contents Analysis
Diploma in Electrical Engineering	Electrical Principle, Application, Electrical Trade Work, Mathematics, Science, Renewable Energy, Computer Application
Advanced Diploma in Electrical Engineering	Electrical Principle, Application, Electrical Trade Work, Mathematics, Science, Renewable Energy, Computer Application/Mechanical/ Project/ Management/ Engineering Ethics/ Engineering Practice
Professional Diploma in Electrical Engineering	Renewable Energy/ Electrical/Mechanical / Civil Engineering Principle/Computer/ Mathematics/ Design/ Management/ Instrumentation /Engineering Practice/ Ethics with Electrical Power & Electronics major
Diploma in Civil Engineering	Construction & Civil Engineering Principle/ Electrical Principle, Application, Electrical Trade Work, Mathematics, Science, Renewable Energy, Computer Application
Advanced Diploma in Civil Engineering	Construction & Civil Engineering Principle, Structural Engineering/Application, Building & Electrical Trade Work, Mathematics, Science, Renewable Energy, Computer Application/Mechanical/ Project/ Management/ Engineering Ethics/

	Engineering Practice
Professional Diploma in Civil Engineering	Renewable Energy/ Electrical/Mechanical / Civil Engineering Principle/Computer/ Mathematics/ Design/ Management/ Engineering Practice/ Ethics with Civil & Structural Engineering major
Diploma in Mechanical Engineering	Engineering Mechanics & Mechanical Engineering Principle/ Electrical Principle, Application, Electrical Trade Work, Mathematics, Science, Renewable Energy, Computer Application
Advanced Diploma in Mechanical Engineering	Engineering Mechanics & Mechanical Engineering Principle, Materials Engineering /Application/uilding & Electrical Trade Work, Mathematics, Science, Renewable Energy, Computer Application/Mechanical/ Project/ Management/ Engineering Ethics/ Engineering Practice
Professional Diploma in Mechanical Engineering	Renewable Energy/ Electrical/Mechanical / Civil Engineering Principle/Computer/ Mathematics/ Design/ Management/ Instrumentation /Engineering Practice/ Ethics with Mechanical Engineering major

(ii) Engineering applications – projects (MEng C)

Engineering Project Unit

The following links contain the evidence of project works

Some students' project works.pdf File

<http://www.highlightcomputer.com/Somestudentsprojectworks.htm>

(iii) Integrated exposure to professional engineering practice, including management

Practical Training Link Level 3

www.highlightcomputer.com/PracticalCourses.htm

(iv) Laboratory work to complement the science, computing and engineering theory;

Practical Training Link Level 2

Practical Resources

www.highlightcomputer.com/PracticalResources.htm

Physical Resources

www.highlightcomputer.com/PhysicalResources.htm

Learner Resources

www.highlightcomputer.com/LearnerResources.htm

(v) Industrial training -exposure to professional engineering practice in an engineering-practice environment;

+

(vi) Exposure to engineering practice; (MEng C)

The simulated online mode of practical is provided in the following link.

Practical Training Link

www.highlightcomputer.com/PracticalCourses.htm

The folder in the above link contains the Online practical courses for IQY Technical College 's programs.

(vii) Relevant tutorial class (MEng C)

Online discussion & tutorial forums are arranged

Credit Hours (MEng C)

- For a 16-week semester (not including examination or mid-term break), one credit hour is defined as:
- One hour per week of lecture (additional independent study of two hours is assumed to have been included).
- Two hours per week of laboratory or workshop lecture (additional independent learning time of one hour is assumed to have been included).
- Two hours per week of supervised and compulsory tutorial session (additional independent learning time of one hour is assumed to have been included), subject to a maximum of one credit hour for each course in that semester.

- Three hours per week of facilitated activities involving other modes of delivery such as problem-based learning, e-learning modules, site visits, discovery learning, integrated design and coursework projects.
- Three hours per week of activities involving final year project inclusive of meeting with supervisor

One hour per week of lecture

Every 1 credit point has the weighted hour of 24 hours. The credit points are expressed in the curriculum. In online delivery mode, the time to view the videos & time to reflect the learning can be equivalent to lecture hours in face to face classes. The lecture times in the following online videos are arranged as to fulfil the class lecture time.

Online Lecture + Youtube Lecture

www.highlightcomputer.com/videos2.htm

www.highlightcomputer.com/videos1.htm

Two hours per week of laboratory or workshop lecture

The time taken to view the Practical Videos/ To read the practical instruction books/ Design Handbooks are counted as laboratory or workshop hour to do the online practicals in the following links.

www.highlightcomputer.com/PracticalCourses.htm

&

<http://www.iqytechnicalcollege.com/youtubevideos.htm>

Students Area/ Forum

<http://www.highlightcomputer.com/students.htm>

Two hours per week of supervised and compulsory tutorial session

The time allocated to download & study the Instruction Powerpoints, Listing to the audio explanations & do the exercises in the following link is arranged as tutorial sessions time.

<http://www.highlightcomputer.com/onlineteaching1.htm>

Click **HERE** to log in the lesson sequences.

Click **HERE** to log in the online study materials

Click **HERE** to log in to the Learning Platform

Three hours per week of facilitated activities

This time can be allocated for participation in online forum, reading the learning support CD/DVD, the time to write the assignments & the accumulated time to take part in residential sessions as well as working in the industry.

Industrial Training

- For industrial training, the following guideline shall be followed:
- Industrial training shall be for a minimum of 8 weeks of continuous training. One credit hour is allocated for every two weeks of training subject to a maximum of six credit hours. The training shall be adequately structured, supervised and recored in log book/ record.

The e-Learning Engineering programs are aimed to provide the on-going professional development for the workers in the industry. The work experience recorded are counted for fulfilling the practical training needs to completion the courses.

Final Year Project

- A final year project is subject to a minimum of six credit hours and a maximum of twelve credit

Some students' project works.pdf File

<http://www.highlightcomputer.com/Somestudentsprojectworks.htm>

The folder in the above link contains the students' project documents related to IQY Technical College 's programs

2 - Students (MEng C)

- Maths+Physics (Remedial)
- Teaching & Learning Environment

9.2.5 Students

- students' performance in relation to Learning Outcomes.
- the requirement and process for admission of students to the programme.
- students' workload.

- iv. Discuss students' activities and involvement in student organisations

The students who need Year 12 level Mathematics & Science are provided with Learning Support online tutorials for Maths & Science at the following link.

<http://www.highlightcomputer.com/y712lessons.htm>

3 - Academic and Support Staff (MEng C)

- (Postgraduate/ Master degree)
- 9.2.6 Academic and Support Staff
- i. Discuss the strength and competencies of the academic staff in covering all areas of the programme.
- ii. Discuss how the overall staff workload enables effective teaching, student-staff interaction, student advising and counselling, Technological Institutions and research activities, professional development and interaction with industry.
- iii. Discuss the sufficiency and competency of technical and administrative staff in providing adequate support to the educational programme.
- iv. The information required in items (i) to (iii) should include but is not limited to the following:
 - A breakdown in terms of numbers of academic staff (full-time, part-time and inter-programme) by year for the past four years
 - An analysis of all academic staff
 - academic qualifications of academic staff
 - the posts held by full time academic staff
 - A summary of teaching workload of academic staff for the current semester
 - An analysis of all support staff
 - A summary of the posts held by support staff
 - The staff: student ratio by year for all academic years for the past four years

The folders in the following links link contains teachers skilled documents of teachers who are teaching the IQY Technical College 's programs

Teacher skilled matrix

<http://www.highlightcomputer.com/teacherskillmatrix.htm>

Staff list

www.highlightcomputer.com/staff.htm

Staff competency

<http://www.highlightcomputer.com/teacherskillmatrix.htm>

4 Facilities

- Library
- Quality Management Systems
- controlling, managing, directing, organising and supervising of the overall management system planning, development, delivery and review of engineering programmes

From www.highlightcomputer.com main page, the following online facilities can be accessed by requesting the relevant links.

- Public Library
- Engineering Resources
- Reference Materials & Resources

9.2.7 Facilities

- Discuss the adequacy of teaching and learning facilities such as classrooms, learning-support facilities, study areas, information resources (library), computing and information-technology systems, laboratories and workshops.
- Describe the adequacy of support facilities such as hostels, sport and recreational centres, health centres, student centres, and transport in facilitating students' life on campus and enhancing character building.
- The information required in items (i) to (ii) should be provided in the supporting documents but is not limited to the following:

- A summary, in tabulated form, of the lecture facilities (give number, capacity, and audio video facilities available).
- A summary, in tabulated form, of the laboratories (list down the equipment available in each laboratory).
- A summary, in tabulated form, of the workshops (list down the equipment/machinery available in each workshop).
- A summary, in tabulated form, of the computer laboratories (list down the hardware and software available).
- A summary, in tabulated form, of the other supporting facilities such as the library (list down the titles of books/journals/magazines/standards of relevance to the programme).

From the following link, online practical facilities can be accessed.

Online Practical

Click **HERE** to log in to the online electrical/
mechanical/civil practical materials. You will need the
password.

The password will be issued to the enrolled students.

5 - Quality Management Systems (MEng C)

8.5.2 Programme Quality Management and Planning

- programme planning, curriculum development, and
- regular curriculum and content review must involve all academic staff. The processes include
- reviewing Programme Objectives and Learning Outcomes, tracking the contributions of individual courses to the Learning Outcomes, tracking performance assessment processes, the comments from
- External Examiners, reviewing feedback and inputs from stakeholders including students and alumni.
- The process of continual quality improvement shall be implemented with full accountability. For a new programme,
- External examiner report

8.5.4 Quality Assurance

- Student admission
- Teaching and learning
- Assessment and evaluation which include: examination regulations and criteria for pass/fail
- preparation and moderation processes
- level of assessment
- assessment processes including final year project/industrial training

From the following links, the documents related to Quality Assurance can be accessed.

Online Assessment / Test / Examination/ MCQ link

[Online Theory & MCQ Practice](#)

http://www.filefactory.com/file/6m8zvfe7797/n/Online_Theory_MCQ_Practice_pdf

[Online Practical Practice](#)

http://www.filefactory.com/file/3ap0vv6o8azx/n/Online_Practical_Practice_pdf

Assessment

From the following links, the documents related to Assessment can be accessed by clicking the relevant menus

www.highlightcomputer.com/assessment.htm

Menus

- **Assessment Cover Sheet+Assessment Information+Assessment Feedbacksheet**
- **Assessment Mapping**
- **Assessment Validation**
- **Components of Assessment Mapping**
- **Test Questions**
- **Units Evaluated by Students-Joe**
- **CC Currency_Checklist_v2.docx**
- **Evaluation-Joe+Keng Goh.docx**
- **Online MCQ Tests+Marking by Joe.doc**

9.2.8 Quality Management System (MEng C)

- Outline the organisational structure of the Technological Institutions as well as the structure within the faculty/department/programme. Discuss the level and adequacy of institutional support, operating environment, financial resources, constructive leadership, policies mechanisms for attracting, appointing, retaining and rewarding well-qualified staff and provision of professional development, and provision of infrastructure and support services to achieve Programme Objectives and assure continuity of the programme. All relevant policies are to be made available during the visit.
- Discuss the mechanism for the following: programme planning; curriculum development; curriculum , course review and course monitoring; internal audit; management review meeting; responding to feedback and inputs from stakeholders including industry advisors, students and alumni; tracking the contribution of individual courses to the Learning Outcomes; tracking outcomes of performance through assessment; responding to External Examiners comments; reviewing of Programme Objectives and Learning Outcomes; and continual quality improvement. Where these are discussed elsewhere in the report, specify their locations.
- Summarise responses to the external examiner's report.
- Discuss how the quality management system of the Technological Institutions provides quality assurance and benchmark.
- The information required items (i) to (iv) should be provided in the supporting document and is not limited to the following:

As this document provides the development of e-Learning in engineering for small and medium size colleges and institutes where the program planning and management tasks are mainly performed by one or two key staff, for the larger institutions, more complex and wider organizational structure can be designed.

1. Evidence on the participation of academic staff, support staff and students in the continual quality improvement process. (MEng C)
2. Evidence on the development of academic staff through opportunities in further education, industrial exposure, as well as research and development.
3. Policies, internal processes and practices that are in place at all levels within the Technological Institutions relating to the five criteria as stated in Section 9 of this Manual.
4. Evidence of the on-going participation of industry advisors in discussions and forums,

From the following links, the documents related to Assessment Validation & Quality Assurance can be accessed by clicking the relevant menus

Quality Assurance/

<http://www.highlightcomputer.com/QualityAssurance.htm>

Menus 1

- Audit Documents
- Assessment Validation
- Completed students assessment
- Unit asessment

Menus 2

1 Assessment Tasks & Related Information

2 Assessment Methods

3 Assessor Guide

4 Assessment Results

5 Assessment Validation

6.StudentsAssessment Information

EKAS-Assessment Validation-EE-OZ+IEAust

9.3 Supporting Material Document – Digital Format (MEng C)

This document is to provide supporting material for the programme in digital format (softcopy) as follows:

9.3.1 Supporting Information

- Provide additional information on the Technological Institutions, faculty/school/department, and programme not provided in the Self-Assessment Report.

9.3.2 Academic and Laboratory Support Staff

- Provide personal file and certificate for each staff member.

Staff file

9.3.3 Programme Structure and Contents

- Provide evidence of the use of tutorials and non-conventional delivery methods such as Problem Based Learning (PBL) techniques alongside traditional lectures. Provide a summary of industrial training schemes, and list of companies involved. Provide evidence of activities relevant to industry exposure.

From the following link, online practical facilities can be accessed.

Online Practical Link

Click **HERE** to log in to the online electrical/
mechanical/civil practical materials. You will need the
password.

The password will be issued to the enrolled students

9.3.4 Equipment, Software and Titles of Books and Journals

- Provide a list of all equipment and software used by the programme including recent additions and planned additions, as well as the titles of books, and journals for the programme.

Physical Resources folder

From the following link, practical resources can be accessed.

Practical Resources

www.highlightcomputer.com/PracticalResources.htm

Physical Resources

www.highlightcomputer.com/PhysicalResources.htm

Learner Resources

www.highlightcomputer.com/LearnerResources.htm

9.3.5 External Examiner and Advisory Board (MEng C)

- Provide the external examiner's reports and reports/minutes from advisory board meetings.

9.4 Institutional Documents and Additional Documentation to be Made Available during the Visit

- The following items, which constitute evidence to support the information requested in Sections 9.2 and 9.3 shall be made available during the visit:

9.4.1 Technological Institutions Documents

- Provide the Handbook, Calendar supplement, or other official publications relating to the faculty/school/department, and containing the statement of programme details; Technological Institutions brochure and any other documents that relate to the faculty/school/department,

9.4.2 Documents Related to Programme Objectives and Outcomes

- Provide all relevant documents and evidence related to Programme Objectives and Learning Outcomes (one copy) as follows:
- Course files – for every course offered by the programme, provide the course information to include the targeted course learning outcomes, course synopsis/syllabus, and a list of references (texts used).
- Final examination papers complete with answer scheme and graded examination papers with low, medium and high grades are also to be provided.
- Any information with regard to other learning activities and assessment measures such as projects, quizzes, tutorial questions, assignments, class projects, copies of the course notes (optional), and any other materials used for the course are also to be included. For laboratory courses,
- Objectives and outcomes assessment instruments – supporting documentation for objectives and
- outcomes assessment including sample questionnaires, portfolios, survey forms, video recordings, etc.
- All evidence related to Continual Quality improvement of the program.

The documents related to above requirements are presented in DVDs and will be available upon request.

DVD Contents

- Mixed DVD Lessons School + Higher Education/ IQY+STCTU Degrees

- Study Guides+Lessons for Adv Dip Eng+Mgt+IT ALL Combined Update Mixed
- Study Guides+Lessons for Bachelor Degree-Common Subjects 1 Mixed
- Students File/ Evidences
- BE Test
- EE Test
- CE Test
- ME Test
- Assessment/
- Assessment Cover Sheet+Assessment Information+Assessment Feedbacksheet
- Assessment Mapping
- Assessment Validation
- Components of Assessment Mapping
- Test Questions
- Unit Evaluation

Self-Assessment Report – Hardcopy (MEng C)

- A Self-Assessment Report is an account of the Technological Institutions' plan, implementation, assessment and evaluation of the programme conducted. It reflects the processes with result obtained used in continual quality improvement at all levels of the programme's activities. This appropriately bound document, ranging between 50 – 100 pages with all pages numbered and a table of contents.

A minimum of 120 credit hours of which 80 credit hours must be core engineering courses offered over a period of four years (It means 3rd, 4th, 5th, 6th).

Final year project (minimum 6 credit hours)

Industrial training (minimum of 8 weeks)

The above requirements have been provided in curriculum section

9.4.3 Final Project Reports

- For a sample of students, provide a copy of the final project report, instruction sheets, and grade
- sheets or other means of evaluation for the project.
- Provide the listing of final project titles for the past few years.

From the following links, the students project works can be accessed.

Some students' project works.pdf File

<http://www.highlightcomputer.com/Somestudentsprojectworks.htm>

9.4.4 Industrial Training Reports (MEng C)

- For a sample of students, provide a copy of the training reports, guidelines for the training, and reviews by the industry sponsors as well as the faculty mentors.

9.4.5 Laboratory Reports

- For a sample of students, provide a copy of the laboratory reports, instruction sheets, and grade sheets or other means of evaluation for the project laboratory report.

From the link below, the above 9.4.4 *& 9.4.5 and the records related to the following points can be accessed.

- Practical participation Record
- Elect Eng Students' taking parts in practicals(Joe).pdf

<http://www.highlightcomputer.com/studentstakingpartinpractical.htm>

9.4.6 Quality Assurance Records (MEng C)

- Provide minutes and records of action and improvement of meetings of the programme teaching team,

From the link below, records related to the above 9.4.6 can be accessed.

<http://www.highlightcomputer.com/QualityAssuranceRecords.htm>

ATTACHMENTS

1. Curriculum

<http://www.highlightcomputer.com/BECurriculum.htm>

2. Assessment Validation Records & Assessment Evidences

www.highlightcomputer.com/assessmentvalidation.htm

☐ **Assessment/**

☐ **Assessment Cover Sheet+Assessment Information+Assessment Feedbacksheet**

☐ **Assessment Mapping**

☐ **Assessment Validation**

☐ **Components of Assessment Mapping**

☐ **Test Questions**

☐ **Unit Evaluation**

3. Quality Assurance Records

<http://www.highlightcomputer.com/QualityAssurance.htm>

Teachers Skills Currency Check List

Students' assessment Evidences

Units evaluated by students

Units evaluated by internal & external assessors

4. Practical Resources

Practical Resources

<http://www.highlightcomputer.com/PracticalCourses.htm>

www.highlightcomputer.com/PracticalResources.htm

5. Students' work Records

<http://www.highlightcomputer.com/Somestudentsprojectworks.htm>

6. Industrial Consultation

<http://www.highlightcomputer.com/industryconsultation.htm>

7. List of Reference Textbooks utilized in Engineering Programs

<http://www.highlightcomputer.com/ReferenceTextBooks.pdf>

8. DVD Containing Lesson Materials

Study Lesson & Reading Materials

<http://www.highlightcomputer.com/studylesson1.htm>

Online Teaching

<http://www.highlightcomputer.com/onlineteaching1.htm>

Public Library

<http://www.highlightcomputer.com/gen1.htm>

Electronic Library

<http://www.highlightcomputer.com/elib.htm>

http://www.filefactory.com/file/7ife2afh5ugr/Gen13Dec2013_.htm

Reference Materials & Resources

<http://www.highlightcomputer.com/usb.htm>

Professional Engineer Support

<http://www.highlightcomputer.com/pesupport.htm>

9. DVD Containing Learner Resources

Physical Resources

www.highlightcomputer.com/PhysicalResources.htm

Learner Resources

www.highlightcomputer.com/LearnerResources.htm

☐ Study Guides+Lessons for Adv Dip Eng+Mgt+IT ALL Combined Update Mixed

☐ Study Guides+Lessons for Bachelor Degree-Common Subjects 1 Mixed

(A)LECTURES

www.highlightcomputer.com/videos1.htm

www.highlightcomputer.com/videos2.htm

www.iqytechnicalcollege.com/youtubevideos.htm

(B)SELF DIRECTED STUDY GUIDES

<http://www.highlightcomputer.com/elearningplatform.htm>

ELECTRICAL

(1) Instruction to Electrical Students

<http://www.iqytechnicalcollege.com/Instruction-Fiji-Elect Engg.pdf>

CIVIL

(1) **Instruction to Civil Students**

<http://www.iqytechnicalcollege.com/Instruction Fiji-Civil Engg.pdf>

MECHANICAL

(1) Instruction to Mechanical students

<http://www.iqytechnicalcollege.com/Instruction-Fiji-MechEngg.pdf>

RENEWABLE ENERGY

www.highlightcomputer.com/RELessons.htm

INDUSTRIAL SAFETY & HAZARDOUS PROTECTION

www.highlightcomputer.com/profdiphazardous.htm

(C)TUTORIAL

Online Class Tutoring & Study Lessons

<http://www.filefactory.com/file/290j43qtca5r/ClassTutoringLessons.htm>

www.highlightcomputer.com/onlineteaching.htm

Study Lessons

- Class Tutoring (Certificate+ Diploma+ Advanced Diploma+ Bachelor Degree) Programs in Electrical, Mechanical, Civil Engineering, Information Technology, Management & E-Business & Management

http://www.filefactory.com/file/2j8u9ccwrlqx/Class_Tutoring_Lessons.htm

- Reference Lessons+Study Guides

Electrical Diploma

<http://www.filefactory.com/file/2oojs84b3ovx/highlightcomputergroup1.htm>

Electrical Engineering

http://www.filefactory.com/file/7bdts4v3yi49/Bachelor_of_Applied_Engineering_Electrical_Engineering_Home.htm

Mechanical Engineering+ Civil Engineering

<http://www.filefactory.com/file/3ud1pk458gqp/highlightcomputergroup5.htm>

Management

<http://www.filefactory.com/file/53f1g058qq1p/highlightcomputergroup2.htm>

Information technology

http://www.filefactory.com/file/2q3y5kyc22f1/highlightcomputergroup3_htm

- Electronics Library General Technical Support Program

http://www.filefactory.com/file/1ulcpevyibu5/gtc_htm

http://www.filefactory.com/file/5vnf7v9roxd/n/E_Lib_Engg_Book_Catalogue_pdf

- Australian Electrical Trainings

http://www.filefactory.com/file/7j01gm1ixvej/electricaldiploma2013Update1_htm

10. DVD Containing Assessment Validation & Quality Assurance Materials

Teacher skilled matrix

<http://www.highlightcomputer.com/teacherskillmatrix.htm>

Staff list

www.highlightcomputer.com/staff.htm

Staff competency

<http://www.highlightcomputer.com/teacherskillmatrix.htm>

11. DVD Contents

Professional Diploma in Engineering (Electrical, Civil, Mechanical, Building Services, Mechatronics)

Tests /Assignment/Project Assessment Questions & Materials

Test Questions

MECHANICAL

P1240529.JPG (3.26MB)

<http://www.filefactory.com/file/1gel78kwehfb/n/P1240529.JPG>

Download now!

BAE 614 Machine Design.doc (0.55MB)

http://www.filefactory.com/file/gbjya1h93g5/n/BAE_614_Machine_Design.doc

[Download now!](#)

BAE512 Building Service Water.doc (0.02MB)

http://www.filefactory.com/file/4xp0xqnt8o7j/n/BAE512_Building_Service_Water.doc

[Download now!](#)

BAE 614 Machine Design.doc (0.55MB)

http://www.filefactory.com/file/1t9guppp66y5/n/BAE_614_Machine_Design.doc

[Download now!](#)

BAE512 Building Service Water.doc (0.02MB)

http://www.filefactory.com/file/40vcrk1svydp/n/BAE512_Building_Service_Water.doc

[Download now!](#)

BAE 613 Mech Instrumentation Process Test.pdf (2.65MB)

http://www.filefactory.com/file/53r4fs72o1f/n/BAE_613_Mech_Instrumentation_Process_Test.pdf

[Download now!](#)

BAE 512 Building Service water & Fluid Supply Test.pdf (6.65MB)

http://www.filefactory.com/file/32yi87dda2yr/n/BAE_512_Building_Service_water_&Fluid_Supply_Test.pdf

[Download now!](#)

BAE 315 Material Engg Test.pdf (7.03MB)

http://www.filefactory.com/file/zzlo7bx6tl9/n/BAE_315_Material_Engg_Test.pdf

[Download now!](#)

BAE 511 Air Conditioning refrigeration Heat Transfer Test.pdf (0.27MB)

http://www.filefactory.com/file/2h0bvbjw9vn5/n/BAE_511_Air_Conditioning_refrigeration_Heat_Transfer_Test.pdf

[Download now!](#)

BAE 314 Mech power Generation Test.pdf (3.58MB)

http://www.filefactory.com/file/7ivses407cl1/n/BAE_314_Mech_power_Generation_Test.pdf

[Download now!](#)

BAE 313 Environmental Control Test.pdf (3.6MB)

http://www.filefactory.com/file/4s3gyof02q9v/n/BAE_313_Environmental_Control_Test.pdf

[Download now!](#)

BAE 312 Design Engineering Test.pdf (0.38MB)

http://www.filefactory.com/file/24uqzpscjcot/n/BAE_312_Design_Engineering_Test.pdf

[Download now!](#)

BAE 311 Vibration Control Test.pdf (1.3MB)

http://www.filefactory.com/file/6cwggpepc9tz/n/BAE_311_Vibration_Control_Test.pdf

[Download now!](#)

ELECTRICAL**BAE 604 Telecommunication Engineering.pdf (0.42MB)**

http://www.filefactory.com/file/2nf488wjyc27/n/BAE_604_Telecommunication_Engineering.pdf

[Download now!](#)

BAE 607 Radio Wave Propagation.doc (0.02MB)

http://www.filefactory.com/file/5zckxsn1drj/n/BAE_607_Radio_Wave_Propagation.doc

[Download now!](#)

BAE 606 Building Service Electrical.doc (0.02MB)

http://www.filefactory.com/file/41tubyiy9ab/n/BAE_606_Building_Service_Electrical.doc

[Download now!](#)

BAE 507 Electro Mech Energy Conversion Test.pdf (3.57MB)

http://www.filefactory.com/file/1dfnbz3fn8qx/n/BAE_507_Electro_Mech_Energy_Conversion_Test.pdf

[Download now!](#)

BAE 603 Software Engineering.doc (0.02MB)

http://www.filefactory.com/file/78uis8igintn/n/BAE_603_Software_Engineering.doc

[Download now!](#)**BAE 601+602.docx (1.96MB)**http://www.filefactory.com/file/1re3yf5mtx9t/n/BAE_601+602.docx**[Download now!](#)****BAE 506 Power Syst Protection Test.pdf (3.38MB)**http://www.filefactory.com/file/38f4fltxkay9/n/BAE_506_Power_Syst_Protection_Test.pdf**[Download now!](#)****BAE 505 Power Syst Optimization Tesr.pdf (5.76MB)**http://www.filefactory.com/file/2q2tuys3np77/n/BAE_505_Power_Syst_Optimization_Tesr.pdf**[Download now!](#)****BAE 504 Power Syst Analysis Test.pdf (3.58MB)**http://www.filefactory.com/file/4jymhdbp6phx/n/BAE_504_Power_Syst_Analysis_Test.pdf**[Download now!](#)****BAE 503 Control Syst Test.pdf (3.21MB)**http://www.filefactory.com/file/s0rp735nly3/n/BAE_503_Control_Syst_Test.pdf**[Download now!](#)****BAE 502 Linear Syst Test.pdf (6.49MB)**http://www.filefactory.com/file/1q1dd5vrskb/n/BAE_502_Linear_Syst_Test.pdf**[Download now!](#)****BAE 501 Adv Power Syst Test.pdf (6.07MB)**http://www.filefactory.com/file/2py76q0yb9bb/n/BAE_501_Adv_Power_Syst_Test.pdf**[Download now!](#)****BAE 407 Electromagnetic Field Test.pdf (6.71MB)**http://www.filefactory.com/file/2dk1vqlmkef1/n/BAE_407_Electromagnetic_Field_Test.pdf**[Download now!](#)**

BAE 408 Analog Digital Electronics Test.pdf (2.85MB)

http://www.filefactory.com/file/1icv86jgonvr/n/BAE_408_Analog_Digital_Electronics_Test.pdf

[Download now!](#)

BAE 406 Electro-mechanics Test.pdf (9.65MB)

http://www.filefactory.com/file/1dyxf2lbeuph/n/BAE_406_Electro-mechanics_Test.pdf

[Download now!](#)

BAE 405 Adv Ckt Analysis Test.pdf (5.8MB)

http://www.filefactory.com/file/2d8mk01ih7ml/n/BAE_405_Adv_Ckt_Analysis_Test.pdf

[Download now!](#)

BAE 404 Engg Thermodynamics+Strength of Materials Test.pdf (12.44MB)

http://www.filefactory.com/file/3vsonvnumqt1/n/BAE_404_Engg_Thermodynamics+Strength_of_Materials_Test.pdf

[Download now!](#)

BAE 403 Engineering Mechanics Test.pdf (10.29MB)

http://www.filefactory.com/file/9jx3zdcmedx/n/BAE_403_Engineering_Mechanics_Test.pdf

[Download now!](#)

BAE 402 Calculus Test.pdf (5.34MB)

http://www.filefactory.com/file/1snvfcaz08y9/n/BAE_402_Calculus_Test.pdf

BAE 401 Adv Engg Maths Test.pdf (6.19MB)

http://www.filefactory.com/file/dbxhi97np5z/n/BAE_401_Adv_Engg_Maths_Test.pdf

[Download now!](#)

CIVIL**P1240529.JPG (3.26MB)**

<http://www.filefactory.com/file/1uz5r0vgant9/n/P1240529.JPG>

[Download now!](#)

BAE624 Water Supply , Sanitation & Finishing Test.docx (0.01MB)

http://www.filefactory.com/file/6xndp4h8lf47/n/BAE624_Water_Supply_,_Sanitation_&_Finishing_Test.docx

[Download now!](#)

BAE621 Structural Engineering Test.pdf (0.38MB)

http://www.filefactory.com/file/4l4jo76f96fb/n/BAE621_Structural_Engineering_Test.pdf

[Download now!](#)

BAE621 Structural Engineering Test.pdf (0.38MB)

http://www.filefactory.com/file/62fwl7z5d6rr/n/BAE621_Structural_Engineering_Test.pdf

[Download now!](#)

BAE523 Environmental Engineering.JPG (3.6MB)

http://www.filefactory.com/file/21h47s7ug4qt/n/BAE523_Environmental_Engineering.JPG

[Download now!](#)

BAE621 Structural Engineering Test.docx (1MB)

http://www.filefactory.com/file/e4qnt7u5y95/n/BAE621_Structural_Engineering_Test.docx

[Download now!](#)

BAE 422 Estimating.Assignment.doc (2.84MB)

http://www.filefactory.com/file/62z3lbp0roox/n/BAE_422_Estimating.Assignment.doc

[Download now!](#)

BAE423 Fluid Mechanics Test.doc (0.03MB)

http://www.filefactory.com/file/36hvor7mj6j5/n/BAE423_Fluid_Mechanics_Test.doc

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BAE 623 Surveying + traffic Engineering Test Question.doc (0.44MB)

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COURSE OBJECTIVES

DIPLOMA IN ENGINEERING (ELECTRICAL/CIVIL/MECHANICAL/COMPUTER/RENEWABLE ENERGY)

DIPLOMA IN INFORMATION TECHNOLOGY

DIPLOMA IN MANAGEMENT

ADVANCED DIPLOMA IN ENGINEERING (ELECTRICAL/CIVIL/MECHANICAL/COMPUTER/RENEWABLE ENERGY)

ADVANCED DIPLOMA IN INFORMATION TECHNOLOGY

ADVANCED DIPLOMA IN MANAGEMENT

PROFESSIONAL DIPLOMA IN ENGINEERING (ELECTRICAL/CIVIL/MECHANICAL/COMPUTER/RENEWABLE ENERGY)

PROFESSIONAL DIPLOMA IN INFORMATION TECHNOLOGY

PROFESSIONAL DIPLOMA IN BUSINESS MANAGEMENT

Diploma in Electrical Engineering
Diploma in Mechanical Engineering
Diploma in Civil Engineering
Diploma in Computer Engineering
Diploma in Renewable Energy Engineering

Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology) Course Outlines

IQY Technical College's one year Diploma in Engineering is designed to train the students to work as Engineering Associate or Engineering Technicians in wide ranges of industries.

It is designed to provide the following competencies.

To train the students to have a wide range of functions within engineering enterprises and engineering teams.

The training includes feasibility investigation, scoping, establishing criteria/performance measures, assessing and reporting technical and procedural options; design and development; component, resources and materials sourcing and procurement; construction, prototyping, manufacture, testing, installation, commissioning, service provision and de-commissioning; tools, plant, equipment and facilities acquisition, management, maintenance, calibration and upgrades; operations management; procedures documentation; presentation and reporting; maintenance systems design and management; project and facility management; quality assurance, costing and budget management; document control and quality assurance.

The training is designed for the students

- To be closely familiar with standards and codes of practice, and to become expert in their interpretation and application to a wide variety of situations.
- To develop very extensive experience of practical installations, and may well be more knowledgeable than Professional Engineers or Engineering Technologists on detailed aspects of plant and equipment that can contribute very greatly to safety, cost or effectiveness in operation.
- To develop high levels of expertise in aspects of design and development processes. These might include, for example, the use of advanced software to perform detailed design of structures, mechanical components and systems, manufacturing or process plant, electrical and electronic equipment, information and communications systems, and so on.
- To do the construction of experimental or prototype equipment.
- To develop detailed practical knowledge and experience complementing the broader or more theoretical knowledge of others.

The training is also designed to provide a good grounding in engineering science and the principles underlying their field of expertise, to ensure that their knowledge and skills are portable across different applications and situations within the broad field of practice. Equipment, vendor or context-specific training in a particular job are not sufficient to guarantee generic competency. Given a good knowledge base, however, the graduates may build further on this through high levels of training in particular contexts and in relation to particular equipment.

The competencies of graduates to equip them to certify the quality of engineering work and the condition of equipment and systems in defined circumstances, laid down in recognised standards and codes of practice.

The training is also designed to lead or manage teams appropriate to these activities. Some may establish their own companies or may move into senior management roles in engineering and related enterprises, employing Professional Engineers, Engineering Technologists, and other specialists where appropriate.

Diploma in Engineering can be studied in the following specializations

- Diploma in Electrical Engineering
- Diploma in Mechanical Engineering
- Diploma in Civil Engineering
- Diploma in Renewable Energy Engineering
- Diploma in Computer Engineering / Diploma in Information Technology

Diploma in Electrical Engineering

This program is designed with 30 credit points integrating 15 credit points Certificate in Electrical Engineering. The completion of this program can be articulated into 60 points Advanced Diploma in Electrical Engineering & 120 credit points Professional Diploma in Electrical Engineering which is the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Diploma in Electrical Engineering can apply for Associate Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

Study Areas

Electrical circuits, Basic Electronics, Mathematics, Physics, Electrical Wiring, Electrical Machines, Electro-magnetism, Computer Applications, Control System, Process Control, Electrical Contracting, Solar Electrical System, Electrical Drafting

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

Electrical Engineering Course Outline

http://www.highlightcomputer.com/Diploma_Advanced_Diploma_in_Electrical_Engineering_Course_outline.doc

Detailed Contents of Diploma + Advanced Diploma in Engineering, IT, Management & Business Programs

<http://www.highlightcomputer.com/detailedcontent.htm>

Diploma in Mechanical Engineering

This program is designed with 30 credit points integrating 15 credit points Certificate in Mechanical Engineering. The completion of this program can be articulated into 60 points Advanced Diploma in Mechanical Engineering & Mechatronics & 120 credit points Professional Diploma in Mechanical Engineering & Mechatronics which is the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Diploma in Mechanical Engineering can apply for Associate Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

Study Areas

Mathematics, Physics, Machine Principle, Electrical Circuits, Heat Transfer, Principle of Engines, Fluid Mechanics, Engineering Mechanics, Mechanical Drawing, Hydrocarbon, Wind Turbine, Polymer Science, Turbo Machinery, Basic Management

Specialized Fields

Automotive Engineering, Marine Engineering

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

Mechanical Engineering Course Outline

http://www.highlightcomputer.com/Diploma_in_Mechanical_Engineering.doc

Detailed Contents of Diploma + Advanced Diploma in Engineering, IT, Management & Business Programs

<http://www.highlightcomputer.com/detailedcontent.htm>

Diploma in Civil Engineering

This program is designed with 30 credit points integrating 15 credit points Certificate in Civil Engineering & Construction Studies. The completion of this program can be articulated into 60 points Advanced Diploma in Civil Engineering & 120 credit points Professional Diploma in Civil Engineering & Building Services which is the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Diploma in Civil Engineering can apply for Associate Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

Study Areas

Mathematics, Physics, Electrical Principle, Fluid Mechanics, Hydraulics, Hydrology, Building Construction, Sanitation & Water Supply, Energy Efficient Building Design

[Detailed contents of the units](#)

Detailed contents of the units can be viewed at the following links.

[Civil Engineering Course Outline](#)

http://www.highlightcomputer.com/Diploma_in_Civil_Engineering.doc

[Detailed Contents of Diploma + Advanced Diploma in Engineering, IT, Management & Business Programs](#)

<http://www.highlightcomputer.com/detailedcontent.htm>

Diploma in Renewable Energy Engineering

This program is designed with 30 credit points integrating 15 credit points Certificate in Renewable Energy Course Completion Certificate which is delivered through the public seminars. The completion of this program can be articulated into 120 credit points Professional Diploma in Renewable Energy Engineering which is the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Diploma in Renewable Energy Engineering can apply for Associate Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

[Study Areas](#)

Foundation Studies in Renewable Energy and Sustainability, Grid Connected Photovoltaic Power Systems, Solar and Thermal Energy Systems, Energy Storage Systems, Renewable Energy Resource Analysis, Wind Energy Conversion Systems, Energy System Efficiency

[Detailed contents of the units](#)

Detailed contents of the units can be viewed at the following links.

[Renewable Energy Engineering Public Seminar + Diploma & Bachelor of Engineering \(Renewable Energy\)](#)

<http://www.highlightcomputer.com/re.pdf>

Diploma in Computer Engineering/ Diploma in Information Technology

This program is designed with 30 credit points integrating 15 credit points Certificate in Information Technology. The completion of this program can be articulated into 60 points Advanced Diploma in Information Technology & 120 credit points Professional Diploma in Information Technology or Professional Diploma in Computer Engineering which is the award of Bachelor of Applied Science (Information Technology)/Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Diploma in Computer Engineering can apply for Associate Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

The graduates of Diploma in Information Technology can apply for membership of International Institute of Science Engineering & Management.

To be awarded Diploma in Computer Engineering, the students need to do Diploma in Information Technology & Diploma in Electrical Engineering at the same time.

[Study Areas](#)

IT Fundamental, Computer Application, Computer Programming, System Analysis, Software Engineering, IT Project, Business Information System

[Detailed contents of the units](#)

Detailed contents of the units can be viewed at the following links.

[Diploma in Information Technology Course Outline](#)

http://www.highlightcomputer.com/Diploma_in_Information_Technology_Course_outline.doc

[Electrical Engineering Course Outline](#)

http://www.highlightcomputer.com/Diploma & Advanced Diploma in Electrical Engineering Course_outline.doc

[Detailed Contents of Diploma + Advanced Diploma in Engineering, IT, Management & Business Programs](#)

<http://www.highlightcomputer.com/detailedcontent.htm>

Advanced Diploma in Electrical Engineering

Advanced Diploma in Mechanical Engineering

Advanced Diploma in Civil Engineering

Advanced Diploma in Computer Engineering

Advanced Diploma in Renewable Energy Engineering

Advanced Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology) Course Outlines

IQY Technical College's two years Advanced Diploma in Engineering is designed to train the students to work as Engineering Technologist in wide ranges of industries.

It is designed to provide the following competencies.

To train the students to operate within broadly-defined technical environments, and undertake a wide range of functions and responsibilities. They are often specialists in the theory and practice of a particular branch of engineering technology or engineering-related technology (the technology domain), and specifically in its application, adaptation or management, in a variety of contexts. Their expertise often lies in familiarity with the current state of development of a technology domain and most recent applications of the technology.

The training is designed to provide expertise to the students which may be at a high level, and fully equivalent to that of a Professional Engineer. That is designed

- to exercise the same breadth of perspective as Professional Engineers, or carry the same wide-ranging responsibilities for stakeholder interactions, for system integration, and for synthesising overall approaches to complex situations and complex engineering problems.
- to possess for a strong understanding of practical situations and applications, with the intellectual challenge of keeping abreast of leading-edge developments as a specialist in a technology domain and how these relate to established practice. For this purpose Engineering Technologists need a strong understanding of scientific and engineering principles and a well-developed capacity for analysis.
- to apply current and emerging technologies, often in new contexts; or with the application of established principles in the development of new practice.
- To contribute to the advancement of technology.
- to take responsibility for engineering projects, services, functions and facilities within a technology domain, for specific interactions with other aspects of an overall operating context and for managing
- to contribute the specialist work to a broader engineering system or solution. In these roles, Engineering
- to focus on sustainable solutions and practices which optimise technical, social, environmental and economic outcomes within the technology domain and over a whole systems life cycle.
- to have an intimate understanding of the standards and codes of practice that underpin the technology domain and ensure that technology outcomes comply with statutory requirements. Engineering Technologists are required to interact effectively with Professional Engineers and Engineering Associates, with other professionals, tradespersons, clients, stakeholders and society in general, to ensure that technology outcomes and developments fully integrate with the overall system and context.
- to ensure that all aspects of a technological product, or operation are soundly based in theory and fundamental principle.
- to understand how new developments relate to their specific field of expertise.
- to interpret technological possibilities, to investigate interfaces, limitations, consequences, costs and risks.

The training is also designed to provide the skills of Engineering Technologists who may lead teams responsible for the implementation, operation, quality assurance, safety, management, and maintenance of projects, plant, facilities, or processes within specialist practice area(s) of the technology domain. Some Engineering Technologists may establish their own companies or may move into senior management roles in engineering and related enterprises, employing Professional Engineers and other specialists where appropriate.

The following competencies are outlined in the Advanced Diploma in Engineering Programs

1. KNOWLEDGE AND SKILL BASE

- 1.1. Systematic, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the technology domain.
- 1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the technology domain.
- 1.3. In-depth understanding of specialist bodies of knowledge within the technology domain.
- 1.4. Discernment of knowledge development within the technology domain.
- 1.5. Knowledge of engineering design practice and contextual factors impacting the technology domain.
- 1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the technology domain.

2. ENGINEERING APPLICATION ABILITY

- 2.1. Application of established engineering methods to broadly-defined problem solving within the technology domain.
- 2.2. Application of engineering techniques, tools and resources within the technology domain.
- 2.3. Application of systematic synthesis and design processes within the technology domain.
- 2.4. Application of systematic approaches to the conduct and management of projects within the technology domain.

3. PROFESSIONAL AND PERSONAL ATTRIBUTES

- 3.1. Ethical conduct and professional accountability.
- 3.2. Effective oral and written communication in professional and lay domains.
- 3.3. Creative, innovative and pro-active demeanour.
- 3.4. Professional use and management of information.
- 3.5. Orderly management of self, and professional conduct.
- 3.6. Effective team membership and team leadership.

Advanced Diploma in Engineering can be studied in the following specializations

- Advanced Diploma in Electrical Engineering
- Advanced Diploma in Mechanical Engineering
- Advanced Diploma in Civil Engineering
- Advanced Diploma in Renewable Energy Engineering
- Advanced Diploma in Computer Engineering / Advanced Diploma in Information Technology

Advanced Diploma in Electrical Engineering

This program is designed with 60 credit points integrating 30 credit points Diploma in Electrical Engineering. The completion of this program can be articulated into 60 of 120 credit points Professional Diploma in Electrical Engineering which is the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Advanced Diploma in Electrical Engineering can apply for Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

Study Areas

Electrical Power Circuits, Electrical Power System, Mathematics, Physics, AC/DC Machines, Control System, Power System Protection, Energy Efficiency, Project Management, Advanced Electrical Drafting, Power Transmission Line, Engineering Officer Competency Report.

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

[Detailed Contents of Diploma + Advanced Diploma in Engineering, IT, Management & Business Programs](#)

<http://www.highlightcomputer.com/detailedcontent.htm>

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Advanced Diploma in Mechanical Engineering

This program is designed with 60 credit points integrating 30 credit points Diploma in Mechanical Engineering. The completion of this program can be articulated into 60 of 120 credit points Professional Diploma in Mechanical Engineering which is the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Advanced Diploma in Mechanical Engineering can apply for Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

Study Areas

Higher Mathematics, Fluid Dynamics, Automation & Robotics, Computer Aided Design & Manufacturing, Control System, Manufacturing, Mechatronics, Numerical Control, Pneumatics, Building Services. Air-conditioning Refrigeration

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

[Detailed Contents of Diploma + Advanced Diploma in Engineering, IT, Management & Business Programs](#)

<http://www.highlightcomputer.com/detailedcontent.htm>

Advanced Diploma in Civil Engineering

This program is designed with 60 credit points integrating 30 credit points Diploma in Civil Engineering. The completion of this program can be articulated into 60 of 120 credit points Professional Diploma in Civil Engineering which is the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Advanced Diploma in Civil Engineering can apply for Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

Study Areas

Surveying, Road & Bridges, Structure, Estimating, Electrical Installation, Electrical Wiring, Air-conditioning Refrigeration, Engineering Mechanics

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

[Detailed Contents of Diploma + Advanced Diploma in Engineering, IT, Management & Business Programs](#)

<http://www.highlightcomputer.com/detailedcontent.htm>

Advanced Diploma in Renewable Energy Engineering

This program is designed with 60 credit points integrating 30 credit points Certificate in Renewable Energy Course Completion Certificate which is delivered through the public seminars. The completion of this program can be articulated into 120 credit points Professional Diploma in Renewable Energy Engineering which is the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Advanced Diploma in Renewable Energy Engineering can apply for Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

Study Areas

Advanced contents in Renewable Energy, Electrical Engineering, Basic Civil & Mechanical Engineering, Electrical Machines, Electronics Control

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

[Renewable Energy Engineering Public Seminar + Diploma & Bachelor of Engineering \(Renewable Energy\)](#)

<http://www.highlightcomputer.com/re.pdf>

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Advanced Diploma in Computer Engineering/ Advanced Diploma in Information Technology

This program is designed with 30 credit points integrating 30 credit points Diploma in Information Technology. The completion of this program can be articulated into 60 of 120 credit points Professional Diploma in Information Technology or Professional Diploma in Computer Engineering which is the award of Bachelor of Applied Science (Information Technology)/Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Advanced Diploma in Computer Engineering can apply for Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

The graduates of Advanced Diploma in Information Technology can apply for membership of International Institute of Science Engineering & Management. To be awarded Advanced Diploma in Computer Engineering, the students need to do Advanced Diploma in Information Technology & Diploma in Electrical Engineering at the same time.

Study Areas

Organizational Behaviour, IT Networking, Information System Analysis & Design, Advanced Programming, Project Work

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

[Advanced Diploma in Information Technology Course Outline](#)

http://www.filefactory.com/file/7dmpqlo72fn/n/Advanced_Diploma_in_Information_Technology_pdf

[Electrical Engineering Course Outline](#)

<http://www.highlightcomputer.com/Diploma & Advanced Diploma in Electrical Engineering Course outline.doc>

[Detailed Contents of Diploma + Advanced Diploma in Engineering, IT, Management & Business Programs](#)

<http://www.highlightcomputer.com/detailedcontent.htm>

Professional Diploma in Electrical Engineering Professional Diploma in Mechanical Engineering Professional Diploma in Civil Engineering Professional Diploma in Computer Engineering Professional Diploma in Renewable Energy Engineering

Professional Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology) Course Outlines

IQY Technical College's four years Professional Diploma in Engineering is designed to train the students to work as Engineering Technologist /Professional Engineer in wide ranges of industries.

It is designed at the same academic requirement as to Bachelor of Engineering degree but IQY Technical College is operating as a vocational education & training college not as a university, the award is to be described as Professional Diploma. The graduates of the Professional Diploma in Engineering can be awarded Bachelor of Engineering by the universities which are affiliated to IQY Technical College.

The program is designed to train the students to become Professional Engineers who are required to take responsibility for engineering projects and programs in the most far-reaching sense.

It is designed to provide the following competencies.

- To perform the reliable functioning of all materials, components, sub-systems and technologies used; their integration to form a complete, sustainable and self-consistent system; and all interactions between the technical system and the context within which it functions. The latter includes understanding the requirements of clients, wide ranging stakeholders and of society as a whole; working to optimise social, environmental and economic outcomes over the full

lifetime of the engineering product or program; interacting effectively with other disciplines, professions and people; and ensuring that the engineering contribution is properly integrated into the totality of the undertaking.

- To do interpreting technological possibilities to society, business and government; and for ensuring as far as possible that policy decisions are properly informed by such possibilities and consequences, and that costs, risks and limitations are properly understood as the desirable outcomes.
- To bring knowledge to bear from multiple sources to develop solutions to complex problems and issues, for ensuring that technical and non-technical considerations are properly integrated, and for managing risk as well as sustainability issues. While the outcomes of engineering have physical forms, the work of
- To train the students to become predominantly intellectual in nature. In a technical sense, Professional Engineers are primarily concerned with the advancement of technologies and with the development of new technologies and their applications through innovation, creativity and change. Professional Engineers may conduct research concerned with advancing the science of engineering and with developing new principles and technologies within a broad engineering discipline.
- To contribute to continual improvement in the practice of engineering, and in devising and updating the codes and standards that govern it.
- To take a particular responsibility for ensuring that all aspects of a project are soundly based in theory and fundamental principle, and for understanding clearly how new developments relate to established practice and experience and to other disciplines with which they may interact. One hallmark of a professional is the capacity to break new ground in an informed, responsible and sustainable fashion.

The program is also designed to provide the skills required for the graduated to lead or manage teams appropriate to these activities, and may establish their own companies or move into senior management roles in engineering and related enterprises.

COMPETENCIES

1. KNOWLEDGE AND SKILL BASE

- 1.1. Comprehensive, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline.
- 1.2. Conceptual understanding of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the engineering discipline.
- 1.3. In-depth understanding of specialist bodies of knowledge within the engineering discipline.
- 1.4. Discernment of knowledge development and research directions within the engineering discipline.
- 1.5. Knowledge of engineering design practice and contextual factors impacting the engineering discipline.
- 1.6. Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the specific discipline.

2. ENGINEERING APPLICATION ABILITY

- 2.1. Application of established engineering methods to complex engineering problem solving.
- 2.2. Fluent application of engineering techniques, tools and resources.
- 2.3. Application of systematic engineering synthesis and design processes.
- 2.4. Application of systematic approaches to the conduct and management of engineering projects.

3. PROFESSIONAL AND PERSONAL ATTRIBUTES

- 3.1. Ethical conduct and professional accountability.
- 3.2. Effective oral and written communication in professional and lay domains.
- 3.3. Creative, innovative and pro-active demeanour.
- 3.4. Professional use and management of information.
- 3.5. Orderly management of self, and professional conduct.
- 3.6. Effective team membership and team leadership.

Professional Diploma in Engineering can be studied in the following specializations

- Professional Diploma in Electrical Engineering
- Professional Diploma in Mechanical Engineering
- Professional Diploma in Civil Engineering
- Professional Diploma in Renewable Energy Engineering
- Professional Diploma in Computer Engineering / Professional Diploma in Information Technology

Professional Diploma in Electrical Engineering

This program is designed with 120 credit points integrating 60 credit points Advanced Diploma in Electrical Engineering. The completion of this program can be awarded Professional Diploma in Electrical Engineering together with the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Professional Diploma in Electrical Engineering can apply for Fellow of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technologists or ASEAN Engineer.

Study Areas

Mathematics, Engineering Mechanics & Thermodynamics, Electrical Circuit Analysis, Electro-magnetics & Electrical Machines, Control System, Power System, Electronics, Telecommunication, Industrial Management, Computer Programming, Computer Network, Engineering Project, Building Services, Competency Demonstration Report Writing

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

Bachelor of Engineering (Electrical Engineering) Course Outline

<http://www.filefactory.com/file/5ftv3w6vjcm/BACHELOR%20OF%20APPLIED%20ENGINEERING.doc>

Detailed Contents of BE B Bus& B App Sc (IT) Programs

[http://highlightcomputer.com/B%20E+B%20App%20Sc\(IT\)+B%20Bus%20Course%20Detailed%20Contents.htm](http://highlightcomputer.com/B%20E+B%20App%20Sc(IT)+B%20Bus%20Course%20Detailed%20Contents.htm)

Professional Diploma in Mechanical Engineering

This program is designed with 120 credit points integrating 60 credit points Advanced Diploma in Mechanical Engineering. The completion of this program can be awarded Professional Diploma in Mechanical Engineering together with the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Professional Diploma in Mechanical Engineering can apply for Fellow of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technologists or ASEAN Engineer.

Study Areas

Mathematics, Engineering Mechanics & Thermodynamics, Industrial Management, Computer Programming, Computer Network, Engineering Project, Building Services, Air-conditioning & Refrigeration, Machine Design, Mechanical Instrumentation, Production Technology, Engineering Materials, Maintenance Engineering, Mechanical Power Generation, Applied Electrical/Electronics & Control System, Competency Demonstration Report Writing

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

Bachelor of Engineering (Mechanical Engineering-Mechatronics) Course Outline

http://www.filefactory.com/file/113wq8regbuh/n/Bachelor_of_Applied_Engineering_Mechanical-Mechatronics_Course_Outline.doc

Bachelor of Applied Engineering (Final Year Mechanical Design) Course Outline

http://www.filefactory.com/file/7greuugxlvvh/n/Graduate_Diploma_of_Mechanical_Engineering_B_App_Eng_Mech_Course_Outline.doc

Detailed Contents of BE B Bus& B App Sc (IT) Programs

[http://highlightcomputer.com/B%20E+B%20App%20Sc\(IT\)+B%20Bus%20Course%20Detailed%20Contents.htm](http://highlightcomputer.com/B%20E+B%20App%20Sc(IT)+B%20Bus%20Course%20Detailed%20Contents.htm)

Professional Diploma in Civil Engineering

This program is designed with 120 credit points integrating 60 credit points Advanced Diploma in Civil Engineering. The completion of this program can be awarded Professional Diploma in Civil Engineering together with the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Professional Diploma in Civil Engineering can apply for Fellow of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technologists or ASEAN Engineer.

Study Areas

Mathematics, Engineering Mechanics & Thermodynamics, Industrial Management, Computer Programming, Building Construction, Estimating, Fluid Mechanics, Structural Engineering, Reinforce Concrete, Timber Engineering, Soil & Rock Mechanics, Environmental Engineering, Road & Bridges, Building Service Engineering, Traffic Engineering, Surveying, Water Supply Sanitation, Engineering Competency Demonstration Report Writing

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

Bachelor of Engineering (Civil Engineering-Building Services) Course Outline

<http://www.filefactory.com/file/npiwt5ekau5/Bachelor%20of%20Applied%20Engineering%20%28Civil-Building%20Services%29%20Course%20Outline.doc>

[Bachelor of Applied Engineering \(Final Year Civil Design\) Course Outline](#)

<http://www.filefactory.com/file/37twg21wx97z/Graduate%20Diploma%20of%20Civil%20Engineering%2B%20App%20Eng%20%28Civil%29%20Course%20Outline.doc>

[Detailed Contents of BE.B Bus& B App Sc \(IT\) Programs](#)

[http://highlightcomputer.com/B%20E+B%20App%20Sc\(IT\)+B%20Bus%20Course%20Detailed%20Contents.htm](http://highlightcomputer.com/B%20E+B%20App%20Sc(IT)+B%20Bus%20Course%20Detailed%20Contents.htm)

Professional Diploma in Renewable Energy Engineering

This program is designed with 120 credit points integrating 60 credit points Advanced Diploma in Renewable Energy Engineering. The completion of this program can be awarded Professional Diploma in Renewable Energy Engineering together with the award of Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

This program explores the way to make the best use of renewable energy technologies including solar thermal systems, photovoltaics, wind and biomass. Renewable Energy Engineering borrows much of its structure from some other areas of engineering, such as electrical engineering and photovoltaic engineering. It encompasses a broad range of renewable energy technologies including electricity generation from solar thermal systems, photovoltaics, wind and biomass. It also covers solar architecture and energy efficient housing design

The graduates of Professional Diploma in Renewable Energy Engineering can apply for Fellow of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technologists or ASEAN Engineer.

Study Areas

Foundation Studies in Renewable Energy and Sustainability, Grid Connected Photovoltaic Power Systems, Solar and Thermal Energy Systems, Energy Storage Systems, Renewable Energy Resource Analysis, Wind Energy Conversion Systems, Energy System Efficiency, Mathematics & Physics, Engineering Materials, Civil & Mechanical Engineering, Electrical Engineering, Electrical Machines, Electronics Control, Design & Management, Project, Engineering Competency Demonstration Report Writing.

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

[Renewable Energy Engineering Public Seminar + Diploma& Bachelor of Engineering \(Renewable Energy\)](#)

<http://www.highlightcomputer.com/re.pdf>

Professional Diploma in Computer Engineering/ Professional Diploma in Information Technology

This program is designed with 120 credit points integrating 60 credit points Advanced Diploma in Information Technology. Professional Diploma in Computer Engineering which is the award of Bachelor of Applied Science (Information Technology)/Bachelor of Engineering degree by the universities affiliated IQY Technical College.

The graduates of Professional Diploma in Computer Engineering can apply for Fellow of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technologist or ASEAN Engineer.

The graduates of Professional Diploma in Information Technology can apply for membership of International Institute of Science Engineering & Management.

To be awarded Professional Diploma in Computer Engineering, the students need to do some Bachelor of Engineering (Electrical) units at the same time.

Study Areas

Computer

Computer Programming, Computer Network, Software Engineering, Artificial Intelligence, Telecommunication Engineering, Project Management,

Electrical/Electronics

Electrical Engineering, Analog & Digital Control, Control System, Engineering Management

Engineering Competency Demonstration Report Writing

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

[Detailed Contents of BE.B Bus& B App Sc \(IT\) Programs](#)

[http://highlightcomputer.com/B%20E+B%20App%20Sc\(IT\)+B%20Bus%20Course%20Detailed%20Contents.htm](http://highlightcomputer.com/B%20E+B%20App%20Sc(IT)+B%20Bus%20Course%20Detailed%20Contents.htm)

[Bachelor of Engineering \(Electrical Engineering\) Course Outline](#)

<http://www.filefactory.com/file/5ftv3w6vjcm/BACHELOR%20OF%20APPLIED%20ENGINEERING.doc>

Diploma in information Technology

Diploma in Information Technology

This course will provide the students with the skills and knowledge to manage information and communications technology (ICT) support in small-to-medium enterprises using a wide range of general ICT technologies. The students will learn skills to support computer systems, involving people, hardware, software and procedures in a networked environment. They will also learn skills that enable them to maintain and guide teams and manage projects.

This program is designed with 30 credit points integrating 15 credit points Certificate in Information Technology. The completion of this program can be articulated into 60 points Advanced Diploma in Information Technology & 120 credit points Professional Diploma in Information Technology or Professional Diploma in Computer Engineering which is the award of Bachelor of Applied Science (Information Technology)/Bachelor of Engineering degree by the universities affiliated to IQY Technical College.

The graduates of Diploma in Computer Engineering can apply for Associate Member of Singapore Institute of Engineering Technologists & then leading to the professional status of ASEAN Engineering Technician.

The graduates of Diploma in Information Technology can apply for membership of International Institute of Science Engineering & Management.

To be awarded Diploma in Computer Engineering, the students need to do Diploma in Information Technology & Diploma in Electrical Engineering at the same time.

Study Areas

IT Fundamental, Computer Application, Computer Programming, System Analysis, Software Engineering, IT Project, Business Information System

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

[Diploma in Information Technology Course Outline](#)

http://www.highlightcomputer.com/Diploma_in_Information_Technology_Course_outline.doc

[Electrical Engineering Course Outline](#)

http://www.highlightcomputer.com/Diploma_&Advanced_Diploma_in_Electrical_Engineering_Course_outline.doc

[Detailed Contents of Diploma + Advanced Diploma in Engineering, IT, Management & Business Programs](#)

<http://www.highlightcomputer.com/detailedcontent.htm>

Advanced Diploma in information Technology

Advanced Diploma in Information Technology

The Advanced Diploma in Information Technology provides the students with high level Information and Communications Technology (ICT) process improvement in senior ICT roles within organisations. The qualification builds on a base core of management competencies, with specialist and general elective choices to suit particular ICT and business needs, especially in the areas of knowledge management and systems development.

This qualification is suited to dynamic leaders who wish to broaden their business perspective, enhance [management](#) capability and strengthen leadership

behaviour. The focus is on managing the strategic direction of a business through leadership, financial management and comprehensive business operations. It is

ideal for those in senior management positions with responsibility for strategic leadership across the business or in specialist areas.

The following competencies are integrated in this course

- Provide leadership across the organisation
- Manage employee relations
- Develop and implement a business plan
- Manage organisational change
- Manage innovation and continuous improvement
- Manage risk
- to builds on a solid foundation in software and hardware and through flexible study plans allows students to specialise if desired.
- to include bioinformatics, computer systems and networks, enterprise information systems, human-computer interaction, software design and software information systems at technologist level.
- to be project-focused with studies in programming languages, algorithms and information structure and develop the ability to process data or information in

- order to solve problems at technologist level.
- to provide team dynamics, presentation skills and project management at middle class manager level.
- The completion of this program can be articulated into 60 of 120 credit points Professional Diploma in Information Technology which is the award of Bachelor of Applied Science (Information Technology) or Bachelor of Information Technology degree by the universities affiliated to IQY Technical College.
- [Detailed contents of the units](#)

Detailed contents of the units can be viewed at the following links

[Advanced Diploma in Information Technology Course Outline.](#)

http://www.highlightcomputer.com/Advanced_Diploma_in_Information_Technology.pdf

[Diploma in Information Technology Course Outline](#)

http://www.highlightcomputer.com/Diploma_in_Information_Technology_Course_outline.doc

[Management Course Outline](#)

http://www.highlightcomputer.com/Diploma_of_Management.doc

Professional Diploma in Information Technology

IQY Technical College's four years Professional Diploma in Information Technology is designed to train the students to work as computing professionals, to use ICT to be a better scientist, or to empower themselves to better understand the technology behind many of today's careers. Increasingly, employers see an [ICT qualification](#) as a sign of academic well-roundedness. ICT drives innovations such as the human genome project, vaccine research, environmental modelling. Emerging areas include electronic security, earth simulation (related to the mining boom) and bioinformatics. Independent job market surveys show that demand for graduates is escalating, along with salaries. Industry is concerned about a shortage of talent.

It is designed at the same academic requirement as to Bachelor of Information Technology degree but IQY Technical College is operating as a vocational education & training college not as a university, the award is to be described as Professional Diploma. The graduates of the Professional Diploma in Engineering can be awarded Bachelor of Applied Science (Information Technology) & Bachelor of Information Technology by the universities which are affiliated to IQY Technical College. The graduates can apply for membership of International Institute of Science Engineering & Management. The program is designed to train the students to become ICT Professionals who are required to take responsibility for ICT projects and programs in the most far-reaching sense.

It is designed to provide the following competencies.

- to builds on a solid foundation in software and hardware and through flexible study plans allows students to specialise if desired.
- to include bioinformatics, computer systems and networks, enterprise information systems, human-computer interaction, software design and software information systems.
- to be project-focused with studies in programming languages, algorithms and information structure and develop the ability to process data or information in order to solve problems.
- to provide team dynamics, presentation skills and project management.

See the [course list](#) for courses that can be studied as part of the Bachelor of Information Technology.

Study Areas

- [Computer Systems and Networks](#)
- [Enterprise Information Systems](#)
- [Human-Computer Interaction](#)
- [Software Design](#)
- [Software Information Systems](#)
- [Electrical Engineering for the award of Professional Diploma in Computer Engineering](#)

[Detailed contents of the units](#)

Detailed contents of the units can be viewed at the following links.

[Bachelor of Applied Science \(Computer Science & Computer Technology\)](#)

[http://www.highlightcomputer.com/B_App_Sci_\(CS&_CT\)_Course_outline.pdf](http://www.highlightcomputer.com/B_App_Sci_(CS&_CT)_Course_outline.pdf)

[Bachelor of Engineering \(Electrical Engineering\) Course Outline](#)

<http://www.filefactory.com/file/5ftv3w6vjcm/BACHELOR%20OF%20APPLIED%20ENGINEERING.doc>

[Professional Diploma of Engineering Practice \(Computer Control Engineering \) Course Outline](#)

http://www.highlightcomputer.com/Graduate_Diploma_of_Engineering_Practice_Computer_ControlUpdate%5b1%5d.doc

[Detailed Contents of BE.B Bus& B App Sc \(IT\) Programs](#)

[http://highlightcomputer.com/B%20E+B%20App%20Sc\(IT\)+B%20Bus%20Course%20Detailed%20Contents.htm](http://highlightcomputer.com/B%20E+B%20App%20Sc(IT)+B%20Bus%20Course%20Detailed%20Contents.htm)

Diploma in Management

IQY Technical College's one year Diploma in Management is designed to train the students to work as middle class managers in wide ranges of industries & companies.

This program is designed with 30 credit points integrating 15 credit points Certificate in Information Technology or pure management stream. The completion of this program can be articulated into 60 points Advanced Diploma in Information Technology Management & 120 credit points Professional Diploma in Business Management which is the award of Bachelor of Business Management degree by the universities affiliated to IQY Technical College.

The graduates can apply for membership of The Institute of Professional Business and Technical Managers.

It is designed to provide the following competencies.

- To explore the factors for achieving success with a business, management is becoming increasingly challenging.
- To provide the planning on a [management career](#).
- To provide the understanding of the leadership process will form the foundation to build the management skills.
- To be able to effectively manage others to perform at their best while focusing on the growth of a business.
- This course can turn your management experience into a formal qualification, or it can up-skill you to get further ahead in your career.

This course will also train the students to develop a project plan, manage budgets and seek opportunities for further [business](#) improvement. The students will gain knowledge on how to liaise with stakeholders and ensure team effectiveness. This diploma also addresses the multiple challenges faced by managers in today's rapidly changing business environment and provides solutions and strategies to work under various business conditions.

This course is fully flexible with no assessment due dates or classes to attend. Structure your learning around students' current commitments and take the next step in the [business management](#) career.

Potential career outcomes

- business manager
- team leader
- facilities coordinator

- department manager

Detailed contents of the units

Detailed contents of the units can be viewed at the following links.

[Management Course Outline](#)

http://www.highlightcomputer.com/Diploma_of_Management.doc

[Detailed Contents of Diploma + Advanced Diploma in Engineering, IT, Management & Business Programs](#)

<http://www.highlightcomputer.com/detailedcontent.htm>

Advanced Diploma in Management

Advanced Diploma of Information Technology Management

The Advanced Diploma in Information Technology Management provides the students with high level Information and Communications Technology (ICT) process improvement in senior ICT roles within organisations. The qualification builds on a base core of management competencies, with specialist and general elective choices to suit particular ICT and business needs, especially in the areas of knowledge management and systems development.

This program is designed with 60 credit points which is integrated with 30 points from Diploma in Information Technology or Diploma in Management.

- The students who complete Diploma in Information Technology attend the Diploma in Management units together with Advanced Diploma in Information Technology units and then can be graduated with Advanced Diploma in Information Technology Management.
- The students who complete Diploma in Management attend the Diploma in Information Technology units together with Advanced Diploma in Information Technology units and then can be graduated with Advanced Diploma in Information Technology Management.

It is designed to provide the following competencies.

The following competencies are integrated in this course

- Provide leadership across the organisation
- Develop and implement strategic plans
- Manage employee relations
- Develop and implement a business plan
- Manage organisational change
- Manage finances
- Manage innovation and continuous improvement
- Manage risk
- to builds on a solid foundation in software and hardware and through flexible study plans allows students to specialise if desired.
- to include bioinformatics, computer systems and networks, enterprise information systems, human-computer interaction, software design and software information systems at technologist level.
- to provide team dynamics, presentation skills and project management at middle class manager level.

The completion of this program can be articulated into 60 of 120 credit points Professional Diploma in Information Technology or Professional Diploma in Business Management which is the award of Bachelor of Applied Science (Information Technology), Bachelor of Information Technology or Bachelor of Business Management degree by the universities affiliated to IQY Technical College.

Detailed contents of the units

Detailed contents of the units can be viewed at the following links

[Advanced Diploma in Information Technology Course Outline](#)

http://www.highlightcomputer.com/Advanced_Diploma_in_Information_Technology.pdf

[Diploma in Information Technology Course Outline](#)

http://www.highlightcomputer.com/Diploma_in_Information_Technology_Course_outline.doc

[Management Course Outline](#)

http://www.highlightcomputer.com/Diploma_of_Management.doc

Professional Diploma in Management

Professional Diploma in Business Management

Professional Diploma in Business (Management) is a highly innovative and flexible program that is designed to develop professional capabilities for tomorrow's managers and business leaders.

As well as providing the operational skills and knowledge required to manage successful organisations, students also participate in workplace learning subjects that provide real-life, practical experience.

An optimum blend of theory and practice is offered, with a combination of subjects to develop both soft skills for working with people and hard skills directed at areas in operations and project management.

This course is designed with 120 Credit points integrating 60 Points Advanced Diploma in Information Technology Management.

It is designed at the same academic requirement as Bachelor of Business Management degree but IQY Technical College is operating as a vocational education & training college not as a university, the award is to be described as Professional Diploma. The graduates of the Professional Diploma in Business (Management) can be awarded Bachelor of Business by the universities which are affiliated to IQY Technical College.

The graduates of Professional Diploma in Business (Management) can apply for Membership of Institute of Professional Business and Technical Managers.

Course structure

[Bachelor of Business /Bachelor of Applied Management Course Outline](#)

<http://www.filefactory.com/file/3dcrz90tirvh/Dip%2BAdv%20Dip%2BB%20Bus%20S%20Course%20Outline.doc>

[Detailed Contents of BE,B Bus& B App Sc \(IT\) Programs](#)

[http://highlightcomputer.com/B%20E+B%20App%20Sc\(IT\)+B%20Bus%20Course%20Detailed%20Contents.htm](http://highlightcomputer.com/B%20E+B%20App%20Sc(IT)+B%20Bus%20Course%20Detailed%20Contents.htm)

[Bachelor of Engineering \(Electrical\)](#)

[Bachelor of Engineering \(Civil\)](#)

[Bachelor of Engineering \(Mechanical\)](#)

[Bachelor of Engineering \(Civil-Building Services\)](#)

[Bachelor of Engineering \(Mechanical-Mechatronics\)](#)

[Bachelor of Applied Science \(Information Technology\)](#)

[Bachelor of Business](#)

[Bachelor of Engineering \(Electrical\)](#)

YEAR 3 +4

Subjects
<u>BAE 401 Advanced Engineering Mathematics</u>
<u>BAE 402 Calculus</u>
<u>BAE 403 Engineering Mechanics</u>
<u>BAE 404 Engineering Materials & Thermodynamics</u>
<u>BAE 405 Advanced Circuit Analysis</u>
<u>BAE 406 Electro-mechanics</u>
<u>BAE 407 Advanced Electro-magnetics Field & Materials</u>
<u>BAE 408 Analogue & Digital Electronics</u>
<u>BAE 501 Advanced Power Systems & Power Transmission Networks</u>
<u>BAE 502 Linear System</u>
<u>BAE 503 Control System</u>
<u>BAE 504 Power System Analysis</u>
<u>BAE 505 Power System Optimization</u>
<u>BAE 506 Power System Stability & Protection</u>
<u>BAE 507 Electro-mechanical Energy Conversion</u>
<u>BAE 508 Industrial Engineering & Industrial Management</u>
<u>BAE 601 Computer Programming</u>
<u>BAE 602 Computer Network</u>
<u>BAE 603 Software Engineering</u>
<u>BAE 604 Telecommunication Engineering</u>
<u>BAE 605 Engineering Management</u>
<u>BAE 606 Building Service Electrical & Mechanical Engineering</u>
<u>BAE 607 Radio Wave Propagation & Microwave Techniques</u>
<u>BAE 608 Professional Engineer Competency Demonstration Report</u>

[Bachelor of Engineering \(Civil\)](#)

Year (3) Part 1 ADVANCED GENERAL CIVIL ENGINEERING DEGREE LEVEL

Subjects

[BAE 401 Advanced Engineering Mathematics](#)

[BAE 402 Calculus](#)

[BAE 403 Engineering Mechanics](#)

[BAE 404 Engineering Materials & Thermodynamics](#)

[BAE 508 Industrial Engineering & Industrial Management](#)

Year (3) Part 2 ADVANCED GENERAL CIVIL ENGINEERING DEGREE LEVEL (18 Pt)

[BAE421 Building Construction Engineering \(4 pt\)](#)

[BAE422 Estimating \(2 pt\)](#)

[BAE423 Fluid Mechanics \(2 pt\)](#)

[BAE424 Reinforced Concrete \(2 pt\)](#)

[BAE425 Timber Engineering \(2 pt \)](#)

[BAE521 Road & Bridge \(2 pt \)](#)

[BAE522 Rock Mechanics \(2 pt \)](#)

[BAE523 Soil Mechanics \(2 pt \)](#)

[BAE 523A Environmental Engineering](#)

TOTAL 35 Pt

Year (4) Part 1

[AE 601 Computer Programming](#)

[AE 605 Engineering Management](#)

[AE 606 Building Service Electrical & Mechanical Engineering](#)

[AE 609 Design Project](#)

otal Credit points in this group

Year (4) Part 1

[\(12 Pt\)](#)

[BAE621 Structural Engineering \(3 pt \)](#)

[BAE623 Surveying & Traffic Engineering \(2 pt\)](#)

[BAE624 Water Supply , Sanitation & Finishing \(2 pt \)](#)

[BAE 608 Engineering Competency Demonstration Report Writing \(2pt\)](#)

SELF STUDY

[BAE622 Architecture \(3 pt \)](#)

Bachelor of Engineering (Mechanical)

Year (3)

GENERAL APPLIED ENGINEERING (MECHANICAL) DEGREE

Subjects

[AE 401 Advanced Engineering Mathematics](#)

[AE 402 Calculus](#)

[AE 403 Engineering Mechanics](#)

[AE 404 Engineering Materials & Thermodynamics](#)

[AE 507 Electro-mechanical Energy Conversion](#)

[AE 508 Industrial Engineering & Industrial Management](#)

[AE511 Air-conditioning & Refrigeration Part 1](#)

[AE613 Mechanical Instrumentation Process](#)

[AE614 Machine Design](#)

[AE512 Building Service Water Supply System](#)

[AE511 Air-conditioning & Refrigeration Part 2](#)

[AE613 Mechanical Instrumentation Process](#)

Year (4) Part 1 BE (Mechanical + General Related Subjects)

[AE 601 Computer Programming](#)

[AE 602 Computer Network](#)

[AE 603 Software Engineering](#)

[AE 605 Engineering Management](#)

[AE 606 Building Service Electrical & Mechanical Engineering](#)

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Year (4) Part 2

Bachelor of Engineering (Mechanical) Specialization (13 pt)

[BAE311 Plant Engineering \(2 pt\)](#)

[BAE312 Design Engineering \(2 pt\)](#)

[BAE313 Environmental Control \(2 pt\)](#)

[BAE314 Mechanical Power Generation \(2 pt\)](#)

[BAE315 Materials Engineering \(2 pt\) Part 1 Part 2](#)

[BAE 608 Engineering Competency Demonstration Report Writing \(3 pt\)](#)

Elective (2 pt)

Subjects
BAE513 Production Technology
BAE611 Maintenance Engineering
BAE612 Engineering Metallurgy

Bachelor of Engineering (Civil-Building Services)

STAGE (3) BASIC ELECTRICAL & ELECTRONICS ENGINEERING (18 Pt)

REFER DIPLOMA/ADVANCED DIPLOMA IN ELECTRICAL ENGINEERING DETAILED CONTENTS

EE101 DC Circuit Problems

EE102 Basic Electrical Fitting & Wiring

EE103 Basic Electrical Drafting
EE104 Electrical Equipments Safety Protection
EE105 Electrical Installation Design
EE107 Electrical Equipments
EE106 Advanced Electrical Wiring
EE108 Electrical Fault Finding
EE109 Electrical Control Circuits
EE111 Electromagnetism & Basic Electrical Machines
EE112 Alternating Current Principle
EE113 Electrical Fundamental
EE115 Basic Analogue & Digital Electronics
EE116 Process Control System
EE117 Solar Electrical System
EE119 Electrical Risk Assessment
EE120 Electrical Contracting & Specifications
EE308 Sustainability

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STAGE (4 A) ADVANCED MECHANICAL ENGINEERING STUDY (6Pt)

REFER DIPLOMA/ADVANCED DIPLOMA IN MECHANICAL ENGINEERING DETAILED CONTENTS

ME 102 Engineering Thermodynamics
ME 109 Engineering Drawing
ME 107 Heat Transfer
ME 201 Introduction to Fluid Mechanics
ME 204 Engineering Fluid Mechanics
ME 301 Fluid Dynamics

STAGE (4B)ADVANCED ELECTRICAL & ELECTRONICS ENGINEERING STUDY

(ADVANCED DIPLOMA) (4 pt)

REFER DIPLOMA/ADVANCED DIPLOMA IN ELECTRICAL ENGINEERING DETAILED CONTENTS

EE201 Engineering Mathematics
EE204 Engineering Physics
EE302 Advanced Engineering Mathematics
EE307 Energy Efficient Building Design

STAGE (5)BACHELOR OF APPLIED ENGINEERING (BUILDING SERVICE) DEGREE (32 pt)

Subjects

AE 401 Advanced Engineering Mathematics

AE 402 Calculus

AE 403 Engineering Mechanics

[AE 404 Engineering Materials & Thermodynamics](#)

[AE 508 Industrial Engineering & Industrial Management](#)

[AE 601 Computer Programming](#)

[AE 605 Engineering Management](#)

[AE 606 Building Service Electrical & Mechanical Engineering](#)

[AE 609 Design Project](#)

Bachelor of Engineering (Mechanical-Mechatronics)

Advanced Diploma of Mechanical Engineering)

REFER DIPLOMA/ADVANCED DIPLOMA IN ELECTRICAL ENGINEERING DETAILED CONTENTS

REFER DIPLOMA/ADVANCED DIPLOMA IN MECHANICAL ENGINEERING DETAILED CONTENTS

(1) ME104 Principle of Machine

(2)EE624 Process Control

EE115 Basic Analogue & Digital Electronics

EE116 Process Control System

(3)ME 334 Airconditioning and Refrigeration

(4) ME202 Aerodynamics

(5) ME 302 Automation-and-Robotics

(6) ME 303 Computer Aided Design and Manufacturing

(7) ME 234 Wind Turbines

(8) ME 201 Introduction to Fluid Mechanics

(9) ME 204 Engineering Fluid Mechanics +
ME 301 Fluid Dynamics

(10) ME 206 Introduction to Turbo Machinery

(11)ME 205 Manufacturing Processes & Materials

(12) ME 207 Chemical Thermodynamics

(13)ME 208 Hydrocarbons

(14) ME 634 Pneumatics

(15) ME 203 Control

(16) ME 534 Numerical Control

(17) ME 434 Mechtronics-Robotics

(18)EE 617 Building Electrical and Mechanical System

(19)EE105 Electrical Installation Design
EE107 Electrical Equipments

EE105 Electrical Installation Design

EE107 Electrical Equipments

(20)EE106 Advanced Electrical Wiring

(21) EE116 Process Control

(22) EE117 Solar Electrical System

(23) EE119 Electrical Risk Assessment
EE120 Electrical Contracting

(24) ME 109 Engineering Drawing

EE301 Advanced Electrical Drafting

(25) EE121 Electronics Power Control Devices

(26) EE206 AC

(27) EE207 DC

(28)EE202 Electrical Circuits

(29)EE203 Three Phase Power Circuits

(30) ME 305 Corrosion Prevention

(31) ME 306 Theory-of-waves-in- materials

Bachelor of Applied Engineering (Mechanical-Mechatronics)

subjects

AE 401 Advanced Engineering Mathematics

AE 402 Calculus

AE 403 Engineering Mechanics

AE 404 Engineering Materials & Thermodynamics

AE 405 Advanced Circuit Analysis

AE 406 Electro-mechanics

AE 408 Analogue & Digital Electronics

AE 502 Linear System

AE 503 Control System

AE 507 Electro-mechanical Energy Conversion

AE 508 Industrial Engineering & Industrial Management

AE 601 Computer Programming

AE 602 Computer Network

AE 603 Software Engineering

AE 604 Telecommunication Engineering

AE 605 Engineering Management

AE 606 Building Service Electrical & Mechanical Engineering

BAE 401 Advanced Engineering Mathematics (9 pt)

An Introduction to theory of complex variables

Complex numbers

Functions

Differentiability

Integration in the complex plane

Integral theorems

Power series

Introduction of rational functions of trigonometric functions.

Continuous distribution

Exponential distribution
Normal distribution
Gamma distribution
Convergence in distribution
F distribution

Discrete distribution

Binomial distribution
Poisson distribution

Elementary linear algebra

Algebra in F^n Example problems
Geometric meaning of vectors
Geometric meaning of vector addition
Distance between points in R^n Length of vector
Geometric meaning of scalar multiplication
Dot product
Cross product
System of equation geometry
System of equation – Algebraic operation
Matrice arithmetic
Determinants –Basic technique & properties

Integration and differential equations

List of integrals
Introduction to background
Theorem of integration
Improper integrals
Improper integral problems
Integration of rational functions

Differential equations
First order ordinary differential equations
Homogenous equations
The general linear equations

Random variables

Simple introduction examples
Problems
Frequency and distribution functions in 1 dimension

Mathematical modelling preliminary

Introduction
Discrete time model

Maths 301 Introduction to Complex Variables

The residue Theorem

Fourier Transform

Integral theorem of complex analysis with applications to the evaluation of real integral

Introduction

Integral theorems – The green Theorem

Cauchy's integral theorem

Cauchy's residue theorem

Maths 302 Elementary Linear Algebra

A formula for the inverse

Cramer's rule

Example 6.2.3 , 6.2.4 , 6.2.6, 6.2.7

Rank of a matrix

Example 8.2.9 , 8.2.10, 8.3.3 , 8.3.5, 8.3.6, 8.3.7, 8.3.8

Linear independence and bases

Linear transformation

Constructing the matrix of a linear transformation

Linear programming

Maths 401 Continuous Distribution

χ^2 Distribution

F Distribution

F Distribution & "t" Distribution

Estimation of parameters

Maths 402 Discrete Distribution

Geometric distribution

Pascal distribution

Negative binomial distribution

Hyper geometric distribution

Maths 303 Essential Engineering Mathematics

Vectors and matrices

Functions and limits , Example problems

Calculation of one variable (Part 1) Differentiation,

Calculation of one variable (Part 1) Integration,

Calculus of many variables,

Ordinary differential equations,

Complex function theory

Maths 501 Introduction to probability

Theoretical background

Playing card

Binomial distribution

Lotto Example

Conditional probabilities –Baye's formula

Maths 501 Linear algebra and matrices

Linear transformation matrices

Definition 2.1.1 to 2.1.3

i, j Entry of product Definition 2.1.8

Rank of matrices

Row operations

Maths 502 Introductory Finite Difference Method for PDE

Partial differential equations. Example problems

Taylor theorem

Iterative solution methods

Jacobi Iteration

Gauss Seidel Iteration

Successive Relaxation method

Maths 601 Random Variables

Theoretical results

Frequencies and distribution (1 dimension)

Function of random variables

BAE 402 Calculus (3 pt)

Calculus 1 a .pdf

Differentiation, Example problems

Integration, Example problems

Simple differential equations, Example problems

Calculus 2 a .pdf

Integration of trigonometric polynomials

Complex decomposition of a fraction between two polynomials

Chain rule

Calculation of the directional derivatives

An overview of integration in the plane and in the space

Line integrals

Surface integral

Green's theorem in the plane

Calculus 2b 1.pdf

The range of functions in several variables

Line integral

Space integral

Line integral

Calculus 3b. pdf

Power series method in solution of problems, Example problems

Calculus 3C 1. pdf

Sequence in general

Calculus 4C 1. pdf

Sum function of Fourier series

Maths 303 Engineering Mathematics

Introduction and background

Integration of rational functions

Integration of trigonometric functions

Differential equations

Maths 403 Second Order Differential Equations

Power series solutions

Bessel equations and Bessel functions

Legendre polynomials

Differential equations

BAE 403 Engineering Mechanics (1 pt)

Stress Example

Stress lectures

Strain All examples

Strain lessons

Mechanical properties of materials

Mechanical properties of materials

Axial members

Axial members

Torsion of shaft

Torsion of shaft

Symmetric bending of beams

Symmetric bending of beams

Deflection of symmetric beams

Deflection of symmetric beams

Stress transformation

Stress transformation

Strain transformation

Strain transformation

Design and failure

Design and failure

Stability of columns

Stability of columns

Newton motion

One dimensional motion

Simple harmonic motion

Damped oscillation

$$X(t) = A e^{-\gamma t/l} \cos(\omega t - \delta_1)$$

Rotating reference frame equations

Modern Mechanics Part 1

Modern Mechanics Part 2

Modern Mechanics Part 3

Modern Mechanics Part 4

Modern Mechanics Part A

Modern Mechanics Part B

Modern Mechanics Part C

-

ME 301 Applied Mathematics

Kinematics

Projectiles

Forces

Resistance forces

Resolving forces

Rigid bodies

Centre of gravity

Momentum

Energy

Circular motion

Gravitation and planetary motion

The language of vectors

BAE 404 Engineering Materials & Thermodynamics (3 pt)

Heat Transfer. pdf

(1) Heat transfer mode Example problems

(2) Conduction Example problems

(3) Convection Example problems

(4) Radiation Example problems

(5) Heat Exchanger Example problems

Theory of waves in materials.pdf

Materials-Preliminary

Materials- Basic mechanical properties

Basic wave phenomena

Harmonic waves

Elastic volume and shear waves

Rayleigh Elastic waves

Engineering Thermodynamics

General definition

Thermodynamics-Working fluids

Laws of Thermodynamics

Worked Example 3.1 to 3.25

ME434 Wind Turbines

Wind Energy

Theory of wind energy

Wind turbine types and components

Wind energy measurement, Wheel encoder Worked

ME634 Pneumatics

Principle of pneumatics

Linear actuators

Flow control

Pneumatics sensors

Pneumatics symbols

BAE 405 Advanced Circuit Analysis (3 pt)

DC Circuit Analysis

Circuit Theory

Modulators

Analog, digital signals , electric current, power summary

Circuit analysis, electric potential, electric power, sign convection, electric source, Kirchoffs' law

Circuit elements, characteristics KCL, KVL

Resistor (Series, parallel, wheatstone bridge, Nodal analysis

Nodal analysis, mesh analysis

Superposition theorem, Thevenin's theorem, Norton theorem, Maximum power transfer theorem,

Operational amplifier

Inverting amplifier circuit, Summing amplifier, Differential amplifier

Capacitor, Op-amp integrator, stored energy

Mutual inductance, time constant, transient

Transient response of 1 st order circuit, RL transient analysis, sequential switching

RC/RL Circuit , Propagation, Delay, DRAM

Semi conductor

PN Junction diode

Light emitting diode

MOSFET

Digital signal

CMOS Digital circuit

Combinational logic circuits

Flip flops

Propagation delay in timing diagram

Integrated circuit fabrication
Device isolation methods
Interconnected resistance and capacitance
Transistor scaling
Integrated circuit design for application in communications
Small signal amplifiers
Network noise intermodulation distortion
CAD for noise analysis
Sensors & Detectors
Low noise design methodology
Oscillators
Modulators and demodulators

Concepts in Electrical Circuit

Circuit theorem
Sinusoids & phasors
Frequency response

EE303 Engineering Circuit Analysis

Basic circuits
Basic Nodal and Mesh analysis
Linear and Superposition/ Source Transformation
RL/ RC Circuits
RLC Circuits
Sinusoidal steady state analysis
AC Power Circuit Analysis
Polyphase Circuits
Magnetically coupled circuits
Complex Frequency / Laplace Transform
Laplace Transform
Circuit analysis in " S " domain
Pole/ Zero constellation
Frequency Response
Two ports network
Fourier Circuit Analysis
Use of symmetry theory

EE404 Electrical Measurement (1 pt)

Measurement of inductance and capacitance
Measurement of resistance
Magnetic measurement
High voltage measurement and testing
Location of cable fault
Measurement of power
Measurement of energy

BAE 406 Electro-mechanics (2 pt)

Electro-mechanic -1.0.1 Scope of application

1.1 Electro-magnetic theory

1.1.1a Magnetic field system, Table 1.1

1.1.1.b Electric field system Table 1.2

Lumped electro-mechanical elements

Lumped parameter-electro-mechanic

Rotating machines

Lumped parameter-electro mechanical dynamics

EE 502 Electrical Machines

DC Generator, Example problems

DC Motors, Example problems

Efficiency & heating of electrical machines, Example problems

Three phase transformer, Example problems

Three phase induction motors, Example problems

Synchronous generators, Example problems

Synchronous motors, Example problems

Basic of industrial motor control, Example problems

ME 301 Machine Principle

Rotating machines

Machinery mounting

Balancing

Bearing

Power transmission

BAE 407 Advanced Electro-magnetics Field & Materials (1 pt)

Electric field

Electrostatic potential

Dipole and quadrature pole movements

Batteries, resistors, ohm laws

Capacitors

Magnetic effect of an electric current

Force on current in a magnetic field

Electro-dynamics of moving bodies

Magnetic potential

Electro-magnetic Induction

Dimensions

Properties of magnetic materials

Alternating current

Laplace transform

Maxwell Equation

CGS Electricity & Magnetism

Magnetic dipole movement

Outlines

Electric field

Electrostatic Energy

Laplace's equation (1)

Laplace's equation (2)

Remarks on units

Green's functions

Multipole expansion

Electro-static in matter

Boundary condition

Magneto statics (1)

Magneto statics (2)

Macroscopic magneto statics

Maxwell's equation

DISC movement

Electro-magnetic plane waves

Reflection & refraction

Casual relation between D & E

Wave guides and load cavities

Electromagnetic radiation and scattering (1)

Electromagnetic radiation and scattering (2)

Scattering by small di-electric sphere

Electro-magnetism

Electro magnetic fields and moving charges

Multipole expansion

Magnetic constants and materials

Ampere law

Brief history of electro magnetism

Gauss's law

Numerical solutions to Laplace's equation

Small current loop

Curvilinear co-ordinate system

Problems

Dielectric tensors and constants

Analytic solution to Laplace equation

Magnetostatic boundary condition

Electrostatic boundary condition

Electromagnetic field

The gradient vector

Maxwell's equation

Electro-magnetic wave propagation

BAE 407 Advanced Electro-magnetic Field & Materials

Electro dynamics

Introduction to electro statics

Boundary value problems in electro statics (1)

Boundary value problems in electro statics (2)

Multi-poles Macroscopic media –Dielectrics

Static and stationary magnetic fields

Maxwell's equations

Plane wave and wave propagation

Wave guides and cavities

Radiation

The special theory of relativity

Particles and field dynamics

Charged particle collisions-Energy loss, Scattering

Radiation by moving charges

BAE 407 Advanced Electro-magnetic Field & Materials

EMFT book.pdf

Summary of electro statics

Potential

Electro-magnetics waves

Classical optics

Conservation Law

Conservation Law

Conservation Law

Generic wave

Electromagnetic waves in vacuum

Electromagnetic waves in matter

Electromagnetic waves in conductor

Electromagnetic waves propagation

Electromagnetic waves field

Wave guides

Electromagnetic waves radiation

Electro-dynamics

Frequency

EE407 Electro-magnetism

Di-electric materials and capacitance

Transmission Lines

Maxwell's equations and electro-magnetic waves

Electrostatics

Di-electric

Transmission Line

Maxwell Equation

BAE 408 Analogue & Digital Electronics (5 pt)

Semi conductor devices

Digital circuits

Power Electronics Converters

Introduction to Electronic Engineering
Power Electronics & Applied Electronics
Digital System
Digital Signal Processing
Digital Image Processing

Electronics Circuits

Power Electronics Control

Digital System

Number system basics
Introduction to logic gates
Combinational logic
Karnaugh map
Arithmetic circuit
Coders/ Multiplexers
Counters

Digital Signal Processing

Signal system representation
Fourier/ Z Transform
Discrete Fourier Transform
Principle of filter design
FIR filter design

Digital Image Processing

Introduction
Intensity transformation & spatial filtering
Filtering in frequency domain
Discrete Fourier Transform
Butterworth Low Pass Filter
Butterworth High Pass Filter
Image restoration / Noise analysis

Digital Image Processing

Introduction
Intensity transformation & spatial filtering
Filtering in frequency domain
Discrete Fourier Transform
Butterworth Low Pass Filter
Butterworth High Pass Filter
Image restoration / Noise analysis

BAE 501 Advanced Power Systems & Power Transmission Networks (3 pt)

Principle of Power System

Source of energy
Steam power station
Hydro power station
Diesel power station
Nuclear power station

Gas turbine power station
Variable load on power station
Interconnected grid system
Economic of power generation
Importance of high load factor
Tariffs
PF improvement
Supply system
Mechanical design of OH line
Corona
Sag
Electrical design of OH line
Performance of transmission line
Line generalised constants
UG cable
Capacitance in 3 core cable
Distribution system
DC Distribution
DC System
AC Distribution
Voltage control
Introduction to switch gear
Circuit breaker
Fuse
Relays
Protection transformers
Substation

Advanced Power System –Power Transmission Network

Consequence of power quality
Power quality & applications
Power quality analysis
Power quality monitoring
Management, control and automation of power quality improvement

Electrical generation and distribution system and power quality disturbances

Integration of hybrid distribution units in power grid
Optimal location and control of multi hybrid model based wind shunt facts to enhance power quality
Power quality and voltage sags indices in electrical power systems.

Power Transmission Line

AASR Conductors
ARC Fault
Circuit breaker rating
Current transformer
Electrical bushing

Electrical fuse
Induction motor model
IP rating
Load factor
Load redundancy
Over current protection
Partial discharge
Per unit system
Phase conversion
Resonance
RL Switching
Sequence network
Short circuit calculation
Symmetrical component
Transformer impedance

Power Transmission Line 2

AC Power Transmission
Insulation Resistance test
Dry type transformer
Electrical software
Insulation resistance test

Electrical Power Generation System

Designing for high temperature and pressure
Turbine components
Burning of fuel
Facts about fuel
Burning gas and oil
Selecting fuel
Water treatment
Heat exchanger
Computer control
System economics

Power System

Transmission & distribution system
Control of power and frequency
Control of voltage and reactive power
Load flow
Faults
System stability
Over voltage and insulation requirement
Substations and protection

Electrical Power

Power line
Neutral earthing
Switch gear

Instrument

Protection

Power system

Generator response to system faults

Calculation of fault current

Symmetrical components

Commissioning electrical plant

Power System Technology

Power system fundamental

Modern power system

Power control devices

Operational control system

Power conversion

Specialised testing & measurement devices

Generation , Transmission and Distribution of Electric Power

Voltage transient and line surge

Transmission of electrical energy

Corona

UG Cable

Voltage drop in distribution

Regulation

Line and machine chart

Voltage regulation stability

Fault calculation in line

Electrical Power Distribution in Industry & Transmission (Electrical Distribution Engineering)

Planning & design

Electrical design

Mechanical design (Over head)

Mechanical design (Under ground)

Metering

Conductor inductance & capacitance

Power Transmission and Practical Power Distribution

Electric power system

Percentage and per unit quantities

Circuit constants

Assemblies of power system components

Power circuit stability

BAE 502 Linear System (1 pt)

Controllability of linear control system

Finite dimensional linear control system

Linear partial differential equations

Introduction to intelligent control system with high degrees of autonomy

Overview of field

Control system

System identification
Digital and analog
System metrics
System modelling
Classical control
Transform
Transfer functions
Sampled data system
System delays
Poles and zeros
Modern control
State space equation
Linear system solution

BAE 503 Control System (4 pt)

Gain
Block diagram
Feedback control loop
Bode plot
Nichol chart

Stability

Stability
Routh Hurwitz Criterion, Root Locus
Nyquist Criterion
State Space Stability

Controllers & Compensators

Controllability & Observability
System Specifications
Controllers, Compensators
Z - Transform

Non Linear Control Applications

Application of input/ output linearization
Non linear control for 2 stages PF correction converter
Non linear observer based control allocation

Control Engineering MATLAB

Transfer functions and their responses
Frequency response/ Plotting
Closed loop control
Controller design

Feedback and Control System

Introduction to linearized dynamic model
Transfer function model of physical systems
Transient performance / S- Plane
Feedback system modelling / Performance

Dynamic compensation of feedback system

PID Control

Application of PID controllers in motor drive system

Applications of Non Linear Control

Introduction

Phase plane method

Process Control

Analog Signal Conditioning

Digital Signal Conditioning

Final Control

Discrete State Control

Controller Principle

Analog Controller

Digital Controller

Control Loop Characteristics

Numerical Control

Introduction to numerical control machinery

Numerical control system

Programming co-ordinates

Two axis programming

Three axis programming

Maths for numerical control programming

BAE 504 Power System Analysis (1 pt)

Overview

Real & Reactive power injected bus

Classification of buses

Classification of buses

Preparation of data for load flow

Load flow by Gauss Seidel method

Updating load bus voltage

Updating PV bus voltage

Convergence of the algorithm

Solution of a set of non linear equation by Newton Raphson method

Load flow by Newton Raphson method

Load flow algorithm

Formation of Jacobian matrix

Formation of Jacobian matrix

Solution of Newton Raphson load flow

Load flow results

Load flow results

Load flow programs in MATHLAB

Forming Y bus matrix

Gauss Seidel Load Flow

Solving non linear equation using Newton Raphson method

Newton Raphson load flow

Power System Analysis

Transformer

Transmission line model

Gauss Seidel Algorithm

Newton Raphson Iteration

DC Power Flow Algorithm

Modelling

Transient Stability

Power System Analysis

Power Apps Transient Stability validation document for single pole open/ close simulation

(Power flow analysis + FAULT ANALYSIS + Power system dynamics and Stability)

Static Analysis

Introduction

Network model

Active & reactive power flow

Nodal formation of power flow problem

Basic power flow problem

Solution of power flow problems

Fault analysis

Power system dynamics and stability

Synchronous machine model

The swing equation

Power swing in simple system

Oscillation in multi machine system

Voltage stability

Control of reactive power voltage

BAE 505 Power System Optimization (1 pt)

Introduction

Power Flow Analysis

Classic Economic Dispatch

Linear programming method

Mathematical model of economic dispatch

Linear programming model

Optimization of power system performance using facts devices

Optimization of dynamical system

Matrix Eigen Value Method

BAE 506 Power System Stability & Protection (2 pt)

Transient in RL circuit

Symmetrical fault

Transient in RL circuit

DC Source

AC Source

Faults in AC Circuit

Short circuit in unloaded synchronous generator

Symmetrical faults in power system

Calculation of fault current using Z bus matrix

Circuit breaker selection

Symmetrical components & representation of faulted network

Overview

Overview

Real & reactive power

Real & reactive power

Orthogonal Transformation

Sequence circuit for star load

Sequence circuit for delta load

Sequence circuit for synchronous generator

Sequence circuit for symmetrical transmission line

Sequence circuit for transformer

Star/ Star Connected Transformer

Delta/Delta Connected Transformer

Star/ Delta Connected Transformer

Sequence Network

Un- symmetrical Faults

Introduction

Single line to ground fault

Line to line fault

Two lines to ground fault

Fault current computation using sequence network

Transient Stability

Introduction

Power angle relationship

Swing equation

Equal area criterion

Equal area criterion

Multi machine stability

Oscillation in " S " Two areas System

Compensation of power transmission

Introduction

Ideal shunt compensator

Improving voltage profile

Improving power angle characteristics

Improving stability margin

Improving damping power oscillations

Ideal series compensator

Impact of series compensator for voltage profile

Improving power angle characteristics

Improving power angle characteristics

Alternate mode to voltage injection

Alternate mode to voltage injection

Comparison of two modes of operation

Power flow control and power swing damping

Power System Protection

Different types of relays and settings

- Technical feasibility of various options
- Cost of options
- Type of transmission AC/DC
- Number of circuits
- Conductor type
- Transmission loss
- Reactive power support requirements
- Reliability
- Quality of power supply
- Stability aspects of the interconnected system
- Operational planning
- Short circuit levels and breaker requirements
- over voltages and control
- Insulation coordination at substations
- Substation arrangements at the end of line, including switching arrangements.
- Insulation requirements.
- Protection, monitoring, control and automation requirements
- Study of harmonics where needed [as in case of HVDC or when a terminating station is close to sources of harmonics]
- Basic and Detailed engineering related to transmission towers, routes, substations

Philosophy of protective relaying

Fundamental of relaying

Current/ voltage/directional/ differential relay

Distance relaying

Pilot wire relay

Carrier current relay

Voltage transformer

Relay response

Generator protection

Transformer protection

Busbar protection

Line protection

Line protection with distance relay

Line protection with pilot relay

Power system stability

Power system stability Guidelines

Power system stability guidelines for determination and report

Direct stability analysis of electric power system using energy functions

Power system stability –New opportunity for control

Typical power quality and harmonic measurement plots

Robust power system stabilizer design using particle swarm optimisation techniques

Harmonic analysis

Power Quality

Power quality

Electrical protection for power system

Substation automation

Introduction to power quality

Harmonic model of transformer

Substation automation

Modelling analysis of synchronous machines

Life time reduction

Power system modelling under non sinusoidal condition

Impact of power quality on reliability

Role of filters in power system

BAE 507 Electro-mechanical Energy Conversion (2 pt)

Basic semiconductor physics

PN Junction semiconductor

Power switching devices

Electrical rating of switching devices

Cooling

Load/ switch communication

Driving semiconductor & thyristor

Protecting diode / Thyristor/ Transistors

Switching circuit energy recovery

Series , parallel devices operation protection

Naturally commutating converter

AC Voltage Regulator

DC choppers

Power inverters

Switched mode & resonant DC-DC power supplies

Capacitors

Soft magnetic materials

Resistors

Motor Control Electronics

AC Induction motor control

Motor control MCU

Networking for motor control system

DC motor control design

Motor control electronic devices

Power semi conductors

Mechatronics/ Robotics

Robotics Application

Robotic Gears

Interfacing

Robotic Sensors

Communication

BAE 508 Industrial Engineering & Industrial Management (1 pt)

Effective management decision making

Chapter (1) Introduction

Business Information System

Chapter (1) Defining Information System

Chapter (7) Acquiring Information System

Chapter (8) Developing Information System

Managing Human Resources in 21 Century

Chapter (3) Human resources Management

Management Basics

Chapter (2) The Manager's Job

Chapter (4) Planning in Organization

Operation Management

Chapter (1) Introduction

Chapter (2) Operation Strategy

Chapter (10) Work System Design

Chapter (11) Project Management

Chapter (12) Inventory Management

Quality Management

Chapter (7) Leadership in Quality Management

Chapter (8) Strategic Quality Management

Chapter (15) Implementing Quality Management

Strategic Financial Management

Chapter (1) Finance An Overview

Chapter (2) Capital Budgeting

Chapter (5) Equity Valuation & Cost of Capital

Strategic Management

Chapter (2) The Basic of Strategy

Chapter (3) The Levels of formulation of strategy

Chapter (6) External analysis

Chapter (7) Internal analysis

Chapter (10) Strategy implementation

Understanding organization part 1

Chapter (3) Organization structure

Chapter (4) Organization culture

Chapter (5) Managing behaviour

Chapter (6) Effective leadership

Part (2) Competency Units

Mgt 501 Basic Management & Communication Skills (1 pt)

Textbook – Mgt 501 Management Basics

Chapter (1) Management basics

Chapter (3) Planning

Chapter (5) Organizing

Chapter (6) Organizing the organization

Chapter (7) Leading

Textbook—Mgt501 Management Briefs

Chapter (2) Leadership

Chapter (5) Motivation

BAE 601 Computer Programming (3 pt)

Part (1) Overview Knowledge of the subject

Select any of the following textbooks

- C Programming
- C++ Programming
- C# Programming
- Object Oriented Programming
- C Programming in Linux

IT 401 Object Oriented Programming (1 pt)

IT 402 Structured Programming (1 pt)

IT 403 Visual Basic Programming (1 pt)

BAE 602 Computer Network (1 pt)

Computer Network

Peer to peer networking

Client server networking

Network hardware

Network cable

Hub

Wired network

Wireless network card

Firewall

Wiring the network

Wiring the network

Running the network program

Viewing network connection

Network set up on additional computers

Viewing network connection

Introduction

Network model

Data and signals

Data and signals

Data rate limit

Performance

Digital transmission

Digital transmission

Analog transmission

Analog transmission

Bandwidth utilization/ Multiplexing/
Spreading

Bandwidth utilization/ Multiplexing/
Spreading

Transmission media

Error detection & correction

Error detection and correction

Defining needs

Area covered

Organization information requirement

System VS Procedure

Types of systems

What are the systems?

Infrastructure

Support system

Data mart

Organizational structure

Planning for system development

System design

Security of information system

Risk management

BAE 603 Software Engineering (2 pt)

Introduction

Software process

Feasibility study

Project management

Documentation, Requirement analysis

Requirement specification

Business/ Legal aspect

Source code management

Formal specification

Object oriented design 1

Object oriented design 2

Object oriented design 3
System Architecture 1
System Architecture 2
System Architecture 3
Design for utility
Performance of computer system
Coding standard/ Tools for designing 1
Dependable system 1 Reliability
Dependable system 2 Validation
Law aspect
Risks in software engineering
Software engineering as engineering

Nano Technology

What is Nano technology?
Motivation for Nano technology
Scaling laws
Nano technology

BAE 604 Telecommunication Engineering (2 pt)

Communication fundamental
Information & bandwidth
Amplitude modulation transmission
Amplitude modulation reception
Single side banded communication
Frequency modulation –Transmission
Frequency modulation –Reception
Communication Techniques
Communication Receivers
Pulse Modulation
Code transmission
ISDN
Transmission lines
Wave propagation
Antenna
Fibre optics

Data Communication

Overview of data communication
Data terminals
Message and transmission channels
Asynchronous modems and interfaces

Synchronous modem and digital transmission

Protocol and error control

Electronics Telecommunication

RF Transmission

Transmission Lines & Antennas, Video signals

BAE 605 Engineering Management (5 pt)

Part (1) Overview Knowledge of the subject

Completion of BAE 508 Overview also completes BAE 605 Overview

Part (2) Competency Units

Mgt 502 Operation Management (1 pt)

Mgt 503 Production & Operation Management (1 pt)

Mgt 504 Project Management (1 pt)

Mgt 505 Quality Management and Manufacturing Engineering (1 pt)

Mgt 506 Strategic Financial Management (1 pt)

Mgt 502 Operation Management (1 pt)

Chapter (3) Product design and process selection

Chapter (4) Total quality management

Chapter (7) JIT & Lean System

Chapter (8) Capacity planning

Mgt 503 Production & Operation Management (1 pt)

Chapter (6) Planning production

Chapter (7) Managing inventories-Material requirement planning

Chapter (11) Manufacturing

Chapter (13) Dealing with technology and design

Chapter (15) Operation strategy

Mgt 504 Project Management (1 pt)

Chapter (1) Project management

Chapter (2) Project organization

Chapter (4) Project plan

Chapter (5) Progress & performance measurement

Chapter (6) Risk management

Chapter (7) Documentation/ Audit/ Closure

Mgt 505 Quality Management and Manufacturing Engineering (1 pt)

Chapter (2) Background

Chapter (3) Why quality management

Chapter (5) Standards and models

Chapter (5) Progress & performance measurement

Chapter (8) Strategic quality management

Chapter (7) Documentation/ Audit/ Closure

Mgt 506 Strategic Financial Management (1 pt)

Chapter (3) Capital budgeting

Chapter (4) Treatment of uncertainty

Chapter (6) Debt valuation and cost of capital

BAE 606 Building Service Electrical & Mechanical Engineering (2 pt)

Building Construction 1

Making building
Foundations
Wood
Interior finish for wood light frame construction
Wall types
Concrete construction

Air-conditioning & Refrigeration

Controlling the temperature of mass
Electric heat
Humidification
Air-conditioning –Cooling / Comfort
Air-distribution & Balance
Reference Tables

Sanitation & Water Supply

Design of onsite sanitation system
Hydraulic design of sewers

Building Electrical & Mechanical System Part 1

Climate comfort and design strategies
Thermal control
Designing for heating cooling
Large building HVAC system
Water and basic design
Water supply
Water and waste
Fire protection
Fire protection
Illumination
Lighting design
Signal system

Airconditioning and Refrigeration

Theory of heat
Solar heat
Humidification
Air-conditioning-Cooling
Air-distribution & Balance
Air-conditioning Calculation worksheets

BAE 607 Radio Wave Propagation & Microwave Techniques (2 pt)

Radio Wave Propagation

Introduction to radio wave propagation

Propagation features/ Overviews

Electromagnetic waves, Propagation through atmosphere

Antenna

Radio wave propagation fundamentals

Antennas and propagation

Mobile radio propagation

Propagation

Wave propagation

Radio navigation

Wireless communication

Microwave Technique

Microwave antenna and radio wave propagation

Distributed element circuit analysis techniques

Matching networks

Couplers, combiners, dividers

Mixers

Gain and stability

Noise

Electromagnetism and RF Propagation

Antenna Fundamental

Communication system

RF Safety

Rain attenuation of microwave and milli-meter wave signals

Design of microwave filters (Vol 1)

Mechanically & magnetically tunable microwave filters

Design of microwave filters (Vol 1)

General applications of filter structure in microwave engineering

Properties of some common microwave filter elements

BAE 608 Professional Engineer Competency Demonstration Report

- The students will have to write Engineering Competency Demonstration Report based on their academic study and work experiences gained after completion of academic study.
- Competency Demonstration Report is voluntarily to be submitted. It prepares the students to have the necessary skills to gain the membership of Engineers Australia later.
- The outlines of Competency Demonstration Report will be provided to the students after completion of the last course work subject.

BAE421 Building Construction Engineering

1 Basic skills

1 Isometric drawing

1 Retaining walls & Post footings

1 Stair

1 Doors & Windows

1 Trusses

1 Buildings

1 Collar truss

1 Howe truss

- 1 Timber
- 1 Steel
- 1 Brick masonry
- 1 Timber
- 1 Brick-nogging
- 1 Steel
- 1 Reinforced concrete
- 1 Floor plans
- 1 Foundation plan
- 1 Cross section
- 1 Front elevation
- 1 Back elevation
- 1 Left side elevation
- 1 Right elevation
- 1 Culverts
- 1 Bridges
- 1 Buildings
- 1 Pipe culvert
- 1 Box culvert
- 1 Slab culvert
- 1 Deck and girder bridge
- 1 Half top plan of culvert
- 1 Half bottom plan of culvert
- 1 Cross section of culvert
- 1 Longitudinal section of culvert
- 1 Elevation of culvert
- 1 Mix Design
- 1 Permissible water cement ratio

BAE422 Estimating (2 pt)

- 1 Preliminary estimates
- 1 Detailed estimating
 - Culverts
 - Bridges
 - Buildings
 - Roads
- 1 Analysis of rates
- 1 Detailed Estimating
- 1 Buildings
- 1 Up to plinth level
- 1 Above plinth level
- 1 Culverts

- 1 Bridges
- 1 Roads
- 1 Earthworks
- 1 Analysis of Rates
- 1 Total workdone
- 1 Material and labour requirements
- 1 Estimated cost
- 1 Actual PAE or CCE or RFT
- 1 Complete items
- 1 Quantity
- 1 Measurements
- 1 Content calculation
- 1 Rates
- 1 Buildings
- 1 Above plinth level
- 1 Culverts
- 1 Analysis of rates

BAE423 Fluid Mechanics (2 pt)

- 1 *Methods of Application of water*
- 1 *Water Logging, Drainage, land reclamation and irrigation management*
- 1 *Theoretical Concepts of Boundary Layer, Surface Roughness, Velocity Distribution*
- 1 *Gradually varied flow*
- 1 **Scale Model in Hydraulic Engineering**
- 1 Surface irrigation methods
- 1 Subsurface irrigation methods
- 1 Sprinkler irrigation
- 1 Drip or trickle irrigation
- 1 Flooding Methods
- 1 *Wild or uncontrolled Flooding*
- 1 *Controlled Flooding*
- 1 *Flooding from field channels*
- 1 *Border strip methods*
- 1 *Check method*
- 1 *Basin method*
- 1 *Zig-zag method*
- 1 Furrow Method

1 Contour Farming

BAE424 Reinforced Concrete (2 pt)

1 Design of Concrete Structures

1 FUNDAMENTALS OF FLEXURAL BOND

1 Source of bond strength

1 Bond Stress Based on Simple Cracked Section Analysis

1 Actual Distribution of Flexural Bond Stress

1 Development Length

1 Factors influencing Development Length

1 ACI CODE PROVISION FOR DEVELOPMENT OF TENSION REINFORCEMENT

1 ANCHORAGE OF TENSION BARS BY HOOKS

1 Development Length and Modification Factors for Hooked Bars

1 ANCHORAGE REQUIREMENTS FOR WEB REINFORCEMENT

1 Special Requirements near the Point of Zero Moment

1 Structural Integrity Provisions

BAE425+525 Timber Engineering (2 pt)

1 Bending Stress and Deflection of Wood Joists

1 Shearing Stress Caused by Stationary Concentrated Load

1 Shearing Stress Caused by Moving Concentrated Load

1 Strength of Deep Wooden Beams

1 Design of a Wood-Plywood Beam

1 Determining the Capacity of a Solid Column

1 Design of a Solid Wooden Column

1 Investigation of a Spaced Column

1 Compression on an Oblique Plane

1 Design of a Notched Joint

1 Allowable Lateral Load on Nails

1 Capacity of Lag Screws

1 Design of a Bolted splice

1 Investigation of a Timber-Connector Joint

BAE521 Road & Bridge (2 pt)

1 Hydraulic Design of Bridge

1 The establishment of afflux levels

1 Back water levels

1 Long Contraction

1 Yarnell's empirical equation

1 The limiting values of σ

1 Skewed bridges

- 1 Discharge computation
- 1 Scour depth under the bridge
- 1 Scour around bridge piers
- 1 Scour protection works around bridge piers
- 1 Road bridge

BAE522 Rock Mechanics (2 pt)

+

BAE523 Soil Mechanics (2 pt)

- 1 Soil
- 1 Soil Mechanics
- 1 Geotechnical Engineering
- 1 Subsoil Exploration
- 1 Testing (In-situ Tests & Laboratory Tests)
- 1 SPT, CPT, Vane Shear Test
- 1 Moisture content
- 1 Index Properties Tests (LL, PL, SL)
- 1 Grain Size Distribution Test (Sieve Analysis & Hydrometer)
- 1 Specific Gravity
- 1 Shear Strength Tests (Tri-axial Compression:, Direct Shear, Unconfined Compression:)
- 1 Compaction test, CBR Test
- 1 Consolidation Test, Permeability Test

BAE 523A Environmental Engineering

- Distribution of water
- Requirement for good distribution system
- METHOD OF DISTRIBUTION
- Gravity System
- Combined gravity and pumping system
- Pumping system
- PRESSURE IN DISTRIBUTION MAINS
- SYSTEM OF WATER SUPPLY
- CONTINUOUS SYSTEM
- INTERMITTENT SYSTEM

- DRAWBACKS OF INTERMITTENT SYSTEM
- DISTRIBUTION RESERVOIR
- CAPACITY OF DISTRIBUTION RESERVOIR
- **Mac Donald's equation**
- DETERMINATION OF STORAGE CAPACITY
- Hydrograph method
- Mass curve method
- HEAD LOSS DUE TO FRICTION
- Darcy Weisbach formula
- Hazen William formula
- Manning's formula
- Combined Darcy Weisbach and Colebrook White formula
- LAYOUT OF DISTRIBUTION SYSTEM
- Dead end system or Tree system
- Grid iron system or Reticular system
- Circular system or ring system
- Radial system
- ANALYSIS OF PRESSURE IN DISTRIBUTION SYSTEM
- Equivalent pipe method
- Hardy cross method

BAE621 Structural Engineering (3 pt)

- 1 DESIGN OF A SLAB BRIDGE
- 1 FOUNDATION SETTLEMENTS
- 1 Major problems with soil settlement analysis
- 1 Settlement classification
- 1 Immediate settlement & consolidation settlement
- 1 Stresses in soil mass
- 1 Approximate method (2:1 slope)
- 1 Boussinesq's method
- 1 Westergaard's method

BAE623 Surveying & Traffic Engineering (2 pt)

- 1 Airport Runway Orientation
- 1 Wind Rose Diagram
- 1 Highway Pavement Performance
- 1 Traffic
- 1 Roadbed Soils (Sub grade Material)
- 1 Materials of Construction

- 1 Environment
- 1 Drainage
- 1 Reliability
- 1 Transportation Engineering
- 1 Transportation Planning
- 1 Urban Transportation Planning
- 1 Urban Transportation Planning Process
- 1 Coding and Zoning
- 1 Inventory Studies
- 1 Travel Studies
- 1 Forecasts for the Horizontal Year
- 1 Trip General Analysis
- 1 Trip Distribution Analysis
- 1 Modal Split Analysis
- 1 Network Assignment Analysis
- 1 Evaluation

BAE624 Water Supply , Sanitation & Finishing (2 pt)

- 1 Water Quality
- 1 Dissolved Oxygen
- 1 BOD (Biochemical Oxygen Demand)
- 1 COD (Chemical Oxygen Demand)
- 1 Water Sampling
- 1 Requirements for good Sampling Procedure

BAE622 Architecture (3 pt)

Refer any architecture text book , study & prepare the report on practical application problem given by the tutor.

BAE511 Air-conditioning & Refrigeration

- 1 Heat transfer by Conduction
- 1 Convection
- 1 Radition
- 1 Thermal Conductivity, k
- 1 Boundary and Initial Conditions
- 1 Properties and state
- 1 The System
- 1 Internal energy (U)
- 1 Enthalpy (H)
- 1 Work (W)
- 1 Heat (Q)

- 1 Specific Head Capacity (c)
- 1 Heat Engine
- 1 The characteristic equation of a perfect gas
- 1 Expansion processes
- 1 Adiabatic process
- 1 Isothermal Process

BAE613 Mechanical Instrumentation Process

- 1 Problem-solving Methodology
- 1 Matlab Environment
- 1 Initializing Variables
- 1 Data Format
- 1 Printing Matrices
- 1 Useful Commands and Functions
- 1 Fundamental Engineering Computations
- 1 Two-Dimensional Arrays and Matrices
- 1 Variational Method
- 1 Collational Method
- 1 Subdomain Method
- 1 Galerkin's Method
- 1 Least Square Method

BAE614 Machine Design

- **Balancing**
- **Forces**
- **Cam Profile**
- **Resultant Effects of Engine**
- **Arrangement to balance the primary moment (C.W)**
- **V-Engine Mechanism**
- **FORCES IN ENGINE**
- **Inertia Forces and D'Alembert's Principle**

BAE512 Building Service Water Supply System

- Pressure loss in duct
- Pressure loss in duct by loss coefficient method
- Pressure loss in duct by Equivalent Length Method
- To find the duct size by Equal Friction Method
- To find the duct size by Balance Capacity Method
- Design the duct system

BAE311 Plant Engineering (2 pt)

- **Three Degree of freedom**
 - (a) **Newton's method**
 - (b) **Mechanical Impedance method**
 - (c) **Influence coefficients**
 - (d) **Matrix method**
 - (e) **Holzer method**
 - (f) **Matrix Iteration method**
- **INTRODUCTION TO CONTROL SYSTEM**
- **DIFFERENTIAL EQUATIONS**

- **LINEARIZATION OF A NON-LINEAR FUNCTION**
- **MODELLING OF CONTROL SYSTEMS**
- **FREQUENCY RESPONSE METHODS**
- **Stability**

BAE312 Design Engineering (2 pt)

This unit is the same as

[BAE621 Structural Engineering \(3 pt \)](#)

BAE313 Environmental Control (2 pt)

This unit is the same as

[BAE 523A Environmental Engineering](#)

BAE314 Mechanical Power Generation (2 pt)

- **PLC Basics**
- **PLC Structure**
- **PLC in Comparison with Other Control Systems**
- **PLC's CPU**
- **PLC's Memory**
- **PLC in Comparison with Other Control Systems**
- **PLC's CPU**
- **PLC's Memory**
- **Programming Devices**
- **Programming Languages**
- **Instruction Set**
- **Typical Combinations of Languages**
- **Basic Symbols**
- **Elementary Logic Circuit**
- **PLC's Functions**
- **Industrial Programming**
- **PLC PRACTICE**
- **Selection of PLC**
- **Types of I/O & Capacity Needed**
- **Control System Basic**
- **Sequence Control**
- **Automatic Control**
- **Terms of Sequence Control**
- **Basic Knowledge on Contacts**
- **INDUSTRIAL MACHINE CONTROLS**

BAE315 Materials Engineering (2 pt)

- Load, Stress and Strain, Hook's law ,
- Principal of Superposition
- Tensile Test , Factor of Safety
- Strain Energy, Resilience
- Impact Loads
- Varying Cross-section and Loads
- Strain Energy , Resilience
- Compound Bars
- Temperature Stresses

Elective (2 pt)

Subjects
BAE513 Production Technology
BAE611 Maintenance Engineering

BAE612 Engineering Metallurgy

Refer any text book , study & prepare the report on practical application problem given by the tutor.

Bachelor of Applied Science (Information Technology)**Year 1+2 Refer Diploma & Advanced Diploma in Information Technology Detailed Contents****Bachelor of Applied Science (Computer Science & Computer Technology)****Year (3)**

Unit	Topics	Reference	Points
ICT 301	General Electrical Knowledge	EE101	3
ICT 302	Digital Electronics	EE209/H012	3
ICT 303	Amplifier	EE208/H013	3
ICT 304	Material Science	E081	3
EE204	Physics	E046	3
EE201	Mathematics 1	E050	3
EE202	Mathematics 2	E026	3
EE306	Basic Control	I008	3
BAE605	Management		3
BAE408	Analog & Digital Electronics		3
		TOTAL	30

Year (4)

Unit	Topics	Reference	Points
ICT 401	Advanced Mathematics 1	BAE401	3
ICT 402	Advanced Mathematics 2	BAE402	3
BAE604	Telecommunication System		3
BAE508	Project Management		3
ICT 305	Professional Programming (1) C++		3
ICT 403	Professional Programming (2) Object Oriented		3
ICT 404	Professional Programming (3) Java		3
ICT 405	Professional Practice (1) Network		3
ICT 406	Professional Practice (2) Website		3
ICT 407	Artificial Intelligence		3
		TOTAL	30

Refer Diploma & Advanced Diploma in Electrical Engineering Detailed Contents**ICT 305 Professional Programming (1) C++**

- Introduction
- Basic program architecture

- Variables
- Console programs
- Program control
- String
- Arrays
- Object oriented programming
- Classes
- Design of classes
- Methods
- Inheritance
- The class object
- Abstract classes
- Interfaces
- Static members
- More about arrays
- Types
- Enum
- Struct
- Generic types
- Exception handling
- Comments
- Extension methods
- Collection classes
- List Stack
- Linked list
- Dictionary
- Text file
- Binary files
- Object serialization
- Lottery
- Expression

ICT 403 Professional Programming (2) Object Oriented

object-oriented-programming-using-c-sharp

- Introduction to object oriented programming
- Unified Modelling Language (UML)
- Inheritance & Method Overriding
- Object rules & the importance of polymorphism
- Overloading
- Object oriented software analysis and design
- Generic collection & how to serialize them
- C# development tools
- Creating & using exceptions
- Agile programming
- Case studies

ICT 404 Professional Programming (3) Java

object-oriented-programming-using-java

- Introduction to object oriented programming
- Unified Modelling Language (UML)
- Inheritance & Method Overriding
- Object rules & the importance of polymorphism
- Overloading
- Object oriented software analysis and design
- Collection framework
- Java development tools
- Creating & using exception
- Agile programming
- Case study

ICT 405 Professional Practice (1) Network

This competency standard unit covers develop services for network clients for emails, internet access, shared resources and the like. It encompasses safe working practices, installing and configuring Domain Name Server (DNS), email servers, Dynamic Host Configuration Protocol (DHCP), remote access servers, Network Address Translation (NAT), directory services, Authentication Servers and documenting development activities.

Essential knowledge and associated skills

This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices and developing network services.

The extent of the essential knowledge and skills required is given Volume 2 Part 2, Clauses

Network infrastructure

Evidence shall show an understanding of network infrastructure to an extent indicated by the following aspects:

- a. Domain Name Service (DNS) encompassing
 - DNS Server Service
 - Root name server
 - Configuring zones
 - a. *Note:* Examples include configuring for dynamic updates and delegating zone for DNS
 - Caching – only server
 - DNS client
 - Testing DNS Server service
 - Manually creating DNS source
 - Managing and monitoring DNS
- b. Dynamic Host Configuration Protocol (DHCP)
 - Installation of DHCP Server Service
 - DHCP scopes, superscopes and multicast scopes
 - DHCP – DNS integration
 - Active Directory™
 - Managing and monitoring DHCP
- c. Network Infrastructure encompassing
 - Configuring and troubleshooting remote access
 - a. *Note:* Examples include remote access policy, configuration of remote access profile, Virtual Private Network (VPN), multi link connection, routing and remote access for DHCP
 - Managing and monitoring remote access
 - Remote access security
 - *Note.* Examples include authentication protocols, encryption protocols and access policy
- d. Network Protocols encompassing
 - Installation, configuration and troubleshooting of network protocols
 - a. *Note:* Examples include Transmission Control Protocol / Internet Protocol (TCP/IP), NWLink and network bindings
 - Configure TCP/IP packets
 - Configuring and troubleshooting network protocol security and IP Security (IPSec)
 - Managing and monitoring network traffic
- e. Internet Naming Services in a network encompassing
 - Installation, configuring and troubleshooting
 - Configuring Internet Naming Services replication
 - Configuring an application networking interface
 - Managing and monitoring Internet Naming Services
- f. IP Routing encompassing
 - Installation, configuring and troubleshooting of IP routing protocols
 - a. *Note:* This includes updating routing tables, and implementing demand-dial routing
 - Managing and monitoring IP routing
 - a. *Note:* This includes border routing, internal routing and IP routing protocols
- g. Network Address Translation (NAT) encompassing

- Installing Internet connection sharing
- Installing NAT
- Configure NAT properties and interfaces
- h. Certificate Services encompassing
 - Installing and configuring Certificate Authority
 - Issuing and revoking certificates
 - Removing the Encrypted File System recovery keys

· **Directory services**

Evidence shall show an understanding of directory services to an extent indicated by the following aspects:

- a. Installing and configuring directory services encompassing
 - Installing forests, trees and domains including automatic domain controller
 - Creating sites, subnets, site links and connection objects
 - Configuring server objects including site membership and global catalogue designation
 - Transferring of operations master roles
 - Verification and troubleshooting of directory services installation
 - Implementation of and organisational unit structure
- b. Domain Name Service (DNS) for directory services encompassing
 - Installation and configuration of DNS for directory services
 - a. *Note:* Examples are integration with existing DNS infrastructure, configuration of zones for dynamic and secure dynamic updates and creation and configuration of DNS records
 - Management, monitoring and troubleshooting of DNS
- c. Change and Configuration Management encompassing
 - Implementing and troubleshooting Group Policy
 - a. *Note:* Examples are Group Policy Object (GPO), linking to an existing GPO, delegation of administrative control of Group Policy, filtering of Group Policy settings by using security groups and modification of Group Policy prioritisation
 - Managing and troubleshooting user environments using Group Policy
 - Configuring directory services to support Remote Installation Services (RIS) including configuration of RIS options and security.
- d. Components of a directory service infrastructure encompassing
 - Management of directory objects
 - a. *Note:* Examples are moving objects, publishing resources in the directory service infrastructure, location of objects in the directory service infrastructure, creation and management of objects manually and by scripting, access control of objects and delegation of administrative control
 - Monitoring, optimisation and troubleshooting of the directory services infrastructure performance and replication
 - Backup and restoring directory services infrastructure
 - a. *Note:* Examples are authoritative and non authoritative restoration of directory services, restoration from systems failure and the seizing of operations master roles
- e. Security encompassing
 - Applying security policies using Group Policy
 - Creating, analysing and security modification by using Security Configuration and Analysis snap-in and the Security Templates snap-in
 - Implementation of an audit policy
- f. Monitoring and analysing security events

Multi-layer switched networks

Evidence shall show an understanding of multi-layer switched networks to an extent indicated by the following aspects:

a) Campus network design encompassing:

- o core layer
- o distribution layer
- o access layer
- o selection of appropriate devices
- o defining workgroups

b) Managing Redundant Links encompassing:

- o Spanning Tree Protocol (STP)
- o Controlling STP in redundant environments
- o STP in Virtual Local Area Network (VLAN) environments
- o Configuring redundant routing protocols for a fault-tolerant routing

Note. An example is Hot Standby routing protocol (HSRP)

c) Fast layer 2 services encompassing:

- o Fast Ethernet
- o Trunking
- o Fast Ether channels
- o Gigabit services

d) Inter VLAN Routing encompassing:

- o Hardware vs. Software switching
- o Overview of fast switching technologies
- o Elements of a multi-layer switch
- o Configuring multi-layer switches

e) Multicast encompassing:

- o Multi-cast group management
- o Configuring multi-cast control at layer 2
- o Configuring multi-cast control at layer 3

f) Controlling Access to the Campus Network

g) Managing Network Traffic

ICT 406 Professional Practice (2) Website

This unit covers installation, set up, implementation and provision of on-going support of web services. It encompasses working safely, installing and administering server software and databases, server side scripting, configuring access and security and documenting work activities.

Development, implementation and testing HTML pages with at least four of the following features:

Relative and absolute links, images and table formatting
Cascaded styles sheets
Forms
New browser windows
Validation of form data

Development, implementation and testing of server scripting for database access with at least four of the following features:

Form data input response
Form data processing
Database access
Output of database table contents
Insertion of table data to database

Installation and administration of key features of Web and Web application servers

Programming elements

Evidence shall show an understanding of the programming elements to an extent indicated by the following aspects:

- a) Algorithm Design encompassing:
 - o Problem Definition
 - o Steps in Problem-Solving
 - o Modular Design
 - o Top-Down Design
 - o Flow-Charts and Structured Programming
 - o Pseudo-Code
 - o Filtering allowable Data Input
 - o Using standard Input & Output methods
 - o Object-Oriented Design (brief intro.)
 - o Documentation Rationale
 - o Acceptable Documentation Method
- b) Machine-Code, Assemblers and Compilers
- c) Brief History of Languages & Limitations
- d) Parameters of different programming languages encompassing:
 - o Constants and variables
 - o Data types and declarations
 - o Logical flow control
 - o Detecting breaches of structure
 - o Documentation instruction examples
 - o Procedures and function calls
 - o Parameter-passing
 - o Local and global variables
 - o Object-oriented methods
 - o Classes and objects,
 - o encapsulation and inheritance.
 - o Visual programming methods
 - o General-purpose program libraries
- e) Data structures encompassing:
 - o Records
 - o Arrays
 - o File Input/output
- f) Testing and validation encompassing:
 - o Sequencing the process
 - o Inconsistencies detection

Note, An examples is comparing code to documentation, commonly called —Desk-Checking'.

- o Test data selection
- o Modular testing & debug
- o Problems with using

Client side programming

Evidence shall show an understanding of client side programming them to an extent indicated by the following aspects:

- a) Client server architecture
- b) Hyper Text Markup Language (HTML) encompassing:
 - o Forms
 - o Table
 - o Cascading style sheets
- c) Hyper Text Markup Language (HTML) scripting encompassing:
 - o Exposed object model
 - o Events and event handling
 - o Objects methods, properties, events
 - o Window, document, form, and form elements
 - o String object, methods, properties
 - o Form field validation

Note: Examples of scripting language are JavaScript and Visual Basic (VB) Script

- d) Extendable Markup Language (XML) encompassing:
 - o Syntax
 - o Structure (well formed XML)
 - o Schemas
 - o Transformations
 - o Parsing Document Object Model (DOM) and Simple API (SAX)
 - o Scripting to Document Object Model (DOM)

- e) Extendible Stylesheet Language (XSL) generating HTML from XML
- f) Wireless thin client programming

Note. Examples include Java2 Micro Edition (JME), Mobile Information Device Profile (MIDP), Windows CE and Palm OS

- g) Consideration for system architecture
- h) Configurations and profile overview

Server scripting

Evidence shall show an understanding of server scripting the to an extent indicated by the following aspects:

- a) Client server architecture
- b) Web and Application Servers
- c) Server scripting languages e.g. JSP, ASP, PHP, Perl
- d) Server script Tags
- e) Integrating script with HTML
- f) Server script object model
- g) Request, Response, Session, Application
- h) Using server objects
- i) Server components
- j) Using components in server scripts
- k) Scope of server components e.g. session, page, application
- l) Component get / set methods
- m) Deploying server components
- n) Advanced server scripting concepts

Database access

Evidence shall show an understanding of database access to an extent indicated by the following aspects:

- a) Relational Databases encompassing:
 - o Tables, keys, design rules and normalisation
 - o Database management utilities

Note. Example include MSSQL, MYSQL and Access

- b) Structural query language (SQL) queries encompassing:
 - o Select, insert, update and delete processes
 - o Application of conditionals _where', _distinct' and _like'
 - o Create and dropping tables

- c) Data Base connectivity components encompassing:
 - o Drivers, data sources
 - o Database connectivity component loading
 - o Query connection and execution
 - o ResultSets / RecordSets
 - o Rows, columns, cursors, concurrency, pooling
 - o Iterating through ResultSets / RecordSets

Note. Example include ODBC, JDBC, ADO

Web applications and services

Evidence shall show an understanding of web servers to an extent indicated by the following aspects:

- a) Comparison of HTTP servers and platforms

Note. Examples include IIS and Apache

- b) Comparison of Application servers and platforms

Note. Examples include J2EE / tomcat, .NET

- c) HTTP Servers encompassing:
 - o Installation requirements and methods
 - o Security configuration
 - o Content publishing and security

- d) WEB application technologies encompassing:
 - o Server installation and deployment
 - o Security

- e) Server scripting technologies encompassing:
 - o WEB application installation and deployment
 - o Application server administration

- f) Web services overview encompassing:
 - o WEB services XML, API, RPC
 - o XML API processing
 - o XML DOM
 - o SOAP (simple object access protocol)
 - o WEB Services Security

ICT 407 Artificial Intelligence

- Paths to artificial intelligent
- Agents and environment
- Framework for agents environment
- Agent oriented programming languages
- Net logo development
- Movement, Behaviour & Decision making
- Terms of movement
- Animated mapping simulation Embodiment
- Reactive versus cognitive agents
- Emergence, Self organization
- Adaptability evolution
- Communication
- Search behaviour

- Reasoning rules and logic
- Knowledge & reasoning using decision trees
- Intelligence
- Design objectives for artificial intelligence
- Computer problem solving ability

Bachelor of Business

Year 1 Refer Diploma in Management Detailed Contents

Year 2 Refer Diploma & Advanced Diploma in Information Technology Detailed Contents

YEAR (3)

Bachelor of Business (E-Business & Management)

The learning system will be based on self study. Read the given references study materials and prepare the project work. You need to read the books in English.

The following units common to MBA course are to be studied.

[Mgt 301 Electronics Business](#)

[Mgt 302 Information Security](#)

[Mgt 303 Management Information System](#)

[Mgt 304 Electronics Commerce](#)

[Mgt 305 Quantitative Methods for Management](#)

[Mgt 306 Human Resources Management](#)

[Mgt 307 Marketing Management](#)

[Mgt 308 Artificial Intelligence](#)

To assess Level 3, you need to write the report of 10 pages each on what you have learnt in the unit.

YEAR (4)

[Mgt 401 Management Project](#)

[Mgt 402 Electronics Business Project](#)

Mgt 301 Electronics Business

- 1 Project Objective
- 1 Business Capabilities
- 1 Benefits
- 1 Deliverables & Dependencies
- 1 Costs
- 1 Financial Appraisal
- 1 Timescales & Milestones
- 1 Success Criteria
- 1 Risks
- 1 the impacts of electronic commerce
- 1 drivers and inhibitors of electronic commerce from the perspective of the CEOs
- 1 the impacts of Electronic Commerce on the Industry Supply Chain
- 1 Electronic Commerce Maturity Model

Mgt 302 Information Security

Fundamentals of network security

Evidence shall show an understanding of fundamentals of network security to an extent indicated by the following aspects:

- a) Network Security fundamentals
- b) Securing Perimeter Routers
- c) Access Control Lists (ACLs)
- d) Router Authentication, Authorisation and Accounting (AAA) Security
- e) Intrusion Detection
- f) Internet Protocol (IP) Security
- g) Virtual Private Network (VPN)
- h) Firewalls
- i) Translations and Connections
- j) Access Control Lists for Firewalls
- k) AAA and Firewalls
- l) Intrusion
- m) Intrusion Detection Systems (IDS)
- n) Firewall Failover and System Maintenance
- o) Firewall VPN's
- p) Firewall Device Management

q Introduction of Computer Networks and Internet :

- v Overview of the Internet, client/server program, circuit switching, packet switching, physical media, queuing delay and packet loss, TCP/IP Service models, Internet Protocol Stack (Layers)

q Application Layer :

- v Service requirements, WWW, HTTP, FTP, Electronic Mail, Domain Name System, Socket programming

q Transport Layer

- v Service models, Multiplexing/Demultiplexing, Connection-less transport (UDP), Principles of reliable data transfer, Connection-oriented transport (TCP), TCP congestion control

q Network Layer :

- v Routing and forwarding, IP(The Internet Protocol) IPv4, IPv6 ,Routing algorithms, Routing in the Internet, Multicast

q Link Layer and Local Area Networks :

- v Link layer services, Error detection and correction, Multiple Access Protocols, Link layer addressing, Ethernet, Hubs and switches, Point-to-Point Protocol

q understand principles of network security:

- v cryptography and its *many* uses beyond "confidentiality"
- v authentication
- v message integrity
- v key distribution
- v security in practice:
 - v firewalls
 - v security in application, transport, network, link layers
- v key distribution
- v security in practice:
 - v firewalls
 - v security in application, transport, network, link layers

Mgt 303 Management Information System (MIS)

- The role of information system
- Hardware & software in enterprise
- Database management system
- Business Telecommunication system
- Communication network
- Network application
- Contemporary mobile service
- Examples of information systems
- Management of MIS
- Managing the Digital Firm
- Emergence of the Digital Firm
- The business information value chain
- A Business Perspective on Information Systems
- Variation in returns on information technology investment
- Sociotechnical Systems
- New Options for Organizational Design:
 - The Digital Firm and the Collaborative Enterprise
 - Redesigned workflow for insurance underwriting
- The Challenges of Information Systems: Key Management issues

Mgt 304 Electronics Commerce

- Types of E-commerce
- Understanding E-commerce: Organizing Themes
- E-commerce Business Models and Concepts
- The Internet and World Wide Web: E-commerce Infrastructure
- Building an E-commerce Web Site
- Online Security and Payment Systems
- Marketing Communications
- E-commerce Marketing Concepts
- Ethical, Social, and Political Issues in E-commerce
- Online Retail and Services
- E-commerce Business Models and Concepts
- The Internet and World Wide Web: E-commerce Infrastructure
- Security and Encryption
- E-commerce Payment Systems
- E-commerce Marketing Communications
- Ethical, Social, and Political Issues in E-commerce
- Online Service Industries
- Supply Chain Management and Collaborative Commerce
- Auctions, Portals, and Communities
- Online Content and Media
- Social Networks, Auctions, and Portals
- Online Content Providers: Digital Media
-

Mgt 305 Quantitative Methods for Management

- Research approach
- Data source
- Qualitative method
- Quantitative Methods
- Experiment research & observation
- Questionnaires survey
- Sampling
- Survey analysis
- Statistical analysis
- Writing research report
- Prescriptive Process Models
- Agile Development

Mgt 306 Human Resources Management

- Meeting Present and Emerging Strategic Human Resource Challenges
- **Managing Work Flow and Conducting Job Analysis**
- Understanding Equal Opportunity and the Legal Environment
- Managing Diversity
- Recruiting and Selecting Employees
- Appraising and Managing Performance
- Rewarding Performance
- Managing Compensation

Mgt 307 Marketing Management

- Company (Distributor) background (e.g. brief history, nature of business, etc.)
- Marketing objective(s) on the Chosen product/service
- S.W.O.T Analysis
- Target customers
- Product Positioning in the market
- Describe the current marketing mix:
 - Product
 - Pricing
 - Distribution
 - Marketing Communications (Promotion)
- overall competitive strategy
- planning the details of the marketing mix.

- sales & marketing materials
- understanding of company's competitors
- Marketing Recommendations for improvement
- marketing strategies

Mgt 308 Artificial Intelligence

This is the same as

ICT 407	Artificial Intelligence
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Mgt 401 Management Project

Mgt 402 Electronics Business Project

Two reports one for Management for (Mgt 303+Mgt 305+Mgt 306) & another for Electronics Business + Marketing (Mgt 301+Mgt 302+Mgt 304+Mgt 307+Mgt 308) subjects are required to be presented.

Each should contain 4000 to 6000 words of how you pursue the study in Management,, Marketing, Electronics Business subjects should be described.

The project should contain management plans, business plan & performance, task, job procedures IT integration etc of the topics of your choices.

<http://www.filefactory.com/file/3dcrz90tirvh/Dip%2BAdv%20Dip%2BB%20Bus%20S%20Course%20Outline.doc>

St Clements University Certificate/ Diploma / Advanced Diploma in Electrical Engineering

Course + Credit Outlines

YEAR 1 Certificate in Electrical Engineering 15 credits

	SEMESTER (1)	Credits
EE101	DC Circuit Problems	1
EE102	Basic Electrical Fitting & Wiring	1
EE103	Basic Electrical Drafting	1
EE104	Electrical Equipments Safety Protection	2
EE105	Electrical Installation Design	1
EE106	Advanced Electrical Wiring	1
EE107	Electrical Equipments	1
EE108	Electrical Fault Finding	1
EE109	Electrical Control Circuits	1
EE110	Computer Applications	1
EE111	Electromagnetism & Basic Electrical Machines	2
EE112	Alternating Current Principle	2
		15 Credits
	Diploma in Electrical Engineering 30 credits	Credits
	SEMESTER (2)	-
EE113	Electrical Fundamental	2
EE114	Electrical Power Principle	1
EE115	Basic Analogue & Digital Electronics	2
EE116	Process Control System	3
EE117	Solar Electrical System	1
EE118	Electrical Energy Supply System	3
EE119	Electrical Risk Assessment	1
EE120	Electrical Contracting & Specification	1
EE121	Electronics Power Control Device	1
		30 Credits

	Advanced Diploma in Electrical Engineering 60 credits	Credits
	SEMESTER (1)	
EE201	Engineering Mathematics	1
EE202	Electrical Circuits	1
EE203	Three Phase Power Circuits	1
EE204	Engineering Physics	1
EE205	Electrical Power System	2
EE206	AC Machines	2
EE207	DC Machine	1
EE208	Operational Amplifiers	2
EE209	Analogue Electronics	1

	SEMESTER (2)	
EE301	Advanced Electrical Drafting	1
EE302	Advanced Engineering Mathematics	2
EE303	Transmission Line	2
EE304	Power System Protection	2
EE305	Power Transformer	2
EE306	Electro-mechanical Control	2
EE307	Energy Efficient Building Design	2
EE308	Sustainability	1
EE309	Project Management	2
EE310	Engineering Officer Competency Report	2
		30 Credits

EE101	DC Circuit Problems
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This unit covers determining correct operation of single source d.c. series, parallel and series-parallel circuits and providing solutions as they apply to various electrotechnology work functions. It encompasses working safely, problem solving procedures, including the use of voltage, current and resistance measuring devices, providing solutions derived from measurements and calculations to predictable problems in single and multiple path circuits.

Evidence shall show an understanding of electrical fundamentals and direct current multiple path circuits to an extent indicated by the following aspects:

T1 Basic electrical concepts encompassing:

- ☐ electrotechnology industry
- ☐ static and current electricity
- ☐ production of electricity by renewable and non renewable energy sources
- ☐ transportation of electricity from the source to the load via the transmission and distribution systems
- ☐ utilisation of electricity by the various loads
- ☐ basic calculations involving quantity of electricity, velocity and speed with relationship to the generation and transportation of electricity.

T2 Basic electrical circuit encompassing:

- ☐ symbols used to represent an electrical energy source, a load, a switch and a circuit protection device in a circuit diagram
- ☐ purpose of each component in the circuit
- ☐ effects of an open-circuit, a closed-circuit and a short-circuit
- ☐ multiple and sub-multiple units

T3 Ohm's Law encompassing:

- ☐ basic d.c. single path circuit.
- ☐ voltage and currents levels in a basic d.c. single path circuit.
- ☐ effects of an open-circuit, a closed-circuit and a short-circuit on a basic d.c. single path relationship between voltage and current from measured values in a simple circuit
- ☐ determining voltage, current and resistance in a circuit given any two of these quantities
- ☐ graphical relationships of voltage, current and resistance
- ☐ relationship between voltage, current and resistance

T4 Electrical power encompassing:

- ☐ relationship between force, power, work and energy
- ☐ power dissipated in circuit from voltage, current and resistance values
- ☐ power ratings of devices
- ☐ measurement electrical power in a d.c. circuit
- ☐ effects of power rating of various resistors

T5 Effects of electrical current encompassing:

- physiological effects of current and the fundamental principles (listed in AS/NZS 3000) for protection against the this effect
- basic principles by which electric current can result in the production of heat; the production of magnetic fields; a chemical reaction
- typical uses of the effects of current
- mechanisms by which metals corrode
- fundamental principles (listed in AS/NZS3000) for protection against the damaging effects of current

T6 EMF sources energy sources and conversion electrical energy encompassing:

- basic principles of producing a emf from the interaction of a moving conductor in a magnetic field.
- basic principles of producing an emf from the heating of one junction of a thermocouple.
- basic principles of producing a emf by the application of sun light falling on the surface of photovoltaic cells
- basic principles of generating a emf when a mechanical force is applied to a crystal

(piezo electric effect)

- principles of producing a electrical current from primary, secondary and fuel cells
- input, output, efficiency or losses of electrical systems and machines
- effect of losses in electrical wiring and machines
- principle of conservation of energy

T7 Resistors encompassing:

- features of fixed and variable resistor types and typical applications
- identification of fixed and variable resistors
- various types of fixed resistors used in the Electro technology Industry. e.g. wire-wound, carbon film, tapped resistors.
- various types of variable resistors used in the Electro technology Industry e.g. adjustable resistors: potentiometer and rheostat; light dependent resistor (LDR); voltage dependent resistor (VDR) and temperature dependent resistor (NTC, PTC).
- characteristics of temperature, voltage and light dependent resistors and typical applications of each
- power ratings of a resistor.
- power loss (heat) occurring in a conductor.
- resistance of a colour coded resistor from colour code tables and confirm the value by measurement.
- measurement of resistance of a range of variable' resistors under varying conditions of light, voltage, temperature conditions.
- specifying a resistor for a particular application.

T8 Series circuits encompassing:

- circuit diagram of a single-source d.c. 'series' circuit.
- Identification of the major components of a 'series' circuit: power supply; loads; connecting leads and switch
- applications where 'series' circuits are used in the Electro technology industry.
- characteristics of a 'series' circuit - connection of loads, current path, voltage drops, power dissipation and affects of an open circuit in a 'series' circuit.
- the voltage, current, resistances or power dissipated from measured or given values of any two of these quantities
- relationship between voltage drops and resistance in a simple voltage divider network.
- setting up and connecting a single-source series dc circuit
- measurement of resistance, voltage and current values in a single source series circuit
- effect of an open-circuit on a series connected circuit

T9 Parallel circuits encompassing:

- schematic diagram of a single-source d.c. 'parallel' circuit.
- major components of a 'parallel' circuit (power supply, loads, connecting leads and

· applications where 'parallel' circuits are used in the Electrotechnology industry.

- characteristics of a 'parallel' circuit. (load connection, current paths, voltage drops, power dissipation, affects of an open circuit in a 'parallel' circuit).
- relationship between currents entering a junction and currents leaving a junction
- relationship between branch currents and resistances in a two branch current divider network.
- calculation of the total resistance of a 'parallel' circuit.
- calculation of the total current of a 'parallel' circuit.
- Calculation of the total voltage and the individual voltage drops of a 'parallel' circuit.
- setting up and connecting a single-source d.c. parallel circuit
- resistance, voltage and current measurements in a single-source parallel circuit
- voltage, current, resistance or power dissipated from measured values of any of these quantities
- output current and voltage levels of connecting cells in parallel.

T10 Series/parallel circuits encompassing:

- schematic diagram of a single-source d.c. 'series/parallel' circuit.
- major components of a 'series/parallel' circuit (power supply, loads, connecting leads and switch)
- applications where 'series/parallel' circuits are used in the Electrotechnology industry.
- characteristics of a 'series/parallel' circuit. (load connection, current paths, voltage drops, power dissipation, affects of an open circuit in a 'series/parallel' circuit).
- relationship between voltages, currents and resistances in a bridge network.
- calculation of the total resistance of a 'series/parallel' circuit.
- calculation of the total current of a 'series/parallel' circuit.
- calculation of the total voltage and the individual voltage drops of a 'series/parallel' circuit.
- setting up and connecting a single-source d.c. series/ parallel circuit
- resistance, voltage and current measurements in a single-source d.c. series / parallel circuit
- the voltage, current, resistances or power dissipated from measured values of any two of these quantities

T11 Factors affecting resistance encompassing:

- four factors that affect the resistance of a conductor (type of material, length, cross-sectional area and temperature)
- affect the change in the type of material (resistivity) has on the resistance of a conductor.
- affect the change in 'length' has on the resistance of a conductor.
- affect the change in 'cross-sectional area' has on the resistance of a conductor.

effects of temperature change on the resistance of various conducting materials

· effects of resistance on the current-carrying capacity and voltage drop in cables.

- calculation of the resistance of a conductor from factors such as conductor length, cross-sectional area, resistivity and changes in temperature
- using digital and analogue ohmmeter to measure the change in resistance of different types of conductive materials (copper, aluminium, nichrome, tungsten) when those materials undergo a change in type of material length, cross-sectional area and temperature.

T12 Effects of meters in a circuit encompassing:

- selecting an appropriate meter in terms of units to be measured, range, loading effect and accuracy for a given application.
- measuring resistance using direct, volt-ammeter and bridge methods.
- instruments used in the field to measure voltage, current, resistance and insulation resistance and the typical circumstances in which they are used.
- hazards involved in using electrical instruments and the safety control measures that should be taken.
- operating characteristics of analogue and digital meters.
- correct techniques to read the scale of an analogue meters and how to reduce the 'parallax' error.
- types of voltmeters used in the Electrotechnology industry – bench type, clamp meter, Multimeter, etc.
- purpose and characteristics (internal resistance, range, loading effect and accuracy) of a voltmeter.
- types of voltage indicator testers. e.g. LED, neon, solenoid, volt-stick, series tester, etc. and explain the purpose of each voltage indicator tester.
- operation of various voltage indicator testers.
- advantages and disadvantages of each voltage indicator tester.
- various types of ammeters used in the Electrotechnology industry – bench, clamp meter, multimeter, etc.
- purpose of an ammeter and the correct connection (series) of an ammeter into a circuit.
- reasons why the internal resistance of an ammeter must be extremely low and the dangers and consequences of connecting an ammeter in parallel and/or wrong polarity.

- selecting an appropriate meter in terms of units to be measured, range, loading effect and accuracy for a given application
- connecting an analogue/digital voltmeter into a circuit ensuring the polarities are correct and take various voltage readings.
- loading effect of various voltmeters when measuring voltage across various loads.
- using voltage indicator testers to detect the presence of various voltage levels.
- connecting analogue/digital ammeter into a circuit ensuring the polarities are correct and take various current readings.

T13 Resistance measurement encompassing:

- Identification of instruments used in the field to measure resistance (including insulation resistance) and the typical circumstances in which they are used.
- the purpose of an Insulation Resistance (IR) Tester.
- the parts and functions of various analogue and digital IR Tester (selector range switch, zero ohms adjustment, battery check function, scale and connecting leads).
- reasons why the supply must be isolated prior to using the IR tester.
- where and why the continuity test would be used in an electrical installation.
- where and why the insulation resistance test would be used in an electrical installation.
- the voltage ranges of an IR tester and where each range may be used. e.g. 250 V d.c, 500 V d.c and 1000 V d.c
- AS/NZS3000 Wiring Rules requirements – continuity test and insulation resistance (IR) test.
- purpose of regular IR tester calibration.
- the correct methods of storing the IR tester after use
- carry out a calibration check on a IR Tester
- measurement of low values of resistance using an IR tester continuity functions.
- measurement of high values of resistance using an IR tester insulation resistance function.
- volt-ammeter (short shunt and long shunt) methods of measuring resistance.
- calculation of resistance values using voltmeter and ammeter reading (long and short shunt connections)
- measurement of resistance using volt-ammeter methods

T14 Capacitors and Capacitance encompassing:

- basic construction of standard capacitor, highlighting the: plates, dielectric and connecting leads
- different types of dielectric material and each dielectric's relative permittivity.
- identification of various types of capacitors commonly used in the Electrotechnology industry (fixed value capacitors -stacked plate, rolled, electrolytic, ceramic, mica and Variable value capacitors – tuning and trimmer)
- circuit symbol of various types of capacitors: standard; variable, trimmer and polarised
- terms: Capacitance (C), Electric charge (Q) and Energy (W)
- unit of: Capacitance (Farad), Electric charge (Coulomb) and Energy (Joule)
- factors affecting capacitance (the effective area of the plates, the distance between the plates and the type of dielectric) and explain how these factors are present in all circuits to some extent.
- how a capacitor is charged in a d.c. circuit.
- behaviour of a series d.c. circuit containing resistance and capacitance components. - charge and discharge curves

the term 'Time Constant' and its relationship to the charging and discharging of a capacitor.

- calculation of quantities from given information: Capacitance ($Q = VC$); Energy ($W = \frac{1}{2}CV^2$); Voltage ($V = Q/C$)
- calculation one time constant as well as the time taken to fully charge and discharge a given capacitor. ($\tau = RC$)
- connection of a series d.c. circuit containing capacitance and resistor to determine the time constant of the circuit

T15 Capacitors in Series and Parallel encompassing:

- hazards involved in working with capacitance effects and the safety control measures that should be taken.
- safe handling and the correct methods of discharging various size capacitors
- dangers of a charged capacitor and the consequences of discharging a capacitor through a person

- ☐ factors which determine the capacitance of a capacitor and explain how these factors are present in all circuits to some extent.
- ☐ effects of capacitors connected in parallel by calculating their equivalent capacitance.
- ☐ effects on the total capacitance of capacitors connected in series by calculating their equivalent capacitance.
- ☐ Connecting capacitors in series and/or parallel configurations to achieve various capacitance values.
- ☐ common faults in capacitors.
- ☐ testing of capacitors to determine serviceability.
- ☐ application of capacitors in the Electrotechnology industry.

EE102	Basic Electrical Fitting & Wiring
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This unit covers fixing, securing and mounting techniques as apply in the various electrotechnology work functions. It encompasses the safe use of hand and portable power tools, safe lifting techniques, safe use of ladders and elevated platforms and the selection and safe application of fixing devices and supporting accessories/equipment.

KS01-EE105A Fixing and support devices/techniques

Evidence shall show an understanding of accessories and support and fixing device and methods and their use to an extent indicated by the following aspects:

T1. Device for securing and mounting electrical/electronic/instrumentation/refrigeration/ air-conditioning/telecommunications accessories for supporting, fixing and protecting wiring/cabling/piping and functional accessories to hollow walls encompassing:

- ☐ types and safe application of devices for hollow wall fixing and support
- ☐ methods/techniques used to fix/support to wood, hollow wall, masonry blocks, plasterboard, panelling
- ☐ types and safe application of fixing devices used in the electrotechnology industry for wood and hollow wall structures (wood screws, coach bolts, self-tappers, self

drilling, metal thread, hollow wall anchors, behind plaster brackets, stud brackets, plasterboard devices, toggle devices)

- ☐ types of tools used for hollow wall fixing and supporting.
- ☐ using various fixing methods to fix/support to hollow walls.

T2. Device for securing and mounting electrical/electronic/instrumentation/refrigeration/ air-conditioning/telecommunications accessories for supporting, fixing and protecting wiring/cabling/piping and functional accessories to solid walls encompassing:

- ☐ types and safe application of devices used for solid wall fixing and support
- ☐ methods/techniques used in to fix to masonry and concrete structures
- ☐ fixing devices used in the electrotechnology industry for solid wall structures (wall-plugs, expanding concrete fixing devices, gas powered fixing tools, powder actuated fixing tools, loxins, dynabolts, chemical devices)
- ☐ regulatory requirements for use of powder fixing tools.
- ☐ hand and power tools used in fixing and supporting accessories
- ☐ using various fixing methods to fix/support to solid walls

T3. Device for securing and mounting electrical/electronic/instrumentation/refrigeration/ air-conditioning/telecommunications accessories for supporting, fixing and protecting wiring/cabling/piping and functional accessories to metal fixing encompassing:

- ☐ accessories that may be fixed to metal (saddle clips, conduits, brackets, switches)
- ☐ techniques for fixing to metal
- ☐ fixing devices: coach bolts, self-tappers, metal thread bolts, hollow wall anchors, rivets
- ☐ fixing tools - spanners, screwdrivers, power screw drivers, pop riveters, files, reamers
- ☐ OH&S issues related to drilling, cutting, eye protection, metal filings, swarf, noise
- ☐ Using power drills, drill bits, change drill speeds.
- ☐ Install a fixing device and accessory capable of supporting up to 20 kg on the metal plate.

T4. Securing and mounting electrical/electronic/instrumentation/refrigeration/ air-conditioning/telecommunications accessories for supporting, fixing and protecting wiring/cabling/piping and functional accessories using fixing adhesives and tapes encompassing:

- ☐ types and safe application of using adhesives and tapes as fixing devices (load limits of different commercial products)
- ☐ accessories that may be fixed using adhesives and tapes
- ☐ techniques for the application of adhesives and tapes
- ☐ tools used to apply and cut adhesives and tapes
- ☐ hazards and safety measures when working with adhesives and chemical fixing devices (fumes, cutting, eye protection, physical contact, hand protection, ingestion)

EE103	Basic Electrical Drafting
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This unit covers the use of drawings, diagrams, cable schedules, standards, codes and specifications as they apply to the various electrotechnology work functions. It encompasses the rudiments for communicating with schematic, wiring and mechanical diagrams and equipment and cable/connection schedules, manuals, site and architectural drawings and plans showing the location of services, apparatus, plant and machinery and understanding the use and format of compliance standards and job specifications.

KS01-EE107A Drawings, diagrams and schedules

Evidence shall show an understanding of drawings, diagrams and schedules used in electrotechnology work to an extent indicated by the following aspects:

T1 Architectural drawings encompassing:

- ☐ site plans, floor plans detailed drawings and standard drawings
- ☐ architectural floor plan to determine the power and lighting or communications / audio/ video layouts required in a domestic installation
- ☐ site plan to locate the service point, consumers mains, communication services, main switchboard, distribution boards and/or builders supplies.
- ☐ standard drawing scales to determine the actual lengths represented by dimensions on an architectural drawing.

- reading and interpretation of floor plans to determine the location of the electrical/ communication/audio accessories and appliances.
- Australian standard symbols used on floor plans to show the location of the accessories

and appliances as detailed in an electrical schedule.

T2 Electrical drawings encompassing:

- types of electrical drawings: block, circuit, wiring and ladder diagrams
- purpose and application of block, circuit, wiring diagrams and ladder diagrams
- Australian standard symbols used to represent components on electrical diagrams.
- conventions used in and the features of circuit diagrams
- converting a circuit diagram to a wiring diagram
- identification of cable type, origin and route from a cable schedule.
- developing a cable schedule for a given installation.

T3 Circuit diagrams encompassing:

- purpose of circuit diagrams in the electrotechnology industry
- conventions used in and the features of circuit diagrams
- sketching basic circuit diagrams
- common symbols used in circuit diagram (Australian Drawing Standard AS/NZS 1102)
- developing switching charts to identify the terminals of various types of switches
- connecting equipment using circuit diagrams.

T4 Wiring diagrams encompassing:

- purpose of wiring diagrams in the electrotechnology industry
- conventions used in and the features of wiring diagrams
- sketching basic wiring diagrams
- common symbols used in wiring diagram (Australian Drawing Standard AS/NZS 1102)
- connecting equipment using wiring diagrams.

T5 Building construction drawings and diagrams encompassing:

- building types: timber frame, brick veneer, double brick and metal frame.
- identification of different types of: footings, floors, external walls, roofs, interior walls
- typical cable routes through buildings, structures and premises
- sequence of each constructional stage for brick, brick veneer and timber cottages
- identification of the stages at which the electrical/communications - first and second fixing occurs in the constructional sequence
- areas of cooperation between electrical/communications and other building trades

EE104	Electrical Equipments Safety Protection
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This unit covers the arrangement and termination of circuits, control and protection devices and systems for electrical installations operating at voltages up to 1,000 V a.c. or 1,500 V d.c. It encompass knowledge and application of schemes for protection of persons and property, correct functioning, ensuring compatibility with the supply, arranging installation into circuits and selecting and arranging switchgear/controlgear and protective devices to meet compliance requirements and documenting arrangement decisions

KS01-EG063A Electrical installations — arrangement, control and protection

Evidence shall show an understanding of circuit arrangements, control and protection of electrical installations that comply with the Wiring Rules and Service Rules to an extent indicated by the following aspects:

T1 Safety principles to which electrical systems in building and premises shall comply.

- Safety principles are given in Part1 (Section 1) of the Wiring Rules AS/NZS 3000 with deemed-to-comply requirements given in Sections 2 to 8.
- Compliant methods for providing protection - include those for providing protection against direct and indirect contact; thermal effects; unwanted voltages; overcurrent; fault currents; overload; overvoltage; injury from mechanical movement.
- Requirements for installation design and selection of equipment - includes compliant protection arrangements; correct functioning; compatibility with supply; estimation of maximum demands; voltage drop considerations; arrangement of circuits and the like

T2 Circuit and control arrangements encompassing:

- reason for dividing electrical installations into circuits
- factors that shall be considered in determining the number and type of circuits required for an installation.
- daily and seasonal demand for lighting power, heating and other loads in a given installation.
- number and types of circuits required for a particular installation.
- diagrams/schedules of circuits for given installations.
- application and arrangements of SELV and PELV circuits
- application and arrangement of an isolated supply

T3 Hazards and risks in an electrical installation encompassing:

- effects on the human body of various levels of a.c. and d.c. current and duration of current flow for various current paths.
- risk of ignition of flammable materials due the thermal effects of current or electric

arcs in normal service of an electrical installation.

- risk of injury from mechanical movement of electrically actuated equipment.
- Protection against direct contact (basic protection)
- acceptable methods
- use of extra-low voltage

T4 Protection against indirect contact encompassing:

- indirect contact with live parts of an electrical installation may occur.
- methods and devices that comply with the Wiring Rules for providing protection against indirect contact.
- components of the 'automatic disconnection of supply' method of protection against indirect contact.
- the terms 'touch voltage' and 'touch current'.
- the current path when a short circuit fault to exposed conductive parts of an appliance occurs.

- protection against indirect contact is by the use of Class II equipment and by electrical separation.
- additional protection by use of Residual Current Devices (RCDs)
- protection against indirect contact by use of extra-low voltage and electrical separation.
- Protection requirements for damp situations.

T5 Earthing encompassing:

- the terms: earthed, earthed situation, earth electrode, equipotential bonding, multiple earthed neutral (MEN) system, protective earth-neutral (PEN) conductor, main earthing conductor, protective earthing (PE) conductor, functional earthing, MEN link.
- selection of minimum size-earthing conductor for a range of active conductor sizes and materials.
- parts of an earthing system and the purpose of each.
- typical arrangement for a MEN earthing system.
- arrangements of protective earthing conductors that comply with the Wiring Rules.
- requirements for equipotential bonding in a range of installation situations.
- Installation of a MEN earthing system for a single phase installation

T6 Protection against overload and short circuit current encompassing:

- overload current or fault currents in an electrical installation.
- equivalent circuit of an earth fault-loop
- level of fault current possible at a given point in an installation from the fault-loop impedance and data from the electricity distributor.
- methods and devices that comply with the Wiring Rules AS/NZS 3000 for providing protection against the damaging effects of overload and fault current
- requirements for co-ordination between protective devices and conductors

requirements for co-ordination of protection devices for discrimination and back-up protection.

T7 Devices for automatic disconnection of supply encompassing:

- operating principles of thermal/magnet circuit breakers.
- operating principles of common types of fuses.
- operating principles of residual current devices (RCD).
- time/current curves tripping characteristics of various types of circuit breakers that comply with the requirements of the Wiring Rules.
- time/current curves fusing characteristics of various types of fuses that comply with the requirements of the Wiring Rules.
- time/current curves tripping characteristics of various types of RCDs that comply with the requirements of the Wiring Rules.
- factors in a fault loop that will affect the impedance of the circuit.
- maximum impedance of an earth fault-loop to ensure operating of a protection device.
- selecting a fuse for fault current limiting protection.
- drawing switchboard wiring arrangements of 2-pole RCDs, 4-pole RCDs, combination RCD/MCBs.

T8 Protection against over voltage and under voltage encompassing:

- causes of over voltage and how this may affect the electrical system.
- methods for protection against over voltage.
- causes of under voltage and how this may affect the electrical system.
- methods for protection against under voltage.

T9 Control of an electrical installation and circuits encompassing:

- switch types, current and voltage ratings and IP rating and where these apply.
- switching requirements for isolation, emergency, mechanical maintenance and functional control.
- control arrangement for complete installations with and without safety services and an alternative supply.

T10 Switchboards / distribution boards encompassing:

- Purpose, types and applications.
- Physical and circuit arrangements for whole current and CT metering.
- Physical and circuit arrangements of main switches, circuit protection devices, fault-current limiters and metering equipment and other distributor equipment.
- compliance requirements (includes location and access, arc fault protection, identification, construction suitability, equipment marking, wiring, fire protection and arc-fault protection).

EE105	Electrical Installation Design
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This unit covers selecting wiring systems and cables for electrical installations operating at voltages up to 1,000V a.c. or 1,500 V d.c. It encompass knowledge and application of wiring systems and cable types, selecting wiring system compatible with the installation conditions, selecting cables that comply with required current-carrying capacity and voltage drop and earth fault-loop impedance limitations, coordination between protective devices and conductors and documenting selection decisions

KS01-EG107A Electrical installation — cable selection and co-ordination

Evidence shall show an understanding of selecting cables and ensuring co-ordination between protection device and conductors in electrical installations that comply with the Wiring Rules, Selection of cables standards and Service Rules to an extent indicated by the following aspects:

T1 Performance requirements - design and safety encompassing:

- harmful effects against which the design of an electrical installation must provide protection.
- performance standards of a correctly functioning electrical installation.
- supply characteristics that shall be considered when designing an electrical installation.
- acceptable methods for determining the maximum demand in consumer's mains and sub-mains.
- AS/NZS 3000 requirements limiting voltage drop in an installation.
- reason for dividing electrical installations into circuits and the factors that shall determine their number and type.
- typical external factors that may damage an electrical installation and that shall be considered in the installation design.
- methods for protecting persons and livestock against direct and indirect contact with conductive parts and the typical application of each.
- acceptable methods of protection against the risks of ignition of flammable materials and injury by burns from the thermal effects of current, in

normal service.

- ☐ likely sources of unwanted voltages and the methods for dealing with this potential hazard.
- ☐ acceptable methods for protecting persons and livestock against injury and property against damage from the effects of over current.
- ☐ requirement for protection against fault current.
- ☐ requirement for protection against the harmful effects of faults between live parts of circuits supplied at different voltages.
- ☐ need for protection against injury from mechanical movement and how this may be achieved.
- ☐ features of 'fire rated construction' and how the integrity of the fire rating can be maintained in relation to electrical installation.

T2 Final subcircuit arrangements encompassing:

- ☐ factors that shall be considered in determining the number and type of circuits required

for an installation.

- ☐ daily and seasonal demand for lighting, power, heating and other loads in a given installation.
- ☐ number and types of circuits required or a particular installation.
- ☐ current requirements for given final subcircuits.
- ☐ layout/schedule of circuits for given installations.

T3 Factors affecting the suitability of wiring systems encompassing:

- ☐ wiring systems typically used with various construction methods and particular environments.
- ☐ installation conditions that may affect the current-carrying capacity of cables.
- ☐ external influences that may affect the current-carrying capacity and/or may cause damage to the wiring system.
- ☐ AS/NZS 3000 requirements for selecting wiring systems for a range of circuits, installation conditions and construction methods into which the wiring system is to be installed. Note: Wiring systems include cable enclosures, underground wiring, aerial wiring, catenary support, emergency systems, busbar trunking and earth sheath return.

T4 Maximum demand on consumer's mains/submains encompassing:

- ☐ acceptable methods for determining the maximum demand on an installation's consumer's mains and submains.
- ☐ maximum demand for the consumer's mains for given installations up to 400 A per phase.
- ☐ maximum demand for given submains.

T5 Cable selection based on current carrying capacity requirements encompassing:

- ☐ installation conditions for a range of wiring systems and applications.
- ☐ external influences that require the use of a derating factor.
- ☐ AS/NZS 3000 requirements for coordination of cables and protection devices.
- ☐ AS/NZS 3008 used to select conductor size based on the maximum current requirement for a given installation condition including any applicable derating factors.

T6 Cable selection based on voltage drop requirements encompassing:

- ☐ AS/NZS 3000 requirements for maximum voltage drop in an installation.
- ☐ relevant tables in AS/NZS 3008 for unit values of voltage drop.
- ☐ calculation of the expected voltage drop in a given circuit.
- ☐ selecting cables to satisfy voltage drop requirements in addition to current carrying capacity requirements.

T7 Cable selection based on fault loop impedance requirements encompassing:

- ☐ AS/NZS 3000 requirements for maximum fault loop impedance in an installation.
- ☐ relevant tables in AS/NZS 3008 to determine cable impedances.
- ☐ calculation of the expected fault loop impedance for a given circuit arrangement.
- ☐ selecting cables to satisfy fault loop impedance requirements in addition to current

carrying capacity requirements and voltage drop requirements.

T8 Selecting protection devices encompassing:

- ☐ acceptable methods of protection against indirect contact.
- ☐ AS/NZS 3000 requirements for selecting methods and devices to protect against indirect contact for a range of installation types and conditions.
- ☐ coordination between conductors and protection devices to ensure the protection of cables from over heating due to over current.
- ☐ possible injuries to persons and livestock from hazards due to a short circuit.
- ☐ AS/NZS 3000 requirements for selecting devices to protect against overload current for a range of circuits and loads.
- ☐ AS/NZS 3000 requirements for selecting devices to protect against short-circuit current for a range of installation conditions.

T9 Selecting devices for isolation and switching encompassing:

- ☐ requirements for the provision of the isolation of every circuit in an electrical installation.
- ☐ need for protection against mechanical movement of electrically activated equipment.
- ☐ AS/NZS 3000 requirements for selecting devices for isolation and switching for a range of installations and conditions.

T10 Switchboards encompassing:

- ☐ AS/NZS 3000 and local supply authority requirements for switchboards.
- ☐ tariff structures for the supply of electricity.
- ☐ equipment installed at the main switchboards with capacities up to 400 A per phase.
- ☐ layout of a main switchboard for an installation supplied with single phase single tariff whole current metering.
- ☐ layout of a main switchboard for an installation supplied with single phase multiple tariff whole current metering.
- ☐ layout of a main switchboard for an installation supplied with multiphase single tariff whole current metering.
- ☐ layout of a main switchboard for an installation supplied with multiphase multiple tariff whole current metering.
- ☐ layout of a main switchboard for a multiple tenancy installation with whole current metering.
- ☐ layout of a main switchboard, including metering, for an installation supplied with three phase CT metering.
- ☐ local supply authority requirements for connection of an electrical installation to the electrical supply system

This unit covers the installation in building and premises of wiring enclosures, cable support systems, cables and accessories and designed to operate at voltages up to 1,000 V a.c. or 1,500 V d.c. It encompasses working safely and to installation standards, routing cables to specified locations, terminating cables and connecting wiring at accessories and completing the necessary installation documentation.

KS01-EG103A Installation of wiring systems

Evidence shall show an understanding of the installation of wiring systems that comply with standards to an extent indicated by the following aspects:

T1 Standards, codes and requirements applicable to the installation of wiring systems encompassing:

- ☐ Cables and methods of mechanical protection and support
- ☐ Protection against and from other services.
- ☐ Prohibited cable locations
- ☐ Building codes affecting the installation of cables in buildings, structures and premises (limitation on penetration of structural elements, maintenance of fire protection integrity, and wiring above suspected ceilings)
- ☐ Issues affecting electrical installations in heritage buildings and premises (limitation on penetration of structural and finished elements, accessing cable routes, types and colour of exposed accessories).

T2 Use of other installation standards called up by the Wiring Rules for special situations encompassing:

- ☐ standards that apply to Electromedical treatment areas.
- ☐ additional requirements for construction and demolition sites.
- ☐ Relocatable installations and their site supply
- ☐ additional requirements for caravan park.
- ☐ additional requirements for marinas and pleasure craft at low voltage.
- ☐ additional requirements for shows and carnivals.

T3 Hazardous areas encompassing:

- ☐ Conditions that apply in an areas that require them to be classified as a 'Hazardous area'.
- ☐ Responsibility for classifying a hazardous area
- ☐ Awareness of standards called up by the Wiring Rules for selection of equipment and installations in Hazardous areas. (AS/NZS 3000 requirements for hazardous areas).

T4 Requirement for the installation of cables and accessories in damp situations and ELV installations encompassing:

- ☐ restricted zones around baths, showers, fixed water containers, pools, sauna heaters and fountains/water features for given installations.
- ☐ selecting equipment suitable for installation in given damp situations.
- ☐ voltage range that defines extra-low voltage.
- ☐ 'Separated extra-low voltage (SELV) system' and a 'Protected extra-low voltage (PELV) system'.
- ☐ AS/NZS 3000 requirements for selecting extra-low voltage systems and devices for a range of installations and conditions.

T5 Aerial cabling encompassing:

- ☐ Describe the types of aerial cabling.
- ☐ State the AS/NZS 3000 and local supply authority requirements for aerial cabling.
- ☐ Termination of aerial cables in accordance with AS/NZS 3000 and local requirements.
- ☐ installation of consumers mains for connection via overhead consumers terminals in

ccordance with AS/NZS 3000 and local requirements.

- ☐ Testing of installed cables compliance with Australian Standards

T6 Underground cabling encompassing:

- ☐ Describe permissible underground cabling systems.
- ☐ Identify other underground services.
- ☐ State the AS/NZS 3000 and local supply authority requirements for underground cabling.
- ☐ List the advantages and disadvantages of underground wiring systems
- ☐ selection of underground consumers mains in accordance with AS/NZS 3000 and local requirements

T7 Techniques for installing cables and wiring systems encompassing:

- ☐ Typical cable routes through buildings, structures and premises.
- ☐ Application of wiring accessories
- ☐ Drawing-in, placing and fixing of cables
- ☐ Cable and conductor terminations
- ☐ Maintaining fire rating integrity.
- ☐ Inspecting and testing installed and terminated cables to ensure they comply with continuity and insulation resistance and are safe to connect to the supply.

EE107	Electrical Equipments
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This unit covers the installation of appliances protection devices, switchgear, controlgear, switchboards, and accessories designed to operate at voltages up to 1,000 V a.c. or 1,500 V d.c. It encompasses working safely and to installation standards, matching appliances and accessories with that specified, making required circuit connections and completing the necessary installation documentation.

vidence shall show an understanding of the installation of appliances (current-using equipment) and accessories to an extent indicated by the following aspects:

T1 Installation standards, codes and requirements applicable to installing electrical equipment encompassing.

- ☐ Protection against thermal effects
- ☐ Connection of electrical equipment (appliances, switchgear and accessories include switchgear and controlgear, switchboards, socket-outlets,

lighting equipment and accessories, lamps and luminaires, smoke and fire detectors, cooking appliances, appliances producing hot water or steam, room heaters, electric heating cables for floors and ceilings, space heating, duct heaters, electricity converters, motors, transformers, capacitors, and batteries).

- Required and permitted locations current-using equipment and accessories
- Control, switching and over current and RCD protection

T2 Terminal configuration for connection of phase, neutral and protective earthing conductors for each type of equipment.

T3 Building codes affecting the installation of current-using equipment and accessories in buildings, structures and premises encompassing:

- maintenance of fire protection integrity, requirements for emergency services (safety services) and the like.

T4 Issues affecting electrical installations in heritage buildings and premises encompassing:

- limitation on types and colour of exposed accessories.

EE108	Electrical Fault Finding
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This unit covers trouble-shooting and repairing faults in electrical apparatus and interconnecting circuits and equipment operating at voltages up to 1,000 V a.c. or 1,500 V d.c. It encompasses working safely, reading circuit diagrams, sketching diagrams from traced wiring, logically applying fault finding procedures, conducting repairs and completing the necessary service documentation.

KS01-EG108A Electrical circuit and equipment faults and fault finding techniques

Evidence shall show an understanding of electrical circuit and equipment faults and fault finding techniques to an extent indicated by the following aspects:

T1 Troubleshooting concepts encompassing:

- need to understand the correct operation of a circuit or equipment, switching and control circuit arrangements.
- common faults with circuits and equipment including operator faults, incorrect connections, open-circuits, short-circuits, device faults (mechanical), supply faults.
- typical faults symptoms and their causes: operation of circuit protective device, appliance does not operate, single phase motor does not develop enough torque to drive the load, three phase motor does not develop enough torque to drive the load, motor overload trips
- factors to consider in clarifying the nature of a fault: initial fault report, confirmation of

symptoms of the fault, comparison of symptoms with normal operation

- effect to cause reasoning — assumptions of possible causes
- methods for testing assumptions: visual inspection, component isolation, test equipment, sectional testing, split-half tests
- repairing the fault and the steps needed to ensure fault doesn't re-occur
- dealing with intermittent faults (typical causes of intermittent faults are vibration, shock, changes in temperature and electromagnetic interference).
- final testing and re commissioning

T2 Troubleshooting water heater and appliance circuits/equipment encompassing:

- circuit diagrams of common single phase and three phase hot water systems
- single phase and three phase element resistance values (determined from measurement and calculation from power and voltage ratings)
- testing single and three phase elements for correct insulation resistance and continuity
- element replacement techniques
- operation of thermostats, thermal cut-outs and pressure relief valves, flow switches and checking sacrificial anodes
- locating faults in common single and three phase hot water systems
- repairing faulty water heating systems

T3 Troubleshooting electrical appliance circuits/equipment encompassing:

- circuit diagrams of common single phase and three phase appliances
- methods to determine the cause of an RCD operation
- identification of appliances that is causing an RCD to trip
- testing single and three phase appliances for correct insulation resistance and continuity
- operation of appliances controls
- locating faults in common single and three phase appliances
- repairing faulty appliances

T4 Troubleshooting lighting circuits encompassing:

- circuit and wiring diagrams of common lighting circuits including single light controlled by a single switch, multiple lights controlled by a single switch, two and three way switching using the loop at the light method and the loop at the switch method.
- causes of wiring faults from supplied symptoms and circuit and/or wiring diagrams
- causes of faults in ELV lighting devices, include transformer (iron core or electronic), voltage drop, heat, over-voltage, poor connections, incompatible dimmers
- diagrams of a basic fluorescent light circuit including lamp, ballast and starter
- locating faults in fluorescent light circuits
- operation of a range of lighting control including passive infra-red (PIR), dimmers, photo electric or day-light switches and time clocks
- locating faults in lighting control circuits

T5 Troubleshooting single phase motor and control circuits encompassing:

circuit diagrams of split phase, capacitor start, capacitor start capacitor run, universal and shaded pole single phase motors

- causes of single phase motor faults from supplied symptoms and circuit diagrams
- causes of electrical faults in single phase motors, include open and partially open circuit winding, short and partially short circuit winding, open circuit rotor, burnt out winding, coil shorted to frame.
- reasons for a thermal overload trip and how often they are to be reset before investigating a cause
- internal mechanical faults and their consequences, include bearings, fans, bent shaft, locked rotor, blocked air vents, centrifugal switches,

environmental factors

- ❑ faults on driven loads and couplings and their consequences, include slipping belts, poorly aligned coupling (shims), vibration, loads bearing failing, load stalling.
- ❑ locating faults in single phase motors and their controls

T6 Troubleshooting three phase induction motor encompassing:

- ❑ circuit diagrams of three phase induction motors
- ❑ causes of three phase motor faults from supplied symptoms and circuit diagrams
- ❑ causes of electrical faults in three phase motors, include open and partially open circuit phase winding, short and partially short circuit phase winding, open circuit rotor, burnt out phase winding, coil shorted to frame.
- ❑ reasons for a thermal overload trip and how often they are to be reset before investigating a cause
- ❑ internal mechanical faults and their consequences, include bearings, fans, bent shaft, locked rotor, blocked air vents, environmental factors.
- ❑ faults on driven loads and couplings and their consequences, include slipping belts, poorly aligned coupling (shims), vibration, loads bearing failing, load stalling.
- ❑ locating faults in three phase induction motors and their controls

T7 Troubleshooting electrical installations encompassing:

- ❑ circuit diagrams, wiring diagrams, cable schedules and specifications of electrical installations
- ❑ causes of electrical installation faults from supplied symptoms and circuit diagrams include open and partially open circuit wiring, short and partially short circuit wiring, low insulation resistance, incorrect polarity, transposition of conductors, RCD tripping.
- ❑ locating faults in electrical installations
- ❑ repairing faulty electrical installation circuits components and wiring.

EE109	Electrical Control Circuits
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This unit covers developing, connecting and functionally testing electrical power and control circuits that perform specific control functions. It encompasses working safely; developing schematic/ladder diagrams and converting them to wiring diagrams; selecting and connecting contactors and control devices to perform a specific function.

KS01-EG109A Electrical control devices and circuits

Evidence shall show an understanding of electrical control devices and circuits to an extent indicated by the following aspects:

T1 Basic relay circuits encompassing:

- ❑ Identification of given circuit diagrams (schematic) symbols and explain the operation of the components represented
- ❑ labelling wires and terminal (numbering systems)
- ❑ control relay - operating principles, basic contact configurations and identification and common applications
- ❑ push button - switching configurations and common applications
- ❑ selecting pushbuttons/pilot lamps from manufacturer's catalogues for specific applications
- ❑ development of simple stop-start relay circuit that incorporates pilot lights and latching circuit.
- ❑ connection and testing of control circuits

T2 Relay circuits and drawing conventions encompassing:

- ❑ circuit diagram drawing conventions
- ❑ selecting relays from manufacturers' catalogue for specified applications
- ❑ circuit development of electrical control circuit in accordance with a written description (specification) and list the sequence of operation of the circuit
- ❑ connecting simple electrical control circuit from circuit diagrams
- ❑ applying safe working practices when testing an electrical control circuit

T3 Remote STOP-START control and electrical interlocking encompassing:

- ❑ operation of local and remote start-stop control of relays
- ❑ operation of an electrically interlocked relay circuit
- ❑ development of a relay circuit incorporating local and remote start and stop buttons and electrical interlocking.
- ❑ connecting electrical circuits with local and remote start-stop control and with electrical interlocking.
- ❑ applying circuit checking and testing techniques to an electrical control circuit.

T4 Time delay relays encompassing:

- ❑ timers - operating principles, basic contact configurations and identification and common applications
- ❑ selecting timers for specified functions from manufactures' catalogues
- ❑ development of timer controlled circuits from a written description and list the sequence of circuit operation
- ❑ connecting a timer controlled circuit using a circuit diagram as a guide.
- ❑ timer circuit checking and testing procedures.

T5 Circuits using contactors encompassing:

- ❑ contactors - operating principles, basic contact configurations and identification and common applications
- ❑ thermal overloads - operating principles, basic contact configurations and identification and common applications
- ❑ circuit diagram symbols
- ❑ circuit development using a contactor
- ❑ using contactors for motor control.
- ❑ compliance requirements for devices for isolating circuits.

T6 Jogging and interlocking encompassing:

- ❑ purpose and application of jogging control of motors
- ❑ operation of motor control using start, stop and jog buttons
- ❑ purpose and application of electrical/mechanical interlocking
- ❑ developing a multiple motor starting circuit from a description of the circuit operation including jog and interlock functions.
- ❑ selecting circuit components using manufacturers' catalogues for appropriate duty

ratings

- connecting and testing a multiple motor starting circuit which incorporates start, stop and jog control.

T7 Control devices encompassing:

- common control devices used in automatic control circuits: limit switches, proximity switches, photoelectric cells, pressure switches, float switches, light sensors and temperature sensors
- basic operating principles of common control devices
- advantages and disadvantages of common control devices
- applications for common control devices
- selecting control devices using manufacturers' catalogues for specified applications
- connection of control devices into control circuits

T8 Programmable relays encompassing:

- programmable relays - advantages over electromagnetic relay circuit control.
- typical applications of programmable relays.
- block diagram representation and basic operating principles
- input and output parameters, listing, connections and output types.
- connecting input and output devices to a programmable relay using a diagram
- basic programming of ladder circuits consisting of inputs, outputs i.e. stop-start circuit
- using the monitoring facility of the programmable relay to verify each ladder circuit operation.
- programming timers and using the monitoring facility of the programmable relay to check the values of the timer
- external devices
- implications of programming normally closed field devices
- conversion of control circuits
- installation of programmable control relays
- common faults and their symptoms

T9 Three-phase induction motor starters encompassing:

- reasons for limiting the starting current of large motors.
- requirements of the wiring rules (AS/NZS 3000) and the local supply authority service rules, with regard to starting and control of induction motors.
- DOL starter operating principles, applications and circuits
- electronic (soft) starter operating principles, applications and circuits
- connecting a DOL motor starter and testing the operation of the power and control circuits
- installation of DOL and soft starters

T10 Three-phase induction motor starters- reduced voltage encompassing:

- star-delta starter operating principles and circuits

primary resistance starter operating principles and circuits

· auto-transformer starter operating principles and circuits

- secondary resistance starter operating principles and circuits
- common applications for each starter type
- comparison of motor starters basic characteristics
- selecting the most suitable motor starter for a given situation
- connecting motor starter power and control circuits for correct operation
- measuring starting current and torque of selected motor starters
- installation of reduced voltage starters

T11 Three-phase induction motor reversal and braking encompassing:

- reversing operating principles and control circuits
- plug braking operating principles and circuits
- dynamic braking operating principles and circuits
- regenerative braking operating principles and circuits
- eddy current brakes operating principles and circuits
- mechanical brakes operating principles and circuits
- comparison of the difference braking methods used.
- typical applications for each braking method.
- connecting a circuit with a braking feature to operate a three-phase motor.
- installation of motor braking control circuits

T12 Three-phase induction motor speed control encompassing:

- pole changing operating principles and circuits
- variable frequency drives operating principles and circuits
- slip-ring motors operating principles and circuits
- installation of motor speed controllers.

EE110	Computer Applications
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This unit covers the basic use of personal computers application relevant to a work function. It encompasses switching the computer on, applying user preferences, selecting basic applications, entering and retrieving information and printing files.

KS01-ED101A Basic Computer Applications

Evidence shall show an understanding of computer use basics to an extent indicated by the following aspects:

T1 Starting up

T2 Selecting application

T3 Entering information

T4 Saving

T5 Printing

EE111	Electromagnetism & Basic Electrical Machines
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This unit covers determining correct operation of electromagnetic devices and related circuits and providing solutions as they apply to electrical installations and equipment. It encompasses working safely, power circuit problems solving processes, including the use of voltage, current and resistance measuring devices, providing solutions derived from measurements and calculations to predictable problems in electromagnetic devices and related circuits

KS01-EG101A Electromagnetic devices and circuits

Evidence shall show an understanding of electromagnetic devices and circuits to an extent indicated by the following aspects:

T1 Magnetism encompassing:

- ☐ magnetic field pattern of bar and horse-shoe magnets.
- ☐ magnets attraction and repulsion when brought in contact with each other.
- ☐ common magnetic and non-magnetic materials and groupings (diamagnetic, paramagnetic and ferromagnetic materials).
- ☐ principle of magnetic screening (shielding) and its applications.
- ☐ practical applications of magnets
- ☐ construction, operation and applications of reed switches.

T2 Electromagnetism encompassing:

- ☐ conventions representing direction of current flow in a conductor.
- ☐ magnetic field pattern around a single conductor and two adjacent conductors

carrying current.

- ☐ Using the “right hand rule” to determine the direction of magnetic field around a current carrying conductor.
- ☐ direction of force between adjacent current carrying conductors.
- ☐ effect of current, length and distance apart on the force between conductors (including forces on bus bars during fault conditions).
- ☐ magnetic field around an electromagnet.
- ☐ Using the “right hand rule” to determine the direction of magnetic field around a current carrying coil.
- ☐ magnetomotive force (m.m.f.) and its relationship to the number of turns in a coil and the current flowing in the coil.
- ☐ practical applications of electromagnets.

T3 Magnetic circuits encompassing:

- ☐ magnetic characteristic curve for various materials and identify the various regions.
- ☐ Identify the various conditions of a magnetic material from its Hysteresis loop.
- ☐ factors which determine losses in magnetic material.
- ☐ methods used to reduce electrical losses in a magnetic circuit.
- ☐ magnetic flux (definition, unit and symbol).
- ☐ reluctance as the opposition to the establishment of magnetic flux.
- ☐ permeability (definition, symbol and unit).
- ☐ difference for magnetic and non-magnetic materials in regards to reluctance and permeability.
- ☐ calculation of m.m.f., flux or reluctance given any two values.
- ☐ flux density (definition, symbol, unit and calculation).
- ☐ magnetising force (definition, symbol, unit and calculation).
- ☐ common magnetic circuit types.
- ☐ effect of an air gap in a magnetic circuit.
- ☐ terms “magnetic leakage” and “magnetic fringing”.

T4 Electromagnetic induction encompassing:

- ☐ principle of electromagnetic induction (Faraday’s law of electromagnetic induction).
- ☐ applying “Fleming’s right hand rule” to a current a carrying conductor under the influence of a magnetic field.
- ☐ calculation of induced e.m.f. in a conductor given the conductor length, flux density and velocity of the conductor.
- ☐ calculation of induced e.m.f. in a coil given the number of turns in a coil and the rate of change of flux.
- ☐ calculation of force on a conductor given the flux density of the magnetic field, length of the conductor and the current being carried by the conductor.

- ☐ Lenz’s law
- ☐ applications of electromagnetic induction

T5 Inductance encompassing:

- ☐ construction of an inductor, including a bifilar winding inductor.
- ☐ Australian Standard circuit diagram symbol for the four types of inductor.
- ☐ effect of physical parameters on the inductance of an inductor.
- ☐ common types of inductor cores.
- ☐ applications of the different types of inductors.
- ☐ definition of terms self induction, inductance and mutual inductance.
- ☐ calculation of value of self induced e.m.f. in a coil.
- ☐ mutual induction occurs between two coils.
- ☐ graphical relationship between load voltage, current and self induced e.m.f. in a single d.c. circuit having inductance.
- ☐ practical applications for the effects of self and mutual induction.
- ☐ undesirable effects of self and mutual induction.
- ☐ definition of term “time constant” and draw the characteristic curve as applied to a series circuit containing an inductor and a resistor. (LR circuit) Calculation of value of the time constant for an LR circuit given the values of the components.
- ☐ time constants required for the current in an LR circuit to reach its final value.
- ☐ determining of instantaneous values of voltage and current in an LR circuit using a universal time constant chart.

T6 Measurement Instruments encompassing:

- ☐ moving coil, moving iron, dynamometer meter movements and clamp testers.
- ☐ practical applications for moving coil, moving iron and dynamometer meter movements.
- ☐ Calculation of resistance of shunts and multipliers to extend the range of ammeters and voltmeters.
- ☐ factors to be considered in selecting meters for a particular application.
- ☐ safety category of meters and their associated applications.
- ☐ steps and procedures for the safe use, care and storage of electrical instruments.

T7 Magnetic devices encompassing:

- ☐ construction, operation and applications of relays.
- ☐ construction, operation and applications of contactors.
- ☐ magnetic methods used to extinguish the arc between opening contacts.
- ☐ construction, operation and applications of Hall Effect devices.
- ☐ operation and applications of magnetostriction equipment.
- ☐ construction, operation and application of magnetic sensing devices.

T8 Machine principles encompassing:

- ☐ basic operating principle of a generator.
- ☐ applying Fleming's right hand rule for generators.
- ☐ basic operating principle of a motor.

applying Fleming's left hand rule for motors.

- calculation of force and torque developed by a motor.

T9 Rotating machine construction, testing and maintenance encompassing:

- ☐ components of a d.c. machine.
- ☐ difference between a generator and a motor in terms of energy conversion.
- ☐ nameplate of a machine.
- ☐ using electrical equipment to make electrical measurements and comparison of readings with nameplate ratings.
- ☐ Identification of faults in a machine from electrical measurements.
- ☐ care and maintenance processes for rotating machines
- ☐ safety risks associated with using rotating machinery.

T10 Generators encompassing:

- ☐ basic operation of a d.c. generator.
- ☐ calculation of generated and terminal voltage of a d.c. shunt generator
- ☐ prime movers, energy sources and energy flow used to generate electricity.
- ☐ types of d.c. generators and their applications.
- ☐ methods of excitation used for d.c. generators.
- ☐ equivalent circuit for a d.c. generator.
- ☐ importance of residual magnetism for a self excited generator.
- ☐ open circuit characteristics of d.c. generators.
- ☐ load characteristics of a d.c. generator.
- ☐ reversing the polarity of a d.c. generator
- ☐ Connect and test a d.c. generator on no-load and load
- ☐ Identify safety risks associated with using generators.

T11 Motors encompassing:

- ☐ operation of a motor and its energy flow.
- ☐ effect of back e.m.f. in d.c. motors
- ☐ torque as the product of the force on the conductors and the radius of the armature/rotor.
- ☐ types of d.c. motors and their applications.
- ☐ circuit diagrams for the types of d.c. motors.
- ☐ equivalent circuit for the types of d.c. motors.
- ☐ calculation of power output of a motor.
- ☐ characteristics of the different types of d.c. motors.
- ☐ connection and testing a d.c. shunt motor on no-load and load
- ☐ reversing the direction of rotation of a d.c. motor.
- ☐ safety risks associated with using motors (include risks of series d.c. motors).

T12 Machine efficiency encompassing:

- ☐ losses that occur in a d.c. machine.

methods used to determine the losses in a d.c. machine.

- calculation of losses and efficiency of a d.c. machine.
- ☐ efficiency characteristic of a d.c. machine and the conditions for maximum efficiency.
- ☐ application of Minimum Energy Performance standards (MEPS).
- ☐ methods used to maintain high efficiency.

EE112	Alternating Current Principle
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This unit covers ascertaining correct operation of single and three phase a.c. circuits and solving circuit problems as they apply to servicing, fault finding, installation and compliance work functions. It encompasses safe working practices, multiphase circuit arrangements, issues related to protection, power factor and MEN systems and solutions to circuit problems derived from calculated and measured parameters.

KS01-EG102A Alternating current power circuits

Evidence shall show an understanding of alternating currents power circuits to an extent indicated by the following aspects:

T1 Alternating Current Quantities encompassing:

- ☐ sine, cosine and tangent ratios of a right angle triangle
- ☐ Pythagoras Theorem to a right angle triangle.
- ☐ use of the CRO to measure d.c. and a.c. voltage levels
- ☐ sinusoidal voltage generated by a single turn coil rotated in a uniform magnetic fields

terms 'period', 'maximum value', 'peak-to-peak value', 'instantaneous value', 'average value', 'root-mean-square (r.m.s.) value', in relation to a sinusoidal waveform.

- ☐ calculation of the instantaneous value of induced voltage of a generated sinusoidal waveform.

- ☐ measurement of instantaneous, peak, peak-to-peak values and the period of a sinusoidal waveform.
- ☐ calculation of root-mean-square (r.m.s.) value and frequency of a sinusoidal waveform from values of peak voltage and period.

T2 Phasors Diagrams encompassing:

- ☐ purpose of phasor diagrams
- ☐ 'in-phase', 'out-of-phase', 'phase angle' lead and 'lag'.
- ☐ phase angle between two or more alternating quantities from a given sinusoidal waveform diagram.
- ☐ convention for representing voltage, current and the reference quantity in a phasor diagram.
- ☐ drawing phasor diagrams to show the relationship between two or more a.c. values of voltage and/or current.
- ☐ determination of phase relationship between two or more sinusoidal waveforms from a given diagram and measurements.

T3 Single Element a.c. circuits encompassing:

- ☐ setting up and connect a single-source resistive a.c. circuit and take voltage and current measurements to determine the resistance
- ☐ determining the voltage, current resistances from measure of given values of any two of these quantities.
- ☐ relationship between voltage drops and current in resistive a.c. circuit
- ☐ applications of resistive a.c. circuits
- ☐ defining 'inductive reactance'.
- ☐ calculation of inductive reactance for a given inductor and the relationship between inductive reactance and frequency.
- ☐ applying Ohm's Law to determine voltage, current of inductive reactance in a purely inductive a.c. circuit given any two to these quantities.
- ☐ applications of inductive a.c. circuits.
- ☐ calculation of capacitive reactance
- ☐ applying Ohm's Law to determine voltage, current or capacitive reactance in a purely capacitive a.c. circuit given any two of the quantities.
- ☐ applications of capacitive a.c. circuits

T4 RC and RL Series a.c. circuits encompassing:

- ☐ impedance and impedance triangle.
- ☐ determining the impedance, current and voltages for a series RC circuit given the resistance, capacitance and supply voltage.
- ☐ drawing and labelling the impedance triangle for a series RC circuit

drawing phasor diagrams for a series RC circuit

- ☐ AS/NZS 3000 requirements for the installation of capacitors.
- ☐ examples of capacitive components in power circuits and systems and the effect on the phase relationship between voltage and current.
- ☐ determining the impedance, current and voltages for a series RL circuit given the resistance, inductance and supply voltage.
- ☐ drawing and labelling the impedance triangle for a series RL circuit
- ☐ drawing the equivalent circuit of a practical inductor
- ☐ Draw phasor diagrams for a series RL circuit.
- ☐ examples of inductive components in power circuits and systems and describe their effect on the phase relationship between voltage and current

T5 RLC Series a.c. circuits encompassing:

- ☐ measuring component voltages in a series RLC circuit and using a phasor diagram to determine the supply voltage and phase angle between circuit voltage and circuit current.
- ☐ determining the impedance, current and voltages for a series RLC circuit given resistance, inductance, capacitance and supply voltage.
- ☐ drawing and labelling the impedance triangle for a series RLC circuit.
- ☐ calculation of total impedance for a series RLC circuit.
- ☐ calculation of voltage drop for cables using the values for reactance and a.c. resistance from AS/NZS 3008.
- ☐ comparison of current limiting characteristics of inductors and resistors.
- ☐ practical examples of RLC series circuits

T6 Parallel a.c. Circuits encompassing:

- ☐ determining the branch currents of a parallel circuit that contain RL, RC or LC in two branches.
- ☐ using a phasor diagram to determine the total circuit current and phase angle in parallel RL, RC or LC circuits.
- ☐ determining the total circuit impedance of parallel RL, RC or LC circuits.
- ☐ measuring the branch currents in a parallel RLC circuit and use a phasor diagram to determine the total current and phase angle between circuit voltage and circuit current.
- ☐ determining the branch impedances, branch currents and phase angles voltages for a parallel RLC circuit given resistance, inductance, capacitance and supply voltage.
- ☐ calculation of impedance for a parallel RLC circuit.
- ☐ practical examples of parallel circuits.

T7 Power in an a.c. circuit encompassing:

- ☐ difference between true power, apparent power and reactive power and the units in which these quantities are measured.
- ☐ drawing the power triangle to show the relationships between true power, apparent power and reactive power
- ☐ defining the term "power factor" and phase angle.

methods used to measure single phase power, energy and demand.

T8 Power Factor Improvement encompassing:

- ☐ effects of low power factor.
- ☐ requirements for power factor improvement.
- ☐ methods used to improve low power factor of an installation.
- ☐ local supply authority and AS/NZS 3000 wiring rules requirements regarding the power factor of an installation and power factor improvement equipment.
- ☐ methods used to measure single phase power factor.
- ☐ using manufacturers catalogues to select power factor equipment for a particular installation

T9 Harmonics and Resonance Effect in a.c. Systems encompassing:

- ☐ term "harmonic" in relation to the sinusoidal waveform of an a.c. power system.
- ☐ sources in a.c. systems that produce harmonics.

- ☐ problems that may arise in a.c. circuits as a result of harmonics and how these are overcome.
- ☐ methods and test equipment used to test for harmonics
- ☐ methods used to reduce harmonics in a.c. power system
- ☐ conditions in a series a.c. circuit that produce resonance.
- ☐ dangers of series resonance circuits
- ☐ conditions in a parallel a.c. circuit that produce resonance.
- ☐ dangers of parallel resonance circuits
- ☐ AS/NZS3000 and the local supply authority requirements concerning harmonics and resonance effect in a.c. power systems.

T10 Three Phase Systems encompassing:

- ☐ features of a multiphase system.
- ☐ comparison of voltages generated by single and multiphase alternators.
- ☐ reasons for the adoption of three phases for power systems.
- ☐ how three phases is generated in a single alternator.
- ☐ Calculation of r.m.s. value of voltage generated in each phase given the maximum value.
- ☐ relationship between the phase voltages generated in a three phase alternator and the conventions for identifying each.
- ☐ term "phase sequence" (also, referred to as "phase rotation").
- ☐ determining the phase sequence of a three phase supply

T11 Three phase star-connections encompassing:

- ☐ connecting a three phase star-connection load.
- ☐ phase relationship between line and phase voltages and line and phase currents of a star-connected system.
- ☐ determining the r.m.s. value of line and phase voltage given any one of these quantities.

determining the r.m.s. value of line and phase current given any one of these quantities.

- ☐ terms "balanced load" and "unbalanced load".
- ☐ effect of a reversed phase winding of a star connected alternator.
- ☐ example of balanced and unbalanced loads in typical power systems.

T12 Three phase four wire systems encompassing:

- ☐ purpose of the neutral conductor in a three phase four wire systems.
- ☐ determining the effects of an high impedance in the neutral conductor of a three phase four wire system supplying an unbalanced load where MEN earthing is employed.
- ☐ determining the value and phase relationship of neutral current in an unbalanced three phase four wire systems given line currents and power factors.
- ☐ AS/NZS 3000 requirements regarding neutral conductors.
- ☐ AS/NZS 3008.1.1 method for determining voltage drop in unbalanced three phase circuits

T13 Three phase delta-connections and Interconnected systems encompassing:

- ☐ connecting three phase delta loads.
- ☐ phase relationship between line and phase voltages and line and phase currents of a delta-connected system.
- ☐ determining the r.m.s. value of line and phase voltage given any one of these quantities.
- ☐ determining the r.m.s. value of line and phase current given any one of these quantities.
- ☐ limitations and uses of open delta connections
- ☐ effect of a reversed phase winding of a delta connected transformer
- ☐ example of loads in typical power systems.
- ☐ drawing the typical combinations of three phase interconnected systems using star-connections and a delta-connection.
- ☐ relationship between line and phase voltages and line and phase currents in the typical interconnected systems using star-connections and delta-connections.

T14 Energy and power requirements of a.c. systems encompassing:

- ☐ purposes for measuring power, energy, power factor and maximum demand of a.c. power systems and loads.
- ☐ difference between true power, apparent power and reactive power and the units in which these quantities are measured in a three phase system.
- ☐ drawing the power triangle to show the relationships between true power, apparent power and reactive power in a three phase system.
- ☐ methods used to measure three phase power, energy, power factor and demand.
- ☐ determining how the power factor of a three phase installation can be improved.
- ☐ using manufacturers catalogues to select measurement equipment for a particular installation

T15 Fault Loop Impedance encompassing:

- ☐ term fault loop impedance of a a.c. power system
- ☐ determining fault loop impedance using resistance and reactance values from AS/NZS

3008.1.1

- ☐ measuring fault loop impedance of typical circuits
- ☐ procedures for testing fault loop impedance

EE113	Electrical Fundamental
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This unit covers the application of calculations required to solve electrotechnical engineering problems. It encompasses working safely, applying problem solving techniques, using a range of mathematical processes and techniques to providing solutions to electrotechnical problems, and justifying such solutions.

Note.

Typical electrotechnical problems are those encountered in meeting requirements in meeting performance requirements and compliance standards, revising systems operating parameters and dealing with system malfunctions

This unit covers ascertaining correct operation of single and three phase machines and solving machine problems as they apply to servicing, fault finding, installation and compliance work functions. It encompasses safe working practices, machine connections circuit arrangements, issues related to machine operation, characteristics and protection and solutions to machine problems derived from calculated and measured parameters.

Evidence shall show an understanding of electrotechnical principles to an extent indicated by the following aspects:

T1 Resistance encompassing:

- ☐ relationship between voltage, current and resistance and the power dissipated in a circuit
- ☐ value of voltage, current and resistance in a circuit given any two of these quantities
- ☐ the factors of length, cross-sectional area and material effect the resistance of conductors
- ☐ effects of temperature change on the resistance of various conducting materials
- ☐ features of fixed and variable resistor types and typical applications
- ☐ characteristics of temperature, voltage and light dependent resistors and typical applications of each

T2 Series circuits encompassing:

- ☐ measurement of resistance, voltage and current values in a single source series circuit
- ☐ the voltage, current, resistances or power dissipated from measured or given values of any two of these quantities
- ☐ relationship between the voltage drops around a circuit and the applied voltage

T3 Parallel circuits encompassing:

- ☐ measurement of resistance, voltage and current values in a single-source parallel circuit
- ☐ the voltage, current, resistance or power dissipated from measured or given values of any of these quantities
- ☐ relationship between currents entering a junction and currents leaving a junction

T4 Series/parallel circuits encompassing:

- ☐ measurement of resistance, voltage and current values in a single-source series / parallel circuit
- ☐ the voltage, current, resistances or power dissipated from measured or given values of any two of these quantities

T5 Measurement of electrical quantities encompassing:

- ☐ operating characteristics of analogue and digital meters
- ☐ selecting an appropriate meter in terms of units to be measured, range, loading effect and accuracy for a given application

T6 Capacitance/Capacitors encompassing:

- ☐ definition of capacitance and explain how a capacitor is charged
- ☐ the units by which capacitance is measured
- ☐ relationship between capacitance, voltage and charge
- ☐ behaviour of a series d.c. circuit containing resistance and capacitance components
- ☐ factors which determine the capacitance of a capacitor and explain how these factors are present in all circuits to some extent

T7 Magnetism and electromagnetism encompassing:

- ☐ field patterns around given permanent magnets
- ☐ magnetic field patterns around a straight current carrying conductor and a solenoid
- ☐ direction in which the magnetic field around a straight current carrying conductor

T8 Electromagnetic induction encompassing:

- ☐ factors required to induce an emf in a conductor

T9 Sinusoidal alternating voltage and current encompassing:

- ☐ how a sinusoidal voltage is generated in a single turn coil rotated in a uniform magnetic field
- ☐ definition of the terms 'period', 'maximum value', 'peak-to-peak value', 'instantaneous value', 'average value' and 'root-mean-square (r.m.s.) value' in relation to a sinusoidal waveform
- ☐ instantaneous value of induced voltage of a generated sinusoidal waveform
- ☐ root-mean-square (r.m.s.) value and frequency of a sinusoidal waveform from values of peak voltage and period

T10 Test equipment encompassing:

- ☐ operating principles of a CRO including block diagram of functional areas
- ☐ set up, calibration and use of an oscilloscope to measure d.c and a.c. voltages and frequency
- ☐ measurement of the instantaneous, peak, peak-to-peak values and the period of sinusoidal and other common waveforms provided by a signal generator
- ☐ calibration and limitation of CRO probes
- ☐ use of signal generator as a voltage source

T11 Phase relationships in a.c. circuits encompassing:

- ☐ phasor representation of graphical waveforms
- ☐ 'in-phase', 'out-of-phase', 'phase angle', 'lead', and 'lag'
- ☐ convention for representing voltage, current and the reference quantity in a phasor diagram
- ☐ phasor diagrams to show the relationship between two or more a.c. values of voltage and/or current

T12 Single-source resistive a.c. circuits of various frequencies encompassing:

single-source a.c. circuit and taking resistance, voltage and current measurements

- ☐ voltage, current, resistances or power dissipated from measured or given values of any two of these quantities

T13 Inductance in a.c. circuits encompassing:

- ☐ concept of inductance, self-inductance and mutual inductance. (in terms of storage of magnetic energy)
- ☐ factors affecting inductance and how the unit of inductance is derived
- ☐ value of induced voltage in a given circuit
- ☐ how a series d.c. circuit containing resistance and inductance behaves
- ☐ 'inductive reactance'
- ☐ inductive reactance of a given inductor and show the relationship between inductive reactance and frequency
- ☐ applying Ohm's law to determine voltage, current or inductive reactance in a purely inductive a.c. circuit given any two of these quantities
- ☐ examples of inductive components in circuits and systems and describe their effect on the phase relationship between voltage and current

T14 Capacitance in a.c. circuits encompassing:

- capacitive reactance of a given capacitor and the relationship between capacitive reactance and frequency
- applying Ohm's law to determine voltage, current or capacitive reactance in a purely capacitive a.c. circuit given any two of these quantities
- examples of capacitive components in electronic circuits and systems and describe their effect on the phase relationship between voltage and current

T15 Impedance in a.c. circuits encompassing:

- definition of 'impedance'
- impedance of series, parallel and series-parallel circuits and draw diagrams showing the relationship between resistive, inductive and capacitive components
- single-source a.c. circuit with resistance, voltage and current measurements
- determination of the voltage, current or impedance from measured or given values of any two of these quantities
- using phasor diagrams to solve problems and show the relationship between voltages and currents in a.c. circuits

EE114	Electrical Power Principle
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KS01-EG006A Single and three-phase transformers

Evidence shall show an understanding of single and three phase transformers to an extent indicated by the following aspects:

T1 Transformer construction encompassing:

- types of lamination style and core construction used in single-phase, three phase, double wound, auto transformers and instrument transformers.
- identification of different winding styles/types used in transformers.
- methods used to insulate low and high voltage transformers.
- construction of transformer tanks for distribution transformers.
- transformer auxiliary equipment. (Bushings, surge-diverters, tap-changers, hot oil & winding indicators, breather, Buchholz relay and conservator).
- function of transformer auxiliary equipment.
- types of information stated on transformer nameplates.
- application of transformers.
- performing basic insulation resistance, continuity and winding identification tests.

T2 Transformer operation encompassing:

- principles of mutual induction of a transformer.
- factors that determine the induced voltage in a transformer winding.
- determining the value of a transformers secondary voltage and current given one winding's electrical details and turns ratio.
- identification of voltage and current components of a phasor diagram for a transformer on no-load.
- principles of power transferred from the primary to secondary when a load is connected using a phasor diagram neglecting impedance drops.
- selecting transformers for specific application/s.
- safety features specified in AS/NZS3000 with respect to transformers and isolating transformers.

T3 Transformer losses, efficiency and cooling encompassing:

- power losses which occur in a transformer.
- tests which allow the power losses of a transformer to be determine.
- determination of transformer losses and efficiency using test results.

relationship between transformer cooling and rating.

- methods used for natural and forced cooling of transformers.
- properties of transformer oil.
- tests conducted on transformer oil.

T4 Transformer voltage regulation and percent impedance encompassing:

- voltage regulation as applicable to a transformer.
- reasons for voltage variation in the output of a transformer.
- determine the voltage regulation of a transformer from voltage and percentage impedance values.
- percentage impedance as applied to transformers.
- determine the percent impedance by using test results.
- determine percent impedance of a transformer by calculation.

T5 Parallel operation of transformers and transformer auxiliary equipment encompassing:

- determine polarity markings for an unidentified single phase double wound transformer.
- need for parallel operation of transformers.
- conditions/restrictions required before two transformers can be connected in parallel.
- connecting transformers in parallel to supply a single load (loading on transformers operating in parallel).
- the consequences/effect of an incorrect connection.

T6 Auto-transformers and instrument transformers encompassing:

- identification of auto-transformers, voltage transformers and current transformers from their winding diagrams.
- determining voltage and current in the windings of an auto-transformer by calculation.
- advantages and disadvantages of an auto-transformer.
- AS/NZS3000 requirements with respect to transformers.
- construction of voltage transformers.
- ratings of voltage transformers.
- construction of current transformers.
- ratings of current transformers.
- precautionary measures taken to connect and disconnect instrument transformers.
- connection diagrams for instrument transformers.
- applications for auto-transformers and instrument transformers.

EE115	Basic Analogue & Digital Electronics
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Part 1 Analogue

This competency standard unit covers developing engineering solutions to solve problems with analogue electronics. It encompasses working safely, apply extensive knowledge of analogue electronics circuit and device operation and their application, gathering and analysing data, applying problem solving techniques, developing and documenting solutions and alternatives.

Note.

Typical analogue electronic problems are those encountered in meeting performance requirements and compliance standards, revising analogue electronics operating parameters and dealing with analogue electronic malfunctions

KS01-EH145A Analogue electronic circuits and systems

Evidence shall show an understanding of analogue electronic circuits, applying safe working practices and relevant Standards, Codes and Regulations to an extent indicated by the following aspects:

Single-stage analogue electronics

T1. Understanding of differential amplifiers using discrete components (transistors) of suitable characteristics to meet system objective

- ☐ differential gain, common mode rejection ratio and the required CMRR
- ☐ variable gain input stage

T2. Operational amplifier circuits

- ☐ use of d.c. offset
- ☐ operation of single-supply inverting and non-inverting amplifiers employing DC offset bias at the input and blocking capacitors
- ☐ operation of a high input resistance unity gain
- ☐ areas of use for single-supply amplifiers.

T3. Comparator circuits (open loop, limited swing and hysteresis) using operational amplifiers:

- ☐ ideal op-amp comparator
- ☐ typical uses of the comparator.
- ☐ comparators with limited (i) negative swing and (ii) both positive negative swing
- ☐ hysteresis comparator with positive resistor divider feedback and calculate the input switching voltages.
- ☐ desirable properties of an operational amplifier for use as comparator and the characteristics of comparator op amps.

T4. Amplifiers with given piecewise linear transfer characteristics

T5. Operation and building precision of half-wave and fullwave rectifiers

- ☐ precision two-diode half-wave and full-wave rectifier
- ☐ typical applications of precision rectifiers.

T6. Oscillators

- ☐ Operation of oscillators
- ☐ Purpose of oscillators
- ☐ Conditions for sustained oscillation
- ☐ Operation of phase shift oscillators
- ☐ The operation and characteristics of a Colpitts oscillator
- ☐ Conditions that cause instability in amplifier circuits

Advanced power amplifiers

- ☐ Analysing the performance of power amplifiers
- ☐ Minimum power, voltage and current rating of an output transistor.
- ☐ Aspects of heat transfer related to heat sinking.
- ☐ Common forms of distortion encountered in power amplifiers. (eg. Total harmonic distortion)
- ☐ Techniques for overcoming common forms of distortion.

T9. (is the number correct?)Classes of power amplifiers and indicate typical maximum efficiencies for each class

- ☐ conduction, angle, output power and efficiency of a power amp.
- ☐ typical and/or maximum efficiencies of each class of power Amp.
- ☐ d.c and/or a.c load line,
- ☐ output power and efficiency of a large signal amplifier

T10. Operation of each class and type of power amplifier circuit

- ☐ load line operation.
- ☐ Class A – direct, RC, transformer coupled. Class B – Complementary symmetry, drivers, single supply/duel supply. Class C and Class D.
- ☐ measure the characteristics of a fully integrated operational power Amplifiers.

T11. Active filters

- ☐ frequency response of low-pass, high-pass, low-Q band-pass, high-Q bandpass, notch and all-pass filters and define pass-band, stop-band and rate of roll-off.
- ☐ main features in the amplitude and phase plots of Butterworth, Chebyshev, Cauer-Elliptic and Bessel filter responses.
- ☐ pros and cons of active and passive filters.
- ☐ non-unity gain Sallen-Key low-pass filter.
- ☐ Types of active filters available in IC form - Variable filter, Switched Capacitor Filters and digital (sampled data) filters.
- ☐ Low-Q (i.e. cascade of lowpass and high-pass) and/or narrow bandpass filters

Part 2 Digital

This unit covers determining correct operation of digital sub-systems. It encompasses working safely, problem solving procedures, including the use of voltage, current and resistance measuring devices, providing solutions derived from measurements and calculations to predictable problems in digital components circuits.

KS01-EH112A Digital sub-system

Evidence shall show an understanding of digital sub-system troubleshooting, applying safe working practices and relevant Standards, Codes and Regulations to an extent indicated by the following aspects:

T1. Analogue and digital signals

- ☐ Comparison between analogue and digital signals
- ☐ Observing digital and analogue waveforms

T2. Numbering systems

- ☐ The binary number system
- ☐ The hexadecimal number system
- ☐ Binary addition and subtraction

T3. Numbering systems - conversions

- ☐ Conversion between numbering systems
- ☐ Binary Coded Decimal (BCD)
- ☐ Gray code
- ☐ The American Standard Code for Information Interchange (ASCII)
- ☐ Unicode

T4. Combinational logic circuits

- ☐ Precautions when handling electronic devices due to electrostatic discharge (ESD)
- ☐ Truth tables
- ☐ Basic operation and characteristics of logic gates

Logic probes

- Verification of operation of logic circuits

T5. Digital displays

- ☐ Seven segment LED displays
- ☐ Drive requirements
- ☐ Current limiting
- ☐ Multiplexed displays
- ☐ Seven segment Decoders
- ☐ Liquid Crystal Displays (LCD)
- ☐ Emerging display technologies
- ☐ Verification of seven segment display circuit
- ☐ Interfacing with logic circuits

T6. Digital subsystem building blocks

- ☐ Encoders and Decoders
- ☐ Multiplexers and Demultiplexers
- ☐ Timing diagrams
- ☐ Flip flops, Latches and registers
- ☐ Ripple counters
- ☐ MOD counters
- ☐ Synchronous counters Multi-vibrators
- ☐ Clocks
- ☐ Verification and operation (eg. PLDs, ICs)

T7. Digital fault finding

- ☐ General fault finding principles
- ☐ Common digital faults
- ☐ Digital test equipment
- ☐ Digital test equipment (eg. Logic probes, Digital Oscilloscopes, digital trainers)

T8. Logic families and specifications

- ☐ Input and output voltage characteristics
- ☐ Comparison of logic families
- ☐ Unit load
- ☐ Noise margin
- ☐ Interfacing different logic families
- ☐ Tri-state logic devices

Overview and applications of A/D converter and D/A converter

EE116	Process Control System
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This unit covers solving problems in industrial control systems. The unit encompasses safe working practices, interpreting process and circuit diagrams, applying knowledge of industry controls to problem solving techniques, safety and functional testing and completing the necessary documentation.

Note.

Typical basic industrial control system problems are those encountered in meeting performance requirements and compliance standards, revising control operating parameters and dealing with control malfunctions.

KS01-EI120A

Industrial control systems

Evidence shall show an understanding of industrial control systems to an extent indicated by the following aspects:

Control amplifiers encompassing:

- ☐ Introduction
- ☐ Amplifier Operation
- ☐ Operational Amplifiers
- ☐ Operational Amplifier Configurations

Industrial transducers encompassing:

- ☐ Introduction
- ☐ SI Units
- ☐ Forms of Energy
- ☐ Transducer Terminology
- ☐ Temperature Measurement
- ☐ Force Measurement
- ☐ Speed Measurement

SKILLS AND KNOWLEDGE

- ☐ Positional Measurement

Industrial final control elements encompassing:

- ☐ Introduction
- ☐ Electromagnetic Devices
- ☐ Valves
- ☐ Solid State Switching Devices

Industrial control systems encompassing:

- ☐ Automatic Control
- ☐ Open Loop Control
- ☐ Closed Loop Control
- ☐ Control System Terminology
- ☐ Control System Evaluation
- ☐ Two Position Control
- ☐ Proportional Control (P)
- ☐ Proportional + Integral Control (P+I)
- ☐ Proportional + Derivative Control (P+D)
- ☐ Proportional + Integral + Derivative Control (P+I+D)

Industrial control loops and control signals encompassing:

- ☐ Introduction
- ☐ Control Loops
- ☐ Converters (D to A and A to D)
- ☐ Multiplexing

EE117

Solar Electrical System

This unit covers providing known solutions to predictable problems in photovoltaic energy apparatus and systems operated at ELV and LV. It encompasses working safely, problem solving procedures, including the use of basic voltage, current and resistance measuring devices, providing known solutions to predictable circuit problems.

KS01-EK125A

Photovoltaic power systems

Evidence shall show an understanding of photovoltaic power systems to an extent indicated by the following aspects:

T1 Daily irradiation encompassing:

- ☐ definition of the terms: declination angle, reflectance, sunshine hours, extraterrestrial irradiation, Latitude, direct and diffuse radiation, azimuth and altitude angles, radiance, solar window, tilt angle, solstice, equinox
- ☐ units and symbols for irradiation and irradiance
- ☐ interpretation of solar radiation data tables and contour maps.
- ☐ measuring solar irradiance with a solarimeter.

how radiation varies throughout the year on the surface of a fixed collector.

- ☐ determining, using field measurements and a sun path diagram, the times and dates when a PV array will be shaded by obstacles at a particular site.
- ☐ calculation of the daily average irradiation on a horizontal plane given extraterrestrial irradiation, location constants and sunshine hour data.
- ☐ calculation of the monthly mean daily irradiation falling on a PV array for each month of the year, adjusted for the effects of shading, using irradiance and irradiation data tables and a sun path diagram and/or appropriate software.
- ☐ selection of an appropriate tilt angle for fixed and seasonally-adjustable PV arrays at an given latitude

T2 Photovoltaic modules encompassing:

- ☐ definition of the terms: cell, module, array, mono-crystalline, poly-crystalline, amorphous, band gap energy, semi-conductor
- ☐ diagram of a basic crystalline silicon PV cell, showing its physical structure, with at least five major features labelled
- ☐ major steps in the production of PV modules based on bulk silicon cells, in comparison with the production of thin film PV modules.
- ☐ basic physical principles of PV cell operation for the main types of commercially available PV modules.
- ☐ efficiency, spectral response, cost and typical applications of the main types of commercially available PV modules.
- ☐ new photovoltaic technologies currently being developed towards commercialisation, and their major features.
- ☐ mechanical and electrical features necessary for the long life of a PV module under a wide range of operating conditions.

T3 Module characteristics encompassing:

- ☐ definition of the terms: I-V curve, fill factor, operating point, maximum power point (MPP), cell temperature co-efficient, nominal operating cell temperature (NOCT), current, voltage and power output co-efficient.
- ☐ equivalent circuit for a PV cell, labelling each of the elements and the polarity of the terminals.
- ☐ family of I-V curves for a PV module, labelling major points and showing the effects of variation in irradiance and variation in cell temperature.

For ratings of a PV module from manufacturer's information or nameplate data.

- ☐ determination of the operating point of a PV module with a resistive load, a constant voltage source or any other load with known I-V characteristics, using the load line method.
- ☐ configuration of a typical PV array, including the function, placement and ratings of blocking and bypass diodes.
- ☐ the effect of partial shading of a PV module or array, the impact of bypass diodes and the significance of their configuration on output current in typical operating conditions.
- ☐ calculation of the power at MPP, and the power under typical battery charging conditions, of a PV module, given irradiance and ambient air temperature.
- ☐ calculation of the daily energy output of a PV array in accordance with AS 4509.2, and by using "rule of thumb" de-rating factors.
- ☐ the scope and content of Australian or international standards relevant to the performance of PV modules.
- ☐ the electrical characteristics of a PV module according to relevant Australian or International standards, using an outdoor test method.

EE118	Electrical Energy Supply System
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2.6.21

a) Generation

primary energy sources

power stations

power station output

acts and legislation relating to generation

renewable energy sources and techniques

b) Transmission

system requirements

principal components of a power system

voltage levels

grid systems

acts/legislation relating to transmission

future trends

c) Distribution

high voltage distribution systems

medium/low voltage distribution systems

radial feeders

parallel feeders

ring main feeders

acts/legislation relating to distribution

d) Substations

purpose
location
layout

e) Overhead and underground systems
relative merits
applications
planning
installation

f) Power distribution system electrical characteristics
transmission and distribution systems
inductance, capacitance and resistance

g) Voltage problems in a power distribution system
low voltage
unbalanced voltages
voltage rises

h) Voltage regulation
autotransformers with OLTC
transformers with OLTC
static capacitors
load control

i) Control of OLTC
regulation relays
control circuits
line drop compensation

j) Power distribution system faults
type/classification of fault
typical causes/effects of faults
three-phase symmetrical fault levels
fault level limitation

k) Voltage surges in a power distribution system
lightning surges
switching surges
typical surge levels
surge impedance, typical values
significance of the system surge impedance.

l) Metering and metered quantities
purpose
energy
maximum demand
accuracy classes for metering systems

m) Energy and demand meters
construction
operation
adjustments
testing

n) Metering circuits
direct metering
instrument transformer metering

o) Electronic metering systems and recording meters
types
applications
connections

p) Load control
purpose
methods

.6.22.1

a) Protection fundamentals encompassing:
purpose of protection
features of a protection scheme

b) Instrument transformers for protection encompassing:

Operating principles
Applications of current transformers
Applications of voltage transformers

c) Feeder protection encompassing:
fuse protection
overcurrent & earth fault
sensitive earth fault
unit schemes
distance protection
trip/close sequences for feeders
recloser/sectionaliser systems

d) Transformer protection encompassing:
overheating protection
overcurrent protection
restricted earth fault protection
differential protection
oil and gas devices

e) Busbar protection encompassing:
types of fault
requirements of busbar protection
system protection
frame-earth protection

f) Surge protection encompassing:
voltage surges (revision)
surge diverters
arcing horns

EE119	Electrical Risk Assessment
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This unit covers the mandatory requirements of persons in a supervisory role to implement and monitor an organisation's occupational health and safety policies, procedures and programs. It encompasses understanding an organisation's OHS obligations, providing safety information to staff, implementing and monitoring participative arrangements, safety procedures and training and maintaining safety records.

KS01-EE117A Energy sector Occupational Health and Safety, supervisory responsibilities

Evidence shall show an understanding of OHS enterprise responsibilities to an extent indicated by the following aspects:

- T1 Provisions of relevant occupational health and safety legislation
- T2 Principles and practice of effective occupational health and safety management
- T3 Workplace hazards, range and selection of control measures
- T4 Organisational health and safety management systems and policies and procedures needed for legislative compliance
- T5 Impact of characteristics and composition of the workforce on occupational health and safety management
- T6 Relevance of occupational health and safety management to other organisational management policies, procedures and systems.
- T7 Analysis of entire work environment and judge occupational health and safety interventions
- T8 Analysis of relevant workplace data
- T9 Ability to assess resources needed for risk control

EE120	Electrical Contracting & Specification
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This unit covers developing requirement to be incorporated into the writing of specifications for electrical engineering projects. It encompasses determining the safety requirements to be met, establishing client expectations, ensuring cost effective solutions are pursued and documenting design and technical requirements.

KS01-EE071B Electrical engineering specification development

Evidence shall show an understanding of electrical engineering specification writing to an extent indicated by the following aspects:

T1 Electrical engineering specifications encompassing:

- ☐ Purpose and nature of specification
- ☐ Performance based specifications
- ☐ Prescriptive specifications
- ☐ Acceptable evidence of compliance
- ☐ Additional service required with the supply of equipment

T2 Dealing with suppliers and manufacturer's encompassing:

- ☐ Documenting specification
- ☐ Customer/client relations encompassing:
 - ☐ Importance of customer/client relations
 - ☐ Interpersonal skills that enhance customer/client
 - ☐ Dispute resolution
- ☐ Customer/client relations strategies

T3 Using basic computers functions encompassing:

- ☐ Starting up
- ☐ Selecting application

- ☐ Entering information
- ☐ Saving
- ☐ Printing

T4 Research skills encompassing:

- ☐ Terminology - Terminology used in a research workplace; Terminology used in research-specific literature and the like.
- ☐ Theory – why conduct research - The history of research; past research successes; past research failures; Research Protocols; Research practices and the like.
- ☐ The research environment - The research work environment; Standard research practices; Industrial, legal, ethical, political and market environment considerations; Legislation and regulation; Contractual obligations of all parties

and the like.

- ☐ Planning to conduct research - Concept development and/or research brief analysis; Research objectives; Research deliverables; Research project plan; Literature reviews; Methodology development, including; Experimental design, Technology selection, Information Management system selection and the like
- ☐ Clients - identifying client viewpoints and stake in project; Identifying client requirements and parameters; Determining research budgets, timelines, milestones and quality attributes with clients.
- ☐ Research, Development and Commercialisation - Research and Development goals versus Commercialisation goals and realities; Research and Development to inspire a commercialisation process

EE121	Electronics Power Control Device
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This unit covers solving problems with electronic aspects of single phase power control devices and circuits. The unit encompasses safe working practices, interpreting diagrams, applying knowledge of electronic power control devices and their application, using effective problem solving techniques, safety and functional testing and reporting work activities and outcomes.

Note.

Typical single phase electronic power control problems are those encountered in meeting performance requirements and compliance standards, revising control operating parameters and dealing with control malfunctions.

KS01-EI148A

Single phase electronic power control circuit

Evidence shall show an understanding of single phase electronic power control circuit to an extent indicated by the following aspects:

Introduction to Power Control

- ☐ Advantages and benefits of power control
- ☐ Need for power control and typical applications
- ☐ Power control methods
- ☐ Types of solid state switches
- ☐ Block diagram of a power converter
- ☐ Power control terminology

Modes of operation.

Single Phase Power Rectifiers

- ☐ Single Phase Rectifier Circuit Configurations
- ☐ Resistive/Inductive Loads
- ☐ Output Voltages/Waveforms
- ☐ Ripple Voltage/Frequency
- ☐ Peak Reverse Voltages
- ☐ Free Wheeling Diodes

Silicon Controlled Rectifiers (SCRs)

- ☐ Construction and Symbol
- ☐ Basic Operating Principles
- ☐ Characteristics
- ☐ Gate Requirements
- ☐ Commutation
- ☐ Electrical Ratings
- ☐ Testing SCRs
- ☐ Applications.

Triacs and Gate Turn Off (GTO) Thyristors

- ☐ Triac Construction and Symbol
- ☐ Triac Basic Operating Principles
- ☐ Triac Characteristics
- ☐ Triac Triggering Modes
- ☐ Triac Electrical Ratings
- ☐ Triac Testing
- ☐ GTO Construction and Symbol
- ☐ GTO Basic Operating Principles
- ☐ GTO Characteristics
- ☐ GTO Electrical Ratings
- ☐ Applications for Triac and GTOs

Power Transistors (BJTs)

- ☐ BJT Construction and Symbol
- ☐ BJT Basic Operating Principles
- ☐ BJT Characteristics
- ☐ BJT Electrical Ratings
- ☐ BJT Testing
- ☐ Applications for BJTs

Power Field Effect Transistors (FET)

- ☐ Types of FETs used for power control
- ☐ Power FETs Construction and Symbol
- ☐ FET Basic Operating Principles and Characteristics
- ☐ IGBT Basic Operating Principles and Characteristics
- ☐ Power FET Electrical Ratings

Power FET Testing

- ☐ Applications for Power FETs

Triggering Devices

Diac:

- ☐ construction and symbol
- ☐ operating principles
- ☐ breakover voltage.
- ☐ Unijunction transistors (UJTs)
- ☐ construction and symbol
- ☐ operating principles
- ☐ intrinsic standoff ratio and peak point voltage

Programmable Unijunction Transistors (PUTs)

- ☐ construction and symbol
- ☐ operating principles
- ☐ programmable standoff ratio
- ☐ peak point voltage

Triggering Circuits

- ☐ R-C Time Constant Circuits
- ☐ Diac Trigger Circuit Operation
- ☐ UJT Relaxation Oscillator Circuit Operation
- ☐ PUT Relaxation Oscillator Circuit

Half Wave Controlled Rectification

Phase shift control

- ☐ Controlled rectifiers
- ☐ Controlled rectifier power output control
- ☐ Single Phase Half-Wave Controlled Rectifier
- ☐ Circuit configuration
- ☐ circuit operation
- ☐ waveforms
- ☐ load voltage
- ☐ applications and limitations
- ☐ Problems Associated with Phase Shift Control

Full Wave Controlled Bridge Rectification

- ☐ Single phase full-wave controlled bridge rectifier circuit
- ☐ Output voltage
- ☐ Output waveforms
- ☐ Applications and limitations
- ☐ Advantages and disadvantages

Fully Controlled Bridge Rectification

- ☐ Single phase fully controlled rectifier bridge circuit
- ☐ Output voltage
- ☐ Output waveforms
- ☐ Applications and limitations
- ☐ Advantages and disadvantages

Single-Phase a.c. Voltage Control

- ☐ Phase control of a.c. power
- ☐ Circuit configurations - half and full control circuits
- ☐ Triggering circuits
- ☐ Circuit performance and operation on resistive and inductive loads
- ☐ Output voltage and waveform, determination of output voltage using circuit characteristics
- ☐ Range of control with inductive loads
- ☐ Triggering problems associated with inductive loads.
- ☐ Applications and limitations

Zero Voltage Switching (ZVS)

- ☐ Operating principles
- ☐ Circuit configuration – including trigger circuits

Circuit operation and waveforms – resistive loads only

- ☐ Relationship between load power and conduction time
- ☐ Solid state relays; types and ratings
- ☐ Applications and limitations

Fault Finding of Power Control Circuits

- ☐ Fault finding procedures
- ☐ Typical faults – power and trigger circuits
- ☐ Characteristics displayed by common faults
- ☐ Comparison of test data with expected data (voltage/current waveforms)
- ☐ Location and replacement of faulty components

EE201	Engineering Mathematics
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This unit covers the application of computational processes to solve engineering problems. It encompasses working safely, applying problem solving techniques, using a range of mathematical processes, providing solutions to electrical/electronics engineering problems and justifying such solutions.

Note. Typical engineering problems are those encountered in meeting requirements in a design brief, meeting performance requirements and compliance standards, revising systems operating parameters and dealing with system malfunctions

KS01-EE126A Electrotechnology engineering maths

Evidence shall show an understanding of electrotechnology engineering maths to an extent indicated by the following aspects:

T1 Rational, irrational numbers and basic algebra

- ☐ simplification of expressions involving square roots and cube roots
- ☐ scientific and engineering notation
- ☐ evaluation of expressions using a calculator
- ☐ convert units of physical quantities using unity brackets
- ☐ substitute given values into formulae to find physical quantities
- ☐ manipulate algebraic expressions using mathematical operations in their correct order, the laws of indices, expansion of brackets and collecting like terms

T2 Algebraic manipulation

- ☐ Factorise algebraic expressions using common factors
- ☐ Factorise quadratic expressions using trial and error on the factors of the coefficients
- ☐ Simplify algebraic fractions using common denominators and cancelling
- ☐ Solve simple one variable equations including algebraic fractions
- ☐ Find the quotient and remainder given a linear divisor.
- ☐ Transpose formulae to find a required variable.

T3 Laws of indices

- ☐ Conversion between decimal notation, scientific notation and engineering notation
- ☐ Laws of indices: positive /negative values, multiplication/division, fractional values, index equals zero
- ☐ Logarithmic laws: multiply/divide
- ☐ solution of exponential equations using logarithms, substitution and solution of relevant formulae involving exponents or logarithms
- ☐ Graphs of exponential functions, 10^x and e^x and the inverses $\log_{10}(x)$ and $\log_e(x)$ functions on log-linear graphs
- ☐ Convert numbers into scientific and engineering notation using the laws of indices
- ☐ Manipulate and simplify arithmetic and algebraic expressions using the laws of indices and logarithms

- ☐ Express logarithms as indices.
- ☐ Perform logarithmic operations.
- ☐ Determine logarithms and antilogarithms to base 10, using a scientific calculator.
- ☐ **Determine logarithms and antilogarithms to base e, using a scientific calculator.**
- ☐ Convert logarithmic values from base 10 to base e and vice versa.
- ☐ **Sketch given functions on log-linear graphs**

T4 Estimations, errors and approximations

- ☐ Errors in measurement
- ☐ **Maximum probable error**
- ☐ **Show awareness of errors in measurement and of giving results in appropriate number of significant figures**
- ☐ Use estimations and approximations to check the reasonableness of results.

T5 Plane figures – triangles and basic trigonometry

- ☐ **Angles in a triangle**
- ☐ Isosceles and equilateral triangles
- ☐ Congruent triangles
- ☐ Similar triangles
- ☐ Pythagoras' theorem
- ☐ Area of triangles
- ☐ Basic trigonometry functions
- ☐ Degrees, radians
- ☐ The ratios: sin, cos, tan, cosec, sec, cot.
- ☐ Inverse trig functions
- ☐ Sine and cosine rules

T6 Plane figures - quadrilaterals and circles

- ☐ Types and properties of quadrilaterals
- ☐ Areas and perimeters of regular quadrilaterals
- ☐ Lengths of arcs
- ☐ **Angles in a circle - degrees**
- ☐ **Angles in a circle - radians**
- ☐ Lengths of chord segments
- ☐ Tangents to circles
- ☐ **Circumference and area of circles**
- ☐ Names and characteristics of common polygons

T7 Graphs of Trigonometric functions

- ☐ Graph trigonometric functions and solve trigonometric equations.
- ☐ Simplify trigonometric expressions using trigonometric identities
- ☐ **Convert angular measure in degrees to radians and vice versa**
- ☐ Graph trigonometric functions including graphs of $y = \sin x$ and $y = \cos x$
- ☐ **Using vocational applications of current or voltage as a function of time, consider changes in amplitude, consider changes in frequency.**
- ☐ Examine relationships of frequency, period and angular velocity.
- ☐ **Sketch graphs of the form $f(t) = a \sin \phi t$ and $f(t) = a \cos \phi t$, where a is the peak voltage or current, and ϕ is the angular velocity**
- ☐ **Solve graphically equations of the form $f(t) = a \sin \phi t$ and $f(t) = a \cos \phi t$**

Show a positive or negative angle on the unit circle.

- Use symmetry properties to find trigonometric ratios for angles greater than $\pi/2$.
- Solve simple vocational problems relating period, frequency and angular velocity.

T8 Graphs of linear functions

- ☐ The number plane
- ☐ Gradient and x and y intercepts of a straight line
- ☐ **Equation of a straight line length and mid-point of a straight line segment**
- ☐ Function notation

T9 Simultaneous equations

- ☐ Graphical solutions
- ☐ Substitution
- ☐ Elimination
- ☐ **Solve 2 linear simultaneous equations both algebraically and graphically.**

T10 Matrices

- ☐ Perform the basic operations on matrices up to 3×3
- ☐ Manipulate matrix equations and expressions
- ☐ **Recognise inverse and identity matrices up to 3×3 and use to solve systems of linear equations.**
- ☐ Find determinants up to 3×3 and use to solve systems of linear equations.
- ☐ Solve problems involving more than two simultaneous equations.
- ☐ State the limitations of graphical methods of solution.
- ☐ Distinguish between a matrix and an array.
- ☐ **Describe the null, diagonal and unit matrix**
- ☐ **Describe and identify a singular/non-singular matrix**

T11 Quadratic functions

- ☐ Graphs of quadratic functions represented by parabolas and the significance of the leading coefficient.
- ☐ Graph quadratic functions and solve quadratic equations.
- ☐ **Sketch and interpret the graphs of quadratic functions showing the significance of the leading coefficient and the zeros**
- ☐ Solve quadratic equations by factoring or using quadratic formula
- ☐ **Solve simultaneously linear and quadratic equations algebraically and geometrically**
- ☐ Interpret verbally formulated problems involving quadratic and linear equations and solve.

T12 Exponential and logarithmic functions

- ☐ Transform non-linear functions (including exponential) to linear forms and plot data.
- ☐ Draw curves of best fit, interpolate data and estimate constants in suggested relationships.

Interpret verbally formulated problems involving growth and decay, and solve.

- Graph exponential and logarithmic functions and solve exponential and logarithmic equations.
- ☐ **Sketch the graphs of simple exponential and logarithmic functions showing behaviour for large and small values**

T13 Vectors and Phasors

- ☐ The vector as an expression of magnitude and direction
- ☐ The vector sum of x and y values in terms of magnitude and direction
- ☐ Rectangular components of vectors in the form $x = r \cos \theta$ and $y = r \sin \theta$
- ☐ Rectangular-polar and polar-rectangular conversion
- ☐ Vector addition and subtraction
- ☐ Express rectangular components of vectors in the form $x = r \cos \theta$ and $y = r \sin \theta$

T14 Complex numbers

- ☐ Definitions and notation of complex numbers
- ☐ Complex numbers as vectors on an Argand diagram
- ☐ laws of complex numbers and apply the laws in suitable calculations.
- ☐ Plot complex numbers on the Argand plane.
- ☐ Express vectors as complex numbers and perform suitable calculations.
- ☐ Calculate the conjugate of a complex number.
- ☐ Using a calculator for rectangular-polar and polar-rectangular conversions.

EE202	Electrical Circuits
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This unit covers determining correct operation of complex multiple path circuits and providing engineering solutions as they apply to various branches of electrotechnology work functions. It encompasses working safely, problem solving procedures, including using electrical measuring devices, applying appropriate circuit theorems and providing solutions derived from measurements and calculations and justification for such solutions.

KS01-EE125A Circuit analysis

Evidence shall show an understanding of circuit analysis to an extent indicated by the following aspects:

T1 Voltage/Current Sources and Kirchhoff's Law for d.c. Linear Circuits encompassing:

- ☐ calculating the effect of the internal resistance on terminal voltage and current delivered for practical voltage sources and current sources
- ☐ calculating current and voltage in any d.c. network of up to two loops and three sources.
- ☐ Kirchhoff's Law using a circuit simulation program.
- ☐ function and operation of an electronics circuit simulation program.
- ☐ using electronics circuit simulation program.

T2 Superposition Principles for d.c. Linear Circuits encompassing:

- ☐ d.c. networks (two loops, three sources)
- ☐ using simulation programs
- ☐ calculating current and voltage in any d.c. network of up to two loops and three sources.
- ☐ Superposition theorem using a circuit simulation program.

T3 Mesh and Nodal Analysis for d.c. Linear Circuits encompassing:

- ☐ writing mesh equations for d.c. networks containing up to three loops.
- ☐ writing Nodal equations for d.c. networks containing up to three nodes.
- ☐ using mesh analysis to find currents in d.c. networks of up to two loops.
- ☐ using nodal analysis to find node voltage and branch currents in d.c. networks of up to two nodes using a circuit simulation program to confirm the results of Mesh analysis or Nodal analysis of d.c. networks.

T4 Thévenin's principles for d.c. Linear Circuits encompassing:

- ☐ calculating the effect of the internal resistance on terminal voltage and current delivered for practical voltage sources and current sources.
- ☐ calculating the Thévenin equivalent voltage and resistance for d.c. networks and determining the load current, voltage and power.
- ☐ converting the Thévenin equivalent circuit to a Norton equivalent circuit and vice versa.
- ☐ verifying the equivalence of Thévenin equivalent circuits by measurement.

T5 Norton's principles for d.c. linear circuits encompassing:

- ☐ calculating the effect of the internal resistance on terminal voltage and current delivered for practical voltage sources and current sources.
- ☐ calculating the Norton equivalent current and resistance for d.c. networks and determining the load current, voltage and power.
- ☐ converting the Thévenin equivalent circuit to a Norton equivalent circuit and vice versa.
- ☐ verifying the equivalence of Norton equivalent circuits by measurement.

T6 Phasors encompassing:

- ☐ time domain and frequency domain
- ☐ frequency, angular frequency and units of measurement
- ☐ defining rms and convert between time domain and rms phasor values for a sine wave.
- ☐ converting between angular frequency and frequency.
- ☐ using a calculator to convert between polar and rectangular forms of phasor.
- ☐ representing a.c. voltages on a phasor diagram.

T7 Complex Impedance encompassing:

- ☐ defining impedance, resistance and reactance.
- ☐ defining admittance, conductance and susceptance.
- ☐ converting between conductance to resistance.
- ☐ converting between susceptance and reactance.
- ☐ converting between impedance and admittance.
- ☐ sketching impedance and admittance diagrams.
- ☐ calculating two-component series equivalent circuits and two-component parallel equivalent circuits and convert between these forms.

T8 Series and parallel a.c. linear circuits encompassing:

- ☐ Kirchhoff's Laws
- ☐ series equivalent impedance
- ☐ parallel equivalent impedance
- ☐ voltage divider and current divider rules
- ☐ calculating and measuring voltage and currents in a series a.c. circuit and draw the phasor diagram.

calculating and measuring currents in a parallel a.c. circuit and draw the phasor diagram.

· calculating and measuring voltage and currents in a series/parallel a.c. circuit and draw the phasor diagram.

T9 Superposition principles and Kirchhoff's Laws applied to a.c. linear circuits encompassing:

- ☐ calculating current and voltage in any a.c. network of up to two loops and two sources.

- ☐ using circuit simulation programs to demonstrate the superposition theorem.
- ☐ function and operation of an electronics circuit simulation program.
- ☐ entering given circuit specifications into an electronic circuit program.
- ☐ setting the circuit simulation program operation parameters including input and output values, ranges and graduation.
- ☐ producing hardcopies of the circuit and analyse results.

T10 Mesh and Nodal analysis for a.c. linear circuits encompassing:

- ☐ Mesh analysis
- ☐ Node voltages and nodal analysis
- ☐ matrix representation
- ☐ method of determinants
- ☐ writing mesh equations for a.c. networks containing up to three loops.
- ☐ writing nodal equations for a.c. networks containing up to three nodes.
- ☐ using mesh analysis to find currents in a.c. networks of up to two loops.
- ☐ using nodal analysis to find node voltage and branch currents in a.c. networks of up to two nodes.
- ☐ using a circuit simulation program to confirm the results of mesh analysis or nodal analysis of a.c. networks.

T11 Thévenin and Norton theorems applied to a.c. linear circuits encompassing:

- ☐ calculating the effect of the internal resistance on terminal voltage and current delivered for practical voltage sources and current sources.
- ☐ calculating the Thévenin equivalent voltage and impedance for a.c. networks and determining the load current, voltage and power.
- ☐ calculating the Norton equivalent current and impedance for a.c. networks and determining the load current, voltage and power.
- ☐ converting the Thévenin equivalent circuit to a Norton equivalent circuit and vice versa.
- ☐ verifying the equivalence of Thévenin and Norton equivalent circuits by measurement.

T12 Star-delta conversions encompassing:

- ☐ Star connections
- ☐ Star-delta transformation formula equations
- ☐ selection of appropriate conversion
- ☐ calculating the delta connected equivalent of a star connected balanced a.c. or d.c. load and vice versa.
- ☐ converting a complex non-series/parallel network to a series/parallel network by means

of star-delta or delta-star conversions.

- ☐ verifying star-delta and delta-star network conversions by measurements.

T13 Complex a.c. power and maximum power transfer theorem encompassing:

- ☐ true power, reactive power and apparent power
- ☐ maximum power transfer
- ☐ calculating real, reactive and apparent power for series/parallel a.c. circuits and state the appropriate units of measurement.
- ☐ calculating the power factor of a.c. series/parallel circuits.
- ☐ drawing power triangle for a given circuit.
- ☐ calculating the load value which would consume maximum power and calculate this power for d.c. networks.
- ☐ calculating the load value which would consume maximum power in an a.c. network when the load is a pure resistance and calculate the power.
- ☐ calculating the load value which would consume maximum power in an a.c. network when the load is an impedance of variable resistance and reactance and calculate the power.
- ☐ verifying load selection by measurement.

T14 Transients encompassing:

- ☐ transients in R-C and R-L circuits
- ☐ growth and decay
- ☐ calculating voltage and currents in R-C series circuits using exponential equations.
- ☐ calculating voltage and currents in R-L series circuits using exponential equations

EE203	Three Phase Power Circuits
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This unit covers determining correct operation of complex polyphase power circuits and providing solutions as they apply to electrical power engineering work functions. It encompasses working safely, problem solving procedures, including using electrical measuring devices, applying appropriate circuit theorems and providing solutions derived from measurements and calculations and justification for such solutions.

KS01-EG149A Polyphase power circuit analysis

Evidence shall show an understanding of polyphase power circuit analysis to an extent indicated by the following aspects:

T1 Polyphase supply system encompassing:

- ☐ advantage of three phase system compared to single phase systems
- ☐ double subscript notation
- ☐ phase sequence
- ☐ 120 degree operator
- ☐ given circuit component parameters, solve practically based problems using:
- ☐ equivalent circuits of transformers, lines and loads.
- ☐ component values using rectangular and polar notation.
- ☐ current divider and potential divider rules using complex impedances.
- ☐ The “per unit” values of voltage, current, VA and impedance to a common VA base.

T2 Types of three phase system connections encompassing:

- ☐ supply to balanced star, 3 and 4 wire loads
- ☐ supply to delta connected loads
- ☐ effects of phase reversal

representation of currents and voltages as complex phasors for 3 phase and 3 phase and neutral quantities.

- ☐ calculation the values of and draw labeled phasor diagrams, not to scale, to represent complex values of current and voltage for balanced and unbalanced loads for star and delta systems.
- ☐ calculation of values of P, Q and S for balanced and unbalanced systems.
- ☐ draw and label single phase diagrams to represent 1 phase of a complex 3 phase system.

- ☐ represent unbalanced voltages or currents as symmetrical components.
 - ☐ Phase to phase currents
 - ☐ Phase to neutral/earth currents.
- T3 Balanced three phase loads encompassing:**
- ☐ calculations of balanced loads connected in star
 - ☐ calculations of balanced loads connected in delta
 - ☐ calculation of steady state values of fault current for various configurations.
 - ☐ evaluation of the symmetrical component impedances for the various distribution system components. Transformers (earthed neutral case).

Generators (high impedance earth)

- ☐ calculation of fault currents using the per unit approach.
- ☐ calculation using the “worst case” values based on transformer impedance only (ie., a short circuit fault)
- ☐ estimation of peak values using accepted multipliers.
- ☐ effects of the d.c. component on the instantaneous magnitudes of fault currents in transformers and generators.

T4 Unbalanced three phase loads encompassing:

- ☐ Star – 4 wire systems
- ☐ Delta systems
- ☐ Star – 3 wire systems
- ☐ Star 4 wire with neutral impedance

T5 Power in three-phase circuits encompassing:

- ☐ summation of phase powers and power in balanced loads
- ☐ measurement of power in balanced loads – 2 Wattmeter methods

T6 Reactive three phase power encompassing:

- ☐ power triangle calculation
- ☐ measurement of VAR
- ☐ power factor correction

T7 Fault currents encompassing:

- ☐ symmetrical components
- ☐ positive, negative and zero sequence impedance

fault current breaking and let-through energy capacities of circuit breakers, fuses

- ☐ importance of fault/arc impedance
- ☐ calculation of fault currents - phase-to-earth faults
- ☐ calculation of fault currents - phase-to-phase faults
- ☐ analysis of asymmetrical faults currents.

T8 Harmonics in three phase systems encompassing:

- ☐ presence of triple in harmonics in 3 phase systems
- ☐ effects of 3 phase harmonics for different star and delta connections.
- ☐ methods for reducing harmonics in three phase systems.

EE204	Engineering Physics
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This unit covers the law of physics and how they apply to solving electrotechnology related problems. It encompasses working safely, knowledge of measurements of physical phenomena, linear and angular motion, harmonic motion, wave theory, optics, acoustics and heat capacity and transfer, use of measurement techniques, solving physics related problems and documenting justification for such solutions.

KS01-EE082A Electrotechnology engineering physics

Evidence shall show an understanding of electro engineering physics to an extent indicated by the following aspects:

T1 Measurement encompassing

- ☐ SI units in measurement of physical phenomena
- ☐ Uncertainty and tolerance

T2 Linear motion

T3 Angular motion

T4 Simple harmonic motion and vibration

T5 Wave theory

- ☐ Interference
- ☐ Diffraction

T6 Electromagnetic waves and propagation

T7 Optics

- ☐ Mirrors and lenses
- ☐ Optical fibre

T8 Acoustics and ultrasonics

T9 Heat capacity and heat transfer

- ☐ Fluid power

EE205	Electrical Power System
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2.6.22.6 Electrical power distribution systems
diagnostic

a) Distribution system overview including:

regulatory conditions of supply and utilisation

compliance with Australian Standards.

reticulation system including overhead/underground, urban/rural, HV customers and high-rise building systems. The effects of industrial customers

methods used to ensure continuity of supply.
types of substations in current use.
systems of distribution used, (primary and secondary)
voltage levels, power factor, wave-form distortion and transient loading
supply quality
load curve profiles (residential/industrial/commercial)
types of feeders
distribution systems (urban, rural single-phase systems, SWER, spur, parallel and ring systems etc.)

b) Overhead lines and installation

industry and safety regulations
overhead conductors
conductor material
current rating factors (heating, voltage drops, power losses)
aerial bundled cables (HV and LV)
covered conductors

Note: The characteristics of lines and cables including the calculation of R, X and B for different arrangements of conductor. Typical values for actual lines.

Transposition. Models based on line length. Voltage and line regulation
overhead line poles
types (wood, concrete and steel)
installation of poles (tooling, rake, life, labelling, sinking)
maintenance of poles – above & below ground
pole strength and loads
crossarms
types and standard sizes
insulators
insulation types
types (pin, suspension or disc, shackle)
creepage, necessary clearances
arcing horns, insulator mounting
structure types
mechanical properties (working strength, maximum tension, limiting size)
interpretation of stringing charts

determination of sag (by calculations or measurement and/or tension measurement)
sight and wave sagging, sag correction
stays
components, anchorage

c) Use of design schedules

sample design problems

Note: Examples of common design practice line, voltage, structure types used, line deviation, span sag, crossarms, insulators and stays wind loading and line deviation
loading basic surveying
measurement of levels, deviation angle and compass bearings
perform survey of short distribution line extension of produce field notes

d) Underground cables

cable types, ratings, core material, design considerations, cable dielectrics, insulating materials and abbreviations, electric stress, cable volt drop
and volt drop calculations, cable termination, joints and installation.
induction and eddy currents
cable testing, cable fault location
cable drawing

e) Voltage regulations of feeders and associated equipment

terminology used: distribution system, service line, customer's terminals, customer voltage, utilisation voltage, base voltage, voltage variation and bandwidth
voltage limits and effects of voltage variation
causes of variation: inductance, capacitance and reactance of distribution lines, transformers
methods of voltage control: off-load, on-load tap changers, voltage regulating relays, line drop compensation, different types of voltage regulators
voltage profiles: principles, effect on voltage profiles, limits of voltage, voltage drops due to LV mains transformers, tapsettings feeder and service lines
determining volt drops for components within the profile.

f) Control of voltage. Conditions leading to voltage collapse and system disintegration. Effects on the system of high/low volts. Voltage control devices including:

voltage regulators applied to generators and synchronous phase modifiers
electromagnetic voltage regulators
series and parallel capacitors
OLTC transformers and static Var compensations (SVCs)

g) Range of devices covered by SVCs including:

saturated reactor compensations (SRs)

thyristor controlled reactor compensators (TCRs)
combined TCR/TSCs and
production of wave-form distorting harmonics and control devices

h) Importance of the location in the system of voltage control devices

i) Types of communication systems including telephone, power line carrier, dedicated cable, micro-wave links and fibreoptics. Quantities and signals to be communicated. Advantages and disadvantages of the various systems. Equipment requirements

j) Transient over-voltages in power systems. Switching and lightning overvoltages and their effect on different plant items. Transient over-voltage control and reduction using surge diverters, shield wires and CB are control. Insulation systems, insulation co-ordination, insulation grading in plant items, bushings and capacitor bushings

k) The principles of operation, voltage and current range, breaking capacity and field of use of the following types of circuit breakers. bulk oil, small oil volume, air break, vacuum and SF6 (double pressure and puffer types).

l) The types of isolators in use. Examples include duo-roll, blade and scissor type.

m) Circuit breaker auxiliary systems including:

d.c. systems including battery types, charging and protection systems and earth fault detection systems

SF6 conditioning, storage and handling system

EE206	AC Machines	
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Synchronous Machines

This unit covers developing engineering solutions to resolve problems with synchronous machines and their controls. It encompasses working safely, apply extensive knowledge of synchronous machine operation, construction and their application, gathering and analysing data, applying problem solving techniques, developing and documenting solutions and alternatives

KS01-EG143A Synchronous machine diagnostics

Evidence shall show an understanding of developing engineering solutions for synchronous machine problems to an extent indicated by the following aspects:

T1 a.c. generators – construction, types and cooling encompassing:

- ☐ construction of stator and rotor windings
- ☐ rotor construction (cylindrical and salient pole)
- ☐ advantages of rotating field construction
- ☐ excitation methods
- ☐ cooling methods
- ☐ prime movers

T2 a.c. generators – operating principles and characteristics encompassing:

- ☐ a.c. generator equivalent circuits (synchronous reactance and resistance components)
- ☐ tests – open circuit, short circuit, stator impedance
- ☐ voltage regulation, island generator's terminal voltage load power factor
- ☐ determination of excitation voltage and load angle

T3 Synchronising a.c. generators encompassing:

- ☐ conditions for synchronising (infinite bus)
- ☐ methods for synchronising (lamp methods, synchroscope)
- ☐ alternator load sharing, parallel operation

T4 a.c. generators power, torque and efficiency encompassing:

- ☐ power input, input torque, speed
- ☐ power losses
- ☐ output power, load power factor, rotor angle, pu power
- ☐ efficiency
- ☐ performance chart interpretation

T5 Voltage regulation (AVR) encompassing:

- ☐ need for AVR's
- ☐ features of AVR's
- ☐ effects of rotor inductance
- ☐ connections of AVRs
- ☐ operation of AVRs

T6 a.c. generator operational stability encompassing:

- ☐ power output, VAR effects, rotor angle, excitation
- ☐ control of VAR (OLTC transformers)
- ☐ voltage dependant nature of stability
- ☐ critical clearance angle of a.c. generator
- ☐ stability limits

T7 a.c. generator protection encompassing:

- ☐ restricted, unrestricted primary, back up and duplicated protection
- ☐ overcurrent, short circuit, differential, reverse power, load unbalance, rotor overload, loss-of-field, rotor earth fault, station earth fault, under frequency protection
- ☐ external fault protection

T8 Induction generator encompassing:

- ☐ types operating principles, characteristics
- ☐ excitation methods
- ☐ losses and efficiency
- ☐ synchronising and paralleling

T9 Three phase synchronous motors encompassing:

- ☐ construction – rotor, stator, windings
- ☐ excitation methods
- ☐ operating principles (equivalent circuits, synchronous impedance)
- ☐ hunting and stability limits
- ☐ power factor correction
- ☐ paralleling and synchronisation techniques
- ☐ starting methods
- ☐ braking methods

Part 2 Induction Machines

This unit covers developing engineering solutions to resolve problems with induction machines and their controls. It encompasses working safely; apply extensive knowledge of induction machine operation and construction and their application, gathering and analysing data, applying problem solving techniques, developing and documenting solutions and alternatives.

Note.

Typical motor problems are those encountered in meeting performance requirements and compliance standards, revising a machine operating parameters and dealing with machine malfunctions.

KS01-EG145A Induction machines diagnostics

Evidence shall show an understanding of developing engineering solutions for induction motor problems to an extent indicated by the following aspects:

T1 Operating principles of polyphase induction motors encompassing:

- ☐ rotating magnetic field torque slip
- ☐ MMF relationships
- ☐ Leakage fluxes

T2 Construction of polyphase induction motors encompassing:

- ☐ squirrel cage motors
- ☐ slip-ring motors
- ☐ construction considerations in minimisation of tooth locking

T3 Speed-torque relationships in induction motors encompassing:

- ☐ maximum torque
- ☐ torque – slip relationships
- ☐ squirrel cage rotor types
- ☐ power flow in the motors
- ☐ power distribution
- ☐ torque units
- ☐ slip ring rotors

T4 Induction motor performance testing encompassing:

- ☐ no-load tests

locked rotor tests

- development of motor equivalent circuit from test results
- analysis of motor performance using circle diagrams

T5 Induction motor starters encompassing:

- ☐ starting requirements
- ☐ type of starters
- ☐ starting torque
- ☐ starting dynamics
- ☐ static friction
- ☐ mechanical loads
- ☐ starting duration

T6 Reduced voltage starting encompassing:

- ☐ starting dynamics
- ☐ change over conditions
- ☐ starting duration
- ☐ acceleration curves

T7 Speed control of induction motors encompassing:

- ☐ constant torque, constant power concepts
- ☐ torque-flux-voltage relationships
- ☐ rotor resistance control
- ☐ stator impedance control
- ☐ variable frequency control (e.g. PAM, PWM, Flux vector control)

T8 Braking of induction motors encompassing:

- ☐ electrical braking systems (plugging, d.c. dynamic, regenerative, capacitor-magnetic)
- ☐ mechanical braking systems (mechanical drum, demag, eddy current)

T9 Motor protection encompassing:

- ☐ overload
- ☐ earth fault
- ☐ phase failure

T10 Motor selection criteria and RMS rating

T11 Induction motor maintenance/repair encompassing:

- ☐ routine maintenance schedules
- ☐ type of repairs (mechanical, electrical)

T12 Single phase induction motors encompassing:

- ☐ operating principles (especially RMF)
- ☐ construction types

- speed-torque relationships

EE207	DC Machine
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This unit covers developing engineering solutions to resolve problems with d.c. machines and their controls. It encompasses working safely; apply extensive knowledge of d.c. machine operation and construction and their application, gathering and analysing data, applying problem solving techniques, developing and documenting solutions and alternatives.

Note:

Typical machine problems are those encountered in meeting performance requirements and compliance standards, revising machine operating parameters and dealing with machine malfunctions.

KS01-EG144A Direct current machine diagnostics

Evidence shall show an understanding of developing engineering solutions for d.c. machine problems to an extent indicated by the following aspects:

T1 Basic d.c. machine construction and operation encompassing:

- ☐ General principles of operation
- ☐ Applications of d.c. machines
- ☐ Construction of d.c. machines
- ☐ d.c. machine configurations; series, shunt, compound long shunt and compound short shunt
- ☐ Armature and field currents
- ☐ Insulation
- ☐ Ratings
- ☐ Cooling paths
- ☐ Bearings
- ☐ General maintenance of d.c. machines

T2 Construction and use of lap and wave windings encompassing:

- ☐ coils and elements
- ☐ generated voltage equation for generator
- ☐ generated voltage equation for motors
- ☐ application of lap and wave windings

T3 Commutation process encompassing:

- ☐ use of interpoles
- ☐ loading of machines
- ☐ brush shifting
- ☐ brush selection

classes of brush grades

Note:

Examples include: natural graphite, hard carbon, electrographite, metal-graphite, metal-carbon, “treated” grades

- ☐ carbon brush contact characteristics

Note:

Examples include: specific resistance, thermal conductivity, density and porosity, elastic properties, contact properties

- ☐ carbon brush factors

Note:

Examples are: pressure, current, polarity, speed

- ☐ brush construction

Note:

Examples are: dimensions, tolerances, preferred sizes, surfaces, edges, bevels, flexible shunts, connection of flexible shunt to brush, insulation of flexible connections

- ☐ brush holders

Note:

Examples are: types, brush angles, trailing holders, reaction holders, top bevel angles, reversible rotation, cantilever holders, effective arc of contact, construction of brush holders, pressure mechanism

- ☐ mounting of brush holders and brushes

Note:

Examples are: clearances, brush angle, brush arm spacing, alignment, staggering, brush bedding, brush pressure

- ☐ brush operation

Note:

Examples are: temperature rise, number and size of brushes, current distribution between brushes, slotting brushes, polarity effects, arc of contact, materials for commutators, mica

- ☐ selection of brush grades

Note:

Examples are: machine data, current density, commutator peripheral speed, brush arc, pitch of segments, number of segments covered by brush, cooling surface

T4 Armature reaction in d.c. machines encompassing:

- ☐ effect of armature reaction on d.c. machine characteristics
- ☐ use of compensating winding

T5 d.c. generators encompassing:

- ☐ relative advantages and disadvantages of the various dc generator configurations

and their performance under various load conditions

- ☐ voltage regulation as a percentage or per unit value
- ☐ operation in parallel

T6 d.c. motors encompassing:

- ☐ relative advantages and disadvantages of the various dc motor configurations and their performance under various load conditions
- ☐ shape of motor speed/torque curves
- ☐ reversal of rotation

T7 Starting and protection of d.c. motors encompassing:

- ☐ types of d.c. motor starters in use
- ☐ d.c. motor protection

T8 Speed regulation and speed control of d.c. motors encompassing:

- ☐ methods in use
- ☐ effect on motor design and operation caused by the use of SCR
- ☐ speed control equipment

T9 Braking of d.c. motors encompassing:

- ☐ Plugging
- ☐ Dynamic
- ☐ Regenerative
- ☐ Mechanical

T10 Losses, heating and efficiency encompassing:

- ☐ Copper losses
- ☐ Iron losses
- ☐ Mechanical losses
- ☐ Efficiency

T11 Acceleration of d.c. motors and loads encompassing:

- ☐ characteristics of typical loads
- ☐ matching a suitable motor to a given load
- ☐ heating of windings
- ☐ derating of motors

T12 Special d.c. motors construction, operation and applications encompassing:

- ☐ permanent-magnet motors
- ☐ brushless motors (e.c. motors)
- ☐ coreless and moving coil motors
- ☐ linear motors
- ☐ printed circuit motor
- ☐ stepping motors

voice-coil motors

T13 Maintenance of d.c. machines encompassing:

- ☐ routine maintenance
- ☐ breakdown repairs

T14 types of faults encompassing:

- ☐ brushes/brush gear problems

Note:

Examples are: sparking, excessive heating, excessive wear of brushes, commutator or slip rings, bad surface conditions, excessive maintenance, flexible burning, flexible corrosion, separation or grooving, blackening, copper picking, copper dragging, brush noise

T15 adjustment of machines encompassing:

- ☐ correct brush position
- ☐ machining and finishing of commutators

EE208	Operational Amplifiers
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Part 1- Operational Amplifier

This unit covers determining correct operation of amplifiers. It encompasses working safely, problem solving procedures, including the use of voltage, current and resistance measuring devices, providing solutions derived from measurements and calculations to predictable problems in amplifier sections/circuits.

KS01-EH113A Amplifier fundamentals

Evidence shall show an understanding of amplifier troubleshooting, applying safe working practices and relevant Standards, Codes and Regulations to an extent indicated by the following aspects:

T1. Single stage discrete amplifier d.c. characteristics

- ☐ Risk and safety
- ☐ Field effect transistors (FET) and Bi-junction transistor (BJT) circuit symbols
- ☐ Quiescent (Q) point
- ☐ Biasing methods for BJT and FETs
- ☐ Circuit theory for BJT and FETs
- ☐ Verification of performance of BJT and FET amplifier circuits

T2. Single-stage discrete amplifier small signal characteristics

- ☐ Small signal gain
- ☐ Gain measurements
- ☐ Overdrive conditions

T3. Capacitive coupling in single-stage discrete amplifiers

- ☐ Coupling capacitor functions
- ☐ Coupling capacitor effect on low frequency response
- ☐ Emitter/source bypass capacitor effect on low frequency response
- ☐ Verification of circuit operation and frequency response (eg. Bode Plot).

T4. Multistage amplifier coupling methods

- ☐ Coupling methods
- ☐ Total gain
- ☐ Bandwidth considerations
- ☐ Verification of circuit operation

T5. Differential amplifiers

- ☐ Differential amplifier concept
- ☐ Typical circuit operation
- ☐ Differential and common-mode gain
- ☐ Common mode rejection
- ☐ Constant current and voltage sources
- ☐ Verification of circuit operation

T6. Negative feedback

- ☐ Concept of negative feedback
- ☐ Effects of negative feedback
- ☐ Negative feedback configurations
- ☐ Amplifier gain and negative feedback

T7. Introduction to classes of power amplifier operation

- ☐ Power efficiency
- ☐ Classes and applications
- ☐ Crossover distortion

Class AB operation

- Heat sinking

T8. Complimentary symmetry power amplifiers

- ☐ Biasing and crossover distortion
- ☐ Power efficiency
- ☐ Quasi-complimentary and Darlington output configurations
- ☐ Complete amplifier operation
- ☐ D.C. operating condition calculations
- ☐ Verification of circuit operation

T9. Other solid state power amplifier design

- ☐ Transformer coupled power amplifiers
- ☐ I.C. power amplifiers
- ☐ Class D power amplifiers

Part 2 Three phase electronic power control

This unit covers solving problems with electronic aspects of polyphase power control devices and circuits. The unit encompasses safe working practices, interpreting diagrams, applying knowledge of electronic power control devices and their application, using effective problem solving techniques, safety and functional testing and reporting work activities and outcomes.

Note.

Typical polyphase electronic power control problems are those encountered in meeting performance requirements and compliance standards, revising control operating parameters and dealing with control malfunctions.

KS01-EI149A Polyphase electronic power control circuit

Evidence shall show an understanding of polyphase electronic power control circuit to an extent indicated by the following aspects:

T1 Three-Phase Rectifier Circuits encompassing:

- ☐ Three-Phase Rectifier Configurations
- ☐ Resistive/Inductive Loads
- ☐ Output Voltages/Waveforms
- ☐ Ripple Voltage/Frequency
- ☐ Peak Reverse Voltages
- ☐ Free Wheeling Diodes

Measurement of rectifier output parameters.

T2 Three-Phase Half Wave Controlled Rectifiers encompassing:

- ☐ Phase control
- ☐ Purpose/operation of half controlled rectifiers
- ☐ Circuit configuration
- ☐ Rectifier performance and operation - resistive loads
- ☐ Output voltage – resistive load
- ☐ Rectifier performance and operation - inductive loads
- ☐ Rectifier output waveforms
- ☐ Applications and limitations
- ☐ Advantages and disadvantages three-phase controlled rectifiers.

T3. Three-Phase Half Controlled Bridge Rectifier encompassing:

- ☐ Purpose/operation of a half controlled bridge rectifiers
- ☐ Circuit configuration and connections

- ☐ Rectifier output - resistive loads
- ☐ Output voltage – resistive loads
- ☐ Rectifier output - inductive loads
- ☐ Output voltage - inductive loads
- ☐ Flywheel diode
- ☐ Output voltage calculations
- ☐ Applications and limitations
- ☐ Advantages and disadvantages three-phase half controlled bridge rectifiers.

T4. Three-Phase Fully Controlled Bridge Rectifier encompassing:

- ☐ Purpose/operation of a fully controlled bridge rectifiers
- ☐ Circuit configuration and connections
- ☐ Rectifier output - resistive loads
- ☐ Output voltage – resistive loads
- ☐ Rectifier output - inductive loads
- ☐ Output voltage - inductive loads
- ☐ Flywheel diode
- ☐ Output voltage calculations
- ☐ Applications and limitations
- ☐ Advantages and disadvantages three-phase fully controlled bridge rectifiers.

T5. Three-Phase a.c. Controllers encompassing:

- ☐ Circuit configurations
- ☐ Circuit operation
- ☐ Triacs and SCRs circuits
- ☐ Triggering requirements

Output voltage and waveforms

- Determination of output voltage
- Applications
- Advantages and disadvantages

T6. DC Converters encompassing:

- ☐ Purpose and operation of d.c. converters
- ☐ Circuit configurations
- ☐ Voltage control methods
- ☐ Forced commutation methods
- ☐ Calculation of load voltage
- ☐ Output voltage/waveforms
- ☐ Applications
- ☐ Advantages and disadvantages

T7. Cycloconverters encompassing:

- ☐ Purpose/operation of a cycloconverter
- ☐ Basic circuit configurations
- ☐ Measurement of output voltage
- ☐ Calculation of load voltage
- ☐ Output voltage/waveforms
- ☐ Applications and limitations
- ☐ Advantages and disadvantages

T8. Invertors encompassing:

- ☐ Purpose/operation of an inverter
- ☐ Basic circuit configurations
- ☐ Measurement of inverter outputs
- ☐ Output voltage
- ☐ Applications and limitations
- ☐ Advantages and disadvantages

T9. Thyristor Protection encompassing:

- ☐ Power Control Devices Failure
- ☐ Protection Techniques
- ☐ Snubber Networks
- ☐ Series Inductors
- ☐ Amp Trap (HRC) fuses
- ☐ Gate Pulse Suppression

10. Installation of Thyristor Devices and Circuits encompassing:

- ☐ Need for heat sinking of power thyristor devices
- ☐ Heat sink features and types

Installation methods for all types of thyristor packages

- Basic thermal model, only to demonstrate the effect of different heat sink
- Types and profiles and installation methods on thyristor junction temperature.

T11. Series and Parallel Thyristor Connections encompassing:

- ☐ Purpose of Series/Parallel Connection
- ☐ Series Connections
- ☐ Reasons
- ☐ Operational Problems
- ☐ Parallel Connections
- ☐ Reasons
- ☐ Operational Problems

T12. Fault Finding Three Phase Thyristor Circuits encompassing:

- ☐ Fault finding procedures
- ☐ Typical faults – power and trigger circuits
- ☐ Characteristics displayed by common faults
- ☐ Comparison of test data with expected data (voltage/current waveforms)
- ☐ Location and replacement of faulty components

EE209	Analogue Electronics
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This unit deals the replacement of electronic components, cabling and sub systems of electronic apparatus. It encompasses safe working practices, following written and oral instruction and procedures, basic testing and techniques, dismantling and assembling apparatus and disconnecting and reconnecting components.

KS01-EH102A Component replacement to repair basic electronic apparatus faults

Evidence shall show an understanding of component replacement to repair basic electronic apparatus faults, applying safe working practices and relevant Standards, Codes and Regulations to an extent indicated by the following aspects:

T1. Electronic soldering equipment and techniques

- ☐ Workshop hazards and safety associated with soldering
- ☐ Quality concepts
- ☐ Electronic soldering equipment
- ☐ The soldering process
- ☐ Lead free solder

T2. Printed circuit board soldering techniques

- ☐ Electronic component mounting
- ☐ Solder rework of printed circuit boards.
- ☐ Faulty solder joints

T3. Soldering electronic cables

- ☐ Soldering multi-strand, ribbon and coaxial cables
- ☐ Effects and prevention of electrostatic discharge (ESD)

T4. Electronic component basics

- ☐ Types of components
- ☐ The physical features and primary characteristic of components
- ☐ Marking and codes on components
- ☐ Handling static sensitive components

T5. Electronic cable overview and coaxial cable

- ☐ Coaxial cables types and characteristics
- ☐ Coaxial cable termination

T6. Performance copper cables

- ☐ Twisted pair voice and data cables
- ☐ Insulation displacement (IDC) termination
- ☐ Colour codes
- ☐ Terminating performance cables
- ☐ Harness wiring

T7. Electronic apparatus components

- ☐ Fault finding
- ☐ Testing
- ☐ Replacement

EE301	Advanced Electrical Drafting
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This unit covers the production of detailed electrical drawings, drawing sets and documentation. It includes safe working practices; interpreting technical data and specifications; using advanced computer-aided systems and commands and appropriate drafting peripheral systems, equipment and tools to develop detailed drawings. It also includes applying knowledge of electrical equipment design drawing methods, techniques, procedures and protocols and documenting design, storing and retrieving data, and producing related documentation for presentation of preliminary and final drafts for verification.

KS01-EG179A Electrical Detailed Drawings

Evidence shall show an understanding of electrical detailed drawings to an extent indicated by the following aspects:

T1 (Is the number correct?) Producing final drafts for verification encompassing:

- ☐ principles, purpose and concept of verification of drafting products encompassing: production of electrical drawings for verification by authorised persons, production of drawing sets, production of related documentation, presentations of final drafts
- ☐ processes and procedures related to the verification of final drafts by authorised persons encompassing: accuracy
- ☐ publication of verified electrical drawings

T2 Detailed electrical drawing production covering encompassing:

- ☐ distribution branch circuits and boards, services and load calculations; encompassing panels(HV/LV)/switch boards/motor control centres/final
- ☐ conductor/cable selection and calculations encompassing: electrical, data, communications
- ☐ overcurrent and overvoltage protection
- ☐ cable support systems; encompassing cable trays, trunking, conduits, ducts, guards, saddles, carriers, raceways/cavities, poles
- ☐ box and fitting fill requirements
- ☐ wiring devices and terminations
- ☐ distribution equipment; encompassing power circuit devices
- ☐ distribution system transformers; encompassing specialty transformers, power circuit devices
- ☐ lighting applications; encompassing lamps, ballasts, and components
- ☐ motors; encompassing functional controls, advanced motor controls, motor calculations, motor maintenance arrangements

hazardous areas encompassing: electrical equipment; classification of
· emergency standby systems; encompassing UPS/inverter and battery banks

- ☐ fire alarm systems
- ☐ high-voltage terminations/splices
- ☐ cable size selection for installation cable run
- ☐ cable sizes, voltage drops, conduit sizes, fault levels, fuse/circuit breaker (CB) sizes and working temperatures
- ☐ short circuit calculations

- ☐ earth loop impedance compliance test arrangements on the completed design
- ☐ touch potentials calculations
- ☐ cable schedules creation
- ☐ “single line” and “as built” drawings; encompassing three phase schematic colour

diagrams, marked up cable calculations, short circuit results, earth loop impedance results

- ☐ quantities parts list and drawings for tender drawings issued by electrical consultants/engineers
- ☐ coordination and discrimination studies
- ☐ Building Management Systems (BMS) encompassing: building information modelling and sustainable design
- ☐ fuse and CB trip curves plots and displays
- ☐ troubleshooting/fault finding

T3 Schematic component commands detailed encompassing:

- ☐ schematic symbols editor
- ☐ schematic editor
- ☐ components from lists
- ☐ connectors
- ☐ terminals; encompassing multiple level and jumpers
- ☐ circuits
- ☐ multiple phase circuits

T4 Schematic editing encompassing:

- ☐ advanced utilities
- ☐ copy catalogue and location
- ☐ values
- ☐ swapping and updating blocks
- ☐ using the auditing tools
- ☐ update and retag drawings

T5 Detailed panel layouts encompassing:

- ☐ detailed panel layouts creation
- ☐ din rail tool
- ☐ terminal strip editor
- ☐ detailed panel layout annotation
- ☐ detailed reports

T6 Digitising and scanning encompassing:

- ☐ drawings digitisation; encompassing tablet and software configuration, tablet and puck, grids setup and alignment marks for various size drawings, software parameters setting, hard copy drawings digitisation to tablet parameters
- ☐ digitised drawing editor, manipulation and save
- ☐ digitise and grid setups and alignment marks on a hard copy of a large drawing (e.g. A1)
- ☐ scanning devices and peripherals setup encompassing associated software usage, save (e.g. file formats for use other software applications) and management
- ☐ scanned image conversion to vector format, edit and save in file formats for use in CAD; encompassing importation of scanned images into CAD drawings in image formats for editing

EE302	Advanced Engineering Mathematics
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This unit covers the application of advanced computational processes to solve energy sector engineering problems. It encompasses working safely, applying problem solving techniques, using a range of advanced mathematical processes, providing solutions to electrical/electronics engineering problems and justifying such solutions.

Note. Typical engineering problems are those encountered in meeting requirements in a design brief, meeting performance requirements and compliance standards, revising systems operating parameters and dealing with system malfunctions

KS01-EE127A Advanced Engineering Maths

Evidence shall show an understanding of advanced engineering maths to an extent indicated by the following aspects:

T1 Differential Calculus encompassing:

- ☐ basic concepts of differential calculus, limited to definition of the derivative of a function as the slope of a tangent line (the gradient of a curve); limits; basic examples from 1st principles; Notation and Results of derivative of $k.f(ax + b)$ where $f(x)=x$ to the power of n , $\sin x$, $\cos x$, $\tan x$, e to the power of x , $\ln x$.
- ☐ rules - derivative of sum and difference; product rule; quotient rule; chain rule (function of a function), limited to two rules for any given function, the 2nd derivative.
- ☐ applications - equations of tangents and normals; stationary points; turning points; and curve sketching; rates of change; rectilinear motion
- ☐ verbally formulated problems involving related rates and maxima: minima

T2 Integral Calculus encompassing:

- ☐ integration as the inverse operation to differentiation - results of the integral of $k.f(ax + b)$ where $f(x) = x$ to the power of n , $\sin x$, $\cos x$, $\sec^2 x$, e to the power of x , method of substitution, the definite integral.
- ☐ applications - areas between curves; rectilinear motion including displacement from acceleration and distance travelled; voltage and current relationship in capacitors and inductors and the like.

T3 Linear Algebra encompassing:

- ☐ matrices and inverse matrices;
- ☐ linear mapping,
- ☐ determinants,
- ☐ solution of linear equations.

T4 Vectors encompassing:

- ☐ geometrical representation,
- ☐ addition and scalar multiplication,
- ☐ dot and cross products,
- ☐ equations of lines and planes.

T5 Variables encompassing:

- ☐ graphs, level curves and surfaces
- ☐ partial derivatives; chain rule; directional derivative;
- ☐ maxima and minima.

T6 Sequences and Series encompassing:

- ☐ algebraic and Fourier series, convergence; Taylor's Theorem
- ☐ power series manipulation.

T7 Differential Equations encompassing:

- ☐ first order and separable linear equations
- ☐ second order linear equations.
- ☐ partial differential equations.
- ☐ numerical Techniques.

T8 Number encompassing:

- ☐ integer, irrational and complex numbers.
- ☐ number systems.
- ☐ arithmetic operations.
- ☐ accuracy and stability.

T9 Statistics encompassing:

- ☐ assembly, representation and analysis of data.
- ☐ fitting distributions to data.
- ☐ non-parametric statistics.
- ☐ tests of significance for means, variances and extreme values.
- ☐ correlation

EE303	Transmission Line
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This unit covers diagnosing and rectifying faults in electrical energy transmission systems. The unit encompasses safe working practices, interpreting diagrams and technical data, applying knowledge of energy supply and transmission systems to logical fault finding processes, implementing fault rectification, safety and functional testing and reporting work activities and outcomes

- a) Overview of the transmission system including lines, buses, transformers and cables. Line/bus layouts including single and double switching, breaker and a half systems and HV crossing methods.
- b) The principles involved in high voltage a.c. transmission including tower types and configurations, choice of towers or poles (economic and environmental), insulator types and configuration, types of conductors, their configuration and standard nomenclature. Typical line spacing and ground clearances. Line ratings based on ambient temperature. Conductor terminating and clamping equipment including vibration damping principles and equipment.
- c) The principles involved in d.c. transmission including the economics, harmonic generation, VAR requirements and protection difficulties. Types of connections and transformer requirements. Advantages and disadvantages of d.c. transmission. Typical overseas systems. Likely (future) use in this country.
- d) The principles of operation, voltage and current range, breaking capacity and field of use of the following types of circuit breakers.
- bulk oil
- small oil volume
- air break
- air blast
- air puffer
- vacuum and
- SF6 (double pressure and puffer types).
- e) The types of isolators in use. Examples include duo-roll, blade and scissor type.
- f) Circuit breaker auxiliary systems including:
- high pressure air systems and air storage and handling processes
- d.c. systems including battery types, charging and protection systems and earth fault detection systems
- SF6 conditioning, storage and handling system
- g) The characteristics of lines and cables including the calculation of R, X and B for different arrangements of conductor. Typical values for actual lines. Transposition. Models based on line length. Voltage and line regulation. The transmission of power (P) and VARs (Q).
- h) Control of voltage. Conditions leading to voltage collapse and system disintegration. Effects on the system of high/low volts. Voltage control devices including:
- voltage regulators applied to generators and synchronous phase modifiers
- electromagnetic voltage regulators
- series and parallel capacitors
- OLTC transformers and static Var compensations (SVCs)
- i) Range of devices covered by SVCs including:
- saturated reactor compensations (SRs)
- thyristor controlled reactor compensators (TCRs)
- combined TCR/TSCs and

production of wave-form distorting harmonics and control devices

j) Importance of the location in the system of voltage control devices

k) Use of graphical methods to calculate the size of Var regulating plant

l) Types of communication systems including telephone, power line carrier, dedicated cable, micro-wave links and fibreoptics. Quantities and signals to be communicated. Advantages and disadvantages of the various systems. Equipment requirements

m) Transient over-voltages in power systems. Switching and lightning overvoltages and their effect on different plant items. Transient over-voltage control and reduction using surge diverters, shield wires and CB are control. Insulation systems, insulation co-ordination, insulation grading in plant items, bushings and capacitor bushings

n) Factors leading to the generation of corona. Consequences of corona. Reduction of corona including conductor bundling, grading rings and conductor surface treatment

EE304	Power System Protection
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This unit covers developing engineering solutions to resolve problems with energy supply system protection. It encompasses working safely, apply extensive knowledge of energy supply system protection operation, protection devices and their application, gathering and analysing data, applying problem solving techniques, developing and documenting solutions and alternatives.

Note:

Typical protection problems are those encountered in meeting performance requirements and compliance standards, revising a protection operating parameters and dealing with protection malfunctions.

a) Protection scheme requirements

Requirements of a protection scheme

Note: Includes relationship to primary system design, purpose of protection, safety of persons, protection of plant, system instability, system break up, loss of customers, loss of revenue, protection zones, restricted schemes, unrestricted schemes, duplicate protection, local backup protection, remote backup protection, selectivity, discrimination, stability, sensitivity, reliability

Components of a protection scheme

Note: Includes current transformers, potential transformers, summation current transformers, interposing transformers, multitapped transformers, all-or-nothing relays, induction relays, balanced beam relays, directional relays, biased relays, solid state relays, microprocessor based relays, gas relays, thermal sensors, hardwired communication, powerline carriers systems, microwave systems, fibre optic systems, need for isolation, need for interfacing

Protection applied to buses

Note: Includes overload, differential, earth leakage, structure leakage, combined schemes, protection overlap

Protection applied to transformers

Note: Includes biased differential, gas, winding temperature, oil temperature

Protection applied to single/radial lines

Note: Includes overcurrent, earth leakage, slow earth leakage, distance, auto reclose, sectionalising, over voltage

Protection applied to interconnected lines

Note: Includes overcurrent, pilot wire, directional, directional overcurrent, current differential, phase comparison, current comparison, distance, impedance, admittance, offset

b) Discrete protection systems

Earth fault protection

Note: Includes master earth leakage schemes, sensitive earth fault relays and schemes, residual earth fault scheme, core balance earth fault scheme, frame/structure earth leakage scheme, time graded discrimination, backup protection

Overcurrent protection

Note: Includes feeder overcurrent protection, instantaneous overcurrent schemes, inverse timed overcurrent schemes, types and location of components of an overcurrent scheme, CT summation, time graded discrimination, backup protection

Alarms and controls

Note: Includes auxiliary relays, voltage regulating relays, line drop compensation, gas relay types, gas relay scheme operation and setting, over temperature schemes

c) Interdependent protection systems

Overcurrent and earth leakage intertripping, interlocking and blocking

Note:

Includes logic mapping, master control, electromechanical, electronic, shading coils

Pilot wire, phase comparison

Note: Includes opposed voltage schemes, circulating current schemes, location of components of a scheme, pilot supervisory techniques,

Load shedding, voltage control, parallel operation, load rejection

CB failure protection

Reclose systems

Note: Includes applications, single shot, multishot, blocking schemes, synchronisation checking

d) Complex protection systems

Distance

Note: Includes characteristics, electromechanical, electronic, impedance, mho, offset mho, switched schemes, non-switched schemes, blocking schemes, bus zone

Differential, transformer differential, bus overcurrent

Note: Includes principles, feeder protection, transformer protection, bias systems, harmonic restraint, CT connections, bus protection, low impedance schemes, high impedance schemes, bus overcurrent schemes, generator protection, CT connections, special considerations, digital systems

Types of revenue metering

Applications of SCADA

Complex protection systems for communications

Harmonic control

Point on wave switching

EE305	Power Transformer
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This unit covers developing engineering solutions to resolve problems with energy supply system protection. It encompasses working safely, apply extensive knowledge of energy supply power transformer operation and their application, gathering and analysing data, applying problem solving techniques, developing and documenting solutions and alternatives.

Note.

Typical transformer problems are those encountered in meeting performance requirements and compliance standards, revising a transformer operating parameters and dealing with transformer malfunctions

a) Transformer construction and operating principles encompassing:
various types of lamination style and core construction used in single-phase, three-phase, double wound and auto transformers.
different winding styles/types used in transformers.
how input current is limited on no load and how power is transferred from primary to secondary when a load is connected.
using the transformation ratio to determine an unknown quantity of V, I, VA.
significance of nameplate data items.
operation of a transformer under load/no load conditions.
the reason any particular type of transformer is used in a specific application.
safety features specified in regulatory standards with respect to transformers.
safety features specified in regulatory standards with respect to isolating transformers.
basic insulation resistance, continuity and winding identification tests.

b) Transformer parameters encompassing:
the percentage impedance of a transformer by test.
percentage impedance of a transformer by calculation.

the equivalent circuit of a transformer.
calculation of voltage regulation.
losses that occur in a transformer.
tests to determine losses.
efficiency and state typical values.
the all day efficiency of a transformer.

c) Cooling methods encompassing:
methods of natural and forced cooling.
properties of transformer oil.
tests performed on transformer oil.
auxiliary equipment
the purpose and operation of the types of auxiliary equipment used on transformers

Note. Examples are bushings, explosion vents, surge diverters, tap changers, conservator, breathers and desiccants, gas relays, temperature indicators.

d) Instrument transformers encompassing:
construction of current transformers.
uses and ratings of current transformers.
construction of voltage transformers.
uses and ratings of voltage transformers.
safety techniques when using instrument transformers.

e) Transformer connections encompassing:
vector group of a transformer from a connection diagram.
connections of a three-phase transformer to create a particular vector group.
reasons for using the different vector groups.
purpose of tertiary windings.
consequences/effect of an incorrect connection.

f) Parallel operation encompassing:
polarity markings for the windings of a transformer.
conditions/restrictions for parallel operation of transformers.
calculation of loading on transformers operating in parallel.
connection of transformers in parallel to supply a common load.
the consequences/effect of an incorrect connection.

g) Harmonics in transformers encompassing:
how harmonics are generated in transformers.
problems caused by harmonics in transformers.
measurement of the harmonics in a transformer.
methods/equipment used to overcome harmonics in transformers.

h) High voltage isolation encompassing:
the term high voltage.
procedures for isolating high voltage apparatus.
regulations with respect to *access permits*.
clearances to be observed with respect to high voltages up to 33kV.

the term *'step'* and *'touch'* potential.

EE306	Electro-mechanical Control
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This unit covers solving problems in industrial control systems. The unit encompasses safe working practices, interpreting process and circuit diagrams, applying knowledge of industry controls to problem solving techniques, safety and functional testing and completing the necessary documentation.

Note.

Typical basic industrial control system problems are those encountered in meeting performance requirements and compliance standards, revising control operating parameters and dealing with control malfunctions.

KS01-EI120A

Industrial control systems

Evidence shall show an understanding of industrial control systems to an extent indicated by the following aspects:

Control amplifiers encompassing:

- ☐ Introduction
- ☐ Amplifier Operation
- ☐ Operational Amplifiers
- ☐ Operational Amplifier Configurations

Industrial transducers encompassing:

- ☐ Introduction
- ☐ SI Units
- ☐ Forms of Energy
- ☐ Transducer Terminology
- ☐ Temperature Measurement
- ☐ Force Measurement
- ☐ Speed Measurement

Positional Measurement

Industrial final control elements encompassing:

- ☐ Introduction
- ☐ Electromagnetic Devices
- ☐ Valves
- ☐ Solid State Switching Devices

Industrial control systems encompassing:

- ☐ Automatic Control
- ☐ Open Loop Control
- ☐ Closed Loop Control
- ☐ Control System Terminology
- ☐ Control System Evaluation
- ☐ Two Position Control
- ☐ Proportional Control (P)
- ☐ Proportional + Integral Control (P+I)
- ☐ Proportional + Derivative Control (P+D)
- ☐ Proportional + Integral + Derivative Control (P+I+D)

Industrial control loops and control signals encompassing:

- ☐ Introduction
- ☐ Control Loops
- ☐ Converters (D to A and A to D)
- ☐ Multiplexing

EE307	Energy Efficient Building Design
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This unit covers evaluating energy used in buildings and developing and documenting strategies/methods to effectively reduce energy use without compromising occupancy standards. It encompasses working safely, setting up and conducting evaluation measurements and evaluating energy use from measured parameters.

T1 Climate and thermal comfort encompassing:

- ☐ characteristics of the different Australian climatic types.
- ☐ use of climatic data in published and electronic forms to extract the quantities relevant to energy efficient design.
- ☐ relationship between climate and comfort using bioclimatic or psychrometric charts.
- ☐ calculation of heating or cooling degree days or degree hours for various locations.
- ☐ calculation of thermal neutrality for a given location.

T2 Solar geometry and radiation encompassing:

- ☐ definition of the terms: declination, hour angle, zenith angle, azimuth and altitude angles, the equation of time.
- ☐ conversion of solar time to local time and vice versa.
- ☐ position of the sun and the length of shadows with the aid of algorithms, tables, sun charts or computer software.
- ☐ daily irradiation incident on a wall, window or roof of a given tilt and orientation.
- ☐ relative summer and winter irradiation of windows facing the cardinal orientations.

T3 Heat transfer encompassing:

- ☐ thermal processes of conduction, convection and radiation apply to the transfer of heat in buildings.
- ☐ calculation of the summer and winter U-values of building elements using tables and software.
- ☐ calculation of the infiltration heat transfer in a building.

T4 Glazing Systems encompassing:

- ☐ different types of glazing systems and their characteristics.
- ☐ different types of shading devices and the window orientations for which they are most appropriate.
- ☐ solar heat gain for different glazing types and angles of incidence
- ☐ calculation of the average daily irradiation of a window partly shaded by eaves, using computer software.
- ☐ calculation of the average daily heat gain through a window partly shaded by eaves.

T5 Insulation encompassing:

- ☐ different types of insulation and where they are used.
- ☐ how different types of insulation are installed in roofs, walls

and floors.

- ☐ determination of the minimum R-values of roof insulation for different locations using Australian Standard AS2627 or similar standards.

T6 Thermal mass encompassing:

- ☐ advantages and disadvantages of using substantial thermal mass in different climate types and for different heating and cooling regimes.
- ☐ where thermal mass can be located in a building.
- ☐ explain what is meant by the following terms: time lag, decrement factor, admittance, response factor.

T7 Comfort control strategies encompassing:

- ☐ interpretation of the usefulness of a design strategy with the aid of a psychrometric chart showing control potential zones for a particular location.
- ☐ selection of the most useful comfort control strategies for Australian climatic regions.

T8 Energy efficiency in buildings encompassing:

- ☐ determination of the direction of the following: both true and magnetic, north winter and summer sunrise, winter and summer sunset.
- ☐ solar access in summer and winter to various possible house locations on a site and room locations within the house.
- ☐ how vegetation can be used to both funnel and deflect wind.
- ☐ using cross ventilation as a cooling strategy.

T9 Thermal performance of a building encompassing:

- heating requirements of a building using the heating degree day or hour method.
- dynamic performance predicted by a computer simulation program such as NatHERS or BERS.

T10 Integration of active solar systems encompassing:

- active solar system types available which can provide hot water, space heating and cooling.
- the best location on the roof, and the optimum tilt and orientation of the collector panels.
- function of the main components of an air or water-based solar space heating system.
- schematic of the fluid circuit of an air or water- based space

heating system.

- main solar cooling system types.

T11 Energy rating schemes encompassing:

- differences in approach used by house energy rating schemes in Australia.
- energy performance of a number of houses using a computer simulation program such as NatHERS or BERS.
- other methods to reduce energy consumption within and outside a building including appliance efficiency, human behaviour changes, building management strategies and transportation minimisation.
- additional cost of energy efficiency measures and cost savings using life cycle cost or simple pay back methods according to Aust. Standard AS3595 and AS4536.

T12 Sustainable and safe building materials encompassing:

- common building materials and their embodied energy content.
- environmental impact of the production of various building materials.
- problems associated with the use or disposal of building materials.

EE308	Sustainability
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This unit covers developing strategies to address environmental and sustainability issues in the energy sector. It encompasses working safely, apply extensive knowledge of sustainable energy systems and components and their operating parameters, gathering and analysing data, applying problem solving techniques, developing and documenting alternatives solutions

KS01-EK132A

**Environmental and Sustainability
strategies**

Evidence shall show an understanding of greenhouse reduction strategies to an extent indicated by the following aspects:

T1 Principles of sustainability encompassing:

- ways in which ecosystems moderate climate. ways in which ecosystems purify and store water.
- ways in which ecosystems recycle waste.

T2 Problems in a sustainable world encompassing:

- changes to Australian forest cover since white settlement, and the resulting loss of ecosystem and human benefits.
- changes to Australia's soils since white settlement, and the resulting loss of ecosystem and human benefits.
- changes to Australia's waterways since white settlement, and the resulting loss of ecosystem and human benefits.
- place of environmental accounting in quantifying Australia's environmental losses.
- limits to Australia's population carrying capacity.

T3 Sustainability principles encompassing:

- principles within sustainability including: environmental accounting and economics; full cost pricing; triple bottom line ethic; ecologically sustainable development; greenhouse gas abatement; energy efficiency; resource and water use efficiency; life cycle costing; renewable energy substitution, cleaner production; waste minimisation, reuse and recycling; ecological footprint.

T4 Addressing the problem of global warming encompassing:

- ☐ greenhouse gases and their sources and quantities that contribute to global warming.
- ☐ global warming impacts for Australia for 2030 and 2070 predicted by CSIRO modelling.
- ☐ requirements to achieve stable atmospheric concentrations of greenhouse gases.
- ☐ ecologically and economically sustainable methods for achieving these stable concentrations.

T5 Greenhouse gas emissions profile encompassing:

- ☐ goals and principles of the National Greenhouse Strategy
- ☐ what a greenhouse gas inventory is, why it is required, and the sectors to which it applies
- ☐ uses to which the National Greenhouse Gas Inventory can be applied.

T6 Understanding and communicating climate change and its impacts encompassing:

- ☐ the possible impact of climate change in Australia.
- ☐ techniques for improving the understanding of climate change
- ☐ techniques for communicating to and educating the general

public on greenhouse gas induced climate change.

T7 Partnerships for greenhouse action encompassing:

- ☐ actions achievable by each level of government to implement the NGS.
- ☐ methods by which the community activity can be engaged in the reduction of greenhouse gas emissions.
- ☐ initiatives that can be undertaken by the private sector to reduce greenhouse gas emissions.
- ☐ advantages of international partnerships.
- ☐ emissions trading system.

T8 Efficient and sustainable energy use and supply encompassing:

- ☐ techniques for reducing the greenhouse intensity of energy supply.
- ☐ types of renewable energy sources suitable for use in Australia.
- ☐ methods and technique for improving end-use efficiency.

T9 Efficient transport and sustainable urban planning encompassing:

- ☐ how integrating land use and transport planning can assist the greenhouse problem.
- ☐ how each of the following can be used to mitigate greenhouse gas; travel demand and traffic management strategies; encouraging greater use of public transport, walking and cycling; freight and logistics systems; improving vehicle fuel efficiency and fuel technologies;

T10 Greenhouse sinks and sustainable land management encompassing:

- ☐ how enhancing greenhouse sinks and encouraging sustainable forestry and vegetation management can complement the AGS.
- ☐ how greenhouse gas emissions are obtained from agricultural production and describe techniques to mitigate the emissions.

T11 Models of greenhouse best practice in industrial processes and waste management encompassing:

- ☐ types and methods of reducing greenhouse gas emissions from industry.
- ☐ methods of reducing methane emissions from waste

treatment and disposal.

T12 Adaptation to climate change encompassing:

- ☐ salient points in each of the key sectors that require analysis and the strategies required in the need for adaptation to climate change

EE309	Project Management
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Part 1 Project Management

This unit covers the management of large electrical projects involving design, modifications, installation, and/or maintenance of systems and equipment. The unit encompasses management of safety, budget variation, personnel, resources, critical path timelines and completion documentation.

KS01-EG169A Electrical project management

Evidence shall show an understanding of managing electrical projects to an extent indicated by the following aspects:

T1 Defining project parameters encompassing:

- ☐ Project scope
- ☐ Project stakeholders and clients
- ☐ Project phases and the relationship between phases

T2 Time management concepts and standard practices

T3 Financial management encompassing:

- ☐ Financial management concepts
- ☐ Standard practices for managing project finances
- ☐ Project budgets
- ☐ Costs
- ☐ variations and estimations
- ☐ Invoicing against project phases/deliverables
- ☐ Acquittals and the like

T4 Quality management concepts and practices

T5 Human Resource management concepts and practices within a project

T6 Communication management concepts and practices within a project

T7 Risk management and contingencies encompassing:

- ☐ Risk management concepts
- ☐ Internal risks
- ☐ External risks
- ☐ Contingencies
- ☐ Standard practices for managing risk within a project
- ☐ Risk minimisation
- ☐ Risk removal; and the like

T8 Procurement management concepts and practices

T9 Physical Resource management concepts and practices relating to equipment, technology, information and facilities

T10 Contracts encompassing:

- ☐ Contract format
- ☐ Contract content
- ☐ Interpreting contract clauses
- ☐ Legal obligations of contract parties
- ☐ Working to contract specifications
- ☐ Documentation accompanying contracts such as schedules and the like

T11 Performance assessment and continuous improvement

T12 Engineering ethics principles

T13 Customer/Client relations encompassing:

Importance of customer/client relations

- Interpersonal skills that enhance customer/client
- ☐ Dispute resolution
- ☐ Customer/client relations strategies

T14 Electrical industry sector customs and practice encompassing:

- ☐ Equipment procurement, cost/benefit analysis and performance testing
- ☐ Typical approaches to planning and management
- ☐ Successful planning techniques
- ☐ Best practice management methods and styles

Part 2 Project Planning

This unit covers development and documentation of large electrical project proposals, milestones and completions. The unit encompasses, establishing budgets, critical path analysis, development of workflow strategies, documenting, presenting and negotiating budgets and timelines.

KS01-EG170A Electrical project planning

Evidence shall show an understanding of planning projects and analyzing progress to an extent indicated by the following aspects:

T1 Project planning encompassing:

T2 Purpose of project planning Evidence shall show an understanding of managing electrical projects to an extent indicated by the following aspects:

T3 Defining project parameters encompassing:

- ☐ Project scope
- ☐ Project stakeholders and clients
- ☐ Project phases and the relationship between phases
- ☐ Time requirements and limitations
- ☐ Resource requirements and limitations
- ☐ Quality requirements and limitations

T4 Time management concepts and standard practices

T5 Financial management encompassing:

Financial management concepts

- Standard practices for managing project finances
- Project budgets
- Costs
- variations and estimations
- Invoicing against project phases/deliverables
- ☐ Acquittals and the like

T6 Quality management concepts and practices

T7 Human Resource management concepts and practices within a project

T8 Communication management concepts and practices within a project

T9 Risk management and contingencies encompassing:

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- ☐ Importance of customer/client relations
- ☐ Interpersonal skills that enhance customer/client
- ☐ Dispute resolution
- ☐ Customer/client relations strategies

T16 Electrical industry sector customs and practice encompassing:

- ☐ Equipment procurement, cost/benefit analysis and performance testing

REQUIRED SKILLS AND KNOWLEDGE

- ☐ Typical approaches to planning and management
- ☐ Successful planning techniques
- ☐ Best practice management methods and styles
- ☐ Documents needed to plan a project
- ☐ Factors influencing sequence and restraints of project activities
- ☐ Critical path analysis covering graphical representation methods and methods of representing time/rates

T17 Critical path and project analysis encompassing:

- ☐ Purpose of critical path analysis
- ☐ Essential data
- ☐ Relational sequence of work activities
- ☐ Graphical representation methods
- ☐ Methods of representing time/rates
- ☐ Monitoring methods

T18 Electrical industry sector customs and practice encompassing:

- ☐ Equipment procurement, cost/benefit analysis and performance testing
- ☐ Typical approaches to planning and management
- ☐ Successful planning techniques
- ☐ Best practice management methods and styles

EE310	Engineering Officer Competency Report
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This unit covers complying and producing an energy sector report. It encompasses determining the safety requirements are met and all regulatory responsibilities are adhered to. The person competent in this unit must demonstrate an ability to identify information sources and collect and analyse and format information applicable to the electrotechnology industry and produce a report as required.

KS01-EE124A Energy sector detailed report writing

Evidence shall show an understanding of analysis, decision making and reporting as they apply to engineering work functions to an extent indicated by the following aspects:

T1 Communicating with personnel encompassing:

- ☐ Oral communications
- ☐ Written procedures and work instructions

T2 Communicating with suppliers

T3 Communicating with customers

T4 Purpose and extent of maintaining work activities records in an enterprise encompassing:

- ☐ Types of records for maintaining work activities in an enterprise
- ☐ Methods for recording and maintaining work records
- ☐ Work records required by regulation requirements
- ☐ Using basic computer functions encompassing:

- ☐ Starting up
- ☐ Selecting application
- ☐ Entering information
- ☐ Saving
- ☐ Printing

T5 Techniques of analysis encompassing:

- ☐ use of appropriate sampling techniques to collect data.
- ☐ types of data and classification.
- ☐ effective questionnaire design
- ☐ data collection errors.
- ☐ frequency tables.
- ☐ statistical diagrams – drawing and interpretation.
- ☐ the general shape of a frequency distribution.
- ☐ different types of diagrams.
- ☐ mean time between failures calculations

T6 Summary of statistics encompassing

- measures of central tendency
- measures of dispersion
- a 5-point summary for a given data set, box and whisker plot distribution
- ☐ data sets comparison using measures of centre and spread
- ☐ the effect of outliers on measures of centre and spread
- ☐ use computer programs or calculators to simplify calculations

T7 Correlation and regression encompassing:

- ☐ bivariate data and scatter diagrams.
- ☐ product-moment correlation coefficient calculation and interpretation.
- ☐ difference between causation and correlation.
- ☐ equations of regression lines from bivariate data with a calculator and line plotting on a scatter diagram.
- ☐ using the equation of regression to make predictions in practical situations.
- ☐ investigation of practical problems using correlation and regression.

T8 Investigation and reporting encompassing:

- ☐ presentation of a well formatted report with a clearly stated aim.
- ☐ using the internet to obtain relevant data.
- ☐ description of the statistical method and design chosen to meet the aim of the investigation.
- ☐ statistical analysis and results reporting.
- ☐ evaluation and interpretation of the results of the investigation.
- ☐ discussion of the investigation with reference to real world applications.
- ☐ chronology of the investigation.

STAGE (1) DIPLOMA IN CIVIL ENGINEERING (Each 2.5 Credits) (30 Pt)

Certificate in Construction Studies

[CE 106A Detailed Construction & Building Construction Materials](#)

[CE 104 A Building Drawing](#)

[CE 101 Mathematics \(EE201\)](#)

[CE 102 Physics \(EE204\)](#)

[CE 108 Electrical Principle](#)

DIPLOMA IN CIVIL ENGINEERING

[CE 104 Fluid Dynamics](#)

[CE 105 Hydraulic](#)

[CE 106 Hydrology](#)

[CE 107 Sanitation-and-Water-supply](#)

[CE 109 Energy Efficient Building Design \(EE309\)](#)

[CE 110 Building Construction](#)

[EE102 Basic Electrical Fitting & Wiring](#)

Year (2) Advanced Diploma in Civil Engineering Program(30 pt) (Each 2.5 pt)

YEAR (2) SEMESTER (1)

[CE103-Surveying](#)

[CE111A-Road+Bridges](#)

[CE113 Structure 1](#)

[CE114 Structure 2](#)

[CE115 Estimating & Specification](#)

YEAR (2) SEMESTER (2)

[EE104 Electrical Equipments Safety Protection](#)

[EE105 Electrical Installation Design](#)

[ME 102 Engineering Thermodynamics](#)

[ME 334 Airconditioning and Refrigeration](#)

[EE106 Advanced Electrical Wiring](#)

[CE 112 Engineering Mechanics+ ME 301 Applied Mathematics](#)

[EE308 Sustainability](#)

CE 101	Mathematics (EE201)
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This unit covers the application of computational processes to solve engineering problems. It encompasses working safely, applying problem solving techniques, using a range of mathematical processes, providing solutions to electrical/electronics engineering problems and justifying such solutions.

Note. Typical engineering problems are those encountered in meeting requirements in a design brief, meeting performance requirements and compliance standards, revising systems operating parameters and dealing with system malfunctions

KS01-EE126A Electrotechnology engineering maths

Evidence shall show an understanding of electrotechnology engineering maths to an extent indicated by the following aspects:

T1 Rational, irrational numbers and basic algebra

☐ simplification of expressions involving square roots and cube roots

☐ scientific and engineering notation

☐ evaluation of expressions using a calculator

☐ convert units of physical quantities using unity brackets

☐ substitute given values into formulae to find physical quantities

☐ manipulate algebraic expressions using mathematical operations in their correct order,

the laws of indices, expansion of brackets and collecting like terms

T2 Algebraic manipulation

- Factorise algebraic expressions using common factors
- Factorise quadratic expressions using trial and error on the factors of the coefficients
- Simplify algebraic fractions using common denominators and cancelling
- Solve simple one variable equations including algebraic fractions
- Find the quotient and remainder given a linear divisor.
- Transpose formulae to find a required variable.

T3 Laws of indices

- Conversion between decimal notation, scientific notation and engineering notation
- Laws of indices: positive /negative values, multiplication/division, fractional values, index equals zero
- Logarithmic laws: multiply/divide
- solution of exponential equations using logarithms, substitution and solution of relevant formulae involving exponents or logarithms
- Graphs of exponential functions, 10^x and e^x and the inverses $\log_{10}(x)$ and $\log_e(x)$ functions on log-linear graphs
- Convert numbers into scientific and engineering notation using the laws of indices
- Manipulate and simplify arithmetic and algebraic expressions using the laws of indices and logarithms
- Express logarithms as indices.
- Perform logarithmic operations.
- Determine logarithms and antilogarithms to base 10, using a scientific calculator.
- Determine logarithms and antilogarithms to base e, using a scientific calculator.
- Convert logarithmic values from base 10 to base e and vice versa.
- Sketch given functions on log-linear graphs

T4 Estimations, errors and approximations

- Errors in measurement
- Maximum probable error
- Show awareness of errors in measurement and of giving results in appropriate number of significant figures
- Use estimations and approximations to check the reasonableness of results.

T5 Plane figures – triangles and basic trigonometry

- Angles in a triangle
- Isosceles and equilateral triangles
- Congruent triangles
- Similar triangles
- Pythagoras' theorem
- Area of triangles
- Basic trigonometry functions
- Degrees, radians
- The ratios: sin, cos, tan, cosec, sec, cot.
- Inverse trig functions
- Sine and cosine rules

T6 Plane figures - quadrilaterals and circles

- Types and properties of quadrilaterals
- Areas and perimeters of regular quadrilaterals
- Lengths of arcs
- Angles in a circle - degrees
- Angles in a circle - radians
- Lengths of chord segments
- Tangents to circles
- Circumference and area of circles
- Names and characteristics of common polygons

T7 Graphs of Trigonometric functions

- Graph trigonometric functions and solve trigonometric equations.

- Simplify trigonometric expressions using trigonometric identities
- Convert angular measure in degrees to radians and vice versa
- Graph trigonometric functions including graphs of $y = \sin x$ and $y = \cos x$
- Using vocational applications of current or voltage as a function of time, consider changes in amplitude, consider changes in frequency.
- Examine relationships of frequency, period and angular velocity.
- Sketch graphs of the form $f(t) = a \sin \phi t$ and $f(t) = a \cos \phi t$, where a is the peak voltage or current, and ϕ is the angular velocity
- Solve graphically equations of the form $f(t) = a \sin \phi t$ and $f(t) = a \cos \phi t$

T8 Graphs of linear functions

- The number plane
- Gradient and x and y intercepts of a straight line
- Equation of a straight line length and mid-point of a straight line segment
- Function notation

T9 Simultaneous equations

- Graphical solutions
- Substitution
- Elimination
- Solve 2 linear simultaneous equations both algebraically and graphically.

T10 Matrices

- Perform the basic operations on matrices up to 3×3
- Manipulate matrix equations and expressions
- Recognise inverse and identity matrices up to 3×3 and use to solve systems of linear equations.
- Find determinants up to 3×3 and use to solve systems of linear equations.
- Solve problems involving more than two simultaneous equations.
- State the limitations of graphical methods of solution.
- Distinguish between a matrix and an array.
- Describe the null, diagonal and unit matrix
- Describe and identify a singular/non-singular matrix

T11 Quadratic functions

- Graphs of quadratic functions represented by parabolas and the significance of the leading coefficient.
- Graph quadratic functions and solve quadratic equations.
- Sketch and interpret the graphs of quadratic functions showing the significance of the leading coefficient and the zeros
- Solve quadratic equations by factoring or using quadratic formula
- Solve simultaneously linear and quadratic equations algebraically and geometrically
- Interpret verbally formulated problems involving quadratic and linear equations and solve.

T12 Exponential and logarithmic functions

- Transform non-linear functions (including exponential) to linear forms and plot data.
- Draw curves of best fit, interpolate data and estimate constants in suggested relationships.

□ Graph exponential and logarithmic functions and solve exponential and logarithmic equations.

□ Sketch the graphs of simple exponential and logarithmic functions showing behaviour for large and small values

T13 Vectors and Phasors

- The vector as an expression of magnitude and direction
- The vector sum of x and y values in terms of magnitude and direction
- Rectangular components of vectors in the form $x = r \cos \theta$ and $y = r \sin \theta$
- Rectangular-polar and polar-rectangular conversion
- Vector addition and subtraction
- Express rectangular components of vectors in the form $x = r \cos \theta$ and $y = r \sin \theta$

T14 Complex numbers

- Definitions and notation of complex numbers
- Complex numbers as vectors on an Argand diagram
- laws of complex numbers and apply the laws in suitable calculations.
- Plot complex numbers on the Argand plane.
- Express vectors as complex numbers and perform suitable calculations.
- Calculate the conjugate of a complex number.
- Using a calculator for rectangular-polar and polar-rectangular conversions.

CE 108 Electrical Principle

This unit covers determining correct operation of single source d.c. series, parallel and series-parallel circuits and providing solutions as they apply to various electrotechnology work functions. It encompasses working safely, problem solving procedures, including the use of voltage, current and resistance measuring devices, providing solutions derived from measurements and calculations to predictable problems in single and multiple path circuits.

Evidence shall show an understanding of electrical fundamentals and direct current multiple path circuits to an extent indicated by the following aspects:

T1 Basic electrical concepts encompassing:

- electrotechnology industry
- static and current electricity
- production of electricity by renewable and non renewable energy sources
- transportation of electricity from the source to the load via the transmission and distribution systems
- utilisation of electricity by the various loads
- basic calculations involving quantity of electricity, velocity and speed with relationship to the generation and transportation of electricity.

T2 Basic electrical circuit encompassing:

- symbols used to represent an electrical energy source, a load, a switch and a circuit protection device in a circuit diagram
- purpose of each component in the circuit
- effects of an open-circuit, a closed-circuit and a short-circuit
- multiple and sub-multiple units

T3 Ohm's Law encompassing:

- basic d.c. single path circuit.
- voltage and currents levels in a basic d.c. single path circuit.
- effects of an open-circuit, a closed-circuit and a short-circuit on a basic d.c. single path
- relationship between voltage and current from measured values in a simple circuit
- determining voltage, current and resistance in a circuit given any two of these quantities
- graphical relationships of voltage, current and resistance
- relationship between voltage, current and resistance

T4 Electrical power encompassing:

- relationship between force, power, work and energy
- power dissipated in circuit from voltage, current and resistance values
- power ratings of devices
- measurement electrical power in a d.c. circuit

□ effects of power rating of various resistors

T5 Effects of electrical current encompassing:

- physiological effects of current and the fundamental principles (listed in AS/NZS 3000) for protection against the this effect
- basic principles by which electric current can result in the production of heat; the production of magnetic fields; a chemical reaction
- typical uses of the effects of current
- mechanisms by which metals corrode
- fundamental principles (listed in AS/NZS3000) for protection against the damaging effects of current

T6 EMF sources energy sources and conversion electrical energy encompassing:

- basic principles of producing a emf from the interaction of a moving conductor in a magnetic field.
- basic principles of producing an emf from the heating of one junction of a thermocouple.
- basic principles of producing a emf by the application of sun light falling on the surface of photovoltaic cells
- basic principles of generating a emf when a mechanical force is applied to a crystal (piezo electric effect)
- principles of producing a electrical current from primary, secondary and fuel cells
- input, output, efficiency or losses of electrical systems and machines
- effect of losses in electrical wiring and machines
- principle of conservation of energy

T7 Resistors encompassing:

- features of fixed and variable resistor types and typical applications
- identification of fixed and variable resistors
- various types of fixed resistors used in the Electro technology Industry. e.g. wire-wound, carbon film, tapped resistors.
- various types of variable resistors used in the Electro technology Industry e.g. adjustable resistors: potentiometer and rheostat; light dependent resistor (LDR); voltage dependent resistor (VDR) and temperature dependent resistor (NTC, PTC).
- characteristics of temperature, voltage and light dependent resistors and typical applications of each power ratings of a resistor.
- power loss (heat) occurring in a conductor.
- resistance of a colour coded resistor from colour code tables and confirm the value by measurement.
- measurement of resistance of a range of variable' resistors under varying conditions of light, voltage, temperature conditions.
- specifying a resistor for a particular application.

T8 Series circuits encompassing:

- circuit diagram of a single-source d.c. 'series' circuit.
- Identification of the major components of a 'series' circuit: power supply; loads; connecting leads and switch
- applications where 'series' circuits are used in the Electro technology industry.
- characteristics of a 'series' circuit - connection of loads, current path, voltage drops, power dissipation and affects of an open circuit in a 'series' circuit.
- the voltage, current, resistances or power dissipated from measured or given values of any two of these quantities
- relationship between voltage drops and resistance in a simple voltage divider network.
- setting up and connecting a single-source series dc circuit
- measurement of resistance, voltage and current values in a single source series circuit
- effect of an open-circuit on a series connected circuit

T9 Parallel circuits encompassing:

- schematic diagram of a single-source d.c. 'parallel' circuit.
- major components of a 'parallel' circuit (power supply, loads, connecting leads and applications where 'parallel' circuits are used in the Electrotechnology industry).
- characteristics of a 'parallel' circuit. (load connection, current paths, voltage drops, power dissipation, affects of an open circuit in a 'parallel' circuit).
- relationship between currents entering a junction and currents leaving a junction
- relationship between branch currents and resistances in a two branch current divider network.
- calculation of the total resistance of a 'parallel' circuit.
- calculation of the total current of a 'parallel' circuit.
- Calculation of the total voltage and the individual voltage drops of a 'parallel' circuit.
- setting up and connecting a single-source d.c. parallel circuit
- resistance, voltage and current measurements in a single-source parallel circuit
- voltage, current, resistance or power dissipated from measured values of any of these quantities
- output current and voltage levels of connecting cells in parallel.

T10 Series/parallel circuits encompassing:

- schematic diagram of a single-source d.c. 'series/parallel' circuit.
- major components of a 'series/parallel' circuit (power supply, loads, connecting leads and switch)
- applications where 'series/parallel' circuits are used in the Electrotechnology industry.
- characteristics of a 'series/parallel' circuit. (load connection, current paths, voltage drops, power dissipation, affects of an open circuit in a 'series/parallel' circuit).
- relationship between voltages, currents and resistances in a bridge network.
- calculation of the total resistance of a 'series/parallel' circuit.
- calculation of the total current of a 'series/parallel' circuit.
- calculation of the total voltage and the individual voltage drops of a 'series/parallel' circuit.
- setting up and connecting a single-source d.c. series/ parallel circuit
- resistance, voltage and current measurements in a single-source d.c. series / parallel circuit
- the voltage, current, resistances or power dissipated from measured values of any two of these quantities

T11 Factors affecting resistance encompassing:

- four factors that affect the resistance of a conductor (type of material, length, cross-sectional area and temperature)
- affect the change in the type of material (resistivity) has on the resistance of a conductor.
- affect the change in 'length' has on the resistance of a conductor.
- affect the change in 'cross-sectional area' has on the resistance of a conductor.

[illegible]

- effects of resistance on the current-carrying capacity and voltage drop in cables.
- calculation of the resistance of a conductor from factors such as conductor length, cross-sectional area, resistivity and changes in temperature
- using digital and analogue ohmmeter to measure the change in resistance of different types of conductive materials (copper, aluminium, nichrome, tungsten) when those materials undergo a change in type of material length, cross-sectional area and temperature.

T12 Effects of meters in a circuit encompassing:

- selecting an appropriate meter in terms of units to be measured, range, loading effect and accuracy for a given application.
- measuring resistance using direct, volt-ammeter and bridge methods.

- instruments used in the field to measure voltage, current, resistance and insulation resistance and the typical circumstances in which they are used.
- hazards involved in using electrical instruments and the safety control measures that should be taken.
- operating characteristics of analogue and digital meters.
- correct techniques to read the scale of an analogue meters and how to reduce the 'parallax' error.
- types of voltmeters used in the Electrotechnology industry – bench type, clamp meter, Multimeter, etc.
- purpose and characteristics (internal resistance, range, loading effect and accuracy) of a voltmeter.
- types of voltage indicator testers. e.g. LED, neon, solenoid, volt-stick, series tester, etc. and explain the purpose of each voltage indicator tester.
- operation of various voltage indicator testers.
- advantages and disadvantages of each voltage indicator tester.
- various types of ammeters used in the Electrotechnology industry – bench, clamp meter, multimeter, etc.
- purpose of an ammeter and the correct connection (series) of an ammeter into a circuit.
- reasons why the internal resistance of an ammeter must be extremely low and the dangers and consequences of connecting an ammeter in parallel and/or wrong polarity.
- selecting an appropriate meter in terms of units to be measured, range, loading effect and accuracy for a given application
- connecting an analogue/digital voltmeter into a circuit ensuring the polarities are correct and take various voltage readings.
- loading effect of various voltmeters when measuring voltage across various loads.
- using voltage indicator testers to detect the presence of various voltage levels.
- connecting analogue/digital ammeter into a circuit ensuring the polarities are correct and take various current readings.

T13 Resistance measurement encompassing:

- Identification of instruments used in the field to measure resistance (including insulation resistance) and the typical circumstances in which they are used.
- the purpose of an Insulation Resistance (IR) Tester.
- the parts and functions of various analogue and digital IR Tester (selector range switch, zero ohms adjustment, battery check function, scale and connecting leads).
- reasons why the supply must be isolated prior to using the IR tester.
- where and why the continuity test would be used in an electrical installation.
- where and why the insulation resistance test would be used in an electrical installation.
- the voltage ranges of an IR tester and where each range may be used. e.g. 250 V d.c, 500 V d.c and 1000 V d.c
- AS/NZS3000 Wiring Rules requirements – continuity test and insulation resistance (IR) test.
- purpose of regular IR tester calibration.
- the correct methods of storing the IR tester after use
- carry out a calibration check on a IR Tester
- measurement of low values of resistance using an IR tester continuity functions.
- measurement of high values of resistance using an IR tester insulation resistance function.
- volt-ammeter (short shunt and long shunt) methods of measuring resistance.
- calculation of resistance values using voltmeter and ammeter reading (long and short shunt connections)
- measurement of resistance using volt-ammeter methods

T14 Capacitors and Capacitance encompassing:

- basic construction of standard capacitor, highlighting the: plates, dielectric and connecting leads
- different types of dielectric material and each dielectric's relative permittivity.

- identification of various types of capacitors commonly used in the Electrotechnology industry (fixed value capacitors -stacked plate, rolled, electrolytic, ceramic, mica and Variable value capacitors – tuning and trimmer)
- circuit symbol of various types of capacitors: standard; variable, trimmer and polarised
- terms: Capacitance (C), Electric charge (Q) and Energy (W)
- unit of: Capacitance (Farad), Electric charge (Coulomb) and Energy (Joule)
- factors affecting capacitance (the effective area of the plates, the distance between the plates and the type of dielectric) and explain how these factors are present in all circuits to some extent.
- how a capacitor is charged in a d.c. circuit.
- behaviour of a series d.c. circuit containing resistance and capacitance components. - charge and discharge curves

the term 'Time Constant' and its relationship to the charging and discharging of a capacitor.

- calculation of quantities from given information: Capacitance ($Q = VC$); Energy ($W = \frac{1}{2}CV^2$); Voltage ($V = Q/C$)
- calculation one time constant as well as the time taken to fully charge and discharge a given capacitor. ($\tau = RC$)
- connection of a series d.c. circuit containing capacitance and resistor to determine the time constant of the circuit

T15 Capacitors in Series and Parallel encompassing:

- hazards involved in working with capacitance effects and the safety control measures that should be taken.
- safe handling and the correct methods of discharging various size capacitors
- dangers of a charged capacitor and the consequences of discharging a capacitor through a person
- factors which determine the capacitance of a capacitor and explain how these factors are present in all circuits to some extent.
- effects of capacitors connected in parallel by calculating their equivalent capacitance.

CE 102 Physics (EE 204)

This unit covers the law of physics and how they apply to solving electrotechnology related problems. It encompasses working safely, knowledge of measurements of physical phenomena, linear and angular motion, harmonic motion, wave theory, optics, acoustics and heat capacity and transfer, use of measurement techniques, solving physics related problems and documenting justification for such solutions.

KS01-EE082A Electrotechnology engineering physics

Evidence shall show an understanding of electro engineering physics to an extent indicated by the following aspects:

T1 Measurement encompassing

- SI units in measurement of physical phenomena
- Uncertainty and tolerance

T2 Linear motion

T3 Angular motion

T4 Simple harmonic motion and vibration

T5 Wave theory

- Interference

- Diffraction

T6 Electromagnetic waves and propagation

T7 Optics

- Mirrors and lenses

□ Optical fibre

T8 Acoustics and ultrasonics

T9 Heat capacity and heat transfer

□ Fluid power

CE 109 Energy Efficient Building Design (EE309)

This unit covers evaluating energy used in buildings and developing and documenting strategies/methods to effectively reduce energy use without compromising occupancy standards. It encompasses working safely, setting up and conducting evaluation measurements and evaluating energy use from measured parameters.

T1 Climate and thermal comfort encompassing:

- characteristics of the different Australian climatic types.
- use of climatic data in published and electronic forms to extract the quantities relevant to energy efficient design.
- relationship between climate and comfort using bioclimatic or psychrometric charts.
- calculation of heating or cooling degree days or degree hours for various locations.
- calculation of thermal neutrality for a given location.

T2 Solar geometry and radiation encompassing:

- definition of the terms: declination, hour angle, zenith angle, azimuth and altitude angles, the equation of time.
- conversion of solar time to local time and vice versa.
- position of the sun and the length of shadows with the aid of algorithms, tables, sun charts or computer software.
- daily irradiation incident on a wall, window or roof of a given tilt and orientation.
- relative summer and winter irradiation of windows facing the cardinal orientations.

T3 Heat transfer encompassing:

- thermal processes of conduction, convection and radiation apply to the transfer of heat in buildings.
- calculation of the summer and winter U-values of building elements using tables and software.
- calculation of the infiltration heat transfer in a building.

T4 Glazing Systems encompassing:

- different types of glazing systems and their characteristics.
- different types of shading devices and the window orientations for which they are most appropriate.
- solar heat gain for different glazing types and angles of incidence
- calculation of the average daily irradiation of a window partly shaded by eaves, using computer software.
- calculation of the average daily heat gain through a window partly shaded by eaves.

T5 Insulation encompassing:

- different types of insulation and where they are used.
- how different types of insulation are installed in roofs, walls and floors
- determination of the minimum R-values of roof insulation for different locations using Australian Standard AS2627 or similar standards.

T6 Thermal mass encompassing:

- advantages and disadvantages of using substantial thermal mass in different climate types and for different heating and cooling regimes.
- where thermal mass can be located in a building.
- explain what is meant by the following terms: time lag, decrement factor, admittance, response factor.

T7 Comfort control strategies encompassing:

- interpretation of the usefulness of a design strategy with the aid of a psychrometric chart showing control potential zones for a particular location.
- selection of the most useful comfort control strategies for Australian climatic regions.

T8 Energy efficiency in buildings encompassing:

- determination of the direction of the following: both true and magnetic, north winter and summer sunrise, winter and summer sunset.
- solar access in summer and winter to various possible house locations on a site and room locations within the house.
- how vegetation can be used to both funnel and deflect wind.
- using cross ventilation as a cooling strategy.

T9 Thermal performance of a building encompassing:

- heating requirements of a building using the heating degree day or hour method.
- dynamic performance predicted by a computer simulation program such as NatHERS or BERS.

T10 Integration of active solar systems encompassing:

- active solar system types available which can provide hot water, space heating and cooling.
- the best location on the roof, and the optimum tilt and orientation of the collector panels.
- function of the main components of an air or water-based solar space heating system.
- schematic of the fluid circuit of an air or water-based space heating system.
- main solar cooling system types.

T11 Energy rating schemes encompassing:

- differences in approach used by house energy rating schemes in Australia.
- energy performance of a number of houses using a computer simulation program such as NatHERS or BERS.
- other methods to reduce energy consumption within and outside a building including appliance efficiency, human behaviour changes, building management strategies and transportation minimisation.
- additional cost of energy efficiency measures and cost savings using life cycle cost or simple pay back methods according to Aust. Standard AS3595 and AS4536.

T12 Sustainable and safe building materials encompassing:

- common building materials and their embodied

energy content.

□ environmental impact of the production of various building materials.

□ problems associated with the use or disposal of building materials.

EE102

Basic Electrical Fitting & Wiring

This unit covers fixing, securing and mounting techniques as apply in the various electrotechnology work functions. It encompasses the safe use of hand and portable power tools, safe lifting techniques, safe use of ladders and elevated platforms and the selection and safe application of fixing devices and supporting accessories/equipment.

KS01-EE105A Fixing and support devices/techniques

Evidence shall show an understanding of accessories and support and fixing device and methods and their use to an extent indicated by the following aspects:

T1. Device for securing and mounting electrical/electronic/instrumentation/refrigeration/ air-conditioning/telecommunications accessories for supporting, fixing and protecting wiring/cabling/piping and functional accessories to hollow walls encompassing:

□ types and safe application of devices for hollow wall fixing and support

□ methods/techniques used to fix/support to wood, hollow wall, masonry blocks, plasterboard, panelling

□ types and safe application of fixing devices used in the electrotechnology industry for wood and hollow wall structures (wood screws, coach bolts, self-tappers, self drilling, metal thread, hollow wall anchors, behind plaster brackets, stud brackets, plasterboard devices, toggle devices)

□ types of tools used for hollow wall fixing and supporting.

□ using various fixing methods to fix/support to hollow walls.

T2. Device for securing and mounting electrical/electronic/instrumentation/refrigeration/ air-conditioning/telecommunications accessories for supporting, fixing and protecting wiring/cabling/piping and functional accessories to solid walls encompassing:

□ types and safe application of devices used for solid wall fixing and support

□ methods/techniques used in to fix to masonry and concrete structures

□ fixing devices used in the electrotechnology industry for solid wall structures (wall-plugs, expanding concrete fixing devices, gas powered fixing tools, powder actuated fixing tools, loxins, dynabolts, chemical devices)

□ regulatory requirements for use of powder fixing tools.

□ hand and power tools used in fixing and supporting accessories

□ using various fixing methods to fix/support to solid walls

T3. Device for securing and mounting electrical/electronic/instrumentation/refrigeration/ air-conditioning/telecommunications accessories for supporting, fixing and protecting wiring/cabling/piping and functional accessories to metal fixing encompassing:

□ accessories that may be fixed to metal (saddle clips, conduits, brackets, switches)

□ techniques for fixing to metal

□ fixing devices: coach bolts, self-tappers, metal thread bolts, hollow wall anchors, rivets

□ fixing tools - spanners, screwdrivers, power screw drivers, pop riveters, files, reamers

□ OH&S issues related to drilling, cutting, eye protection, metal filings, swarf, noise

□ Using power drills, drill bits, change drill speeds.

□ Install a fixing device and accessory capable of supporting up to 20 kg on the metal plate.

T4. Securing and mounting electrical/electronic/instrumentation/refrigeration/ air-conditioning/telecommunications accessories for supporting, fixing and protecting wiring/cabling/piping and functional accessories using fixing adhesives and tapes encompassing:

□ types and safe application of using adhesives and tapes as fixing devices (load limits of different commercial products)

□ accessories that may be fixed using adhesives and tapes

- techniques for the application of adhesives and tapes
- tools used to apply and cut adhesives and tapes
- hazards and safety measures when working with adhesives and chemical fixing devices (fumes, cutting, eye protection, physical contact, hand protection, ingestion)

EE104	Electrical Equipments Safety Protection
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This unit covers the arrangement and termination of circuits, control and protection devices and systems for electrical installations operating at voltages up to 1,000 V a.c. or 1,500 V d.c. It encompasses knowledge and application of schemes for protection of persons and property, correct functioning, ensuring compatibility with the supply, arranging installation into circuits and selecting and arranging switchgear/controlgear and protective devices to meet compliance requirements and documenting arrangement decisions

KS01-EG063A Electrical installations — arrangement, control and protection

Evidence shall show an understanding of circuit arrangements, control and protection of electrical installations that comply with the Wiring Rules and Service Rules to an extent indicated by the following aspects:

T1 Safety principles to which electrical systems in building and premises shall comply.

- Safety principles are given in Part1 (Section 1) of the Wiring Rules AS/NZS 3000 with deemed-to-comply requirements given in Sections 2 to 8.
- Compliant methods for providing protection - include those for providing protection against direct and indirect contact; thermal effects; unwanted voltages; overcurrent; fault currents; overload; overvoltage; injury from mechanical movement.
- Requirements for installation design and selection of equipment - includes compliant protection arrangements; correct functioning; compatibility with supply; estimation of maximum demands; voltage drop considerations; arrangement of circuits and the like

T2 Circuit and control arrangements encompassing:

- reason for dividing electrical installations into circuits
- factors that shall be considered in determining the number and type of circuits required for an installation.
- daily and seasonal demand for lighting power, heating and other loads in a given installation.
- number and types of circuits required for a particular installation.
- diagrams/schedules of circuits for given installations.
- application and arrangements of SELV and PELV circuits
- application and arrangement of an isolated supply

T3 Hazards and risks in an electrical installation encompassing:

- effects on the human body of various levels of a.c. and d.c. current and duration of current flow for various current paths.
- risk of ignition of flammable materials due the thermal effects of current or electric arcs in normal service of an electrical installation.
- risk of injury from mechanical movement of electrically actuated equipment.
- Protection against direct contact (basic protection)
- acceptable methods
- use of extra-low voltage

T4 Protection against indirect contact encompassing:

- indirect contact with live parts of an electrical installation may occur.
- methods and devices that comply with the Wiring Rules for providing protection against indirect contact.
- components of the 'automatic disconnection of supply' method of protection against indirect contact.
- the terms 'touch voltage' and 'touch current'.
- the current path when a short circuit fault to exposed conductive parts of an appliance

occurs.

- protection against indirect contact is by the use of Class II equipment and by electrical separation.
- additional protection by use of Residual Current Devices (RCDs)
- protection against indirect contact by use of extra-low voltage and electrical separation.
- Protection requirements for damp situations.

T5 Earthing encompassing:

- the terms: earthed, earthed situation, earth electrode, equipotential bonding, multiple earthed neutral (MEN) system, protective earth-neutral (PEN) conductor, main earthing conductor, protective earthing (PE) conductor, functional earthing, MEN link.
- selection of minimum size-earthing conductor for a range of active conductor sizes and materials.
- parts of an earthing system and the purpose of each.
- typical arrangement for a MEN earthing system.
- arrangements of protective earthing conductors that comply with the Wiring Rules.
- requirements for equipotential bonding in a range of installation situations.
- Installation of a MEN earthing system for a single phase installation

T6 Protection against overload and short circuit current encompassing:

- overload current or fault currents in an electrical installation.
- equivalent circuit of an earth fault-loop
- level of fault current possible at a given point in an installation from the fault-loop impedance and data from the electricity distributor.
- methods and devices that comply with the Wiring Rules AS/NZS 3000 for providing protection against the damaging effects of overload and fault current
- requirements for co-ordination between protective devices and conductors
- requirements for co-ordination of protection devices for discrimination and back-up protection.

T7 Devices for automatic disconnection of supply encompassing:

- operating principles of thermal/magnet circuit breakers.
- operating principles of common types of fuses.
- operating principles of residual current devices (RCD).
- time/current curves tripping characteristics of various types of circuit breakers that comply with the requirements of the Wiring Rules.
- time/current curves fusing characteristics of various types of fuses that comply with the requirements of the Wiring Rules.
- time/current curves tripping characteristics of various types of RCDs that comply with the requirements of the Wiring Rules.
- factors in a fault loop that will affect the impedance of the circuit.
- maximum impedance of an earth fault-loop to ensure operating of a protection device.
- selecting a fuse for fault current limiting protection.
- drawing switchboard wiring arrangements of 2-pole RCDs, 4-pole RCDs, combination RCD/MCBs.

T8 Protection against over voltage and under voltage encompassing:

- causes of over voltage and how this may affect the electrical system.
- methods for protection against over voltage.
- causes of under voltage and how this may affect the electrical system.
- methods for protection against under voltage.

T9 Control of an electrical installation and circuits encompassing:

- switch types, current and voltage ratings and IP rating and where these apply.
- switching requirements for isolation, emergency, mechanical maintenance and functional control.

□ control arrangement for complete installations with and without safety services and an alternative supply.

T10 Switchboards / distribution boards encompassing:

- Purpose, types and applications.
- Physical and circuit arrangements for whole current and CT metering.
- Physical and circuit arrangements of main switches, circuit protection devices, fault-current limiters and metering equipment and other distributor equipment.
- compliance requirements (includes location and access, arc fault protection, identification, construction suitability, equipment marking, wiring, fire protection and arc-fault protection).

EE105	Electrical Installation Design
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This unit covers selecting wiring systems and cables for electrical installations operating at voltages up to 1,000V a.c. or 1,500 V d.c. It encompass knowledge and application of wiring systems and cable types, selecting wiring system compatible with the installation conditions, selecting cables that comply with required current-carrying capacity and voltage drop and earth fault-loop impedance limitations, coordination between protective devices and conductors and documenting selection decisions

KS01-EG107A Electrical installation — cable selection and co-ordination

Evidence shall show an understanding of selecting cables and ensuring co-ordination between protection device and conductors in electrical installations that comply with the Wiring Rules, Selection of cables standards and Service Rules to an extent indicated by the following aspects:

T1 Performance requirements - design and safety encompassing:

- harmful effects against which the design of an electrical installation must provide protection.
- performance standards of a correctly functioning electrical installation.
- supply characteristics that shall be considered when designing an electrical installation.
- acceptable methods for determining the maximum demand in consumer's mains and sub-mains.
- AS/NZS 3000 requirements limiting voltage drop in an installation.
- reason for dividing electrical installations into circuits and the factors that shall determine their number and type.
- typical external factors that may damage an electrical installation and that shall be considered in the installation design.
- methods for protecting persons and livestock against direct and indirect contact with conductive parts and the typical application of each.
- acceptable methods of protection against the risks of ignition of flammable materials and injury by burns from the thermal effects of current, in normal service.
- likely sources of unwanted voltages and the methods for dealing with this potential hazard.
- acceptable methods for protecting persons and livestock against injury and property against damage from the effects of over current.
- requirement for protection against fault current.
- requirement for protection against the harmful effects of faults between live parts of circuits supplied at different voltages.
- need for protection against injury from mechanical movement and how this may be achieved.
- features of 'fire rated construction' and how the integrity of the fire rating can be maintained in relation to electrical installation.

T2 Final subcircuit arrangements encompassing:

- factors that shall be considered in determining the number and type of circuits required for an installation.

- daily and seasonal demand for lighting, power, heating and other loads in a given installation.
- number and types of circuits required for a particular installation.
- current requirements for given final subcircuits.
- layout/schedule of circuits for given installations.

T3 Factors affecting the suitability of wiring systems encompassing:

- wiring systems typically used with various construction methods and particular environments.
- installation conditions that may affect the current-carrying capacity of cables.
- external influences that may affect the current-carrying capacity and/or may cause damage to the wiring system.
- AS/NZS 3000 requirements for selecting wiring systems for a range of circuits, installation conditions and construction methods into which the wiring system is to be installed. Note: Wiring systems include cable enclosures, underground wiring, aerial wiring, catenary support, emergency systems, busbar trunking and earth sheath return.

T4 Maximum demand on consumer's mains/submains encompassing:

- acceptable methods for determining the maximum demand on an installation's consumer's mains and submains.
- maximum demand for the consumer's mains for given installations up to 400 A per phase.
- maximum demand for given submains.

T5 Cable selection based on current carrying capacity requirements encompassing:

- installation conditions for a range of wiring systems and applications.
- external influences that require the use of a derating factor.
- AS/NZS 3000 requirements for coordination of cables and protection devices.
- AS/NZS 3008 used to select conductor size based on the maximum current requirement for a given installation condition including any applicable derating factors.

T6 Cable selection based on voltage drop requirements encompassing:

- AS/NZS 3000 requirements for maximum voltage drop in an installation.
- relevant tables in AS/NZS 3008 for unit values of voltage drop.
- calculation of the expected voltage drop in a given circuit.
- selecting cables to satisfy voltage drop requirements in addition to current carrying capacity requirements.

T7 Cable selection based on fault loop impedance requirements encompassing:

- AS/NZS 3000 requirements for maximum fault loop impedance in an installation.
- relevant tables in AS/NZS 3008 to determine cable impedances.
- calculation of the expected fault loop impedance for a given circuit arrangement.
- selecting cables to satisfy fault loop impedance requirements in addition to current carrying capacity requirements and voltage drop requirements.

T8 Selecting protection devices encompassing:

- acceptable methods of protection against indirect contact.
- AS/NZS 3000 requirements for selecting methods and devices to protect against indirect contact for a range of installation types and conditions.
- coordination between conductors and protection devices to ensure the protection of cables from over heating due to over current.
- possible injuries to persons and livestock from hazards due to a short circuit.
- AS/NZS 3000 requirements for selecting devices to protect against overload current for a range of circuits and loads.
- AS/NZS 3000 requirements for selecting devices to protect against short-circuit current for a range of installation conditions.

T9 Selecting devices for isolation and switching encompassing:

- requirements for the provision of the isolation of every circuit in an electrical installation.
- need for protection against mechanical movement of electrically activated equipment.
- AS/NZS 3000 requirements for selecting devices for isolation and switching for a range of installations and conditions.

T10 Switchboards encompassing:

- AS/NZS 3000 and local supply authority requirements for switchboards.
- tariff structures for the supply of electricity.
- equipment installed at the main switchboards with capacities up to 400 A per phase.
- layout of a main switchboard for an installation supplied with single phase single tariff whole current metering.
- layout of a main switchboard for an installation supplied with single phase multiple tariff whole current metering.
- layout of a main switchboard for an installation supplied with multiphase single tariff whole current metering.
- layout of a main switchboard for an installation supplied with multiphase multiple tariff whole current metering.
- layout of a main switchboard for a multiple tenancy installation with whole current metering.
- layout of a main switchboard, including metering, for an installation supplied with three phase CT metering.
- local supply authority requirements for connection of an electrical installation to the electrical supply system

EE106	Advanced Electrical Wiring
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This unit covers the installation in building and premises of wiring enclosures, cable support systems, cables and accessories and designed to operate at voltages up to 1,000 V a.c. or 1,500 V d.c. It encompasses working safely and to installation standards, routing cables to specified locations, terminating cables and connecting wiring at accessories and completing the necessary installation documentation.

KS01-EG103A Installation of wiring systems

Evidence shall show an understanding of the installation of wiring systems that comply with standards to an extent indicated by the following aspects:

T1 Standards, codes and requirements applicable to the installation of wiring systems encompassing:

- Cables and methods of mechanical protection and support
- Protection against and from other services.
- Prohibited cable locations
- Building codes affecting the installation of cables in buildings, structures and premises (limitation on penetration of structural elements, maintenance of fire protection integrity, and wiring above suspected ceilings)
- Issues affecting electrical installations in heritage buildings and premises (limitation on penetration of structural and finished elements, accessing cable routes, types and colour of exposed accessories).

T2 Use of other installation standards called up by the Wiring Rules for special situations encompassing:

- standards that apply to Electromedical treatment areas.
- additional requirements for construction and demolition sites.
- Relocatable installations and their site supply
- additional requirements for caravan park.
- additional requirements for marinas and pleasure craft at low voltage.

□ additional requirements for shows and carnivals.

T3 Hazardous areas encompassing:

- Conditions that apply in an areas that require them to be classified as a 'Hazardous area'.
- Responsibility for classifying a hazardous area
- Awareness of standards called up by the Wiring Rules for selection of equipment and installations in Hazardous areas. (AS/NZS 3000 requirements for hazardous areas).

T4 Requirement for the installation of cables and accessories in damp situations and ELV installations encompassing:

- restricted zones around baths, showers, fixed water containers, pools, sauna heaters and fountains/water features for given installations.
- selecting equipment suitable for installation in given damp situations.
- voltage range that defines extra-low voltage.
- 'Separated extra-low voltage (SELV) system' and a 'Protected extra-low voltage (PELV) system'.
- AS/NZS 3000 requirements for selecting extra-low voltage systems and devices for a range of installations and conditions.

T5 Aerial cabling encompassing:

- Describe the types of aerial cabling.
- State the AS/NZS 3000 and local supply authority requirements for aerial cabling.
- Termination of aerial cables in accordance with AS/NZS 3000 and local requirements.
- installation of consumers mains for connection via overhead consumers terminals in accordance with AS/NZS 3000 and local requirements.
- Testing of installed cables compliance with Australian Standards

T6 Underground cabling encompassing:

- Describe permissible underground cabling systems.
- Identify other underground services.
- State the AS/NZS 3000 and local supply authority requirements for underground cabling.
- List the advantages and disadvantages of underground wiring systems
- selection of underground consumers mains in accordance with AS/NZS 3000 and local requirements

T7 Techniques for installing cables and wiring systems encompassing:

- Typical cable routes through buildings, structures and premises.
- Application of wiring accessories
- Drawing-in, placing and fixing of cables
- Cable and conductor terminations
- Maintaining fire rating integrity.
- Inspecting and testing installed and terminated cables to ensure they comply with continuity and insulation resistance and are safe to connect to the supply.

EE308	Sustainability
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This unit covers developing strategies to address environmental and sustainability issues in the energy sector. It encompasses working safely, apply extensive knowledge of sustainable energy systems and components and their operating parameters, gathering and analysing data, applying problem solving techniques, developing and documenting alternatives solutions

KS01-EK132A

**Environmental and
Sustainability
strategies**

Evidence shall show an understanding of greenhouse reduction strategies to an extent indicated by the following aspects:

T1 Principles of sustainability encompassing:

- ways in which ecosystems moderate climate. ways in which ecosystems purify and store water.
- ways in which ecosystems recycle waste.

T2 Problems in a sustainable world encompassing:

- changes to Australian forest cover since white settlement, and the resulting loss of ecosystem and human benefits.
- changes to Australia's soils since white settlement, and the resulting loss of ecosystem and human benefits.
- changes to Australia's waterways since white settlement, and the resulting loss of ecosystem and human benefits.
- place of environmental accounting in quantifying Australia's environmental losses.
- limits to Australia's population carrying capacity.

T3 Sustainability principles encompassing:

- principles within sustainability including: environmental accounting and economies; full cost pricing; triple bottom line ethic; ecologically sustainable development; greenhouse gas abatement; energy efficiency; resource and water use efficiency; life cycle costing; renewable energy substitution, cleaner production; waste minimisation, reuse and recycling; ecological footprint.

T4 Addressing the problem of global warming encompassing:

- greenhouse gases and their sources and quantities that contribute to global warming.
- global warming impacts for Australia for 2030 and 2070 predicted by CSIRO modelling.
- requirements to achieve stable atmospheric concentrations of greenhouse gases.
- ecologically and economically sustainable methods for achieving these stable concentrations.

T5 Greenhouse gas emissions profile encompassing:

- goals and principles of the National Greenhouse Strategy
- what a greenhouse gas inventory is, why it is required, and the sectors to which it applies
- uses to which the National Greenhouse Gas Inventory can be applied.

T6 Understanding and communicating climate change and its impacts encompassing:

- the possible impact of climate change in Australia.
- techniques for improving the understanding of climate change
- techniques for communicating to and educating the general

public on greenhouse gas induced climate change.

T7 Partnerships for greenhouse action encompassing:

- actions achievable by each level of government to implement the NGS.
- methods by which the community activity can be engaged in the reduction of greenhouse gas emissions.
- initiatives that can be undertaken by the private sector to reduce greenhouse gas emissions.
- advantages of international partnerships.
- emissions trading system.

T8 Efficient and sustainable energy use and supply encompassing:

- techniques for reducing the greenhouse intensity of energy supply.
- types of renewable energy sources suitable for use in Australia.
- methods and technique for improving end-use efficiency.

T9 Efficient transport and sustainable urban planning encompassing:

- how integrating land use and transport planning can assist the greenhouse problem.
- how each of the following can be used to mitigate greenhouse gas; travel demand and traffic management strategies; encouraging greater use of public transport, walking and cycling; freight and logistics systems; improving vehicle fuel efficiency and fuel technologies;

T10 Greenhouse sinks and sustainable land management encompassing:

- how enhancing greenhouse sinks and encouraging sustainable forestry and vegetation management can complement the AGS.
- how greenhouse gas emissions are obtained from agricultural production and describe techniques to mitigate the emissions.

T11 Models of greenhouse best practice in industrial processes and waste management encompassing:

- types and methods of reducing greenhouse gas emissions from industry.
- methods of reducing methane emissions from waste

treatment and disposal.

T12 Adaptation to climate change encompassing:

□ salient points in each of the key sectors that require analysis and the strategies required in the need for adaptation to climate change

ME 301/ CE 104 Fluid Dynamics

Body forces, compressible flow, Navier stroke equation, fluid energy equation, incompressible flow, turbulent flow, instantaneous & average velocity in turbulent flow, inviscid flow, boundary layer approximation.

CE 105 Hydraulic CE 106 Hydrology

Fluid, hydraulic jack, pressure head of fluid, total pressure in immersion surface, buoyancy, pressure gauge, condition of equilibrium, hydrodynamics, head of liquid, Bernaulli's theorem, Venturi meter, water jet, vortex, orifice, flow through orifice, Francis formula, triangular notch, trapezoidal notch, broad crest weir, friction & flow through pipes, flow through nozzle, turbine.

CE 106A Detailed construction & Building Construction Materials

Brick laying, bonding, junction, wall corner, joint arch, brick paving, brick steps, chimney, roof plumbing, eaves gutter, sprouting mitre, gutter joining, sprouting, external / internal angle making PVC angle, moulded angle, obtuse angle, return stop end, sprouting outlet , pvc outlet, joining sprouting bracket.

CE 104A Building Drawing

Scope, drawing paper, scale, instruments, terms, abbreviations, symbols, building geometry, plan, elevation, sections, re-production of drawings, lettering, perspective drawing, 3 dimensional drawing, drawing layout , setting out detailed drawing, detailed construction, joinery details, room schedule, door schedule, window schedule, hardware schedule, schedules of finishes, painting schedule, colour schedules, miscellaneous schedules, structural drawing, frame, RC, beam schedule, structural steel work, electrical drawing, drainage measured drawing, survey drawings, working drawing, alteration plan.

CE 110 Building Construction

Types of loads, beam, shear diagram, roof trusses, foundation engineering, standard penetration test, soil profile, bearing capacity analysis, retaining wall, footing, steel grades, fasteners, weld, truss applications, bracing tall buildings, wind connection for beam/ columns, brace bay, steel joist floors, roof systems, concrete joints, foundations, wall system, fastenings, timber trusses, timber decking, plank and beam frame, fabrication of structural timber, masonry walls, support condition for walls, stud wall construction, partitions, installation methods, floor systems, window / door structure, sand vibration control, roof insulation.

CE 103 Surveying

Art of measuring, slope correction, surveying instruments, level bench mark booking, observation reduce level, error reduction, change of point, HPC method, two peg test, grid level.

CE 106 Hydrology + ME 204 Fluid Mechanics

Axial flow reaction turbine, inward flow reaction turbine, hydrostatics, centre of pressure, Buoyancy, hydrodynamics, orifice, water turbines, venturi meters, weirs.

CE 107 Sanitation/ Water Supply

Basic principle of plumbing, water supply fittings, sanitary drainage system, storm drainage, compression joints, types of pipes, pipe fitting layout, piping installation, schematic wet column, ferrous metal pipes, piping supports, thermal expansion, hot water piping expansion loop, gate valve, globe valve, check valve, ball valve, plumbing fixture usage, basin sink installation, plumbing fitting diagram, plumbing pumping symbols, piping single line drawing, piping installation system, water circulation systems, piping layout for lot, roof drainage.

CE 112 Engineering Mechanics

- Hydraulic jack, stress/ strain , strength of materials, Hooke's law, stress due to thermal expansion, pressure vessel, rivet joints, bending of beams
- Vector, vector diagram, jig gear, reciprocating engine mechanism, framed structures, non coplanar forces, velocity acceleration , projectile, relative velocity, mass acceleration force, work/ power/ energy/ centripetal

acceleration

- Stress in beams, tension, hydraulics

CE 113 Structure 1

- Strength of materials, elongation, stress/ strain problems, impact stress.
- Mechanical properties of materials, stress, compound bars, torsion, moment of resistance, bending moment and shear force.

CE 114 Structure 2

- Members subject to bending, section moment capacity, member capacity of segments with full lateral restraint, design of webs, shear capacity of webs, interaction of shear and bending
- Design of intermediate transverse web stiffeners
- Members subject to axial compression
- Members subject to axial tension
- Members subject to combined actions.
- Fabrication, erection

Study sequence of structure

CE 113 Structure 1

CE 112 Engineering Mechanics

CE 114 Structure 2

CE 115 Estimating & Specification

- Principle of specification & estimation
- Overheads
- Profit
- Labour cost
- Preliminaries
- Labour constant
- Material motor transport
- Mechanical plant
- Excavator
- Earth work
- Brick work
- Roofing
- Carpentry
- Joinery
- Plumbing installation
- Electrical installation
- Plaster work
- Glazing
- Painting decoration
- Drainage
- Pro-rata rate
- Incentive scheme

CE 111A Road & Bridge

Bridge

Types of bridges, truss, cantilever bridge, arch bridge, suspension bridge, double deck bridge, iron brick bridge, iron brick bridge maintenance

Railways

- Alignment , centrifugal force, track

Road

Technical design, alignment, structural design, road pavement , road alignment, intersection points, final centre design work, technical assessment, final choice, time management plan, construction sequence, daily work planning, gang balancing, work control, site camping, hand tools, maintenance, storage, setting out traveller, earth work, embankment, earth work calculation, drainage, road surface drainage, erosion control, cut off drain, site location, work procedures.

ME 102 Engineering Thermodynamics

-Thermodynamic system, thermodynamic properties, quality of the working substances, thermodynamic processes, ideal gas, gas equation during a change of state, thermodynamic process for gas, vanderwaal gas equation, entropy, properties of steam, thermodynamic of working fluids
 -Gas problems, method of expansion/compression, first law of thermodynamics, throttling valve, second law of thermodynamics, third law of thermodynamics

ME 334 Air-conditioning & Refrigeration

- Refrigerant piping, evaporator, compressor, condenser, compressor-condenser circuit, tools
- Air-conditioning equipment, tubing, joining refrigeration piping
- Nitrogen circuit, system charging, electrical test instruments, control equipments, thermostat, compressor
- Control circuit equipment assembly, dual fuel furnace, humidification, comfort, ventilation duct, plenum system.
- Ventilation installation, ventilation fixtures, evaporator outlet temperature, assembly of units, capillary tube, installation of indoor / outdoor units.

EE308	Sustainability
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This unit covers developing strategies to address environmental and sustainability issues in the energy sector. It encompasses working safely, apply extensive knowledge of sustainable energy systems and components and their operating parameters, gathering and analysing data, applying problem solving techniques, developing and documenting alternatives solutions

KS01-EK132A

Environmental and Sustainability strategies

Evidence shall show an understanding of greenhouse reduction strategies to an extent indicated by the following aspects:

T1 Principles of sustainability encompassing:

- ☐ ways in which ecosystems moderate climate. ways in which ecosystems purify and store water.
- ☐ ways in which ecosystems recycle waste.

T2 Problems in a sustainable world encompassing:

- ☐ changes to Australian forest cover since white settlement, and the resulting loss of ecosystem and human benefits.
- ☐ changes to Australia's soils since white settlement, and the resulting loss of ecosystem and human benefits.
- ☐ changes to Australia's waterways since white settlement, and the resulting loss of ecosystem and human benefits.
- ☐ place of environmental accounting in quantifying Australia's environmental losses.
- ☐ limits to Australia's population carrying capacity.

T3 Sustainability principles encompassing:

- ☐ principles within sustainability including: environmental accounting and economics; full cost pricing; triple bottom line ethic; ecologically sustainable development; greenhouse gas abatement; energy efficiency; resource and water use efficiency; life cycle costing; renewable energy substitution, cleaner production; waste minimisation, reuse and recycling; ecological footprint.

T4 Addressing the problem of global warming encompassing:

- ☐ greenhouse gases and their sources and quantities that contribute to global warming.
- ☐ global warming impacts for Australia for 2030 and 2070 predicted by CSIRO modelling.
- ☐ requirements to achieve stable atmospheric concentrations of greenhouse gases.
- ☐ ecologically and economically sustainable methods for achieving these stable concentrations.

T5 Greenhouse gas emissions profile encompassing:

- ☐ goals and principles of the National Greenhouse Strategy
- ☐ what a greenhouse gas inventory is, why it is required, and the sectors to which it applies
- ☐ uses to which the National Greenhouse Gas Inventory can be applied.

T6 Understanding and communicating climate change and its impacts encompassing:

- ☐ the possible impact of climate change in Australia.
- ☐ techniques for improving the understanding of climate change
- ☐ techniques for communicating to and educating the general

public on greenhouse gas induced climate change.

T7 Partnerships for greenhouse action encompassing:

- ☐ actions achievable by each level of government to implement the NGS.
- ☐ methods by which the community activity can be engaged in the reduction of greenhouse gas emissions.
- ☐ initiatives that can be undertaken by the private sector to reduce greenhouse gas emissions.
- ☐ advantages of international partnerships.
- ☐ emissions trading system.

T8 Efficient and sustainable energy use and supply encompassing:

- ☐ techniques for reducing the greenhouse intensity of energy supply.
- ☐ types of renewable energy sources suitable for use in Australia.
- ☐ methods and technique for improving end-use efficiency.

T9 Efficient transport and sustainable urban planning encompassing:

- ☐ how integrating land use and transport planning can assist the greenhouse problem.
- ☐ how each of the following can be used to mitigate greenhouse gas; travel demand and traffic management strategies; encouraging greater use of public transport, walking and cycling; freight and logistics systems; improving vehicle fuel efficiency and fuel technologies;

T10 Greenhouse sinks and sustainable land management encompassing:

- ☐ how enhancing greenhouse sinks and encouraging sustainable forestry and vegetation management can complement the AGS.
- ☐ how greenhouse gas emissions are obtained from agricultural production and describe techniques to mitigate the emissions.

T11 Models of greenhouse best practice in industrial processes and waste management encompassing:

- ☐ types and methods of reducing greenhouse gas emissions from industry.
- ☐ methods of reducing methane emissions from waste treatment and disposal.

T12 Adaptation to climate change encompassing:

- ☐ salient points in each of the key sectors that require analysis and the strategies required in the need for adaptation to climate change

Year (1)

Certificate in Mechanical Engineering (Each 1.5 Credits) (15 Pt_)

Unit Number	Unit Name	Credit Points
Maths 101	Engineering Mathematics (EE201)	1.5
ME 101	Applied Mathematics	1.5
ME 102	Engineering Thermodynamics	1.5
ME 103	Engineering Mechanics	1.5
ME 104	Machine Principle	1.5
ME 105	Electrical Principle	1.5
ME 106	Electrical Circuits	1.5
ME 107	Heat Transfer	1.5
ME 108	Principle of Engines	1.5
ME201	Introduction to Fluid Mechanics	1.5
	Total	15

Diploma in Mechanical Engineering (Each 1.5 Credits) (15 Pt_)

[ME 202 Introduction to Aero Dynamics](#)

[ME 203 Control Engineering](#)

[ME 204 Engineering Fluid Mechanics](#)

[ME 205 Manufacturing Processes-and-Materials](#)

[ME 206 Introduction to Turbo Machinery](#)

[ME 207 Chemical Thermodynamics](#)

[ME 208 Hydrocarbons](#)

[ME 209 Introduction-to-polymer-science-and-technology](#)

[ME 234 Wind Turbines](#)

[Mgt 501 Basic Management](#)

Year (2)

Advanced Diploma in Mechanical Engineering (Each 1.5 Credits) (30 Pt)

Mathematics

[Maths 403 Engineering-Mathematics \(EE302\)](#)

[Maths 301 Introductory Finite Difference Methods-for-pdes](#)

[Maths 302 Elementary-Linear-Algebra \(EE302\)](#)

[Maths 303 Introductory Finite Volume Methods-for-pdes](#)

[Maths 501 Linear Algebra-c-1 \(EE302\)](#)

Mechanical Engineering

[ME 301 Fluid Dynamics](#)

[ME 302 Automation-and-Robotics](#)

[ME 303 Computer Aided Design and Manufacturing](#)

[ME 304 Introduction to Nonlinearity-in-control-systems](#)

[ME 305 Corrosion Prevention](#)

[ME 306 Theory-of-waves-in-materials](#)

[ME 334 Airconditioning and Refrigeration](#)

[ME 434 Mechtronics-Robotics](#)

[ME 534 Numerical Control](#)

[ME 634 Pneumatics](#)

[EE 617 Building Electrical and Mechanical System Part 1 \(EE309\)](#)

[EE 624 Process Control](#)

[Mgt 503 Production & Operation Management](#)

[Mgt 505 Quality Management and Manufacturing Engineering](#)

Maths 101	Engineering Mathematics (EE201)
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This unit covers the application of computational processes to solve engineering problems. It encompasses working safely, applying problem solving techniques, using a range of mathematical processes, providing solutions to electrical/electronics engineering problems and justifying such solutions.

Note. Typical engineering problems are those encountered in meeting requirements in a design brief, meeting performance requirements and compliance standards, revising systems operating parameters and dealing with system malfunctions

KS01-EE126A Electrotechnology engineering maths

Evidence shall show an understanding of electrotechnology engineering maths to an extent indicated by the following aspects:

T1 Rational, irrational numbers and basic algebra

- ☐ simplification of expressions involving square roots and cube roots
- ☐ scientific and engineering notation
- ☐ evaluation of expressions using a calculator
- ☐ convert units of physical quantities using unity brackets
- ☐ substitute given values into formulae to find physical quantities
- ☐ manipulate algebraic expressions using mathematical operations in their correct order, the laws of indices, expansion of brackets and collecting like terms

T2 Algebraic manipulation

- ☐ Factorise algebraic expressions using common factors
- ☐ Factorise quadratic expressions using trial and error on the factors of the coefficients
- ☐ Simplify algebraic fractions using common denominators and cancelling
- ☐ Solve simple one variable equations including algebraic fractions
- ☐ Find the quotient and remainder given a linear divisor.
- ☐ Transpose formulae to find a required variable.

T3 Laws of indices

- ☐ Conversion between decimal notation, scientific notation and engineering notation
- ☐ Laws of indices: positive /negative values, multiplication/division, fractional values, index equals zero
- ☐ Logarithmic laws: multiply/divide
- ☐ solution of exponential equations using logarithms, substitution and solution of relevant formulae involving exponents or logarithms
- ☐ Graphs of exponential functions, 10^x and e^x and the inverses $\log_{10}(x)$ and $\log_e(x)$ functions on log-linear graphs
- ☐ Convert numbers into scientific and engineering notation using the laws of indices
- ☐ Manipulate and simplify arithmetic and algebraic expressions using the laws of indices and logarithms
- ☐ Express logarithms as indices.
- ☐ Perform logarithmic operations.

- Determine logarithms and antilogarithms to base 10, using a scientific calculator.
- Determine logarithms and antilogarithms to base e, using a scientific calculator.
- Convert logarithmic values from base 10 to base e and vice versa.
- Sketch given functions on log-linear graphs

T4 Estimations, errors and approximations

- Errors in measurement
- Maximum probable error
- Show awareness of errors in measurement and of giving results in appropriate number of significant figures
- Use estimations and approximations to check the reasonableness of results.

T5 Plane figures – triangles and basic trigonometry

- Angles in a triangle
- Isosceles and equilateral triangles
- Congruent triangles
- Similar triangles
- Pythagoras' theorem
- Area of triangles
- Basic trigonometry functions
- Degrees, radians
- The ratios: sin, cos, tan, cosec, sec, cot.
- Inverse trig functions
- Sine and cosine rules

T6 Plane figures - quadrilaterals and circles

- Types and properties of quadrilaterals
- Areas and perimeters of regular quadrilaterals
- Lengths of arcs
- Angles in a circle - degrees
- Angles in a circle - radians
- Lengths of chord segments
- Tangents to circles
- Circumference and area of circles
- Names and characteristics of common polygons

T7 Graphs of Trigonometric functions

- Graph trigonometric functions and solve trigonometric equations.
- Simplify trigonometric expressions using trigonometric identities
- Convert angular measure in degrees to radians and vice versa
- Graph trigonometric functions including graphs of $y = \sin x$ and $y = \cos x$
- Using vocational applications of current or voltage as a function of time, consider changes in amplitude, consider changes in frequency.
- Examine relationships of frequency, period and angular velocity.
- Sketch graphs of the form $f(t) = a \sin \phi t$ and $f(t) = a \cos \phi t$, where a is the peak voltage or current, and ϕ is the angular velocity
- Solve graphically equations of the form $f(t) = a \sin \phi t$ and $f(t) = a \cos \phi t$

T8 Graphs of linear functions

- The number plane
- Gradient and x and y intercepts of a straight line
- Equation of a straight line length and mid-point of a straight line segment
- Function notation

T9 Simultaneous equations

- Graphical solutions
- Substitution
- Elimination
- Solve 2 linear simultaneous equations both algebraically and graphically.

T10 Matrices

- Perform the basic operations on matrices up to 3×3
- Manipulate matrix equations and expressions
- Recognise inverse and identity matrices up to 3×3 and use to solve systems of linear equations.
- Find determinants up to 3×3 and use to solve systems of linear equations.
- Solve problems involving more than two simultaneous equations.
- State the limitations of graphical methods of solution.
- Distinguish between a matrix and an array.
- Describe the null, diagonal and unit matrix
- Describe and identify a singular/non-singular matrix

T11 Quadratic functions

- Graphs of quadratic functions represented by parabolas and the significance of the leading coefficient.
- Graph quadratic functions and solve quadratic equations.
- Sketch and interpret the graphs of quadratic functions showing the significance of the leading coefficient and the zeros
- Solve quadratic equations by factoring or using quadratic formula
- Solve simultaneously linear and quadratic equations algebraically and geometrically
- Interpret verbally formulated problems involving quadratic and linear equations and solve.

T12 Exponential and logarithmic functions

- Transform non-linear functions (including exponential) to linear forms and plot data.
- Draw curves of best fit, interpolate data and estimate constants in suggested relationships.

□ Graph exponential and logarithmic functions and solve exponential and logarithmic equations.

- Sketch the graphs of simple exponential and logarithmic functions showing behaviour for large and small values

T13 Vectors and Phasors

- The vector as an expression of magnitude and direction
- The vector sum of x and y values in terms of magnitude and direction
- Rectangular components of vectors in the form $x = r \cos \theta$ and $y = r \sin \theta$
- Rectangular-polar and polar-rectangular conversion
- Vector addition and subtraction
- Express rectangular components of vectors in the form $x = r \cos \theta$ and $y = r \sin \theta$

T14 Complex numbers

- Definitions and notation of complex numbers
- Complex numbers as vectors on an Argand diagram
- laws of complex numbers and apply the laws in suitable calculations.
- Plot complex numbers on the Argand plane.
- Express vectors as complex numbers and perform suitable calculations.
- Calculate the conjugate of a complex number.
- Using a calculator for rectangular-polar and polar-rectangular conversions.

ME 106	Electrical Circuits
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This unit covers determining correct operation of single source d.c. series, parallel and series-parallel circuits and providing solutions as they apply to various electrotechnology work functions. It encompasses working safely, problem solving procedures, including the use of voltage, current and resistance measuring devices, providing solutions derived from measurements and calculations to predictable problems in single and multiple path circuits.

Evidence shall show an understanding of electrical fundamentals and direct current multiple path circuits to an extent indicated by the following aspects:

T1 Basic electrical concepts encompassing:

- ☐ electrotechnology industry
- ☐ static and current electricity
- ☐ production of electricity by renewable and non renewable energy sources
- ☐ transportation of electricity from the source to the load via the transmission and distribution systems
- ☐ utilisation of electricity by the various loads
- ☐ basic calculations involving quantity of electricity, velocity and speed with relationship to the generation and transportation of electricity.

T2 Basic electrical circuit encompassing:

- ☐ symbols used to represent an electrical energy source, a load, a switch and a circuit protection device in a circuit diagram
- ☐ purpose of each component in the circuit
- ☐ effects of an open-circuit, a closed-circuit and a short-circuit
- ☐ multiple and sub-multiple units

T3 Ohm's Law encompassing:

- ☐ basic d.c. single path circuit.
- ☐ voltage and currents levels in a basic d.c. single path circuit.
- ☐ effects of an open-circuit, a closed-circuit and a short-circuit on a basic d.c. single path
- ☐ relationship between voltage and current from measured values in a simple circuit
- ☐ determining voltage, current and resistance in a circuit given any two of these quantities
- ☐ graphical relationships of voltage, current and resistance
- ☐ relationship between voltage, current and resistance

T4 Electrical power encompassing:

- ☐ relationship between force, power, work and energy
- ☐ power dissipated in circuit from voltage, current and resistance values
- ☐ power ratings of devices
- ☐ measurement electrical power in a d.c. circuit
- ☐ effects of power rating of various resistors

T5 Effects of electrical current encompassing:

- ☐ physiological effects of current and the fundamental principles (listed in AS/NZS 3000) for protection against the this effect
- ☐ basic principles by which electric current can result in the production of heat; the production of magnetic fields; a chemical reaction
- ☐ typical uses of the effects of current
- ☐ mechanisms by which metals corrode
- ☐ fundamental principles (listed in AS/NZS3000) for protection against the damaging effects of current

T6 EMF sources energy sources and conversion electrical energy encompassing:

- ☐ basic principles of producing a emf from the interaction of a moving conductor in a magnetic field.
- ☐ basic principles of producing an emf from the heating of one junction of a thermocouple.
- ☐ basic principles of producing a emf by the application of sun light falling on the surface of photovoltaic cells
- ☐ basic principles of generating a emf when a mechanical force is applied to a crystal (piezo electric effect)
- ☐ principles of producing a electrical current from primary, secondary and fuel cells

- input, output, efficiency or losses of electrical systems and machines
- effect of losses in electrical wiring and machines
- principle of conservation of energy

T7 Resistors encompassing:

- features of fixed and variable resistor types and typical applications
- identification of fixed and variable resistors
- various types of fixed resistors used in the Electro technology Industry. e.g. wire-wound, carbon film, tapped resistors.
- various types of variable resistors used in the Electro technology Industry e.g. adjustable resistors: potentiometer and rheostat; light dependent resistor (LDR); voltage dependent resistor (VDR) and temperature dependent resistor (NTC, PTC).
- characteristics of temperature, voltage and light dependent resistors and typical applications of each power ratings of a resistor.
- power loss (heat) occurring in a conductor.
- resistance of a colour coded resistor from colour code tables and confirm the value by measurement.
- measurement of resistance of a range of variable' resistors under varying conditions of light, voltage, temperature conditions.
- specifying a resistor for a particular application.

T8 Series circuits encompassing:

- circuit diagram of a single-source d.c. 'series' circuit.
- Identification of the major components of a 'series' circuit: power supply; loads; connecting leads and switch
- applications where 'series' circuits are used in the Electro technology industry.
- characteristics of a 'series' circuit - connection of loads, current path, voltage drops, power dissipation and affects of an open circuit in a 'series' circuit.
- the voltage, current, resistances or power dissipated from measured or given values of any two of these quantities
- relationship between voltage drops and resistance in a simple voltage divider network.
- setting up and connecting a single-source series dc circuit
- measurement of resistance, voltage and current values in a single source series circuit
- effect of an open-circuit on a series connected circuit

T9 Parallel circuits encompassing:

- schematic diagram of a single-source d.c. 'parallel' circuit.
- major components of a 'parallel' circuit (power supply, loads, connecting leads and applications where 'parallel' circuits are used in the Electrotechnology industry.
- characteristics of a 'parallel' circuit. (load connection, current paths, voltage drops, power dissipation, affects of an open circuit in a 'parallel' circuit).
- relationship between currents entering a junction and currents leaving a junction
- relationship between branch currents and resistances in a two branch current divider network.
- calculation of the total resistance of a 'parallel' circuit.
- calculation of the total current of a 'parallel' circuit.
- Calculation of the total voltage and the individual voltage drops of a 'parallel' circuit.
- setting up and connecting a single-source d.c. parallel circuit
- resistance, voltage and current measurements in a single-source parallel circuit
- voltage, current, resistance or power dissipated from measured values of any of these quantities
- output current and voltage levels of connecting cells in parallel.

T10 Series/parallel circuits encompassing:

- schematic diagram of a single-source d.c. 'series/parallel' circuit.
- major components of a 'series/parallel' circuit (power supply, loads, connecting leads and

switch)

- applications where 'series/parallel' circuits are used in the Electrotechnology industry.
- characteristics of a 'series/parallel' circuit. (load connection, current paths, voltage drops, power dissipation, affects of an open circuit in a 'series/parallel' circuit).
- relationship between voltages, currents and resistances in a bridge network.
- calculation of the total resistance of a 'series/parallel' circuit.
- calculation of the total current of a 'series/parallel' circuit.
- calculation of the total voltage and the individual voltage drops of a 'series/parallel' circuit.
- setting up and connecting a single-source d.c. series/ parallel circuit
- resistance, voltage and current measurements in a single-source d.c. series / parallel circuit
- the voltage, current, resistances or power dissipated from measured values of any two of these quantities

T11 Factors affecting resistance encompassing:

- four factors that affect the resistance of a conductor (type of material, length, cross-sectional area and temperature)
- affect the change in the type of material (resistivity) has on the resistance of a conductor.
- affect the change in 'length' has on the resistance of a conductor.
- affect the change in 'cross-sectional area' has on the resistance of a conductor.

[illegible]

- effects of resistance on the current-carrying capacity and voltage drop in cables.
- calculation of the resistance of a conductor from factors such as conductor length, cross-sectional area, resistivity and changes in temperature
- using digital and analogue ohmmeter to measure the change in resistance of different types of conductive materials (copper, aluminium, nichrome, tungsten) when those materials undergo a change in type of material length, cross-sectional area and temperature.

T12 Effects of meters in a circuit encompassing:

- selecting an appropriate meter in terms of units to be measured, range, loading effect and accuracy for a given application.
- measuring resistance using direct, volt-ammeter and bridge methods.
- instruments used in the field to measure voltage, current, resistance and insulation resistance and the typical circumstances in which they are used.
- hazards involved in using electrical instruments and the safety control measures that should be taken.
- operating characteristics of analogue and digital meters.
- correct techniques to read the scale of an analogue meters and how to reduce the 'parallax' error.
- types of voltmeters used in the Electrotechnology industry - bench type, clamp meter, Multimeter, etc.
- purpose and characteristics (internal resistance, range, loading effect and accuracy) of a voltmeter.
- types of voltage indicator testers. e.g. LED, neon, solenoid, volt-stick, series tester, etc. and explain the purpose of each voltage indicator tester.
- operation of various voltage indicator testers.
- advantages and disadvantages of each voltage indicator tester.
- various types of ammeters used in the Electrotechnology industry - bench, clamp meter, multimeter, etc.
- purpose of an ammeter and the correct connection (series) of an ammeter into a circuit.
- reasons why the internal resistance of an ammeter must be extremely low and the dangers and consequences of connecting an ammeter in parallel and/or wrong polarity.
- selecting an appropriate meter in terms of units to be measured, range, loading effect

and accuracy for a given application

- connecting an analogue/digital voltmeter into a circuit ensuring the polarities are correct and take various voltage readings.
- loading effect of various voltmeters when measuring voltage across various loads.
- using voltage indicator testers to detect the presence of various voltage levels.
- connecting analogue/digital ammeter into a circuit ensuring the polarities are correct and take various current readings.

T13 Resistance measurement encompassing:

- Identification of instruments used in the field to measure resistance (including insulation resistance) and the typical circumstances in which they are used.
- the purpose of an Insulation Resistance (IR) Tester.
- the parts and functions of various analogue and digital IR Tester (selector range switch, zero ohms adjustment, battery check function, scale and connecting leads).
- reasons why the supply must be isolated prior to using the IR tester.
- where and why the continuity test would be used in an electrical installation.
- where and why the insulation resistance test would be used in an electrical installation.
- the voltage ranges of an IR tester and where each range may be used. e.g. 250 V d.c, 500 V d.c and 1000 V d.c
- AS/NZS3000 Wiring Rules requirements – continuity test and insulation resistance (IR) test.
- purpose of regular IR tester calibration.
- the correct methods of storing the IR tester after use
- carry out a calibration check on a IR Tester
- measurement of low values of resistance using an IR tester continuity functions.
- measurement of high values of resistance using an IR tester insulation resistance function.
- volt-ammeter (short shunt and long shunt) methods of measuring resistance.
- calculation of resistance values using voltmeter and ammeter reading (long and short shunt connections)
- measurement of resistance using volt-ammeter methods

T14 Capacitors and Capacitance encompassing:

- basic construction of standard capacitor, highlighting the: plates, dielectric and connecting leads
- different types of dielectric material and each dielectric's relative permittivity.
- identification of various types of capacitors commonly used in the Electrotechnology industry (fixed value capacitors -stacked plate, rolled, electrolytic, ceramic, mica and Variable value capacitors – tuning and trimmer)
- circuit symbol of various types of capacitors: standard; variable, trimmer and polarised
- terms: Capacitance (C), Electric charge (Q) and Energy (W)
- unit of: Capacitance (Farad), Electric charge (Coulomb) and Energy (Joule)
- factors affecting capacitance (the effective area of the plates, the distance between the plates and the type of dielectric) and explain how these factors are present in all circuits to some extent.
- how a capacitor is charged in a d.c. circuit.
- behaviour of a series d.c. circuit containing resistance and capacitance components. - charge and discharge curves

the term 'Time Constant' and its relationship to the charging and discharging of a capacitor.

- calculation of quantities from given information: Capacitance ($Q = VC$); Energy ($W = \frac{1}{2}CV^2$); Voltage ($V = Q/C$)
- calculation one time constant as well as the time taken to fully charge and discharge a given capacitor. ($\tau = RC$)
- connection of a series d.c. circuit containing capacitance and resistor to determine the time constant of the circuit

T15 Capacitors in Series and Parallel encompassing:

- hazards involved in working with capacitance effects and the safety control measures that should be taken.
- safe handling and the correct methods of discharging various size capacitors
- dangers of a charged capacitor and the consequences of discharging a capacitor through a person
- factors which determine the capacitance of a capacitor and explain how these factors are present in all circuits to some extent.
- effects of capacitors connected in parallel by calculating their equivalent capacitance.

This unit covers the law of physics and how they apply to solving electrotechnology related problems. It encompasses working safely, knowledge of measurements of physical phenomena, linear and angular motion, harmonic motion, wave theory, optics, acoustics and heat capacity and transfer, use of measurement techniques, solving physics related problems and documenting justification for such solutions.

ME 103	Engineering Mechanics (EE204)
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KS01-EE082A Electrotechnology engineering physics

Evidence shall show an understanding of electro engineering physics to an extent indicated by the following aspects:

T1 Measurement encompassing

- SI units in measurement of physical phenomena
- Uncertainty and tolerance

T2 Linear motion

T3 Angular motion

T4 Simple harmonic motion and vibration

T5 Wave theory

- Interference

- Diffraction

T6 Electromagnetic waves and propagation

T7 Optics

- Mirrors and lenses

- Optical fibre

T8 Acoustics and ultrasonics

T9 Heat capacity and heat transfer

- Fluid power

EE 617 Building Electrical and Mechanical System Part 1 (EE309)

This unit covers evaluating energy used in buildings and developing and documenting strategies/methods to effectively reduce energy use without compromising occupancy standards. It encompasses working safely, setting up and conducting evaluation measurements and evaluating energy use from measured parameters.

T1 Climate and thermal comfort encompassing:

- characteristics of the different Australian climatic types.
- use of climatic data in published and electronic forms to extract the quantities relevant to energy efficient design.
- relationship between climate and comfort using bioclimatic or psychrometric charts.
- calculation of heating or cooling degree days or degree hours for various locations.
- calculation of thermal neutrality for a given location.

T2 Solar geometry and radiation encompassing:

- definition of the terms: declination, hour angle, zenith angle, azimuth and altitude angles, the equation of time.
- conversion of solar time to local time and vice versa.
- position of the sun and the length of shadows with the aid of algorithms, tables, sun charts or computer software.
- daily irradiation incident on a wall, window or roof of a given tilt and orientation.
- relative summer and winter irradiation of windows facing the cardinal orientations.

T3 Heat transfer encompassing:

- thermal processes of conduction, convection and radiation apply to the transfer of heat in buildings.
- calculation of the summer and winter U-values of building elements using tables and software.
- calculation of the infiltration heat transfer in a building.

T4 Glazing Systems encompassing:

- different types of glazing systems and their characteristics.
- different types of shading devices and the window orientations for which they are most appropriate.
- solar heat gain for different glazing types and angles of incidence
- calculation of the average daily irradiation of a window partly shaded by eaves, using computer software.
- calculation of the average daily heat gain through a window partly shaded by eaves.

T5 Insulation encompassing:

- different types of insulation and where they are used.
- how different types of insulation are installed in roofs, walls and floors

.
□ determination of the minimum R-values of roof insulation for different locations using Australian Standard AS2627 or similar standards.

T6 Thermal mass encompassing:

□ advantages and disadvantages of using substantial thermal mass in different climate types and for different heating and cooling regimes.

□ where thermal mass can be located in a building.

□ explain what is meant by the following terms: time lag, decrement factor, admittance, response factor.

T7 Comfort control strategies encompassing:

□ interpretation of the usefulness of a design strategy with the aid of a psychrometric chart showing control potential zones for a particular location.

□ selection of the most useful comfort control strategies for Australian climatic regions.

T8 Energy efficiency in buildings encompassing:

□ determination of the direction of the following: both true and magnetic, north winter and summer sunrise, winter and summer sunset.

□ solar access in summer and winter to various possible house locations on a site and room locations within the house.

□ how vegetation can be used to both funnel and deflect wind.

□ using cross ventilation as a cooling strategy.

T9 Thermal performance of a building encompassing:

□ heating requirements of a building using the heating degree day or hour method.

□ dynamic performance predicted by a computer simulation program such as NatHERS or BERS.

T10 Integration of active solar systems encompassing:

- active solar system types available which can provide hot water, space heating and cooling.
- the best location on the roof, and the optimum tilt and orientation of the collector panels.
- function of the main components of an air or water-based solar space heating system.
- schematic of the fluid circuit of an air or water-based space heating system.
- main solar cooling system types.

T11 Energy rating schemes encompassing:

- differences in approach used by house energy rating schemes in Australia.
- energy performance of a number of houses using a computer simulation program such as NatHERS or BERS.
- other methods to reduce energy consumption within and outside a building including appliance efficiency, human behaviour changes, building management strategies and transportation minimisation.
- additional cost of energy efficiency measures and cost savings using life cycle cost or simple pay back methods according to Aust. Standard AS3595 and AS4536.

T12 Sustainable and safe building materials encompassing:

This unit covers building materials and mounting techniques as apply in the various embodied energy content. It encompasses the safe use of hand and portable power tools, safe mounting techniques, safe use of ladders and elevated platforms and the selection and safe application of fixing devices and supporting accessories/equipment.

- problems associated with the use or disposal of building materials.

ME 105	Electrical Principle (EE102)
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KS01-EE105A Fixing and support devices/techniques

Evidence shall show an understanding of accessories and support and fixing device and methods and their use to an extent indicated by the following aspects:

T1. Device for securing and mounting electrical/electronic/instrumentation/refrigeration/ air-conditioning/telecommunications accessories for supporting, fixing and protecting wiring/cabling/piping and functional accessories to hollow walls encompassing:

- types and safe application of devices for hollow wall fixing and support
- methods/techniques used to fix/support to wood, hollow wall, masonry blocks, plasterboard, panelling
- types and safe application of fixing devices used in the electrotechnology industry for wood and hollow wall structures (wood screws, coach bolts, self-tappers, self drilling, metal thread, hollow wall anchors, behind plaster brackets, stud brackets, plasterboard devices, toggle devices)
- types of tools used for hollow wall fixing and supporting.

□ using various fixing methods to fix/support to hollow walls.

T2. Device for securing and mounting electrical/electronic/instrumentation/refrigeration/ air-conditioning/telecommunications accessories for supporting, fixing and protecting wiring/cabling/piping and functional accessories to solid walls encompassing:

- types and safe application of devices used for solid wall fixing and support
- methods/techniques used in to fix to masonry and concrete structures
- fixing devices used in the electrotechnology industry for solid wall structures (wall-plugs, expanding concrete fixing devices, gas powered fixing tools, powder actuated fixing tools, loxins, dynabolts, chemical devices)
- regulatory requirements for use of powder fixing tools.
- hand and power tools used in fixing and supporting accessories
- using various fixing methods to fix/support to solid walls

T3. Device for securing and mounting electrical/electronic/instrumentation/refrigeration/ air-conditioning/telecommunications accessories for supporting, fixing and protecting wiring/cabling/piping and functional accessories to metal fixing encompassing:

- accessories that may be fixed to metal (saddle clips, conduits, brackets, switches)
- techniques for fixing to metal
- fixing devices: coach bolts, self-tappers, metal thread bolts, hollow wall anchors, rivets
- fixing tools - spanners, screwdrivers, power screw drivers, pop riveters, files, reamers
- OH&S issues related to drilling, cutting, eye protection, metal filings, swarf, noise
- Using power drills, drill bits, change drill speeds.
- Install a fixing device and accessory capable of supporting up to 20 kg on the metal plate.

T4. Securing and mounting electrical/electronic/instrumentation/refrigeration/ air-conditioning/telecommunications accessories for supporting, fixing and protecting wiring/cabling/piping and functional accessories using fixing adhesives and tapes encompassing:

- types and safe application of using adhesives and tapes as fixing devices (load limits of different commercial products)
- accessories that may be fixed using adhesives and tapes
- techniques for the application of adhesives and tapes
- tools used to apply and cut adhesives and tapes
- hazards and safety measures when working with adhesives and chemical fixing devices (fumes, cutting, eye protection, physical contact, hand protection, ingestion)

This unit covers the application of advanced computational processes to solve energy sector engineering problems. It encompasses working safely, applying problem solving techniques, using a range of advanced mathematical processes, providing solutions to electrical/electronics engineering problems and justifying such solutions.

Note. Typical engineering problems are those encountered in meeting requirements in a design brief, meeting performance requirements and compliance standards, revising systems operating parameters and dealing with system malfunctions

Maths 403 Engineering-Mathematics (EE302)

Maths 302 Elementary-Linear-Algebra (EE302)

Maths 501 Linear Algebra-c-1 (EE302)

KS01-EE127A Advanced Engineering Maths

Evidence shall show an understanding of advanced engineering maths to an extent indicated by the following aspects:

T1 Differential Calculus encompassing:

- basic concepts of differential calculus, limited to definition of the derivative of a function as the slope of a tangent line (the gradient of a curve); limits; basic examples from 1st principles; Notation and Results of derivative of $k.f(ax + b)$ where $f(x)=x$ to the power of n , $\sin x$, $\cos x$, $\tan x$, e to the power of x , $\ln x$.
- rules - derivative of sum and difference; product rule; quotient rule; chain rule (function of a function), limited to two rules for any given function, the 2nd derivative.
- applications - equations of tangents and normals; stationary points; turning points; and curve sketching; rates of change; rectilinear motion
- verbally formulated problems involving related rates and maxima: minima

T2 Integral Calculus encompassing:

- integration as the inverse operation to differentiation - results of the integral of $k.f(ax + b)$ where $f(x) = x$ to the power of n , $\sin x$, $\cos x$, $\sec^2 x$, e to the power of x , method of substitution, the definite integral.
- applications - areas between curves; rectilinear motion including displacement from acceleration and distance travelled; voltage and current relationship in capacitors and inductors and the like.

T3 Linear Algebra encompassing:

- matrices and inverse matrices;
- linear mapping,
- determinants,
- solution of linear equations.

T4 Vectors encompassing:

- geometrical representation,
- addition and scalar multiplication,
- dot and cross products,
- equations of lines and planes.

T5 Variables encompassing:

- graphs, level curves and surfaces
- partial derivatives; chain rule; directional derivative;
- maxima and minima.

T6 Sequences and Series encompassing:

- algebraic and Fourier series, convergence; Taylor's Theorem
- power series manipulation.

T7 Differential Equations encompassing:

- first order and separable linear equations
- second order linear equations.
- partial differential equations.
- numerical Techniques.

T8 Number encompassing:

- integer, irrational and complex numbers.
- number systems.
- arithmetic operations.
- accuracy and stability.

T9 Statistics encompassing:

- assembly, representation and analysis of data.
- fitting distributions to data.
- non-parametric statistics.
- tests of significance for means, variances and extreme values.

□ correlation

Maths 301 Introductory Finite Difference Methods-for-pdes

The residue Theorem

Fourier Transform

Integral theorem of complex analysis with applications to the evaluation of real integral

Integral theorems – The green Theorem

Cauchy's integral theorem

Cauchy's residue theorem

EE624	Process Control System (EE116)
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This unit covers solving problems in industrial control systems. The unit encompasses safe working practices, interpreting process and circuit diagrams, applying knowledge of industry controls to problem solving techniques, safety and functional testing and completing the necessary documentation.

Note.

Typical basic industrial control system problems are those encountered in meeting performance requirements and compliance standards, revising control operating parameters and dealing with control malfunctions.

KS01-EI120A

I n d u s t r i a l control systems

Evidence shall show an understanding of industrial control systems to an extent indicated by the following aspects:

Control amplifiers encompassing:

- Introduction
- Amplifier Operation
- Operational Amplifiers
- Operational Amplifier Configurations

Industrial transducers encompassing:

- Introduction
- SI Units
- Forms of Energy
- Transducer Terminology
- Temperature Measurement
- Force Measurement
- Speed Measurement

SKILLS AND KNOWLEDGE

- Positional Measurement

Industrial final control elements encompassing:

- Introduction
- Electromagnetic Devices
- Valves
- Solid State Switching Devices

Industrial control systems encompassing:

- ☐ Automatic Control
- ☐ Open Loop Control
- ☐ Closed Loop Control
- ☐ Control System Terminology
- ☐ Control System Evaluation
- ☐ Two Position Control
- ☐ Proportional Control (P)
- ☐ Proportional + Integral Control (P+I)
- ☐ Proportional + Derivative Control (P+D)
- ☐ Proportional + Integral + Derivative Control (P+I+D)

Industrial control loops and control signals encompassing:

- ☐ Introduction
- ☐ Control Loops
- ☐ Converters (D to A and A to D)
- ☐ Multiplexing

Mgt 501+ Mgt 503	Basic Management+ (EE309) Production & Operation Management
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Part 1 Project Management

This unit covers the management of large mechanical projects involving design, modifications, installation, and/or maintenance of systems and equipment. The unit encompasses management of safety, budget variation, personnel, resources, critical path timelines and completion documentation.

KS01-EG169A Project management

Evidence shall show an understanding of managing mechanical projects to an extent indicated by the following aspects:

T1 Defining project parameters encompassing:

- ☐ Project scope
- ☐ Project stakeholders and clients
- ☐ Project phases and the relationship between phases

T2 Time management concepts and standard practices

T3 Financial management encompassing:

- ☐ Financial management concepts
- ☐ Standard practices for managing project finances
- ☐ Project budgets
- ☐ Costs
- ☐ variations and estimations
- ☐ Invoicing against project phases/deliverables
- ☐ Acquittals and the like

T4 Quality management concepts and practices

T5 Human Resource management concepts and practices within a project

T6 Communication management concepts and practices within a project

T7 Risk management and contingencies encompassing:

- ☐ Risk management concepts
- ☐ Internal risks
- ☐ External risks
- ☐ Contingencies
- ☐ Standard practices for managing risk within a project

- ☐ Risk minimisation
- ☐ Risk removal; and the like

T8 Procurement management concepts and practices

T9 Physical Resource management concepts and practices relating to equipment, technology, information and facilities

T10 Contracts encompassing:

- ☐ Contract format
- ☐ Contract content
- ☐ Interpreting contract clauses
- ☐ Legal obligations of contract parties
- ☐ Working to contract specifications
- ☐ Documentation accompanying contracts such as schedules and the like

T11 Performance assessment and continuous improvement

T12 Engineering ethics principles

T13 Customer/Client relations encompassing:

Interpersonal skills that enhance customer/client

- ☐ Dispute resolution
- ☐ Customer/client relations strategies

T14 Mechanical industry sector customs and practice encompassing:

- ☐ Equipment procurement, cost/benefit analysis and performance testing
- ☐ Typical approaches to planning and management
- ☐ Successful planning techniques
- ☐ Best practice management methods and styles

Part 2 Project Planning

This unit covers development and documentation of large electrical project proposals, milestones and completions. The unit encompasses, establishing budgets, critical path analysis, development of workflow strategies, documenting, presenting and negotiating budgets and timelines.

KS01-EG170A Project planning

Evidence shall show an understanding of planning projects and analyzing progress to an extent indicated by the following aspects:

T1 Project planning encompassing:

T2 Purpose of project planning Evidence shall show an understanding of managing electrical projects to an extent indicated by the following aspects:

T3 Defining project parameters encompassing:

- ☐ Project scope
- ☐ Project stakeholders and clients
- ☐ Project phases and the relationship between phases
- ☐ Time requirements and limitations
- ☐ Resource requirements and limitations
- ☐ Quality requirements and limitations

T4 Time management concepts and standard practices

T5 Financial management encompassing:

- ☐ Invoicing against project phases/deliverables
- ☐ Acquittals and the like

T6 Quality management concepts and practices

T7 Human Resource management concepts and practices within a project

T8 Communication management concepts and practices within a project

T9 Risk management and contingencies encompassing:

- ☐ Risk management concepts
- ☐ Internal risks
- ☐ External risks
- ☐ Contingencies
- ☐ Standard practices for managing risk within a project
- ☐ Risk minimisation
- ☐ Risk removal; and the like

T10 Procurement management concepts and practices

T11 Physical Resource management concepts and practices relating to equipment, technology, information and facilities

T12 Contracts encompassing:

- ☐ Contract format
- ☐ Contract content
- ☐ Interpreting contract clauses
- ☐ Legal obligations of contract parties
- ☐ Working to contract specifications
- ☐ Documentation accompanying contracts such as schedules and the like

T13 Performance assessment and continuous improvement

T14 Engineering ethics principles

T15 Customer/Client relations encompassing:

- ☐ Importance of customer/client relations
- ☐ Interpersonal skills that enhance customer/client
- ☐ Dispute resolution
- ☐ Customer/client relations strategies

T16 Mechanical industry sector customs and practice encompassing:

- ☐ Equipment procurement, cost/benefit analysis and performance testing

REQUIRED SKILLS AND KNOWLEDGE

- ☐ Typical approaches to planning and management
- ☐ Successful planning techniques
- ☐ Best practice management methods and styles
- ☐ Documents needed to plan a project
- ☐ Factors influencing sequence and restraints of project activities
- ☐ Critical path analysis covering graphical representation methods and methods of representing time/rates

T17 Critical path and project analysis encompassing:

- ☐ Purpose of critical path analysis
- ☐ Essential data
- ☐ Relational sequence of work activities
- ☐ Graphical representation methods
- ☐ Methods of representing time/rates
- ☐ Monitoring methods

T18 Mechanical industry sector customs and practice encompassing:

- Equipment procurement, cost/benefit analysis and performance testing
- Typical approaches to planning and management
- Successful planning techniques
- Best practice management methods and styles

Mgt 505 Quality Management and Manufacturing Engineering

What Is Quality? Customer's Perspective, Dimensions of Quality: Manufactured Products, Dimensions of Quality:

Services, What Is Quality: Producer's Perspective, Meaning of Quality, Deming Wheel: PDCA Cycle, Quality

Tools, Flow Chart, Cause-and-Effect Diagram, Cause-and-Effect Matrix, Check Sheets and Histograms, Pareto

Analysis, TQM and QMS, Focus of Quality Management— Customers, Quality Management in the Supply Chain, Measuring Customer Satisfaction, Role of Employees in Quality Improvement, Quality Circles, Process (Quality)

Improvement Teams, Quality in Services, Quality Attributes in Services, Breakthrough Strategy: DMAIC,

Profitability, Cost of Quality, Prevention Costs, Appraisal Costs, Internal Failure Costs, External Failure Costs, Measuring and Reporting Quality Costs, Cost of Quality, Quality-Cost Relationship, Effect of Quality Management on

Productivity, Measuring Product Yield and Productivity, Computing Product Cost per Unit, Computing Product Yield

for Multistage Processes, Initial Batch Size For 100 Motors, Quality Productivity Ratio, ISO 9000, ISO 9000 Certification, Implications, and Registrars

ME 101 Applied Mathematics

-Constant acceleration, laws of motion, motion with constant acceleration, velocity-time graph, two dimensional motion, newton laws of motion, equilibrium, components of force, lever, fractional force,

-Centre of gravity, conservation of momentum, energy power, circular motion, motion in vertical circle.

ME 102 Engineering Thermodynamics

-Thermodynamic system, thermodynamic properties, quality of the working substances, thermodynamic processes, ideal gas, gas equation during a change of state, thermodynamic process for gas, vanderwaal gas equation, entropy, properties of steam, thermodynamic of working fluids

-Gas problems, method of expansion/compression, first law of thermodynamics, throttling valve, second law of thermodynamics, third law of thermodynamics

ME 104 Machine Principle

Driving machine, transmission machine, driven machines, rotating machines, machine mountings, principle of balancing, static balancing, dynamic balancing, selection of lubricants, methods of application of lubricants, properties of lubricants, bearings, copper lead alloy, rolling element bearing, linear bearing, fretting, V-belt drives, belt tension adjustment, chain drives, gear drives, shaft coupling types, clutches, method of alignment, O-rings, machine condition monitoring methods, safety gears.

ME 107 Heat Transfer

Principle of internal combustion engine, heat transfer in engine, cylinder heat flux and temperature, heat transfer equation in engine, boiling of coolant, exhaust valve, engine stroke, fuel combustion, products of combustion, ignition circuit, fuel supply lines in engine, fuel pumps, fuel injectors, fuel injection pump, fuel injection timing, fuel governor, governor control system.

ME 201 Introduction to fluid mechanics

- Nature of fluids, fluid as continuum, properties of fluids, viscosity, surface tension, compressibility, fluid statistics, pressure, pressure variation in static fluid, pressure & heat, moment of pressure.
- U tube manometer, buoyancy, basics of fluid flow, velocity field, types of flows, steady flow, unsteady flow, laminar flow, Bernoulli equation, application of Bernoulli equation.
- Discharge coefficients of nozzle, venturimeter, orifice meter, flow nozzle, pitot tube, flow control throttling, varying pump speeds.

ME 202 Introduction to Aerodynamics

- Definition and approaches of aerodynamics, centre of pressure and aerodynamic centre of air foil, airflow circulation, velocity potential, vortex flow, wind tunnel, finite wing theory, airfoil nomenclature
- Resultant force and moment acting on air foil, fundamental of inviscid compressible flow, one dimensional flow equation, quasi one dimensional flow, nozzle and diffuser flow,.
- Fundamental of viscous flow, wind tunnel, a few basic experiments.

ME 203 Control Engineering

ME 304 Non Linearity in Control System

- Feedback control structure, Laplace transform and transfer functions, state-space representation, interconnecting models in MATLAB, single pole transfer functions.
- Step response, two complex poles, effect of a zero, 3 pole transfer function, frequency response and their plotting, Bode diagram.
- Basic concept of feedback control, the closed loops, stability, steady state error, step response, stability.

ME 204 Engineering Fluid Mechanics

ME 301 Fluid Dynamics

Fluid particles, Body forces, compressible flow, incompressible flow, turbulent flow, inviscid flow, boundary layer approximation.

ME 205 Manufacturing Processes and Materials

- Non conventional machining processes, tool wear, tool characteristics, methods of monitoring tool wear, pneumatic method, acceptance sampling.
- Cutting test, electro-discharge machining, hard and soft automation, surface properties and applications, bored holes, integrated manufacturing systems, manufacturing machinery configuration.

ME 206 Introduction to turbo-machinery

- Simple turbine, meridional view, one dimension motion, velocity triangles in turbo machinery, simple analysis of wind turbines.
- Force on wind turbine blades, aerofoil operation & testing, wind turbine design, turbine power control, axial flow machines, radial and centrifugal flow machines, hydraulic turbines.
- Common design choices, turbo machine & system efficiency & reaction, dimensionless parameters for turbo

machinery, coefficients for hydraulic turbines, specific speed for turbines, hydraulic turbines, pelton wheel, analysis approach.

ME 207 Chemical Thermodynamics

Free energy diagram, variation of motor gibbs, liquid-liquid equilibrium, phase behaviour, condition for equilibrium, mole fraction of ethanol, temperature vs solid water + solid ethanol properties, liquid phases.

ME 208 Hydro Carbons

- Viscosity , Benzenes as a model compound, organic compounds, acoustic impedance, organic liquid , electrical properties of organic liquids, optical properties of organic liquids, physical properties of crude oil, densities & viscosities of crudes, viscosities of blended crude oils, coefficient of thermal expansion of crude oils.
- Acoustic impedance of crude oil, densities and viscosities, vehicle fuel pump, refinements of RVP. Thermal conductivity, physical properties of kerosenes, viscosity of kerosenes, kerosene as diluent for lubricating oil, diesel fuels, electrical conductivity of diesel fuel, heavy fuel oils, alcohol containing fuels, methanol, methanol-gasoline blends, ethanol-gasoline blends, bio-diesel fuels.

ME 209 Introduction to polymer science/ technology

Materials and process resources, manufacturing, heat shrinkable tubes, compounding mixing, polymer processing tube extrusion, crosslink , electron accelerator, tube expansion , polymers, elastomers, properties of polymers, composition of synthetic polymers, categories of polymers, basic molecule, synthetic polymers, properties of synthetic polymers, amorphous & semi crystalline, phase transition, polymer properties, crosslinking and elastic memory, fillers, additives for polymers, elastomers, overall product performance, test methods & specification, energy materials, anti tracking materials, material test method, tracking & erosion resistance test, mechanism of iron oxide, base polymer tracking resistance, track prone polymer, stress control, electrical switching behaviour.

ME 234 Wind Turbines

- Sitting of wind turbines, planning constraints, theory of wind energy ,conservation of momentum, wind turbine theory.
- Wind energy , environment, conversation energy, rated and actual power output, wind turbine types, components, anemometer.
- Speed measurement, energy & power in wind, software package

ME 305 Corrosion Prevention

Chemical effect on material, examples of corrosion, galvanic corrosion, intrinsic chemistry, coating, corrosion protection methods, polymer tracking resistance, corrosion in passivation materials, types of corrosion, stress corrosion cracking, carbon steels, concentration cell corrosion.

ME 302 Automation Robotics

- Optimization of production line, organization diagram, description of assembly and characteristics features, mechanisation, involvement of conveyor
- Assembly process, basic assembly scheme, proposal for automation, feeding storage parts, feeder design operation, method of re-filling.
- Operation assembly cell design, flexible mechanised assembly cell, , assembly line operation, investment calculation example.

ME 303 Computer Aided Design & Manufacturing

CAD/CAM System, comparison between different CAD systems, internet based computer design system, complement of data, milling of cylindrical hole, pro-engineered manufactured parts, machine tool co-ordinate system, operation set up, machining sequence program, drilling hole program, simulation program, program to calculate total machining time, reverse engineering, rapid prototyping, basic process, accurate processing, diagram for rapid prototyping techniques, other kinds of reverse engineering, kinds of materials for rapid prototyping.

ME 306 Theory of waves in materials

Equilibrium process, Claudius inequality, basic wave phenomena, wave equation, characteristics of waves, elastic volume and shear waves, vector field of displacement, approximation, convection of a disturbance in a pipe , diffusion of a wave in a pipe.

ME 334 Air-conditioning & Refrigeration

- Refrigerant piping, evaporator, compressor, condenser, compressor-condenser circuit, tools
- Air-conditioning equipment, tubing, joining refrigeration piping
- Nitrogen circuit, system charging, electrical test instruments, control equipments, thermostat, compressor

- Control circuit equipment assembly, dual fuel furnace, humidification, comfort, ventilation duct, plenum system.
- Ventilation installation, ventilation fixtures, evaporator outlet temperature, assembly of units, capillary tube, installation of indoor / outdoor units.

EE308	Sustainability
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This unit covers developing strategies to address environmental and sustainability issues in the energy sector. It encompasses working safely, apply extensive knowledge of sustainable energy systems and components and their operating parameters, gathering and analysing data, applying problem solving techniques, developing and documenting alternatives solutions

KS01-EK132A

Environmental and Sustainability strategies

Evidence shall show an understanding of greenhouse reduction strategies to an extent indicated by the following aspects:

T1 Principles of sustainability encompassing:

- ☐ ways in which ecosystems moderate climate. ways in which ecosystems purify and store water.
- ☐ ways in which ecosystems recycle waste.

T2 Problems in a sustainable world encompassing:

- ☐ changes to Australian forest cover since white settlement, and the resulting loss of ecosystem and human benefits.
- ☐ changes to Australia's soils since white settlement, and the resulting loss of ecosystem and human benefits.
- ☐ changes to Australia's waterways since white settlement, and the resulting loss of ecosystem and human benefits.
- ☐ place of environmental accounting in quantifying Australia's environmental losses.
- ☐ limits to Australia's population carrying capacity.

T3 Sustainability principles encompassing:

- ☐ principles within sustainability including: environmental accounting and economics; full cost pricing; triple bottom line ethic; ecologically sustainable development; greenhouse gas abatement; energy efficiency; resource and water use efficiency; life cycle costing; renewable energy substitution, cleaner production; waste minimisation, reuse and recycling; ecological footprint.

T4 Addressing the problem of global warming encompassing:

- ☐ greenhouse gases and their sources and quantities that contribute to global warming.
- ☐ global warming impacts for Australia for 2030 and 2070 predicted by CSIRO modelling.
- ☐ requirements to achieve stable atmospheric concentrations of greenhouse gases.
- ☐ ecologically and economically sustainable methods for achieving these stable concentrations.

T5 Greenhouse gas emissions profile encompassing:

- ☐ goals and principles of the National Greenhouse Strategy
- ☐ what a greenhouse gas inventory is, why it is required, and the sectors to which it applies
- ☐ uses to which the National Greenhouse Gas Inventory can be applied.

T6 Understanding and communicating climate change and its impacts encompassing:

- ☐ the possible impact of climate change in Australia.
- ☐ techniques for improving the understanding of climate change
- ☐ techniques for communicating to and educating the general

public on greenhouse gas induced climate change.

T7 Partnerships for greenhouse action encompassing:

- ☐ actions achievable by each level of government to implement the NGS.
- ☐ methods by which the community activity can be engaged in the reduction of greenhouse gas emissions.
- ☐ initiatives that can be undertaken by the private sector to reduce greenhouse gas emissions.
- ☐ advantages of international partnerships.
- ☐ emissions trading system.

T8 Efficient and sustainable energy use and supply encompassing:

- ☐ techniques for reducing the greenhouse intensity of energy supply.
- ☐ types of renewable energy sources suitable for use in Australia.
- ☐ methods and technique for improving end-use efficiency.

T9 Efficient transport and sustainable urban planning encompassing:

- ☐ how integrating land use and transport planning can assist the greenhouse problem.
- ☐ how each of the following can be used to mitigate greenhouse gas; travel demand and traffic management strategies; encouraging greater use of public transport, walking and cycling; freight and logistics systems; improving vehicle fuel efficiency and fuel technologies;

T10 Greenhouse sinks and sustainable land management encompassing:

- ☐ how enhancing greenhouse sinks and encouraging sustainable forestry and vegetation management can complement the AGS.
- ☐ how greenhouse gas emissions are obtained from agricultural production and describe techniques to mitigate the emissions.

T11 Models of greenhouse best practice in industrial processes and waste management encompassing:

- ☐ types and methods of reducing greenhouse gas emissions from industry.
- ☐ methods of reducing methane emissions from waste treatment and disposal.

T12 Adaptation to climate change encompassing:

- ☐ salient points in each of the key sectors that require analysis and the strategies required in the need for adaptation to climate change

ME 434 Mechatronics- Robotics

- Performance characteristics, industrial robot tests, position accuracy test, positioning & fixing robot, straight line measurement, transmission of energy, manipulator, interfacing link, end effector interfacing transmitter circuit, signal output condition, input signal circuitry.
- Remote operator station, input/ output signal parallelizing, application , dual gripper, safety joint, mechanical gripper, vacuum gripper, dual magnetic gripper, contact sensor, proximity sensor, non contact sensor, limit switch , program flow chart, thermocouple sensor.
- Robotic part transfer, robot palletizing, connection of network electronic circuit, list of components, robotic programs, velocity control code.

ME 534 Numerical Control

- Components of numerical control, flow diagram, assembly diagram, closed loop, numerical controlled lathe, types of numerical control systems, co-ordinate systems, two axis control, , Z axis control
- Incremental system, absolute system, zero shift system, BCD, ACSII code, Binary coded decimal system, sequence number, leading & trailing zero, suppression
- Feed rate, spindle speed, programming example
- Linear interpolation, circular interpolation, programmable Z depth, tool length compensation
- CNC machines, feed rate, spindle speed, circular interpolation, threading
- Threading numerical program, system subroutines
- CNC program example.

ME 634 Pneumatics

- Principle of pneumatics, force, pressure, flow & pressure drop, compressed air, vacuum pressure, atmospheric pressure, gas laws, Boyle's law, Charles's law, Concept of power transmission, Basic concept of Pneumatic system, Directional control valve.
- Pneumatic valve, valve mechanism , normally open/ close valve, spool/ poppet valve, valve conversion.
- Actuator control, time delay valve, cam roller, power valve, air motors, rotary actuator
- Pneumatic sensor, proximity sensor, control problem analysis, Pneumatic air vane governors

Mgt 503 Production & Operation Management

Analyze business operations using appropriate performance measures, such as flow time, throughput rate and capacity.

2. Propose business solutions in written and verbal forms for operations improvement and process design projects.
3. Identify inefficiency and ineffectiveness in business operations and propose adequate minor changes or major redesigns to improve the process.
4. Understand the theory and implementations of quality control activities for different industries.
5. Use computing software to determine optimal capacity under various situations in a process.
6. Practice team skills to organize a functioning team to analyze and improve business process.

Mgt 105 Quality Management and Manufacturing Engineering

Meaning of Quality?

Quality: Customer's Perspective?

Dimensions of Quality: Manufactured Products

Dimensions of Quality: Services

Quality: Producer's Perspective

Outline Deming's 14 Points.

Deming Wheel: PDCA Cycle.

Cause-and-Effect Diagram

Pareto Analysis.

Control Chart.

Quality Management in the Supply Chain.

Quality Circles.

Quality Attributes in Services

Design for Six Sigma (DFSS).

Prevention Cost

External Failure Costs

Quality costs measure and report?

Measuring Product Yield and Productivity.

Quality-Productivity Ratio.

ISO 9000 certification?

ME 105 Electrical Principle

EE114	Electrical Power Principle
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KS01-EG006A Single and three-phase transformers

Evidence shall show an understanding of single and three phase transformers to an extent indicated by the following aspects:

T1 Transformer construction encompassing:

- ☐ types of lamination style and core construction used in single-phase, three phase, double wound, auto transformers and instrument transformers.
- ☐ identification of different winding styles/types used in transformers.
- ☐ methods used to insulate low and high voltage transformers.
- ☐ construction of transformer tanks for distribution transformers.
- ☐ transformer auxiliary equipment. (Bushings, surge-diverters, tap-changers, hot oil & winding indicators, breather, Buchholz relay and

conservator).

- ☐ function of transformer auxiliary equipment.
- ☐ types of information stated on transformer nameplates.
- ☐ application of transformers.
- ☐ performing basic insulation resistance, continuity and winding identification tests.

T2 Transformer operation encompassing:

- ☐ principles of mutual induction of a transformer.
- ☐ factors that determine the induced voltage in a transformer winding.
- ☐ determining the value of a transformers secondary voltage and current given one winding's electrical details and turns ratio.
- ☐ identification of voltage and current components of a phasor diagram for a transformer on no-load.
- ☐ principles of power transferred from the primary to secondary when a load is connected using a phasor diagram neglecting impedance drops.
- ☐ selecting transformers for specific application/s.
- ☐ safety features specified in AS/NZS3000 with respect to transformers and isolating transformers.

T3 Transformer losses, efficiency and cooling encompassing:

- ☐ power losses which occur in a transformer.
- ☐ tests which allow the power losses of a transformer to be determine.
- ☐ determination of transformer losses and efficiency using test results.

relationship between transformer cooling and rating.

- ☐ methods used for natural and forced cooling of transformers.
- ☐ properties of transformer oil.
- ☐ tests conducted on transformer oil.

T4 Transformer voltage regulation and percent impedance encompassing:

- ☐ voltage regulation as applicable to a transformer.
- ☐ reasons for voltage variation in the output of a transformer.
- ☐ determine the voltage regulation of a transformer from voltage and percentage impedance values.
- ☐ percentage impedance as applied to transformers.
- ☐ determine the percent impedance by using test results.
- ☐ determine percent impedance of a transformer by calculation.

T5 Parallel operation of transformers and transformer auxiliary equipment encompassing:

- ☐ determine polarity markings for an unidentified single phase double wound transformer.
- ☐ need for parallel operation of transformers.
- ☐ conditions/restrictions required before two transformers can be connected in parallel.
- ☐ connecting transformers in parallel to supply a single load (loading on transformers operating in parallel).
- ☐ the consequences/effect of an incorrect connection.

T6 Auto-transformers and instrument transformers encompassing:

- ☐ identification of auto-transformers, voltage transformers and current transformers from their winding diagrams.
- ☐ determining voltage and current in the windings of an auto-transformer by calculation.
- ☐ advantages and disadvantages of an auto-transformer.
- ☐ AS/NZS3000 requirements with respect to transformers.
- ☐ construction of voltage transformers.
- ☐ ratings of voltage transformers.
- ☐ construction of current transformers.
- ☐ ratings of current transformers.
- ☐ precautionary measures taken to connect and disconnect instrument transformers.
- ☐ connection diagrams for instrument transformers.
- ☐ applications for auto-transformers and instrument transformers.

ME 106 Electrical Circuits

EE101	DC Circuit Problems
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This unit covers determining correct operation of single source d.c. series, parallel and series-parallel circuits and providing solutions as they apply to various electrotechnology work functions. It encompasses working safely, problem solving procedures, including the use of voltage, current and resistance measuring devices, providing solutions derived from measurements and calculations to predictable problems in single and multiple path circuits.

Evidence shall show an understanding of electrical fundamentals and direct current multiple path circuits to an extent indicated by the following aspects:

T1 Basic electrical concepts encompassing:

- ☐ electrotechnology industry
- ☐ static and current electricity
- ☐ production of electricity by renewable and non renewable energy sources
- ☐ transportation of electricity from the source to the load via the transmission and distribution systems
- ☐ utilisation of electricity by the various loads
- ☐ basic calculations involving quantity of electricity, velocity and speed with relationship to the generation and transportation of electricity.

T2 Basic electrical circuit encompassing:

- ☐ symbols used to represent an electrical energy source, a load, a switch and a circuit protection device in a circuit diagram
- ☐ purpose of each component in the circuit
- ☐ effects of an open-circuit, a closed-circuit and a short-circuit
- ☐ multiple and sub-multiple units

T3 Ohm's Law encompassing:

- ☐ basic d.c. single path circuit.
- ☐ voltage and currents levels in a basic d.c. single path circuit.
- ☐ effects of an open-circuit, a closed-circuit and a short-circuit on a basic d.c. single path relationship between voltage and current from measured values in a simple circuit
- ☐ determining voltage, current and resistance in a circuit given any two of these quantities
- ☐ graphical relationships of voltage, current and resistance
- ☐ relationship between voltage, current and resistance

T4 Electrical power encompassing:

- ☐ relationship between force, power, work and energy
- ☐ power dissipated in circuit from voltage, current and resistance values
- ☐ power ratings of devices
- ☐ measurement electrical power in a d.c. circuit
- ☐ effects of power rating of various resistors

T5 Effects of electrical current encompassing:

- ☐ physiological effects of current and the fundamental principles (listed in AS/NZS 3000) for protection against the this effect
- ☐ basic principles by which electric current can result in the production of heat; the production of magnetic fields; a chemical reaction
- ☐ typical uses of the effects of current
- ☐ mechanisms by which metals corrode
- ☐ fundamental principles (listed in AS/NZS3000) for protection against the damaging effects of current

T6 EMF sources energy sources and conversion electrical energy encompassing:

- ☐ basic principles of producing a emf from the interaction of a moving conductor in a magnetic field.
- ☐ basic principles of producing an emf from the heating of one junction of a thermocouple.
- ☐ basic principles of producing a emf by the application of sun light falling on the surface of photovoltaic cells
- ☐ basic principles of generating a emf when a mechanical force is applied to a crystal

(piezo electric effect)

- ☐ principles of producing a electrical current from primary, secondary and fuel cells
- ☐ input, output, efficiency or losses of electrical systems and machines
- ☐ effect of losses in electrical wiring and machines
- ☐ principle of conservation of energy

T7 Resistors encompassing:

- ☐ features of fixed and variable resistor types and typical applications
- ☐ identification of fixed and variable resistors
- ☐ various types of fixed resistors used in the Electro technology Industry. e.g. wire-wound, carbon film, tapped resistors.
- ☐ various types of variable resistors used in the Electro technology Industry e.g. adjustable resistors: potentiometer and rheostat; light dependent resistor (LDR); voltage dependent resistor (VDR) and temperature dependent resistor (NTC, PTC).
- ☐ characteristics of temperature, voltage and light dependent resistors and typical applications of each
- ☐ power ratings of a resistor.
- ☐ power loss (heat) occurring in a conductor.
- ☐ resistance of a colour coded resistor from colour code tables and confirm the value by measurement.
- ☐ measurement of resistance of a range of variable' resistors under varying conditions of light, voltage, temperature conditions.
- ☐ specifying a resistor for a particular application.

T8 Series circuits encompassing:

- ☐ circuit diagram of a single-source d.c. 'series' circuit.
- ☐ Identification of the major components of a 'series' circuit: power supply; loads; connecting leads and switch
- ☐ applications where 'series' circuits are used in the Electro technology industry.
- ☐ characteristics of a 'series' circuit - connection of loads, current path, voltage drops, power dissipation and affects of an open circuit in a 'series' circuit.
- ☐ the voltage, current, resistances or power dissipated from measured or given values of any two of these quantities
- ☐ relationship between voltage drops and resistance in a simple voltage divider network.
- ☐ setting up and connecting a single-source series dc circuit
- ☐ measurement of resistance, voltage and current values in a single source series circuit
- ☐ effect of an open-circuit on a series connected circuit

T9 Parallel circuits encompassing:

- ☐ schematic diagram of a single-source d.c. 'parallel' circuit.
- ☐ major components of a 'parallel' circuit (power supply, loads, connecting leads and

· applications where 'parallel' circuits are used in the Electrotechnology industry.

- ☐ characteristics of a 'parallel' circuit. (load connection, current paths, voltage drops, power dissipation, affects of an open circuit in a 'parallel' circuit).
- ☐ relationship between currents entering a junction and currents leaving a junction
- ☐ relationship between branch currents and resistances in a two branch current divider network.
- ☐ calculation of the total resistance of a 'parallel' circuit.
- ☐ calculation of the total current of a 'parallel' circuit.
- ☐ Calculation of the total voltage and the individual voltage drops of a 'parallel' circuit.
- ☐ setting up and connecting a single-source d.c. parallel circuit
- ☐ resistance, voltage and current measurements in a single-source parallel circuit
- ☐ voltage, current, resistance or power dissipated from measured values of any of these quantities

- output current and voltage levels of connecting cells in parallel.

T10 Series/parallel circuits encompassing:

- schematic diagram of a single-source d.c. 'series/parallel' circuit.
- major components of a 'series/parallel' circuit (power supply, loads, connecting leads and switch)
- applications where 'series/parallel' circuits are used in the Electrotechnology industry.
- characteristics of a 'series/parallel' circuit. (load connection, current paths, voltage drops, power dissipation, affects of an open circuit in a 'series/parallel' circuit).
- relationship between voltages, currents and resistances in a bridge network.
- calculation of the total resistance of a 'series/parallel' circuit.
- calculation of the total current of a 'series/parallel' circuit.
- calculation of the total voltage and the individual voltage drops of a 'series/parallel' circuit.
- setting up and connecting a single-source d.c. series/ parallel circuit
- resistance, voltage and current measurements in a single-source d.c. series / parallel circuit
- the voltage, current, resistances or power dissipated from measured values of any two of these quantities

T11 Factors affecting resistance encompassing:

- four factors that affect the resistance of a conductor (type of material, length, cross-sectional area and temperature)
- affect the change in the type of material (resistivity) has on the resistance of a conductor.
- affect the change in 'length' has on the resistance of a conductor.
- affect the change in 'cross-sectional area' has on the resistance of a conductor.

effects of temperature change on the resistance of various conducting materials

- effects of resistance on the current-carrying capacity and voltage drop in cables.
- calculation of the resistance of a conductor from factors such as conductor length, cross-sectional area, resistivity and changes in temperature
- using digital and analogue ohmmeter to measure the change in resistance of different types of conductive materials (copper, aluminium, nichrome, tungsten) when those materials undergo a change in type of material length, cross-sectional area and temperature.

T12 Effects of meters in a circuit encompassing:

- selecting an appropriate meter in terms of units to be measured, range, loading effect and accuracy for a given application.
- measuring resistance using direct, volt-ammeter and bridge methods.
- instruments used in the field to measure voltage, current, resistance and insulation resistance and the typical circumstances in which they are used.
- hazards involved in using electrical instruments and the safety control measures that should be taken.
- operating characteristics of analogue and digital meters.
- correct techniques to read the scale of an analogue meters and how to reduce the 'parallax' error.
- types of voltmeters used in the Electrotechnology industry – bench type, clamp meter, Multimeter, etc.
- purpose and characteristics (internal resistance, range, loading effect and accuracy) of a voltmeter.
- types of voltage indicator testers. e.g. LED, neon, solenoid, volt-stick, series tester, etc. and explain the purpose of each voltage indicator tester.
- operation of various voltage indicator testers.
- advantages and disadvantages of each voltage indicator tester.
- various types of ammeters used in the Electrotechnology industry – bench, clamp meter, multimeter, etc.
- purpose of an ammeter and the correct connection (series) of an ammeter into a circuit.
- reasons why the internal resistance of an ammeter must be extremely low and the dangers and consequences of connecting an ammeter in parallel and/or wrong polarity.
- selecting an appropriate meter in terms of units to be measured, range, loading effect and accuracy for a given application
- connecting an analogue/digital voltmeter into a circuit ensuring the polarities are correct and take various voltage readings.
- loading effect of various voltmeters when measuring voltage across various loads.
- using voltage indicator testers to detect the presence of various voltage levels.
- connecting analogue/digital ammeter into a circuit ensuring the polarities are correct and take various current readings.

T13 Resistance measurement encompassing:

- Identification of instruments used in the field to measure resistance (including insulation resistance) and the typical circumstances in which they are used.
- the purpose of an Insulation Resistance (IR) Tester.
- the parts and functions of various analogue and digital IR Tester (selector range switch, zero ohms adjustment, battery check function, scale and connecting leads).
- reasons why the supply must be isolated prior to using the IR tester.
- where and why the continuity test would be used in an electrical installation.
- where and why the insulation resistance test would be used in an electrical installation.
- the voltage ranges of an IR tester and where each range may be used. e.g. 250 V d.c, 500 V d.c and 1000 V d.c
- AS/NZS3000 Wiring Rules requirements – continuity test and insulation resistance (IR) test.
- purpose of regular IR tester calibration.
- the correct methods of storing the IR tester after use
- carry out a calibration check on a IR Tester
- measurement of low values of resistance using an IR tester continuity functions.
- measurement of high values of resistance using an IR tester insulation resistance function.
- volt-ammeter (short shunt and long shunt) methods of measuring resistance.
- calculation of resistance values using voltmeter and ammeter reading (long and short shunt connections)
- measurement of resistance using volt-ammeter methods

T14 Capacitors and Capacitance encompassing:

- basic construction of standard capacitor, highlighting the: plates, dielectric and connecting leads
- different types of dielectric material and each dielectric's relative permittivity.
- identification of various types of capacitors commonly used in the Electrotechnology industry (fixed value capacitors -stacked plate, rolled, electrolytic, ceramic, mica and Variable value capacitors – tuning and trimmer)
- circuit symbol of various types of capacitors: standard; variable, trimmer and polarised
- terms: Capacitance (C), Electric charge (Q) and Energy (W)

- unit of: Capacitance (Farad), Electric charge (Coulomb) and Energy (Joule)
- factors affecting capacitance (the effective area of the plates, the distance between the plates and the type of dielectric) and explain how these factors are present in all circuits to some extent.
- how a capacitor is charged in a d.c. circuit.
- behaviour of a series d.c. circuit containing resistance and capacitance components. - charge and discharge curves

the term 'Time Constant' and its relationship to the charging and discharging of a capacitor.

- calculation of quantities from given information: Capacitance ($Q = VC$); Energy ($W = \frac{1}{2}CV^2$); Voltage ($V = Q/C$)
- calculation one time constant as well as the time taken to fully charge and discharge a given capacitor. ($\tau = RC$)
- connection of a series d.c. circuit containing capacitance and resistor to determine the time constant of the circuit

T15 Capacitors in Series and Parallel encompassing:

- hazards involved in working with capacitance effects and the safety control measures that should be taken.
- safe handling and the correct methods of discharging various size capacitors
- dangers of a charged capacitor and the consequences of discharging a capacitor through a person
- factors which determine the capacitance of a capacitor and explain how these factors are present in all circuits to some extent.
- effects of capacitors connected in parallel by calculating their equivalent capacitance.
- effects on the total capacitance of capacitors connected in series by calculating their equivalent capacitance.
- Connecting capacitors in series and/or parallel configurations to achieve various capacitance values.
- common faults in capacitors.
- testing of capacitors to determine serviceability.
- application of capacitors in the Electrotechnology industry.

ME 108 Principle of Engine

Principle of internal combustion engine, heat transfer in engine, cylinder heat flux & temperature, heat transfer equation in engine, boiling of coolant, exhaust valves, engine strokes, fuel combustion, product of combustion, ignition circuit, fuel supply lines in engine, fuel pump, fuel injectors, fuel injector, fuel injection pump, fuel injection timing, fuel governor, governor control system.

Diploma in Information Technology (Course Outline)

		St Clements+ Highlight Course	Pt				Australian IT Diploma Course
		THEORETICAL TRAINING					
	ICT 101	Information Technology Fundamentals	3		GC	ICAICT501A	Research and review hardware technology opti
	ICT 102	Computer Applications and Operations	2		GC GC	ICASAS509A ICASAS503A	Provide client IT support services Perform systems tests
	ICT 103	Applied Programming	5	BAE601	GB	ICAPRG523A	Apply advanced programming skills in another
	ICT 104	Program Project	5	BAE601	GB	ICAPRG502A	Manage a project using software management
					GC	ICAICT510A	Determine appropriate IT strategies and soluti
					GD	ICAWEB507A	Customise a complex IT content management :
					GG	CAPMG501A	Manage IT projects
	ICT 105	Systems Analysis and Programs	5	BAE603	Core GC	ICAICT509A ICAICT502A	Gather data to identify business requirements Develop detailed component specifications fro
					Core	ICAICT511A	Match IT needs with the strategic direction of t
	ICT 106	Software Engineering	5	BAE603	GB GB GB	ICAPRG502A ICAPRG510A ICAPRG512A	Manage a project using software management Maintain custom software Prepare for the build phase of an IT system
	ICT 107	Business Information Systems	5		GA	ICANWK501A	Plan, implement and test enterprise communic
			30				
		WORK PERFORMANCE					
	Task 1	Provide the OHS Procedure in workplace			Core	BSBOHS509A	Ensure a safe workplace
	Task 2	Provide the procedure to maintain the IT equipments in workplace			Core	BSBSUS501A	Develop workplace policy and procedures for s
	Task 3	Take the record of sound & picture from an event			GE	ICAGAM504A	Manage interactive media production
	Task 4	Take the digital video by using digital camera & edit/ convert to other formats by provided software			GF	CADMT501A	Incorporate and edit digital video

Advanced Diploma in Information Technology (Course Outline)

		St Clements+ Highlight Course	Pt				Australian IT Diploma Course
		THEORETICAL TRAINING					
	ICT 201	Organisational Behaviour	5			BSBWOR502B BSBMGT516A BSBSUS501A	Ensure team effectiveness Facilitate continuous improvement Develop workplace policy and procedures for s
	ICT 202	Information Systems Principles and Networking	5	BAE602		ICANWK516A ICANWK532A ICANWK614A	Determine best-fit topology for a local network Identify and resolve network problems Manage IT security
	ICT 203	Information Systems, Analysis and Design	5	BAE602	2	ICAPRG602A ICAICT509A ICAICT603A ICAICT608A ICAPMG606A ICAICT713A	Manage the development of technical solutions specifications Gather data to identify business requirements Manage the use of appropriate development m Interact with clients on a business level Manage IT project quality Manage IT services
	ICT 204	Advanced Programming	5	BAE601		ICAPRG527A ICAPRG501A ICAPRG505A	Apply intermediate object-oriented language si Apply advanced object-oriented language skills Build advanced user interface
	ICT 205 ICT 206	Project Work WORK PERFORMANCE ASSESSMENT	5	BAE602	Core Core Core Core Core Core	ICAPRG506A ICAPMG601A ICAPMG602A ICAPMG603A ICAPMG604A ICAPMG605A	Manage copyright, ethics and privacy in an IT e Establish IT project governance *Manage IT project initiation *Manage IT project planning *Manage IT project delivery *Manage IT project closure
		Total	30				

	ICT 101	Information Technology Fundamentals
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Structure of computer

IntroductionToComputerHardware

Advanced Hardware

Architecture
Connect Internal Hardware
Requirement for a good computer
Hard Drive Controller
Mother
System Bus
CPU
Power Supply & Surge Protector
Computer Repair
Computer Network

	ICT 102	Computer Applications and Operations
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Word

Creating_Web_Pages_in_Word_
Customize_the_Word_Environment
Editing_a_Document_in_Word
Formatting_Paragraphs_in_Word
Formatting_Text_in_
Graphics in Word
Lists in Word
Macros in Word
Page Formatting in Word
Proof Reading Document in Word
Reference Citation Word

Table Contents Word
Track Change Word
Word Style
Excel

Class Notes-Basic Excel
Advanced Excel
Class Notes-Basic Access
Advanced Access

Power Point

AutoCAD

AutoCAD Class Notes-HTML File
Advanced AutoCAD

BAE 601 Computer Programming (3 pt)

Part (1) Overview Knowledge of the subject

Select any of the following textbooks

- C Programming
- C++ Programming
- C# Programming
- Object Oriented Programming
- C Programming in Linux

IT 401 Object Oriented Programming (1 pt)

IT 402 Structured Programming (1 pt)

IT 403 Visual Basic Programming (1 pt)

For [ICT 204 Advanced Programming](#) & [ICT 104 Program Projects](#)

More detailed aspects of programs are to be written

BAE 602 Computer Network (1 pt)

Computer Network

Peer to peer networking

Client server networking

Network hardware

Network cable

Hub

Wired network

Wireless network card

Firewall

Wiring the network

Wiring the network

Running the network program

Viewing network connection

Network set up on additional computers

Viewing network connection

Introduction

Network model

Data and signals

Data and signals

Data rate limit

Performance

Digital transmission

Digital transmission

Analog transmission

Analog transmission

Bandwidth utilization/ Multiplexing/

Spreading

Bandwidth utilization/ Multiplexing/

Spreading

Transmission media

Error detection & correction

Error detection and correction

Defining needs

Area covered

Organization information requirement

System VS Procedure

Types of systems

What are the systems?

Infrastructure

Support system

Data mart

Organizational structure

Planning for system development

System design

Security of information system

Risk management

For [ICT 203 Information System Analysis & Design](#)

practical aspect of design the network system for given

information system is to be performed

BAE 603 Software Engineering (2 pt)

Introduction

Software process

Feasibility study

Project management

Documentation, Requirement analysis

Requirement specification

Business/ Legal aspect

Source code management
 Formal specification
 Object oriented design 1
 Object oriented design 2
 Object oriented design 3
 System Architecture 1
 System Architecture 2
 System Architecture 3
 Design for utility
 Performance of computer system
 Coding standard/ Tools for designing 1
 Dependable system 1 Reliability
 Dependable system 2 Validation
 Law aspect
 Risks in software engineering
 Software engineering as engineering
 Nano Technology
 What is Nano technology?
 Motivation for Nano technology
 Scaling laws
 Nano technology

For	ICT 105	Systems Analysis and Programs
Analysing the system used & preparing the software & hardware required to perform the analysed system are to be executed.		

	ICT 107	Business Information Systems
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- What is Organization?
- Need for Organization
- Data vs. Information
- Information Quality Checklist
- Organization & Information Requirements
- Nature of Business & Information Requirements
- Systems vs. Procedures
- Computer based Information System (CBIS)
- Cross-Functional Coordination
- Transaction Processing System
- Data Processing Tasks
- Management Information System
- Data Warehouse
- Data Mart
- Online Analytical Processing (OLAP)
- Data Mining
- Knowledge / Intelligent Systems
- Components of an Expert System
- Key CRM Tasks
- Organizational Structure
- Planning Productions/Operations
- Accounting & Financial Information Systems
- Decision-making process
- Business planning

	ICT 201	Organisational Behaviour
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- Explain work organizations, their basic characteristics and their connections to the wider social context.
- Define the term organizational behaviour and describe the contribution to the field of organizational behaviour of three disciplines; psychology, sociology and anthropology.
- Describe the evolution of organizational behaviour as a field of research and learning.
- Explain an integrated framework for conceptualizing organizational behaviour.
- Describe the challenges of conducting research on organizational behaviour.
- **What is OB?**
- **Why study OB (I)?**
- Work organization
 - The behaviour of individuals and groups
 - Organizational design and technology in which human behaviour takes place
- Control processes over resources, people and work activities
- Management processes, for example, the recruitment, training & rewards to workers
- Interaction between the organizational, the external and evaluative context
- Relationship between organizational agency and societal stability or instability at large
- the environmental forces as external context inputs;
- the processes for converting the inputs into outputs within an individual, group managerial milieu as the organizational context
- the evaluation or organizational process as evaluation outputs
- a feedback loop which links the organizational processes and external environmental forces, with the feedback flowing into the organization and from the organization into the environmental external context
- The multidisciplinary nature of organizational behaviour

- Diversity
- Ways of approaching OB
- Ways of approaching research
- Ways of researching OB

YEAR (1)

Diploma of Management

[Mgt 101 Management](#)
[Mgt 102 Performance Management](#)
[Mgt 103 Operation Management](#)
[Mgt 105 Quality Management](#)
[Mgt 108 Computer Application in
Management](#)

[Mgt 107 Industrial Risk & Safety
Assessment](#)
[Mgt 104 Project Management](#)

YEAR (2)

Advanced Diploma of Information Technology Management

Study the following units

[ICT 103 Applied Programming](#)

[ICT 105 Systems Analysis and Programs](#)

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[ICT 106 Software Engineering](#)

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[ICT 202 Information Systems Principles and Networking](#)

[ICT 203 Information Systems, Analysis and Design](#)

[ICT 204 Advanced Programming](#)

[ICT 104 Program Projects](#)

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[Mgt 501 Communication Skills & Management Leadership](#)

Study BAE 508 Industrial Engineering & Industrial Management . You need to read the books in English.

(Focus on Mgt 501 Communication Skills & Mgt 501 Basic Management)

& do the exercises assigned by teacher.

Advanced Diploma of Management

(30 points)

Master of Management (Qualified 1) Course for Business/ Accounting Degree Holders

This course trains the students to work as middle class managers. It consists of customers service, change management, leadership, safety management, risk management, professional development, conflict management, work-based training, office management, and office management.

Study the following units

Compulsory Units (Each 3 Points)

[Mgt 201 Customer Service Management](#)

[Mgt 202 Change Management](#)

[Mgt 203 Inventory & Budget Management](#)

[Mgt 204 Continuous Improvement Management](#)

[Mgt 208 Safety Management](#)

[Mgt 209 Risk Management](#)

[Mgt 210 Professional Development Management](#)

[Mgt 211 Leadership](#)

Optional Units (Do any 2 units) (Each 3 Points)

[Mgt 207 Business Letter Writing](#)

[Mgt 205 Office Management](#)

[Mgt 212 Preparing Portfolios](#)

[Mgt 213 Conflict Management](#)

[Mgt 206 Work-based Training Management](#)

Mgt 101 Management

- What is Organization?
 - Need for Organization
 - Data vs. Information
 - Information Quality Checklist
 - Organization & Information Requirements
 - Nature of Business & Information Requirements
 - Systems vs. Procedures
 - Computer based Information System (CBIS)
 - Cross-Functional Coordination
 - Transaction Processing System
 - Data Processing Tasks
 - Management Information System
 - Data Warehouse
 - Data Mart
 - Online Analytical Processing (OLAP)
 - Data Mining
 - Knowledge / Intelligent Systems
 - Components of an Expert System
 - Key CRM Tasks
 - Organizational Structure
 - Planning Productions/Operations
 - Accounting & Financial Information Systems
 - Decision-making process
 - Business planning
-
- Explain work organizations, their basic characteristics and their connections to the wider social context.
 - Define the term organizational behaviour and describe the contribution to the field of organizational behaviour of three disciplines; psychology, sociology and anthropology.
 - Describe the evolution of organizational behaviour as a field of research and learning.
 - Explain an integrated framework for conceptualizing organizational behaviour.
 - Describe the challenges of conducting research on organizational behaviour.
 - **What is OB?**
 - **Why study OB (I)?**
 - Work organization
 - The behaviour of individuals and groups
 - Organizational design and technology in which human behaviour takes place
 - Control processes over resources, people and work activities
 - Management processes, for example, the recruitment, training & rewards to workers

- Interaction between the organizational, the external and evaluative context
- Relationship between organizational agency and societal stability or instability at large
- the environmental forces as external context inputs;
- the processes for converting the inputs into outputs within an individual, group managerial milieu as the organizational context
- the evaluation or organizational process as evaluation outputs
- a feedback loop which links the organizational processes and external environmental forces, with the feedback flowing into the organization and from the organization into the environmental external context
- The multidisciplinary nature of organizational behaviour
- Diversity
- Ways of approaching OB
- Ways of approaching research
- Ways of researching OB

Mgt 104 Project Management

Part 1 Project Management

This unit covers the management of large electrical projects involving design, modifications, installation, and/or maintenance of systems and equipment. The unit encompasses management of safety, budget variation, personnel, resources, critical path timelines and completion documentation.

KS01-EG169A Business project management

Evidence shall show an understanding of managing electrical projects to an extent indicated by the following aspects:

T1 Defining project parameters encompassing:

- Project scope
- Project stakeholders and clients
- Project phases and the relationship between phases

T2 Time management concepts and standard practices

T3 Financial management encompassing:

- Financial management concepts
- Standard practices for managing project finances
- Project budgets
- Costs
- variations and estimations
- Invoicing against project phases/deliverables
- Acquittals and the like

T4 Quality management concepts and practices

T5 Human Resource management concepts and practices within a project

T6 Communication management concepts and practices within a project

T7 Risk management and contingencies encompassing:

- Risk management concepts
- Internal risks
- External risks
- Contingencies
- Standard practices for managing risk within a project
- Risk minimisation
- Risk removal; and the like

T8 Procurement management concepts and practices

T9 Physical Resource management concepts and practices relating to equipment, technology, information and facilities

T10 Contracts encompassing:

- Contract format

- Contract content
- Interpreting contract clauses
- Legal obligations of contract parties
- Working to contract specifications
- Documentation accompanying contracts such as schedules and the like

T11 Performance assessment and continuous improvement

T12 Engineering ethics principles

T13 Customer/Client relations encompassing:

- Interpersonal skills that enhance customer/client
- Dispute resolution
- Customer/client relations strategies

T14 **Business** sector customs and practice encompassing:

- Equipment procurement, cost/benefit analysis and performance testing
- Typical approaches to planning and management
- Successful planning techniques
- Best practice management methods and styles

Part 2 Project Planning

This unit covers development and documentation of large electrical project proposals, milestones and completions. The unit encompasses, establishing budgets, critical path analysis, development of workflow strategies, documenting, presenting and negotiating budgets and timelines.

KS01-EG170A Business project planning

Evidence shall show an understanding of planning projects and analyzing progress to an extent indicated by the following aspects:

T1 Project planning encompassing:

T2 Purpose of project planning Evidence shall show an understanding of managing electrical projects to an extent indicated by the following aspects:

T3 Defining project parameters encompassing:

- Project scope
- Project stakeholders and clients
- Project phases and the relationship between phases
- Time requirements and limitations
- Resource requirements and limitations
- Quality requirements and limitations

T4 Time management concepts and standard practices

T5 Financial management encompassing:

- Invoicing against project phases/deliverables
- Acquittals and the like

T6 Quality management concepts and practices

T7 Human Resource management concepts and practices within a project

T8 Communication management concepts and practices within a project

T9 Risk management and contingencies encompassing:

- Risk management concepts
- Internal risks
- External risks
- Contingencies
- Standard practices for managing risk within a project
- Risk minimisation
- Risk removal; and the like

T10 Procurement management concepts and practices

T11 Physical Resource management concepts and practices relating to equipment, technology, information and facilities

T12 Contracts encompassing:

- Contract format
- Contract content
- Interpreting contract clauses
- Legal obligations of contract parties

- Working to contract specifications
- Documentation accompanying contracts such as schedules and the like

T13 Performance assessment and continuous improvement

T14 **Business** ethics principles

T15 Customer/Client relations encompassing:

- Importance of customer/client relations
- Interpersonal skills that enhance customer/client
- Dispute resolution
- Customer/client relations strategies

T16 **Business** sector customs and practice encompassing:

- Equipment procurement, cost/benefit analysis and performance testing

REQUIRED SKILLS AND KNOWLEDGE
<ul style="list-style-type: none"> · Typical approaches to planning and management · Successful planning techniques · Best practice management methods and styles · Documents needed to plan a project · Factors influencing sequence and restraints of project activities · Critical path analysis covering graphical representation methods and methods of representing time/rates <p>T17 Critical path and project analysis encompassing:</p> <ul style="list-style-type: none"> · Purpose of critical path analysis · Essential data · Relational sequence of work activities · Graphical representation methods · Methods of representing time/rates · Monitoring methods <p>T18 Business sector customs and practice encompassing:</p> <ul style="list-style-type: none"> · Equipment procurement, cost/benefit analysis and performance testing · Typical approaches to planning and management · Successful planning techniques · Best practice management methods and styles

Mgt 108 Computer Application in
Management

Structure of computer

[IntroductionToComputerHardware](#)

Advanced Hardware

Architecture

Connect Internal Hardware

Requirement for a good computer

Hard Drive Controller

Mother

System Bus

CPU

Power Supply & Surge Protector

Computer Repair

Computer Network

Word

Creating_Web_Pages_in_Word_

Customize_the_Word__Environment

Editing_a_Document_in_Word

Formatting_Paragraphs_in_Word

Formatting_Text_in_

Graphics in Word

Lists in Word

Macros in Word

Page Formatting in Word

Proof Reading Document in Word

Reference Citation Word

Table Contents Word

Track Change Word

Word Style

Excel

Class Notes-Basic Excel

Advanced Excel

Class Notes-Basic Access

Advanced Access

Power Point

AutoCAD

AutoCAD Class Notes-HTML File

Advanced AutoCAD

Mgt 103 Operation Management

Mgt 503 Production & Operation Management

Analyze business operations using appropriate performance measures, such as flow time, throughput rate and capacity.

2. Propose business solutions in written and verbal forms for operations improvement and process design projects.

3. Identify inefficiency and ineffectiveness in business operations and propose adequate minor changes or major redesigns to improve the process.

4. Understand the theory and implementations of quality control activities for different industries.

5. Use computing software to determine optimal capacity under various situations in a process.

Mgt 105 Quality Management and Manufacturing Engineering

Meaning of Quality?

Quality: Customer's Perspective?

Dimensions of Quality:Manufactured Products

Dimensions of Quality: Services

Quality:Producer's Perspective

Outline Deming's 14 Points.

Deming Wheel: PDCA Cycle.

Cause-and-Effect Diagram

Pareto Analysis.

Control Chart.

Quality Management in the Supply Chain.

Quality Circles.

Quality Attributes in Services

Design for Six Sigma (DFSS).

Prevention Cost

External Failure Costs

Quality costs measure and report?

Measuring Product Yield and Productivity.

Quality–Productivity Ratio.

ISO 9000 certification?

Mgt 107 Industrial Risk & Safety Assessment

This unit covers the mandatory requirements of persons in a supervisory role to implement and monitor an organisation's occupational health and safety policies, procedures and programs. It encompasses understanding an organisation's OHS obligations, providing safety information to staff, implementing and monitoring participative arrangements, safety procedures and training and maintaining safety records.

Occupational Health and Safety, supervisory responsibilities

Evidence shall show an understanding of OHS enterprise responsibilities to an extent indicated by the following aspects:

T1 Provisions of relevant occupational health and safety legislation

T2 Principles and practice of effective occupational health and safety management

T3 Workplace hazards, range and selection of control measures

T4 Organisational health and safety management systems and policies and procedures needed for legislative compliance

T5 Impact of characteristics and composition of the workforce on occupational health and safety management

T6 Relevance of occupational health and safety management to other organisational management policies, procedures and systems.

T7 Analysis of entire work environment and judge occupational health and safety interventions

T8 Analysis of relevant workplace data

T9 Ability to assess resources needed for risk control

BAE 601 Computer Programming (3 pt)

Part (1) Overview Knowledge of the subject

Select any of the following textbooks

- C Programming
- C++ Programming
- C# Programming
- Object Oriented Programming
- C Programming in Linux

IT 401 Object Oriented Programming (1 pt)

IT 402 Structured Programming (1 pt)

IT 403 Visual Basic Programming (1 pt)

For [ICT 204 Advanced Programming](#) & [ICT 104 Program Projects](#)

More detailed aspects of programs are to be written

BAE 603 Software Engineering (2 pt)

Introduction

Software process

Feasibility study

Project management
Documentation, Requirement analysis
Requirement specification
Business/ Legal aspect
Source code management
Formal specification
Object oriented design 1
Object oriented design 2
Object oriented design 3
System Architecture 1
System Architecture 2
System Architecture 3
Design for utility
Performance of computer system
Coding standard/ Tools for designing 1
Dependable system 1 Reliability
Dependable system 2 Validation
Law aspect
Risks in software engineering
Software engineering as engineering

Nano Technology

What is Nano technology?
Motivation for Nano technology
Scaling laws
Nano technology

BAE 602 Computer Network (1 pt)

Computer Network
Peer to peer networking
Client server networking
Network hardware
Network cable
Hub
Wired network
Wireless network card
Firewall
Wiring the network
Wiring the network
Running the network program
Viewing network connection
Network set up on additional computers

Viewing network connection

Introduction

Network model

Data and signals

Data and signals

Data rate limit

Performance

Digital transmission

Digital transmission

Analog transmission

Analog transmission

Bandwidth utilization/ Multiplexing/
Spreading

Bandwidth utilization/ Multiplexing/
Spreading

Transmission media

Error detection & correction

Error detection and correction

Defining needs

Area covered

Organization information requirement

System VS Procedure

Types of systems

What are the systems?

Infrastructure

Support system

Data mart

Organizational structure

Planning for system development

System design

Security of information system

Risk management

Mgt 501 Communication Skills & Management Leadership

- Effective communication skills
- Perspective of communication skill
- Elements of communication
- Communication styles
- Basic listening skills
- Effective written communication
- Management briefs

- Perspective on organization
- Leadership
- Understanding individuals
- Group work
- Motivation
- Goal setting
- Communication in leadership & group

Mgt 102 Performance Management

- Introductions and Learning Objectives
- Performance Management Defined (Elements of a Performance Mgmt System, Benefits of an Annual Performance Development Plan, The Performance Mgmt Timeline)
- Setting “SMART” Annual Objectives
- Roles of Manager and Direct Report in the Performance Development Plan
- Coaching Direct Reports During the
- Performance Management Cycle
- Effective Listening Skills
- Monitoring Performance and Conducting Interim Meetings
- Preparation for and Conducting the
- Annual Review Meeting
- Handling Challenging Situations
- Action Plan, Summary and Evaluation

<ul style="list-style-type: none"> · Mgt 501+ · Mgt 503 	Basic Management+ (EE309) Production & Operation Management
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Part 1 Project Management

This unit covers the management of large mechanical projects involving design, modifications, installation, and/or maintenance of systems and equipment. The unit encompasses management of safety, budget variation, personnel, resources, critical path timelines and completion documentation.

KS01-EG169A Project management

Evidence shall show an understanding of managing mechanical projects to an extent indicated by the following aspects:

T1 Defining project parameters encompassing:

- Project scope
- Project stakeholders and clients
- Project phases and the relationship between phases

T2 Time management concepts and standard practices

T3 Financial management encompassing:

- Financial management concepts
- Standard practices for managing project finances
- Project budgets
- Costs
- variations and estimations
- Invoicing against project phases/deliverables
- Acquittals and the like

T4 Quality management concepts and practices

T5 Human Resource management concepts and practices within a project

T6 Communication management concepts and practices within a project

T7 Risk management and contingencies encompassing:

- Risk management concepts
- Internal risks
- External risks
- Contingencies
- Standard practices for managing risk within a project
- Risk minimisation
- Risk removal; and the like

T8 Procurement management concepts and practices

T9 Physical Resource management concepts and practices relating to equipment, technology, information and facilities

T10 Contracts encompassing:

- Contract format
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- Interpreting contract clauses
- Legal obligations of contract parties
- Working to contract specifications
- Documentation accompanying contracts such as schedules and the like

T11 Performance assessment and continuous improvement

T12 Engineering ethics principles

T13 Customer/Client relations encompassing:

Interpersonal skills that enhance customer/client

- Dispute resolution
- Customer/client relations strategies

T14 Mechanical industry sector customs and practice encompassing:

- Equipment procurement, cost/benefit analysis and performance testing
- Typical approaches to planning and management
- Successful planning techniques
- Best practice management methods and styles

Part 2 Project Planning

This unit covers development and documentation of large electrical project proposals, milestones and completions. The unit encompasses, establishing budgets, critical path analysis, development of workflow strategies, documenting, presenting and negotiating budgets and timelines.

KS01-EG170A Project planning

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- Equipment procurement, cost/benefit analysis and performance testing

REQUIRED SKILLS AND KNOWLEDGE

- Typical approaches to planning and management
- Successful planning techniques
- Best practice management methods and styles
- Documents needed to plan a project
- Factors influencing sequence and restraints of project activities
- Critical path analysis covering graphical representation methods and methods of representing time/rates

T17 Critical path and project analysis encompassing:

- Purpose of critical path analysis
- Essential data
- Relational sequence of work activities
- Graphical representation methods
- Methods of representing time/rates
- Monitoring methods

T18 Mechanical industry sector customs and practice encompassing:

- Equipment procurement, cost/benefit analysis and performance testing
- Typical approaches to planning and management
- Successful planning techniques
- Best practice management methods and styles

Contents

Mgt 201 Customer Service Management

- Internal & external customers,
- customer focused organization
- Customer-Centric Organization
- Customer Service Environment.
- Delivery Systems,
- Good Customer Service,
- Effective Communication Skills,
- Telephone Skills & Written Communication,
- Dealing with Difficult Behaviour

Mgt 202 Change Management

- Change management approach,
- Managing Change,
- Drivers of Change Model,
- Business Imperative,
- Organizational Imperatives,
- Cultural Imperatives ,
- Employee Behaviour related .

Mgt 203 Inventory & Budget Management

- Budget ,
- Budgeting,
- Budgeting Process.,
- Budget Management. & Budget activities.,
- importance , requirement & purpose of budgeting.,
- Forecast of Income and Expenditure & Tool for decision making.,

- Business Plan.
- cash flow forecasting.,
- organization budget.

Mgt 204 Continuous Improvement Management

- Successful organisations of the future,
- methodology for continuous improvement of project team ,
- consulting and training contexts,
- completeness of approach,
- Quality Management Systems.,
- Strategy for the organization.
- Process of continuous improvement for organization.,
- Structure for the project team,
- the roles of facilitator,
- elements for continuous improvement.

Mgt 205 Office Management

- Role of an office,
- important functions of an office,
- requirements of an ideal office,
- various functions of an office,
- various types of offices,
- scope of Office Management.
- Organising an Office.,
- office accommodation,
- office location,
- layout of an office, filing system,
- indexing,
- Mechanisation,
- Desktop Publishing

Mgt 206 Work-based Training Management

- Role of workplace facilitator.,
- workplace learning activities,
- assessing learner at workplace,
- support required for workplace learner,
- work-based learning,
- mentoring.,
- work-based learning

Mgt 207 Business Letter Writing

- Grammar,
- business letter format,
- writing practice,
- business communication.

Mgt 208 Safety Management

- Benefits of OHS, Operational Responsibilities,
- Workplace Health Issues,
- workplace hazards
- Substance Abuse,
- Job-related Stress,
- Workplace Health Programs,

- Drug Testing Programs.
- Workplace Safety Issues,
- General Duty Standard of employee,
- Personal Protective Equipment ,
- OHS auditing,
- OHS Risk Management.

Mgt 209 Risk Management

- Aspects of Risk Management,
- Predictions for risk,
- Types of Risk,
- risk impact on decision making.
- Risk Source Classification Approach,
- Natural System, Human risks ,
- Political risks and Cultural risks,
- Primary Reasons of Failure,
- Resistance to Manage Risk,
- Methods for Treating Risk,
- important in risk management,
- Derivatives and hedging, risk reduction.

Mgt 210 Professional Development Management

- Work Priorities ,
- SWOT Analysis,
- Professional Development,
- Multisource (360-degree) Feedback,
- Executive Coaching,
- professional development plan.
- Work performance.

Mgt 211 Leadership

- Types of leadership ,
- New Model of Leadership,
- manager and leader,
- competencies of a leader.

Mgt 212 Preparing Portfolios

- Portfolio preparation techniques,
- portfolio contents,
- types of portfolios,
- portfolio quality,
- contents of job search portfolio.

Mgt 213 Conflict Management

- Meaning of . Conflict
- dispute
- Emotions in Conflict Management
- Positive affect in Negotiation
- Negative affect in Negotiation.
- Forms of resolving conflict (Alternative Dispute Resolution)
- Kinds of Adjudication.
- Components of Mastery of Environment?

- conflict blue print.
- Conflict Diagnosis
- Steps in Conflict Diagnosis.

IQY Technical College's Professional Diploma in Engineering Curriculum

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COURSE STRUCTURE

Year	Course	Total Credit Point
	Entry –Year 10	
	Year 11—Bridging Program	
	Year 12-- Certificate in Pre-vocational Studies	
1	Diploma in Engineering (Electrical/Civil/Mechanical)	30
	Award- Diploma in Engineering	30
2	Advanced Diploma in Engineering (Electrical/Civil/Mechanical)	30
	Award- Advanced Diploma in Engineering	60
3+4	Professional Diploma in Engineering (Electrical/Civil/Mechanical/Mechatronics/Building Services) (Electrical/Civil/Mechanical with Renewable Energy)	60
	Award-Professional Diploma in Engineering	120
	Total years spent after Year 10	6 Years

- The entry qualification for IQY Technical College's courses is Year 12 (International) Standard.
- The students who have completed Year 10 Examination require the Year 11+12 Level bridging study before commencing the major programs.
- Year 11+12 is standardized with Australian NSW Year 12 curriculum.

Please refer [_http://www.highlightcomputer.com/y712lessons.htm](http://www.highlightcomputer.com/y712lessons.htm) for details

IQY Technical College's Professional Diploma in Engineering Curriculum

Professional Diploma in Engineering Programs of IQY Technical College are designed at the same standard of relevant Bachelor of Engineering degrees.. Although the word "Bachelor of Engineering" is utilized, the award of IQY Technical College is Professional Diploma in Engineering.

Bachelor of Engineering (Electrical)

Bachelor of Engineering (Civil)

Bachelor of Engineering (Mechanical)

Bachelor of Engineering (Civil-Building Services)

Bachelor of Engineering (Mechanical-Mechatronics)

Bachelor of Applied Science (Information Technology)

Bachelor of Business

Professional Diploma/ Bachelor of Engineering (Electrical)

YEAR 3 +4

BACHELOR OF APPLIED ENGINEERING (ELECTRICAL)

Subjects	Points	Competency Units
BAE 401 Advanced Engineering Mathematics	9	Maths 301 Introduction to Complex Variables (1 pt) Maths 302 Elementary Linear Algebra (1 pt) Maths 401 Continuous Distributions (1 pt) Maths 402 Discrete Distributions (1 pt) Maths 403 Engineering Mathematics (1 pt) Maths 501 Introduction to Probability(1 pt) Maths 501 Linear Algebra & Matrices (1 pt) Maths 502 Finite Difference Methods for Partial Differential Equations & Mathematical Modelling (1 pt) Maths 601 Random Variables (1 pt)

BAE 402 Calculus	3	<p>Maths 304 Integration and Differential Equations. (1 pt)</p> <p>Maths 403 Second Order Ordinary Differential Equations (1 pt)</p> <p>Maths 303 Engineering Mathematics (1 pt)</p>
BAE 403 Engineering Mechanics	1	ME 301 Applied Mathematics (1 pt)
BAE 404 Engineering Materials & Thermodynamics	3	<p>ME 334 Engineering Thermodynamics (1 pt)</p> <p>ME 434 Wind Turbines (1 pt)</p> <p>ME 634 Pneumatics (1 pt)</p>
BAE 405 Advanced Circuit Analysis	3	<p>EE 301 Electrical Circuits (1 pt)</p> <p>EE 303 Engineering Circuit Analysis (1 pt)</p> <p>EE 404 Electrical Measurement (1 pt)</p>
BAE 406 Electro-mechanics	2	<p>EE 502 Electrical Machines (1 pt)</p> <p>ME 301 Machine Principle (1 pt)</p>
BAE 407 Advanced Electro-magnetics Field & Materials	1	EE 407 Electromagnetism (1 pt)
BAE 408 Analogue & Digital Electronics	5	<p>EE 403 Introduction to Electronic Engineering (1 pt)</p> <p>EE 524 Power Electronics & Applied Electronics (1 pt)</p> <p>EE 405 Digital System (1 pt)</p> <p>EE 526 Digital Signal Processing (1 pt)</p> <p>EE 527 Digital Image Processing 1/ 2 (1 pt)</p>
BAE 501 Advanced Power Systems & Power Transmission Networks	3	<p>EE 512 Power System (1 pt)</p> <p>EE 302 Power System Technology (Optional)</p> <p>EE 402 Electrical Power (1 pt)</p> <p>EE 513 Power Transmission and Distribution Lines (1 pt)</p>
BAE 502 Linear System	1	EE 304 Computer Mathematics (1 pt)
BAE 503 Control System	4	EE 601 Non Linear Control Applications (1 pt)

		EE 601 Control Engineering , Feedback and Control System , P ID_Control (1 pt) EE 624 Process Control (1 pt) ME 534 Numerical Control Part 1 / 2 (1 pt)
BAE 504 Power System Analysis	1	EE 614 Power System Analysis
BAE 505 Power System Optimization	1	EE 613 Power System Optimization
BAE 506 Power System Stability & Protection	2	EE 615 Power System Stability & Power Quality (1 pt) EE 616 Power System Protection (1 pt)
BAE 507 Electro-mechanical Energy Conversion	2	EE 602 Motor Control Electronics (1 pt) ME 434 Mechtronics & Robotics (1 pt)
BAE 508 Industrial Engineering & Industrial Management	1	Mgt 501 Basic Management & Communication Skills (1 pt)
BAE 601 Computer Programming	3	IT 401 Object Oriented Programming (1 pt) IT 402 Structured Programming (1 pt) IT 403 Visual Basic Programming (1 pt)
BAE 602 Computer Network	1	ICT 202 Information Systems Principles and Networking (1 pt)
BAE 603 Software Engineering	3	ICT 106 Software Engineering (1 pt) ICT 203 Information Systems, Analysis and Design (1 pt) EE 626 Nano Technology (1 pt)
BAE 604 Telecommunication Engineering	2	EE 525 Data Communication (1 pt) EE 603 Electronics Telecommunication (1 pt)
BAE 605 Engineering Management	5	Mgt 502 Operation Management (1 pt) Mgt 503 Production & Operation Management (1 pt) Mgt 504 Project Management (1 pt)

		Mgt 505 Quality Management and Manufacturing Engineering (1 pt) Mgt 506 Strategic Financial Management (1 pt)
BAE 606 Building Service Electrical & Mechanical Engineering	2	EE 617 Building Electrical and Mechanical System (1 pt) ME 334 Airconditioning and Refrigeration (1 pt) CE 301 Building Construction (Optional) CE 301 Conceise Hydroulics (Optional)
BAE 607 Radio Wave Propagation & Microwave Techniques	2	EE 625 Radio Wave Propagation (1 Pt) EE 626 Microwave Technique (1pt)
Total Credit points	60	
Credit Points given for Advanced Diploma in Electrical Engineering (Year 1+2)	60	
Total credit points	120	

The renewable energy subjects can be substituted for some subjects

Renewable Energy Subjects

View <http://www.highlightcomputer.com/BEElectricalNew.pdf> for the Professional Diploma in Engineering Combined with Renewable Energy Subjects

View <http://www.highlightcomputer.com/re.pdf> for detailed contents

Professional Diploma in Electrical Engineering with Renewable Energy

Common Year 3

1. BAE 401 Advanced Engineering Mathematics (9 pt)
2. BAE 402 Calculus (3 pt)
3. BAE 403 Engineering Mechanics (1 pt)

4. BAE 404 Engineering Materials & Thermodynamics (3 pt)
5. RE001- Foundation Studies in Renewable Energy and Sustainability (2 pt)
6. .RE003- Solar and Thermal Energy Systems (2 pt)
7. RE004- Energy Storage Systems (2 pt)
8. RE005- Renewable Energy Resource Analysis (2 pt)
9. RE006- Wind Energy Conversion Systems (2 pt)
10. RE010-Engineering Materials (2 pt)
11. RE012a-Electrical Engineering Part 1 (2pt)
12. RE016-Design& Management (BAE508) (2 pt)

B Applied Engg (Electrical)

YEAR 4 (Specialized)

1. BAE 601 Computer Programming
2. BAE 602 Computer Network
3. BAE 603 Software Engineering
4. RE012b-Electrical Engineering Part 2
5. RE002- Grid Connected Photovoltaic Power Systems
6. RE013-Electrical Machines
7. RE014-Electronics Control
8. RE015-Electrical Project/ Practice
9. BAE 501 Advanced Power Systems & Power Transmission Networks
10. BAE 506 Power System Stability & Protection
11. BAE 604 Telecommunication Engineering
12. RE007- Energy System Efficiency

Professional Diploma/ Bachelor of Engineering (Civil)

Year (3) Part 1 ADVANCED GENERAL CIVIL ENGINEERING DEGREE LEVEL (17 pt)

Subjects
BAE 401 Advanced Engineering Mathematics (9 pt)
BAE 402 Calculus (3 pt)
BAE 403 Engineering Mechanics (1 pt)
BAE 404 Engineering Materials & Thermodynamics (3 pt)
BAE 508 Industrial Engineering & Industrial Management (1 pt)
The renewable energy subjects can be substituted for some subjects
<u>Renewable Energy Subjects</u>
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Year (3) Part 2 ADVANCED GENERAL CIVIL ENGINEERING DEGREE LEVEL (18 Pt)

BAE421 Building Construction Engineering (4 pt)

BAE422 Estimating (2 pt)

BAE423 Fluid Mechanics (2 pt)

BAE424 Reinforced Concrete (2 pt)

BAE425 Timber Engineering (2 pt)

BAE521 Road & Bridge (2 pt)

BAE522 Rock Mechanics (2 pt)

BAE523 Soil Mechanics (2 pt)

BAE 523A Environmental Engineering (2 pt)

Year (4) Part 1 (17 pt)

BAE 601 Computer Programming (3 pt)
BAE 605 Engineering Management (5 pt)
BAE 606 Building Service Electrical & Mechanical Engineering (2 pt)
BAE 609 Design Project (3 pt)
Total Credit points in this group

Year (4) Part 2

(12 Pt)

BAE621 Structural Engineering (3 pt)

BAE623 Surveying& Traffic Engineering (2 pt)

BAE624 Water Supply , Sanitation & Finishing (2 pt)

BAE 608 Engineering Competency Demonstration Report Writing (2pt)

SELF STUDY

BAE622 Architecture (3 pt)

Total points for Year 3+4= 60 pt

Advanced Diploma in Civil Engineering= 60 pt

Total= 120 pt

Professional Diploma in Civil Engineering with Renewable Energy

Common Year 3

1. BAE 401 Advanced Engineering Mathematics (9 pt)
2. BAE 402 Calculus (3 pt)
3. BAE 403 Engineering Mechanics (1 pt)
4. BAE 404 Engineering Materials & Thermodynamics (3 pt)

5. RE001- Foundation Studies in Renewable Energy and Sustainability (2 pt)

6. RE003- Solar and Thermal Energy Systems (2 pt)

7. RE004- Energy Storage Systems (2 pt)

8. RE005- Renewable Energy Resource Analysis (2 pt)

9. RE006- Wind Energy Conversion Systems (2 pt)

10. RE010-Engineering Materials (2 pt)

11. RE012a-Electrical Engineering Part 1 (2pt)

12. RE016-Design& Management (BAE508) (2 pt)

Total points for Year 3-(32 Pt)

B Applied Engg (Civil)

YEAR 4 (Specialized)

Total points for Year 4-(24 Pt)

1 RE011a-Civil& Mechanical Engineering Part 1 (2 pt)

(Assessment- Study Report)

2 RE011b-Civil& Mechanical Engineering Part 2a (2 pt)

(Assessment- Study Report)

3 BAE 606 Building Service Electrical & Mechanical Engineering (2 pt)

4BAE421 Building Construction Engineering (2 pt)

5 BAE422 Estimating (2 pt)

6 BAE423 Fluid Mechanics (2 pt)

7 BAE424 Reinforced Concrete (2 pt)

8 BAE522 Rock Mechanics (2 pt)

9 BAE 523A Environmental Engineering (2 pt)

10BAE621 Structural Engineering (2 pt)

11BAE623 Surveying & Traffic Engineering (2 pt)

12BAE624 Water Supply , Sanitation & Finishing (2 pt)

Common Graduating Units (Year 5)

13 BAE 605 Engineering Management (4 pt)

14 BAE 608 Engineering Competency Demonstration Report

Total points for Year 3+4+ Final graduating subjects = $32+28+4= 60$ pt

Professional Diploma/ Bachelor of Engineering (Mechanical)

Year (3)

GENERAL APPLIED ENGINEERING (MECHANICAL) DEGREE (29pt)

Subjects
BAE 401 Advanced Engineering Mathematics (9 pt)
BAE 402 Calculus (3 pt)
BAE 403 Engineering Mechanics (1 pt)
BAE 404 Engineering Materials & Thermodynamics (3 pt)
BAE 507 Electro-mechanical Energy Conversion (2 pt)
BAE 508 Industrial Engineering & Industrial Management (1 pt)
BAE511 Air-conditioning & Refrigeration Part 1 (2 pt)
BAE613 Mechanical Instrumentation Process (2 pt)
BAE614 Machine Design (2 pt)
BAE512 Building Service Water Supply System (2 pt)
BAE511 Air-conditioning & Refrigeration Part 2 (2 pt)
<u>Renewable Energy Subjects</u>
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Year (4) Part 1 BE (Mechanical + General Related Subjects) (15pt)

BAE 601 Computer Programming(3 pt)
BAE 602 Computer Network (1 pt)
BAE 603 Software Engineering (3 pt)
BAE 605 Engineering Management 5 pt
BAE 606 Building Service Electrical & Mechanical Engineering (3 pt)

Year (4) Part 2

Bachelor of Engineering (Mechanical) Specialization (13 pt)

BAE311 Plant Engineering (2 pt)

BAE312 Design Engineering (2 pt)

BAE313 Environmental Control (2 pt)

BAE314 Mechanical Power Generation (2 pt)

BAE315 Materials Engineering (2 pt) Part 1 Part 2

BAE 608 Engineering Competency Demonstration Report Writing (3 pt)

Elective (3pt)

Subjects
BAE513 Production Technology
BAE611 Maintenance Engineering
BAE612 Engineering Metallurgy

Total point for Year 3+Year 4 Part ½+Elective = 60 pt

Advanced Diploma in Mechanical Engineering= 60 pt

Total credit points= 120 pt

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Renewable Energy Subjects

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Professional Diploma in Mechanical Engineering with Renewable Energy

Common Year 3

1. BAE 401 Advanced Engineering Mathematics (9 pt)
2. BAE 402 Calculus (3 pt)
3. BAE 403 Engineering Mechanics (1 pt)
4. BAE 404 Engineering Materials & Thermodynamics (3 pt)
5. RE001- Foundation Studies in Renewable Energy and Sustainability (2 pt)
6. RE003- Solar and Thermal Energy Systems (2 pt)
7. RE004- Energy Storage Systems (2 pt)
8. RE005- Renewable Energy Resource Analysis (2 pt)
9. RE006- Wind Energy Conversion Systems (2 pt)
10. RE010-Engineering Materials (2 pt)
11. RE012a-Electrical Engineering Part 1 (2pt)
12. RE016-Design& Management (BAE508) (2 pt)

Total points for Year 3-(32 Pt)

YEAR 4 (Specialized)

1. RE011a-Civil & Mechanical Engineering Part 1 (2 pt)
(Assessment- Study Report)
2. RE011b-Civil & Mechanical Engineering Part 2a (2 pt)
(Assessment- Study Report)
3. BAE 606 Building Service Electrical & Mechanical Engineering (2 pt)
4. BAE311 Plant Engineering (2 pt)
5. BAE314 Mechanical Power Generation (2 pt)

6. BAE315 Materials Engineering (2 pt) Part 1 Part 2 (2 pt)
7. BAE511 Air-conditioning & Refrigeration Part 1 (2 pt)
8. BAE512 Building Service Water Supply System (2 pt)
9. BAE613 Mechanical Instrumentation Process(2 pt)
10. BAE614 Machine Design (2 pt)
11. RE007- Energy System Efficiency(2 pt)
12. BAE 601 Computer Programming(2 pt)

Total points for Year 4-(24 Pt)

Common Graduating Units (Year 5)

- 13 BAE 605 Engineering Management (4 pt)
- 14 BAE 608 Engineering Competency Demonstration Report

Total points for Year 3+4+ Final graduating subjects = $32+28+4= 60$ pt

Professional Diploma/ Bachelor of Engineering (Civil-Building Services)

STAGE (3) BASIC ELECTRICAL & ELECTRONICS ENGINEERING (18 Pt)

REFER DIPLOMA/ADVANCED DIPLOMA IN ELECTRICAL ENGINEERING DETAILED CONTENTS

EE101 DC Circuit Problems

EE102 Basic Electrical Fitting& Wiring

EE103 Basic Electrical Drafting

EE104 Electrical Equipments Safety Protection

EE105 Electrical Installation Design

EE107 Electrical Equipments

EE106 Advanced Electrical Wiring

EE108 Electrical Fault Finding

EE109 Electrical Control Circuits

EE111 Electromagnetism & Basic Electrical Machines

EE112 Alternating Current Principle

EE113 Electrical Fundamental

EE115 Basic Analogue & Digital Electronics

EE116 Process Control System

EE117 Solar Electrical System

EE119 Electrical Risk Assessment

EE120 Electrical Contracting& Specifications

EE308 Sustainability

STAGE (4 A) ADVANCED MECHANICAL ENGINEERING STUDY (6Pt)

REFER DIPLOMA/ADVANCED DIPLOMA IN MECHANICAL ENGINEERING DETAILED CONTENTS

ME 102 Engineering Thermodynamics

ME 109 Engineering Drawing

ME 107 Heat Transfer

ME 201 Introduction to Fluid Mechanics

ME 204 Engineering Fluid Mechanics

ME 301 Fluid Dynamics

STAGE (4B)ADVANCED ELECTRICAL & ELECTRONICS ENGINEERING STUDY

(ADVANCED DIPLOMA) (4 pt)

REFER DIPLOMA/ADVANCED DIPLOMA IN ELECTRICAL ENGINEERING DETAILED CONTENTS

EE201 Engineering Mathematics

EE204 Engineering Physics

EE302 Advanced Engineering Mathematics

EE307 Energy Efficient Building Design

STAGE (5)BACHELOR OF APPLIED ENGINEERING (BUILDING SERVICE) DEGREE (32 pt)

Subjects
BAE 401 Advanced Engineering Mathematics
BAE 402 Calculus
BAE 403 Engineering Mechanics
BAE 404 Engineering Materials & Thermodynamics
BAE 508 Industrial Engineering & Industrial Management

BAE 601 Computer Programming
BAE 605 Engineering Management
BAE 606 Building Service Electrical & Mechanical Engineering
BAE 609 Design Project

Professional Diploma/ Bachelor of Engineering (Mechanical-Mechatronics)

Advanced Diploma of Mechanical Engineering)

REFER DIPLOMA/ADVANCED DIPLOMA IN ELECTRICAL ENGINEERING DETAILED CONTENTS

REFER DIPLOMA/ADVANCED DIPLOMA IN MECHANICAL ENGINEERING DETAILED CONTENTS

(1) **ME104** Principle of Machine

(2)EE624 Process Control

EE115 Basic Analogue& Digital Electronics

EE116 Process Control System

(3)ME 334 Airconditioning and Refrigeration

(4) ME202 Aerodynamics

(5) ME 302 Automation-and-Robotics

(6) ME 303 Computer Aided Design and Manufacturing

(7) ME 234 Wind Turbines

(8) ME 201 Introduction to Fluid Mechanics

(9) ME 204 Engineering Fluid Mechanics +

ME 301 Fluid Dynamics

(10) ME 206 Introduction to Turbo Machinery

(11)ME 205 Manufacturing Processes & Materials

(12) ME 207 Chemical Thermodynamics

(13)ME 208 Hydrocarbons

(14) ME 634 Pneumatics

(15) ME 203 Control

(16) ME 534 Numerical Control

(17) ME 434 Mechtronics-Robotics

(18)EE 617 Building Electrical and Mechanical System

(19)EE105 Electrical Installation Design

EE107 Electrical Equipments

EE105 Electrical Installation Design

EE107 Electrical Equipments

(20)EE106 Advanced Electrical Wiring

(21) EE116 Process Control

(22) EE117 Solar Electrical System

(23) EE119 Electrical Risk Assessment

EE120 Electrical Contracting

(24) ME 109 Engineering Drawing

EE301 Advanced Electrical Drafting

(25) EE121 Electronics Power Control Devices

(26) EE206 AC

(27) EE207 DC

(28)EE202 Electrical Circuits

(29)EE203 Three Phase Power Circuits

(30) ME 305 Corrosion Prevention

(31) ME 306 Theory-of-waves-in- materials

Degree Level

Subjects
BAE 401 Advanced Engineering Mathematics

BAE 402 Calculus
BAE 403 Engineering Mechanics
BAE 404 Engineering Materials & Thermodynamics
BAE 405 Advanced Circuit Analysis
BAE 406 Electro-mechanics
BAE 408 Analogue & Digital Electronics
BAE 502 Linear System
BAE 503 Control System
BAE 507 Electro-mechanical Energy Conversion
BAE 508 Industrial Engineering & Industrial Management
BAE 601 Computer Programming
BAE 602 Computer Network
BAE 603 Software Engineering
BAE 604 Telecommunication Engineering
BAE 605 Engineering Management
BAE 606 Building Service Electrical & Mechanical Engineering

Professional Diploma/Bachelor of Engineering (Electrical)

BAE 401 Advanced Engineering Mathematics (9 pt)

Subject Objective	This subject provides knowledge of mathematical methods needed for engineering problem solving
Learning outcome	The students develop both their thinking and problem solving skills. Topics covered are: vector, functions of a complex variable; algebra, differential equations, mathematical distribution, and applications of mathematics in engineering calculations.
Credit Point	9
Hours	216 Hrs
Assessment	Assignment/ Final Examination/Online MCQ Test

Contents

An Introduction to theory of complex variables

Complex numbers

Functions

Differentiability

Integration in the complex plane

Integral theorems

Power series

Introduction of rational functions of trigonometric functions.

Continuous distribution

Exponential distribution

Normal distribution

Gamma distribution

Convergence in distribution

F distribution

Discrete distribution

Binomial distribution

Poisson distribution

Elementary linear algebra

Algebra in F^n Example problems

Geometric meaning of vectors

Geometric meaning of vector addition
 Distance between points in \mathbb{R}^n Length of vector
 Geometric meaning of scalar multiplication
 Dot product
 Cross product
 System of equation geometry
 System of equation – Algebraic operation
 Matrice arithmetic
 Determinants –Basic technique & properties

Integration and differential equations

List of integrals
 Introduction to background
 Theorem of integration
 Improper integrals
 Improper integral problems
 Integration of rational functions
 Differential equations
 First order ordinary differential equations
 Homogenous equations
 The general linear equations

Random variables

Simple introduction examples
 Problems
 Frequency and distribution functions in 1 dimension

Mathematical modelling preliminary

Introduction
 Discrete time model

Maths 301 Introduction to Complex Variables

The residue Theorem
 Fourier Transform
 Integral theorem of complex analysis with applications
 to the evaluation of real integral
 Introduction
 Integral theorems – The green Theorem
 Cauchy's integral theorem
 Cauchy's residue theorem

Maths 302 Elementary Linear Algebra

A formula for the inverse
 Cramer's rule
 Example 6.2.3 , 6.2.4 , 6.2.6, 6.2.7
 Rank of a matrix

Example 8.2.9 , 8.2.10, 8.3.3 , 8.3.5, 8.3.6, 8.3.7, 8.3.8

Linear independence and bases

Linear transformation

Constructing the matrix of a linear transformation

Linear programming

Maths 401 Continuous Distribution

χ^2 Distribution

F Distribution

F Distribution & "t" Distribution

Estimation of parameters

Maths 402 Discrete Distribution

Geometric distribution

Pascal distribution

Negative binomial distribution

Hyper geometric distribution

Maths 303 Essential Engineering Mathematics

Vectors and matrices

Functions and limits , Example problems

Calculation of one variable (Part 1) Differentiation,

Calculation of one variable (Part 1) Integration,

Calculus of many variables,

Ordinary differential equations,

Complex function theory

Maths 501 Introduction to probability

Theoretical background

Playing card

Binomial distribution

Lotto Example

Conditional probabilities –Baye's formula

Maths 501 Linear algebra and matrices

Linear transformation matrices

Definition 2.1.1 to 2.1.3

i, j Entry of product Definition 2.1.8

Rank of matrices

Row operations

Maths 502 Introductory Finite Difference Method for PDE

Partial differential equations. Example problems

Taylor theorem
Iterative solution methods
Jacobi Iteration
Gauss Seidel Iteration
Successive Relaxation method

Maths 601 Random Variables

Theoretical results
Frequencies and distribution (1 dimension)
Function of random variables

BAE 402 Calculus (3 pt)

Subject Objective	This subject provides knowledge of calculus methods needed for engineering applications.
Learning outcome	The students develop both their thinking and problem solving skills. Topics covered are: vector calculus; functions of a complex variable; partial differential equations and boundary value problems; the concepts of quantum mechanics and Schrödinger's equation; and applications of mathematics in engineering calculations.
Credit Point	3
Hours	72
Assessment	Assignment/ Test/ Online MCQ Test

Contents

Calculus 1 a .pdf

Differentiation, Example problems

Integration, Example problems

Simple differential equations, Example problems

Calculus 2 a .pdf

Integration of trigonometric polynomials

Complex decomposition of a fraction between two polynomials

Chain rule

Calculation of the directional derivatives

An overview of integration in the plane and in the space

Line integrals

Surface integral

Green's theorem in the plane

Calculus 2b 1.pdf

The range of functions in several variables

Line integral

Space integral

Line integral

Calculus 3b. pdf

Power series method in solution of problems, Example problems

Calculus 3C 1. pdf

Sequence in general

Calculus 4C 1. pdf

Sum function of Fourier series

Maths 303 Engineering Mathematics

Introduction and background

Integration of rational functions

Integration of trigonometric functions

Differential equations

Maths 403 Second Order Differential Equations

Power series solutions

Bessel equations and Bessel functions

Legendre polynomials

Differential equations

BAE 403 Engineering Mechanics (1 pt)

Subject Objective	This subject builds on and brings together the concepts introduced in the Mathematical and Physical Modelling subjects and in Introduction to Mechanical and Mechatronics Engineering.
Learning outcome	It is intended to provide students with a comprehensive overview of elementary mechanics, and lay the basis for further work in this area in later subjects. In particular, material discussed in this subject is taken further in Machine Dynamics and Mechanics of Solids subjects in subsequent stages.
Credit Point	1
Hours	24 Hr of Lecture+ 48 Hr of Tutorials
Assessment	Assignment/ Test/ Online MCQ Test

Contents

Stress Example
 Stress lectures
 Strain All examples
 Strain lessons
 Mechanical properties of materials
 Mechanical properties of materials
 Axial members
 Axial members
 Torsion of shaft
 Torsion of shaft
 Symmetric bending of beams
 Symmetric bending of beams
 Deflection of symmetric beams
 Deflection of symmetric beams
 Stress transformation
 Stress transformation
 Strain transformation
 Strain transformation
 Design and failure
 Design and failure
 Stability of columns
 Stability of columns
 Newton motion

 One dimensional motion

Simple harmonic motion

Damped oscillation

$$X(t) = A e^{-\gamma t/l} \cos(\omega t - \delta_r)$$

Rotating reference frame equations

Modern Mechanics Part 1

Modern Mechanics Part 2

Modern Mechanics Part 3

Modern Mechanics Part 4

Modern Mechanics Part A

Modern Mechanics Part B

Modern Mechanics Part C

ME 301 Applied Mathematics

Kinematics

Projectiles

Forces

Resistance forces

Resolving forces

Rigid bodies

Centre of gravity

Momentum

Energy

Circular motion

Gravitation and planetary motion

The language of vectors

BAE 404 Engineering Materials & Thermodynamics (3 pt)

Subject Objective	<u>Thermodynamics</u> The objectives of this subject are to develop a fundamental understanding of applied thermodynamics in an engineering perspective, Strength of materials <u>Strength of materials</u> This subject draws on, and brings together, the knowledge and skills developed in earlier subjects such as Fundamentals of Mechanical Engineering, Chemistry and Materials Science, and Mechanics of Solids.
Learning outcome	<u>Thermodynamics</u> Use thermodynamics effectively in the practice of engineering, lay the groundwork for subsequent studies in the fields related to energy systems and increase an awareness and emphasis on energy resources and environmental issues. <u>Strength of Materials</u> It also prepares students for the more dedicated design subjects to come and exposes them to practical aspects of mechanical engineering design. The objectives are that students should be able to: understand, describe and use the methodology of modelling material properties and behaviour; understand and describe the fundamental differences in the behaviour of different types of materials; understand and describe how and why things fail; realise the importance of material selection in engineering design; predict, or design to avoid, failure given the material, environment and loading conditions; and use analytical skills in stress analysis and knowledge of material properties in mechanical design..
Credit Point	3
Hours	72 Hrs
Assessment	Assignment/ Test/ Online MCQ Test

Contents

Heat Transfer. pdf

- (1) Heat transfer mode Example problems
- (2) Conduction Example problems
- (3) Convection Example problems
- (4) Radiation Example problems
- (5) Heat Exchanger Example problems

Theory of waves in materials.pdf

Materials-Preliminary
 Materials- Basic mechanical properties
 Basic wave phenomena
 Harmonic waves
 Elastic volume and shear waves
 Rayleigh Elastic waves

Engineering Thermodynamics

General definition
 Thermodynamics-Working fluids
 Laws of Thermodynamics
 Worked Example 3.1 to 3.25

ME434 Wind Turbines

Wind Energy

Theory of wind energy

Wind turbine types and components

Wind energy measurement, Wheel encoder Worked

ME634 Pneumatics

Principle of pneumatics
 Linear actuators
 Flow control
 Pneumatics sensors
 Pneumatics symbols

BAE 405 Advanced Circuit Analysis (3 pt)

Subject Objective	In this subject students are assumed to have knowledge of basic devices such as ideal and real voltage and current sources and loads; resistors; capacitors, inductors and coupled coils; diodes and operational amplifiers.
Learning outcome	To have basic circuit analysis skills such as Kirchhoff's current and voltage laws, Thevenin's and Norton's theorems, mesh and nodal analysis, symmetry, circuit transformation and superposition. Using this understanding as a starting point, the subject introduces the basic theoretical models that underpin signals and system analysis
Credit Point	3
Hours	72
Assessment	Assignment/ Test/ Online MCQ Test/ Online Simulated Practical

Contents

DC Circuit Analysis

Circuit Theory

Modulators

Analog, digital signals , electric current, power summary

Circuit analysis, electric potential, electric power, sign convection, electric source, Kirchoffs' law

Circuit elements, characteristics KCL, KVL

Resistor (Series, parallel, wheatstone bridge, Nodal analysis

Nodal analysis, mesh analysis

Superposition theorem, Thevenin's theorem, Norton theorem, Maximum power transfer theorem,

Operational amplifier

Inverting amplifier circuit, Summing amplifier, Differential amplifier

Capacitor, Op-amp integrator, stored energy

Mutual inductance, time constant, transient

Transient response of 1 st order circuit, RL transient analysis, sequential switching

RC/RL Circuit , Propagation, Delay, DRAM

Semi conductor

PN Junction diode

Light emitting diode

MOSFET

Digital signal

CMOS Digital circuit

Combinational logic circuits

Flip flops

Propagation delay in timing diagram

Integrated circuit fabrication

Device isolation methods

Interconnected resistance and capacitance

Transistor scaling
 Integrated circuit design for application in communications
 Small signal amplifiers
 Network noise intermodulation distortion
 CAD for noise analysis
 Snsors & Detectors
 Low noise design methodology
 Oscillators
 Modulators and demodulators
 Concepts in Electrical Circuit
 Circuit theorem
 Sinusoids & phasors
 Frequency response

EE303 Engineering Circuit Analysis

Basic circuits

Basic Nodal and Mesh analysis

Linear and Superposition/ Source Transformation

RL/ RC Circuits

RLC Circuits

Sinusoidal steady state analysis

AC Power Circuit Analysis

Polyphase Circuits

Magnetically coupled circuits

Complex Frequency / Laplace Transform

Laplace Transform

Circuit analysis in “ S “ domain

Pole/ Zero constellation

Frequency Response

Two ports network

Fourier Circuit Analysis

Use of symmetry theory

EE404 Electrical Measurement (1 pt)

Measurement of inductance and capacitance

Measurement of resistance

Magnetic measurement

High voltage measurement and testing

Location of cable fault

Measurement of power

Measurement of energy

BAE 406 Electro-mechanics (2 pt)

Subject Objective	The objectives of this subject are to consolidate fundamental knowledge of electric and magnetic fields; electric and magnetic circuits; how electric, magnetic and electromagnetic energy are interchanged;
Learning outcome	To model an electromechanical automation system using DC and AC motors and simulate its performance in open-loop and closed-loop control. Students also acquire skills in working with machines and equipment at normal mains supply voltage, in power instrumentation and control, PLCs and in experimental design and recording. Technical and theoretical content is expected to be acquired by students to the levels of 'know' (essential), 'familiar' (can solve problems if required) and 'aware' (have read/seen). Laboratory skills, ranging from electrical safety, measurements, design validation and experimental verification are an important focus of this subject.
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test/ Online simulated Practical

Contents

Electro-mechanic -1.0.1 Scope of application

1.1 Electro-magnetic theory

1.1.1a Magnetic field system, Table 1.1

1.1.1.b Electric field system Table 1.2

Lumped electro-mechanical elements

Lumped parameter-electro-mechanic

Rotating machines

Lumped parameter-electro mechanical dynamics

EE 502 Electrical Machines

DC Generator, Example problems

DC Motors, Example problems

Efficiency & heating of electrical machines, Example problems

Three phase transformer, Example problems

Three phase induction motors, Example problems

Synchronous generators, Example problems

Synchronous motors, Example problems

Basic of industrial motor control, Example problems

ME 301 Machine Principle

Rotating machines
Machinery mounting
Balancing
Bearing
Power transmission

BAE 407 Advanced Electro-magnetics Field & Materials (1 pt)

Subject Objective	The objectives of this subject are to consolidate fundamental knowledge of electric and magnetic fields; electric and magnetic materials
Learning outcome	To understand how electric, magnetic and electromagnetic energy are interchanged.
Credit Point	1
Hours	24 + Tutorial 2 hr/ week
Assessment	Assignment/ Test/ Online MCQ Test

Contents

Electric field
 Electrostatic potential
 Dipole and quadrature pole movements
 Batteries, resistors, ohm laws
 Capacitors
 Magnetic effect of an electric current
 Force on current in a magnetic field
 Electro-dynamics of moving bodies
 Magnetic potential
 Electro-magnetic Induction
 Dimensions
 Properties of magnetic materials
 Alternating current
 Laplace transform
 Maxwell Equation
 CGS Electricity & Magnetism
 Magnetic dipole movement
 Outlines
 Electric field
 Electrostatic Energy
 Laplace's equation (1)
 Laplace's equation (2)
 Remarks on units
 Green's functions
 Multipole expansion
 Electro-static in matter
 Boundary condition
 Magneto statics (1)
 Magneto statics (2)
 Macroscopic magneto statics
 Maxwell's equation
 DISC movement
 Electro-magnetic plane waves
 Reflection & refraction

Casual relation between D & E
 Wave guides and load cavities
 Electromagnetic radiation and scattering (1)
 Electromagnetic radiation and scattering (2)
 Scattering by small di-electric sphere
 Electro-magnetism
 Electro magnetic fields and moving charges
 Multipole expansion
 Magnetic constants and materials
 Ampere law
 Brief history of electro magnetism
 Gauss's law
 Numerical solutions to Laplace's equation
 Small current loop
 Curvilinear co-ordinate system
 Problems
 Dielectric tensors and constants
 Analytic solution to Laplace equation
 Magnetostatic boundary condition
 Electrostatic boundary condition
 Electromagnetic field
 The gradient vector
 Maxwell's equation

 Electro-magnetic wave propagation
BAE 407 Advanced Electro-magnetic Field & Materials
Electro dynamics
 Introduction to electro statics
 Boundary value problems in electro statics (1)
 Boundary value problems in electro statics (2)
 Multi-poles Macroscopic media –Dielectrics
 Static and stationary magnetic fields
 Maxwell's equations
 Plane wave and wave propogation
 Wave guides and cavities
 Radiation
 The special theory of relativity
 Particles and field dynamics
 Charged particle collisions-Energy loss, Scattering
 Radiation by moving charges

BAE 407 Advanced Electro-magnetic Field& Materials

 EMFT book.pdf
 Summary of electro statics
 Potential
 Electro-magnetics waves
 Classical optics
 Conservation Law

Conservation Law
Conservation Law
Generic wave
Electromagnetic waves in vacuum
Electromagnetic waves in matter
Electromagnetic waves in conductor
Electromagnetic waves propagation
Electromagnetic waves field
Wave guides
Electromagnetic waves radiation
Electro-dynamics
Frequency

EE407 Electro-magnetism

Di-electric materials and capacitance
Transmission Lines
Maxwell's equations and electro-magnetic waves

Electrostatics

Di-electric

Transmission Line

Maxwell Equation

BAE 408 Analogue & Digital Electronics (5 pt)

Subject Objective	<p><u>Analogue</u></p> <p>The main objective of this subject is to familiarise students with basic electronic circuits, mainly with op-amps as active elements, and their applications.</p> <p><u>Digital</u></p> <p>The objectives of this subject are to enable students to master the fundamentals of digital and programmable electronic circuits and their engineering applications; master the hardware architecture of a typical small computer system; and understand the principles of low-level programming and gain an ability to write simple assembly code.</p>
Learning outcome	<p><u>Analogue</u></p> <p>By the end of the subject, students should have acquired reasonable proficiency in the analysis of basic electronic circuits and be able to build and test circuits in the laboratory. Particular emphasis is placed on the practical, hands-on aspect of electronics to provide a solid foundation of working knowledge for basic analog electronic circuits using op-amps. Laboratory work is a significant proportion of in-class delivery so as to make students proficient in circuit construction, testing, troubleshooting and to give them a sound knowledge of the use of test instruments. Another objective is to show that practical electronic applications are relevant to other engineering and technical disciplines and may often be placed within a wider social or commercial context.</p> <p><u>Digital</u></p> <p>Students are introduced to the basics of concurrent and real-time application programming. Topics include digital sequential circuits; state diagram and its application in the design of digital circuits; basic hardware architectures of the digital computer in terms of its building blocks; how hardware integrates with software at the machine level; low-level language programming; internal architecture and design of a typical register-based central processing unit and a main memory subsystem, and their interdependence; concepts of computer system buses, as well as different types of input and output devices; interrupts; input and output; micro-controller theory; and hardware interfacing design techniques.</p>
Credit Point	5
Hours	120
Assessment	Assignment/ Test/ Online MCQ Test/ Online Simulated Practicals

Contents

Semi conductor devices

Digital circuits

Power Electronics Converters

Introduction to Electronic Engineering

Power Electronics & Applied Electronics

Digital System

Digital Signal Processing

Digital Image Processing

Electronics Circuits

Power Electronics Control

Digital System

Number system basics
 Introduction to logic gates
 Combinational logic
 Karnaugh map
 Arithmetic circuit
 Coders/ Multiplexers
 Counters

Digital Signal Processing

Signal system representation
 Fourier/ Z Transform
 Discrete Fourier Transform
 Principle of filter design
 FIR filter design

Digital Image Processing

Introduction
 Intensity transformation & spatial filtering
 Filtering in frequency domain
 Discrete Fourier Transform
 Butterworth Low Pass Filter
 Butterworth High Pass Filter
 Image restoration / Noise analysis

Digital Image Processing

Introduction
Intensity transformation & spatial filtering
Filtering in frequency domain
Discrete Fourier Transform
Butterworth Low Pass Filter
Butterworth High Pass Filter
Image restoration / Noise analysis

BAE 501 Advanced Power Systems & Power Transmission Networks (3pt)

Subject Objective	The subject introduces the basic methods used in the analysis and design of electric power networks.
Learning outcome	Its purpose is to give students a working knowledge of modern power system theory and practice. Techniques introduced in earlier circuit analysis subjects are further developed and applied to power system problems.
Credit Point	3
Hours	72
Assessment	Assignment/ Test/ Online MCQ Test/Online simulated practicals

Contents

Principle of Power System

Source of energy
 Steam power station
 Hydro power station
 Diesel power station
 Nuclear power station
 Gas turbine power station
 Variable load on power station
 Interconnected grid system
 Economic of power generation
 Importance of high load factor
 Tariffs
 PF improvement
 Supply system
 Mechanical design of OH line
 Corona
 Sag
 Electrical design of OH line
 Performance of transmission line
 Line generalised constants
 UG cable
 Capacitance in 3 core cable
 Distribution system
 DC Distribution
 DC System
 AC Distribution
 Voltage control
 Introduction to switch gear
 Circuit breaker
 Fuse
 Relays

Protection transformers
Substation

Advanced Power System –Power Transmission Network

Consequence of power quality
Power quality & applications
Power quality analysis
Power quality monitoring
Management, control and automation of power quality
improvement

Electrical generation and distribution system and power quality disturbances

Integration of hybrid distribution units in power grid
Optimal location and control of multi hybrid model based wind shunt facts to enhance
power quality
Power quality and voltage sags indices in electrical power systems.

Power Transmission Line

AASR Conductors
ARC Fault
Circuit breaker rating
Current transformer
Electrical bushing
Electrical fuse
Induction motor model
IP rating
Load factor
Load redundancy
Over current protection
Partial discharge
Per unit system
Phase conversion
Resonance
RL Switching
Sequence network
Short circuit calculation
Symmetrical component
Transformer impedance

Power Transmission Line 2

AC Power Transmission
Insulation Resistance test
Dry type transformer
Electrical software

Insulation resistance test

Electrical Power Generation System

Designing for high temperature and pressure

Turbine components

Burning of fuel

Facts about fuel

Burning gas and oil

Selecting fuel

Water treatment

Heat exchanger

Computer control

System economics

Power System

Transmission & distribution system

Control of power and frequency

Control of voltage and reactive power

Load flow

Faults

System stability

Over voltage and insulation requirement

Substations and protection

Electrical Power

Power line

Neutral earthing

Switch gear

Instrument

Protection

Power system

Generator response to system faults

Calculation of fault current

Symmetrical components

Commissioning electrical plant

Power System Technology

Power system fundamental

Modern power system

Power control devices

Operational control system

Power conversion

Specialised testing & measurement devices

Generation , Transmission and Distribution of Electric Power

Voltage transient and line surge
Transmission of electrical energy
Corona
UG Cable
Voltage drop in distribution
Regulation
Line and machine chart
Voltage regulation stability
Fault calculation in line

Electrical Power Distribution in Industry & Transmission (Electrical Distribution Engineering)

Planning & design
Electrical design
Mechanical design (Over head)
Mechanical design (Under ground)
Metering
Conductor inductance & capacitance

Power Transmission and Practical Power Distribution

Electric power system
Percentage and per unit quantities
Circuit constants
Assemblies of power system components
Power circuit stability

BAE 502 Linear System (1 pt)

Subject Objective	This subject presents the theoretical basis for system analysis and gives students skills in using the techniques to design components of linear control systems..
Learning outcome	<p>To do the design and implementation of part of a control/communication system</p> <p>To apply their knowledge to a real-life problem. Topics include signal types and their representation in the time and frequency domains; modelling systems with differential or difference equations and transforms of the equations; signal operations and processing; the relationship between discrete and continuous quantities and the mathematical techniques applicable to each; the effects of feedback; time and frequency domain performance of systems; system stability; and control design techniques and simple communication systems. Through learning activities students also gain study skills, including academic literacy skills, and an appreciation of the different fields of practice of engineering and the interdisciplinary nature of engineering.</p>
Credit Point	1
Hours	24
Assessment	Assignment/ Test/ Online MCQ Test

Contents

Controllability of linear control system
 Finite dimensional linear control system
 Linear partial differential equations
 Introduction to intelligent control system with high degrees of autonomy
 Overview of field

Control system

System identification
 Digital and analog
 System metrics
 System modelling
 Classical control
 Transform
 Transfer functions
 Sampled data system
 System delays
 Poles and zeros
 Modern control
 State space equation
 Linear system solution

BAE 503 Control System (4 pt)

Subject Objective	The objective of this subject is to enable students to model with validation control systems and to analyse, design and implement both analog and digital controllers so that the controlled systems conform with given specifications
Learning outcome	<p>Emphasis is placed on laboratory work, the theoretical content of the subject being only that required to produce successful designs.</p> <p>To work on reduced scale models of actual industrial processes. The equipment is based upon experience gained with authentic control applications and is suitably modified for student use.</p> <p>To follow the usual sequence adopted in industry, i start with the calibration of transducers and actuators leading on to dynamic response testing, physical modelling, model verification and finally to controller design, implementation and testing.</p>
Credit Point	4
Hours	96
Assessment	Assignment/ Test/ Online MCQ Test/ Programmable Control Program software applications
	<p>Topics include linear and nonlinear modelling of control systems using Newton's rules, analogous networks or Lagrangian techniques; linearisation and development of linear, time-invariant transfer functions; development of lead-lag compensators or PID controllers using classical control design techniques such as root locus, Bode gain and phase diagrams, Nyquist plots and Nichols chart; development of state-variable equations from differential equations; development of state-variable feedback controllers and state observers; open-loop pulse transfer functions and discrete-time state models; discretisation using backward difference, bilinear, step-invariance or pole-zero mapping; development of digital PID controllers, deadbeat controllers and discrete-time state-variable feedback controllers; describing functions and limit cycles for nonlinear control systems; and the development of linear controllers for nonlinear systems using describing function techniques.</p>

Contents

Gain
 Block diagram
 Feedback control loop
 Bode plot
 Nichol chart
Stability
 Stability
 Routh Hurwitz Criterion, Root Locus

Nyquist Criterion
 State Space Stability
Controllers & Compensators
 Controllability & Observability
 System Specifications
 Controllers, Compensators
 Z - Transform

Non Linear Control Applications

Application of input/ output linearization
 Non linear control for 2 stages PF correction converter
 Non linear observer based control allocation

Control Engineering MATLAB

Transfer functions and their responses
 Frequency response/ Plotting
 Closed loop control
 Controller design

Feedback and Control System

Introduction to linearized dynamic model
 Transfer function model of physical systems
 Transient performance / S- Plane
 Feedback system modelling / Performance
 Dynamic compensation of feedback system

PID Control

Application of PID controllers in motor drive system

Applications of Non Linear Control

Introduction
 Phase plane method

Process Control

Analog Signal Conditioning
 Digital Signal Conditioning
 Final Control
 Discrete State Control
 Controller Principle

Analog Controller
Digital Controller
Control Loop Characteristics

Numerical Control

Introduction to numerical control machinery
Numerical control system
Programming co-ordinates
Two axis programming
Three axis programming
Maths for numerical control programming

BAE 504 Power System Analysis (1 pt)

Subject Objective	The primary objective of this subject is the development of a working knowledge of power systems analysis and design.
Learning outcome	Emphasis is placed on the derivation of equivalent circuits, mathematical models of devices and the system, and on methods of analysis and measurement. Material covered includes electricity supply chain building blocks, system analysis, real/reactive power and load flow analysis, dynamic and transient stability.
Credit Point	1
Hours	24
Assessment	Assignment/ Test/ Online MCQ Test

Contents

Overview
 Real & Reactive power injected bus
 Classification of buses
 Classification of buses
 Preparation of data for load flow
 Load flow by Gauss Seidel method
 Updating load bus voltage
 Updating PV bus voltage
 Convergence of the algorithm
 Solution of a set of non linear equation by Newton Raphson method
 Load flow by Newton Raphson method
 Load flow algorithm
 Formation of Jacobian matrix
 Formation of Jacobian matrix
 Solution of Newton Raphson load flow
 Load flow results
 Load flow results
 Load flow programs in MATHLAB
 Forming Y bus matrix
 Gauss Seidel Load Flow
 Solving non linear equation using Newton Raphson method
 Newton Raphson load flow

Power System Analysis

Transformer
 Transmission line model
 Gauss Seidel Algorithm
 Newton Raphson Iteration
 DC Power Flow Algorithm
 Modelling
 Transient Stability

Power System Analysis

Power Apps Transient Stability validation document for single pole open/ close simulation (Power flow analysis + FAULT ANALYSIS + Power system dynamics and Stability)

Static Analysis
Introduction
Network model
Active & reactive power flow
Nodal formation of power flow problem
Basic power flow problem
Solution of power flow problems
Fault analysis
Power system dynamics and stability
Synchronous machine model
The swing equation
Power swing in simple system
Oscillation in multi machine system
Voltage stability
Control of reactive power voltage

BAE 505 Power System Optimization (1 pt)

Subject Objective	The primary objective of this subject is the development of a working knowledge of optimal power systems operation.
Learning outcome	The subject aims to provide students with a knowledge and understanding of elements of the supply chain and how they function in the National Electricity Market; demand-side management options including smart meters; load forecasting and optimal load scheduling for secure energy supply and use; protection schemes for transmission and distribution networks; communications in power systems, including communication media, architectures, automation, standards, protocols and security; and basic design, connection and standards of current and voltage instrument transformers for protection and metering applications.
Credit Point	1
Hours	24
Assessment	Assignment/ Test/ Online MCQ Test

Contents

Introduction
 Power Flow Analysis
 Classic Economic Dispatch
 Linear programming method
 Mathematical model of economic dispatch
 Linear programming model
 Optimization of power system performance using facts devices
 Optimization of dynamical system

Matrix Eigen Value Method

BAE 506 Power System Stability & Protection (2 pt)

Subject Objective	The primary objective of this subject is the development of a working knowledge of power systems operation and protection. The subject aims to provide students with a knowledge and
Learning outcome	To provide the understanding of elements of the supply chain and how they function in transmission and distribution networks; communications in power systems, basic design, connection and standards of current and voltage instrument transformers for protection and metering applications.
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test/ Simulated Online Practical

Contents

Transient in RL circuit
 Symmetrical fault
 Transient in RL circuit
 DC Source
 AC Source
 Faults in AC Circuit
 Short circuit in unloaded synchronous generator
 Symmetrical faults in power system
 Calculation of fault current using Z bus matrix
 Circuit breaker selection
 Symmetrical components & representation of faulted network
 Overview
 Overview
 Real & reactive power
 Real & reactive power
 Orthogonal Transformation
 Sequence circuit for star load
 Sequence circuit for delta load
 Sequence circuit for synchronous generator
 Sequence circuit for symmetrical transmission line
 Sequence circuit for transformer
 Star/ Star Connected Transformer
 Delta/Delta Connected Transformer
 Star/ Delta Connected Transformer
 Sequence Network
 Un- symmetrical Faults
 Introduction
 Single line to ground fault
 Line to line fault
 Two lines to ground fault
 Fault current computation using sequence network

Transient Stability

Introduction

Power angle relationship

Swing equation

Equal area criterion

Equal area criterion

Multi machine stability

Oscillation in “ S “ Two areas System

Compensation of power transmission

Introduction

Ideal shunt compensator

Improving voltage profile

Improving power angle characteristics

Improving stability margin

Improving damping power oscillations

Ideal series compensator

Impact of series compensator for voltage profile

Improving power angle characteristics

Improving power angle characteristics

Alternate mode to voltage injection

Alternate mode to voltage injection

Comparison of two modes of operation

Power flow control and power swing damping

Power System Protection

Different types of relays and settings

- Technical feasibility of various options
- Cost of options
- Type of transmission AC/DC
- Number of circuits
- Conductor type
- Transmission loss
- Reactive power support requirements
- Reliability
- Quality of power supply
- Stability aspects of the interconnected system
- Operational planning
- Short circuit levels and breaker requirements
- over voltages and control
- Insulation coordination at substations
- Substation arrangements at the end of line, including switching arrangements.

- Insulation requirements.
- Protection, monitoring, control and automation requirements
- Study of harmonics where needed [as in case of HVDC or when a terminating station is close to sources of harmonics]
- Basic and Detailed engineering related to transmission towers, routes, substations

Philosophy of protective relaying

Fundamental of relaying

Current/ voltage/directional/ differential relay

Distance relaying

Pilot wire relay

Carrier current relay

Voltage transformer

Relay response

Generator protection

Transformer protection

Busbar protection

Line protection

Line protection with distance relay

Line protection with pilot relay

Power system stability

Power system stability Guidelines

Power system stability guidelines for determination and report

Direct stability analysis of electric power system using energy functions

Power system stability –New opportunity for control

Typical power quality and harmonic measurement plots

Robust power system stabilizer design using particle swarm optimisation techniques

Harmonic analysis

Power Quality

Power quality

Electrical protection for power system

Substation automation

Introduction to power quality

Harmonic model of transformer

Substation automation

Modelling analysis of synchronous machines

Life time reduction

Power system modelling under non sinusoidal condition

Impact of power quality on reliability

Role of filters in power system

BAE 507 Electro-mechanical Energy Conversion (2 pt)

Subject Objective	The objectives of this subject are to enable students to: acquire an understanding of the nature of power semiconductor devices and their control and use in switch-mode;
Learning outcome	To understand the arrangement and topology of the circuits in which switch-mode devices are used; appreciate the use of power electronic circuits in high-power applications such as motor drives; be aware of the electromagnetic interference problems associated with power electronic systems; use commercial software for the rigorous circuit analysis of real power electronic systems; analysis and design circuits to meet specific specifications; and fabricate basic power electronic circuits such as a chopper.
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test/ Simulated online practical

Contents

Basic semiconductor physics
 PN Junction semiconductor
 Power switching devices
 Electrical rating of switching devices
 Cooling
 Load/ switch communication
 Driving semiconductor & thyristor
 Protecting diode / Thyristor/ Transistors
 Switching circuit energy recovery
 Series , parallel devices operation protection
 Naturally commutating converter
 AC Voltage Regulator
 DC choppers
 Power inverters
 Switched mode & resonant DC-DC power supplies
 Capacitors
 Soft magnetic materials
 Resistors

Motor Control Electronics

AC Induction motor control
 Motor control MCU
 Networking for motor control system
 DC motor control design
 Motor control electronic devices
 Power semi conductors

Mechatronics/ Robotics

Robotics Application
Robotic Gears
Interfacing
Robotic Sensors
Communication

BAE 508 Industrial Engineering & Industrial Management (1 pt)

Subject Objective	To work effectively in industry as middle level managers
Learning outcome	To acquire the introductory skills in business information system, engineering management, supervision, quality control, manufacturing management , human resources management, budgeting, operation and managerial decision making.
Credit Point	1
Hours	24
Assessment	Assignment/ Test/ Online MCQ Test

Contents

Effective management decision making

Introduction

Business Information System

Defining Information System

Acquiring Information System

Developing Information System

Managing Human Resources in 21 Century

Human resources Management

Management Basics

The Manager's Job

Planning in Organization

Operation Management

Operation Strategy

Work System Design

Project Management

Inventory Management

Quality Management

Leadership in Quality Management

Strategic Quality Management

Implementing Quality Management

Strategic Financial Management

Finance An Overview

Capital Budgeting

Equity Valuation & Cost of Capital

Strategic Management

The Basic of Strategy

The Levels of formulation of strategy

External analysis

Internal analysis

Strategy implementation

Understanding organization part 1

Organization structure

Organization culture

Managing behaviour

Effective leadership

Part (2) Competency Units

Mgt 501 Basic Management & Communication Skills (1 pt)

Textbook – Mgt 501 Management Basics

Chapter (1) Management basics

Chapter (3) Planning

Chapter (5) Organizing

Chapter (6) Organizing the organization

Chapter (7) Leading

Textbook—Mgt501 Management Briefs

Chapter (2) Leadership

Chapter (5) Motivation

BAE 601 Computer Programming (3 pt)

Subject Objective	This subject provides basic skills in Java/ C/C++/C# programming and software design,
Learning outcome	<p>To acquire the skill practice in object-oriented (OO) programming concepts, data flow, control flow, arrays, and the basics of sorting and searching algorithms.</p> <p>To illustrate a design process using a set of design notations and design rules, and shows how to develop a correct, readable and reusable solution from a problem specification.</p>
Credit Point	3
Hours	72
Assessment	Assignment/ Test/ Online MCQ Test/ Programming software application

Contents

Part (1) Overview Knowledge of the subject

Select any of the following textbooks

- C Programming
- C++ Programming
- C# Programming
- Object Oriented Programming
- C Programming in Linux

IT 401 Object Oriented Programming (1 pt)

IT 402 Structured Programming (1 pt)

IT 403 Visual Basic Programming (1 pt)

BAE 602 Computer Network (1 pt)

Subject Objective	The objectives of this subject are to introduce students to the basic concepts and terminology used in telecommunication networks and a system-level view of network operation.
Learning outcome	To understand the evolution of telecommunication networks; services and applications (voice, video, data, location-based services, multimedia, gaming, etc.); network protocols (TCP/IP, OSI); transmission and switching basics; transmission media; access networks; PSTN; internet (dial up, broadband, ISP); network security; mobile networks (2G, 2.5G, 3G, 4G); data networks (LANs, wireless LANs, WANs, SANs, PANs, enterprise networks); VoIP networks; and convergence in telecommunication networks, next generation networks (NGN) and digital identity in networks.
Credit Point	1
Hours	24
Assessment	Assignment/ Test/ Online MCQ Test

Contents

Computer Network
 Peer to peer networking
 Client server networking
 Network hardware
 Network cable
 Hub
 Wired network
 Wireless network card
 Firewall
 Wiring the network
 Wiring the network
 Running the network program
 Viewing network connection
 Network set up on additional computers
 Viewing network connection

Introduction
 Network model
 Data and signals
 Data and signals
 Data rate limit
 Performance
 Digital transmission
 Digital transmission
 Analog transmission
 Analog transmission

Bandwidth utilization/ Multiplexing/
Spreading
Bandwidth utilization/ Multiplexing/
Spreading
Transmission media
Error detection & correction
Error detection and correction
Defining needs
Area covered
Organization information requirement
System VS Procedure
Types of systems
What are the systems?
Infrastructure
Support system
Data mart
Organizational structure
Planning for system development
System design
Security of information system
Risk management

BAE 603 Software Engineering (2 pt)

Subject Objective	This subject introduces students to the fundamentals of contemporary software engineering.
Learning outcome	<p>To overview of the agile and non-agile software engineering principles, methods, tools and techniques is presented. Current trends and challenges in the practice of software engineering are explored.</p> <p>To apply contemporary agile requirements analysis, planning, architecture, design, implementation and testing practices to software engineering project work in small teams.</p>
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test/ Software Design Practice

Contents

Introduction
 Software process
 Feasibility study
 Project management
 Documentation, Requirement analysis
 Requirement specification
 Business/ Legal aspect
 Source code management
 Formal specification
 Object oriented design 1
 Object oriented design 2
 Object oriented design 3
 System Architecture 1
 System Architecture 2
 System Architecture 3
 Design for utility
 Performance of computer system
 Coding standard/ Tools for designing 1
 Dependable system 1 Reliability
 Dependable system 2 Validation
 Law aspect
 Risks in software engineering
 Software engineering as engineering

Nano Technology

What is Nano technology?
 Motivation for Nano technology
 Scaling laws
 Nano technology

BAE 604 Telecommunication Engineering (2 pt)

Subject Objective	On completion of this subject, students have learned the skills to systematically analyse network operations and performance, and also have the ability to appreciate approaches in designing communication and computer networks.
Learning outcome	To understand the communication architecture. To provide the necessary background in understanding operations of TCP/IP, the mostly widely implemented protocol stack in computer networks, on a layer-by-layer basis.
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents

Communication fundamental
 Information & bandwidth
 Amplitude modulation transmission
 Amplitude modulation reception
 Single side banded communication
 Frequency modulation –Transmission
 Frequency modulation –Reception
 Communication Techniques
 Communication Receivers
 Pulse Modulation
 Code transmission
 ISDN
 Transmission lines
 Wave propagation
 Antenna
 Fibre optics

Data Communication

Overview of data communication
 Data terminals
 Message and transmission channels
 Asynchronous modems and interfaces
 Synchronous modem and digital transmission
 Protocol and error control

Electronics Telecommunication

RF Transmission
 Transmission Lines & Antennas, Video signals

BAE 605 Engineering Management (5 pt)

Subject Objective	To work effectively in industry as middle level managers
Learning outcome	To acquire the advanced skills in business information system, engineering management, supervision, quality control, manufacturing management , human resources management, budgeting, operation and managerial decision making.
Credit Point	5
Hours	120
Assessment	Assignment/ Test/ Online MCQ Test+ Submission of engineering design project (Minor thesis)

Part (1) Overview Knowledge of the subject

Completion of BAE 508 Overview also completes BAE 605 Overview

Part (2) Competency Units

Mgt 502 Operation Management (1 pt)

Mgt 503 Production & Operation Management (1 pt)

Mgt 504 Project Management (1 pt)

Mgt 505 Quality Management and Manufacturing Engineering (1 pt)

Mgt 506 Strategic Financial Management (1 pt)

Mgt 502 Operation Management (1 pt)

Product design and process selection

Total quality management

JIT & Lean System

Capacity planning

Mgt 503 Production & Operation Management (1 pt)

Planning production

Managing inventories-Material requirement planning

Manufacturing

Dealing with technology and design

Operation strategy

Mgt 504 Project Management (1 pt)

Project management

Project organization

Project plan

Progress& performance measurement

Risk management

Documentation/ Audit/ Closure

Mgt 505 Quality Management and Manufacturing Engineering (1 pt)

Background

Why quality management

Standards and models

Progress& performance measurement

Strategic quality management

Documentation/ Audit/ Closure

Mgt 506 Strategic Financial Management (1 pt)

Capital budgeting

Treatment of uncertainty

Debt valuation and cost of capital

Capital gathering & cost of capital

BAE 606 Building Service Electrical & Mechanical Engineering

(2 pt)

Subject Objective	To work effectively in M & E Engineer in building construction & building service industry
Learning outcome	To understand the methods of building construction To understand aircondition & refrigeration systems. To design the water supply system for building To design fire protection, building automation systems
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test/ Building service design project.

Contents

Building Construction 1

Making building
 Foundations
 Wood
 Interior finish for wood light frame construction
 Wall types
 Concrete construction

Air-conditioning & Refrigeration

Controlling the temperature of mass
 Electric heat
 Humidification
 Air-conditioning –Cooling / Comfort
 Air-distribution & Balance
 Reference Tables

Sanitation & Water Supply

Design of onsite sanitation system
 Hydraulic design of sewers

Building Electrical & Mechanical System Part 1

Climate comfort and design strategies
 Thermal control

Designing for heating cooling
Large building HVAC system
Water and basic design
Water supply
Water and waste
Fire protection
Fire protection
Illumination
Lighting design
Signal system

Airconditioning and Refrigeration

Theory of heat
Solar heat
Humidification
Air-conditioning-Cooling
Air-distribution & Balance
Air-conditioning Calculation worksheets

BAE 607 Radio Wave Propagation & Microwave Techniques (2 pt)

Subject Objective	This subject presents the theoretical basis for system analysis and gives students skills in using the techniques to design components of communication systems.
Learning outcome	io understand radio & microwave signal types and their representation in the time and frequency domains; modelling systems with differential or difference equations and transforms of the equations; design of antenna, propagation principle
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents

Radio Wave Propagation

Introduction to radio wave propagation
 Propagation features/ Overviews
 Electromagnetic waves, Prpagation through atmosphere
 Antenna
 Radio wave propagation fundamentals
 Antennas and propagation
 Mobile radio propagation
 Propagation
 Wave propagation
 Radio navigation
 Wireless communication

Microwave Technique

Microwave antenna and radio wave propagation
 Distributed element circuit analysis techniques
 Matching networks
 Couplers, combiners, dividers
 Mixers
 Gain and stability
 Noise
 Electromagnetism and RF Propagation
 Antenna Fundamental
 Communication system
 RF Safety

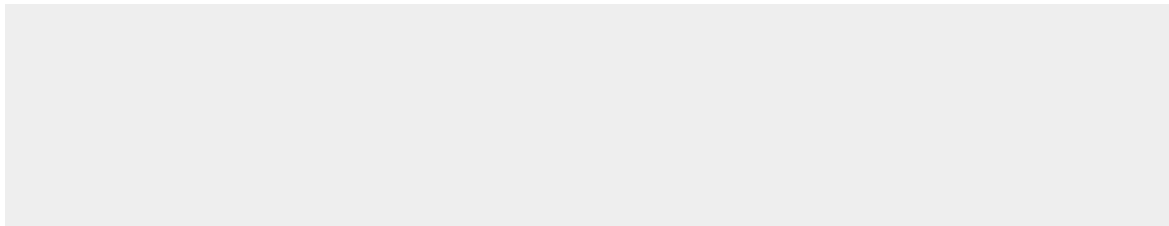
 Rain attenuation of microwave and milli-meter wave signals

 Design of microwave filters (Vol 1)

Mechanically & magnetically tunable microwave filters
Design of microwave filters (Vol 1)
General applications of filter structure in microwave engineering
Properties of some common microwave filter elements

BAE 608 Professional Engineer Competency Demonstration Report

- The students will have to write Engineering Competency Demonstration Report based on their academic study and work experiences gained after completion of academic study.
- Competency Demonstration Report is voluntarily to be submitted. It prepares the students to have the necessary skills to gain the membership of Engineers Australia later.
- The outlines of Competency Demonstration Report will be provided to the students after completion of the last course work subject.



Bachelor of Engineering (Civil)

Year (3) Part 1 ADVANCED GENERAL CIVIL ENGINEERING DEGREE LEVEL

Subjects
<u>BAE 401 Advanced Engineering Mathematics</u>
<u>BAE 402 Calculus</u>
<u>BAE 403 Engineering Mechanics</u>
<u>BAE 404 Engineering Materials & Thermodynamics</u>
<u>BAE 508 Industrial Engineering & Industrial Management</u>
<u>Renewable Energy Subjects</u> View http://www.highlightcomputer.com/BEElectricalNew.pdf for the Professional Diploma in Engineering Combined with Renewable Energy Subjects View http://www.highlightcomputer.com/re.pdf for detailed contents
<u>BAE 401 Advanced Engineering Mathematics---</u> Please see under Bachelor of Engineering (Electrical) Program
<u>BAE 402 Calculus</u> Please see under Bachelor of Engineering (Electrical) Program
<u>BAE 403 Engineering Mechanics</u> Please see under Bachelor of Engineering (Electrical) Program
<u>BAE 404 Engineering Materials & Thermodynamics</u> Please see under Bachelor of Engineering (Electrical) Program
<u>BAE 508 Industrial Engineering & Industrial Management</u> Please see under Bachelor of Engineering (Electrical) Program

BAE421 Building Construction Engineering

Subject Objective	<p>To understand the methods of design, construct, maintain, inspect and manage private and public work projects</p> <p>To understand the effects of environments on the properties and performance of construction materials</p>
Learning outcome	<p>To have a basic understanding of construction materials, in relation to their production, properties, testing and application. The main objectives of this subject are to help students acquire fundamental knowledge of the production, physical and engineering properties of construction materials;</p> <p>To understand the construction techniques, methods, schedules & application of construction materials in building construction.</p> <p>To be familiarize with rules, regulations and industrial standards related to building construction.</p>
Credit Point	4
Hours	96
Assessment	Assignment/ Test/ Online MCQ Test/ Building Design Practice Online simulation

Contents

- Basic skills
- Isometric drawing
- Retaining walls & Post footings
- Stair
- Doors & Windows
- Trusses
- Buildings
- Collar truss
- Howe truss

- Timber
- Steel
- Brick masonry
- Timber
- Brick-nogging
- Steel
- Reinforced concrete
- Floor plans
- Foundation plan
- Cross section
- Front elevation
- Back elevation
- Left side elevation
- Right elevation
- Culverts
- Bridges
- Buildings
- Pipe culvert
- Box culvert
- Slab culvert
- Deck and girder bridge
- Half top plan of culvert
- Half bottom plan of culvert
- Cross section of culvert
- Longitudinal section of culvert

- Elevation of culvert
- Mix Design
- Permissible water cement ratio

BAE422 Estimating (2 pt)

Subject Objective	To understand the methods of costing, material requirement planning in building construction
Learning outcome	To perform the costing, estimating, rate analysis, to interpret the construction drawings & determine the bills and quantities of construction materials.
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents

- Preliminary estimates
- Detailed estimating
 - Culverts
 - Bridges
 - Buildings
 - Roads
- Analysis of rates
- Detailed Estimating
- Buildings
- Up to plinth level
- Above plinth level
- Culverts
- Bridges
- Roads
- Earthworks

- Analysis of Rates
- Total workdone
- Material and labour requirements
- Estimated cost
- Actual PAE or CCE or RFT
- Complete items
- Quantity
- Measurements
- Content calculation
- Rates
- Buildings
- Above plinth level
- Culverts
- Analysis of rates

BAE423 Fluid Mechanics (2 pt)

Subject Objective	This subject aims to enable students to: understand key concepts and fundamental principles, together with the assumptions made in their development, pertaining to fluid behaviour, both in static and flowing conditions; deal effectively with practical engineering situations, including the analysis and design of engineering systems and devices involving fluids and flow; appreciate possible applications and links to other disciplines; and engage in further specialised study or research..
Learning outcome	The subject also aims to enhance interests in fluid phenomena and applications. Topics include: fluid properties and statics; conservation laws of mass, momentum and energy; flow in pipes; external flow (lift and drag); boundary layers; flow measurements; and environmental fluid mechanics
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents

- *Methods of Application of water*
- *Water Logging, Drainage, land reclamation and irrigation management*
- *Theoretical Concepts of Boundary Layer, Surface Roughness, Velocity Distribution*
- *Gradually varied flow*
- **Scale Model in Hydraulic Engineering**
- Surface irrigation methods
- Subsurface irrigation methods
- Sprinkler irrigation
- Drip or trickle irrigation
- Flooding Methods
- *Wild or uncontrolled Flooding*
- *Controlled Flooding*
- *Flooding from field channels*
- *Border strip methods*

- *Check method*
- *Basin method*
- *Zig-zag method*
- Furrow Method
- Contour Farming

BAE424 Reinforced Concrete (2 pt)

Subject Objective	To have knowledge of structural design, including the behaviour and design of reinforced concrete (RC) and, to a lesser extent, of prestressed concrete (PSC) elements as parts of overall structures.
Learning outcome	This subject builds on the knowledge of statics, solid mechanics and structural analysis of indeterminate structures that the students have learnt in the previous structural strand subjects. Students learn about the behaviour and design of RC beams, slabs and columns and PSC beams, for both serviceability and strength. Initially, the students are introduced to the Limit State Design philosophy of Australian Standards for structural design and to the material properties of concrete, reinforcement and prestressing steel used for design. RC topics include uncracked section analysis of beams, cracked section analysis of beams (linear-elastic, Desayi-Krishnan, ultimate) for strength and design for strength to AS3600, serviceability design of beams, ductility of singly and doubly reinforced sections, design for shear, T-beams, approximate analysis and design of one-way, two-way slabs and flat slabs/plates, columns (interaction diagrams and slenderness effects), pad footings, cantilever retaining walls and reinforcement detailing. PSC beam topics include history, uncracked section analysis, equivalent loads, load-balancing, cracked section analysis (linear-elastic and ultimate), design for bending, shear, transfer, anchorage.
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents

- Design of Concrete Structures
- FUNDAMENTALS OF FLEXURAL BOND
- Source of bond strength
- Bond Stress Based on Simple Cracked Section Analysis
- Actual Distribution of Flexural Bond Stress
- Development Length
- Factors influencing Development Length
- ACI CODE PROVISION FOR DEVELOPMENT OF TENSION REINFORCEMENT
- ANCHORAGE OF TENSION BARS BY HOOKS
- Development Length and Modification Factors for Hooked Bars

- ANCHORAGE REQUIREMENTS FOR WEB REINFORCEMENT
- Special Requirements near the Point of Zero Moment
- Structural Integrity Provisions

BAE425+525 Timber Engineering (2 pt)

Subject Objective	To have knowledge of structural design, including the behaviour and design of timber structures in construction engineering.
Learning outcome	This subject builds on the knowledge of statics, solid mechanics and structural analysis of indeterminate structures that the students have learnt in the previous structural strand subjects. Students learn about the behaviour and design of timber beams, slabs and columns for both serviceability and strength. Initially, the students are introduced to the Limit State Design philosophy of Australian Standards for structural design and to the material properties of timber and seasoning the timbers used for design.
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents

- Bending Stress and Deflection of Wood Joists
- Shearing Stress Caused by Stationary Concentrated Load
- Shearing Stress Caused by Moving Concentrated Load
- Strength of Deep Wooden Beams
- Design of a Wood-Plywood Beam
- Determining the Capacity of a Solid Column
- Design of a Solid Wooden Column
- Investigation of a Spaced Column
- Compression on an Oblique Plane
- Design of a Notched Joint
- Allowable Lateral Load on Nails
- Capacity of Lag Screws

- Design of a Bolted splice
- Investigation of a Timber-Connector Joint

BAE521 Road & Bridge (2 pt)

Subject Objective	To have knowledge of structural design, including the behaviour and design of road & bridge structures in construction engineering.
Learning outcome	<p>This subject builds on the knowledge of statics, solid mechanics and structural analysis of indeterminate structures that the students have learnt in the previous structural strand subjects.</p> <p>Students learn about the behaviour and design of road, bridge, slabs and columns in bridge for both serviceability and strength. Initially, the students are introduced to the Limit State Design philosophy of Australian Standards for structural design and to the material properties of road & bridge construction</p>
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents

- Hydraulic Design of Bridge
- The establishment of afflux levels
- Back water levels
- Long Contraction
- Yarnell's empirical equation
- The limiting values of σ
- Skewed bridges
- Discharge computation
- Scour depth under the bridge
- Scour around bridge piers
- Scour protection works around bridge piers
- Road bridge

BAE522 Rock Mechanics (2 pt)

+

BAE523 Soil Mechanics (2 pt)

Subject Objective	The aim of this subject is to develop students' technical competence in the analysis of soil masses and of structures associated with the soil. The analysis of footings, retaining walls and soil slopes are examples.
Learning outcome	By completing this subject, students should be able to understand the concept of failure in soil and apply it to the analysis of soil masses; critically appraise a problem in order to decide which particular analysis should be used; identify the limitations of their analyses and carry out appropriate solution validation; be responsible for the analysis component of a design team; study the relevant literature and learn to apply new or more complex methods of analysis; and carry out fieldwork in association with subsurface investigations. Topics include introduction to geotechnical design – criteria, codes, engineering judgment; site investigation – planning, fieldwork, techniques; shallow foundations – types, bearing capacity theories, retaining structures; earth pressure theories – Rankine and Coulomb, analysis of gravity walls, cantilever walls, braced excavations; deep foundations – types, load-carrying capacity, settlement, group behaviour, lateral loading; slope stability – failure mechanisms, infinite slopes, rotational failure, remedial measures; and soil improvement – compaction, soil stabilisation, dewatering, preloading.
Credit Point	4
Hours	96
Assessment	Assignment/ Test/ Online MCQ Test/ Design Project

Contents

- Soil
- Soil Mechanics
- Geotechnical Engineering

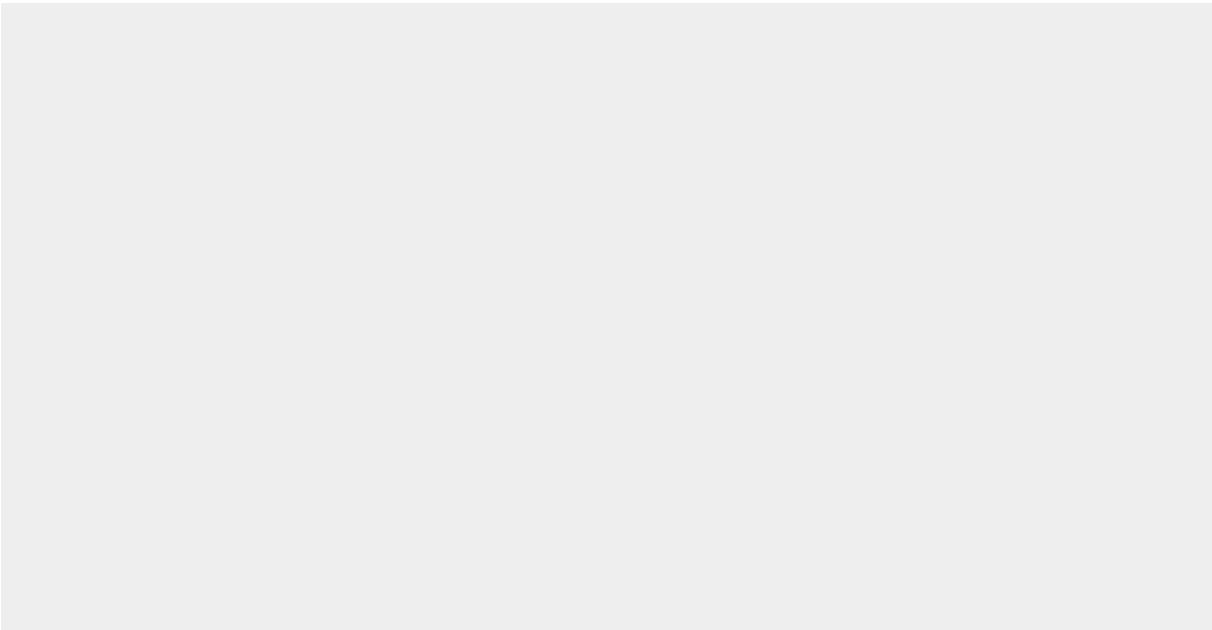
- Subsoil Exploration
- Testing (In-situ Tests & Laboratory Tests)
- SPT, CPT, Vane Shear Test
- Moisture content
- Index Properties Tests (LL, PL, SL)
- Grain Size Distribution Test (Sieve Analysis& Hydrometer)
- Specific Gravity
- Shear Strength Tests (Tri-axial Compression:, Direct Shear, Unconfined Compression:)
- Compaction test, CBR Test
- Consolidation Test, Permeability Test

BAE 523A Environmental Engineering

Subject Objective	Increasingly biological principles are being integrated as part of engineered systems to create innovative and effective design solutions. This subject teaches fundamental chemical, physical and biological principles which can be used to analyse data and formulate design solutions to environmental problems particularly related to water quality.
Learning outcome	To understand hydrology, soils, ecosystems, material balances, nutrient cycles, risk and water quality engineering. The way this knowledge is utilised by engineers for ecosystem restoration and engineered treatment systems is examined.
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents

- Distribution of water
- Requirement for good distribution system
- METHOD OF DISTRIBUTION
- Gravity System
- Combined gravity and pumping system
- Pumping system
- PRESSURE IN DISTRIBUTION MAINS
- SYSTEM OF WATER SUPPLY
- CONTINUOUS SYSTEM
- INTERMITTENT SYSTEM
- DRAWBACKS OF INTERMITTENT SYSTEM
- DISTRIBUTION RESERVOIR
- CAPACITY OF DISTRIBUTION RESERVOIR
- **Mac Donald's equation**
- DETERMINATION OF STORAGE CAPACITY

- Hydrograph method
 - Mass curve method
 - HEAD LOSS DUE TO FRICTION
 - Darcy Weisbach formula
 - Hazen William formula
 - Manning's formula
 - Combined Darcy Weisbach and Colebrook White formula
 - LAYOUT OF DISTRIBUTION SYSTEM
 - Dead end system or Tree system
 - Grid iron system or Reticular system
 - Circular system or ring system
 - Radial system
 - ANALYSIS OF PRESSURE IN DISTRIBUTION SYSTEM
 - Equivalent pipe method
 - Hardy cross method
- 

BAE621 Structural Engineering (3 pt)

Subject Objective	This subject covers methods and concepts which are fundamental to the analysis of linear elastic structural frameworks.
Learning outcome	Students learn how load bearing structures respond to the actions of directly applied loads as well as environmental effects such as temperature and foundation settlements. Topics covered include: computing deformations in plane frames using the principle of virtual work; the analysis of statically indeterminate structures using both, the force method as well as the method of moment distribution; and how to establish influence lines and how to use them in finding maximum load effects. A brief introduction to non-linear analysis of structures is also given.
Credit Point	3
Hours	72 hr
Assessment	Assignment/ Test/ Online MCQ Test/ Structural Design

Contents

- DESIGN OF A SLAB BRIDGE
- FOUNDATION SETTLEMENTS
- Major problems with soil settlement analysis
- Settlement classification
- Immediate settlement& consolidation settlement
- Stresses in soil mass
- Approximate method (2:1 slope)
- Boussinesq's method
- Westergaard's method

BAE623 Surveying & Traffic Engineering (2 pt)

Subject Objective	<p>Surveying</p> <p>The objectives of this subject are to enable students to: become competent in the theory and practice of basic surveying skills.</p> <p>Traffic Engineering</p> <p>To understand the transportation planning principles & methods</p>
Learning outcome	<p>Surveying</p> <p>To be able to use basic surveying equipment such as levels and theodolites and perform the calculations and reductions of observations associated with such equipment; be aware of the likely errors that may occur during observations and of methods to eliminate or minimise such errors; be competent in making distance measurements accurately over short distances using tapes and wires and be aware of the advantages of modern developments in this field such as Electronic Distance-measuring Equipment; be able to perform a simple traverse and associated calculations to find the misclose and proportional accuracy, and the bearing and distance of one missing line; understand and be able to perform relevant calculations for the engineering applications of surveying (horizontal curves, vertical curves, and areas and volumes); and be aware of field techniques used to enable preparation of a detail and contour plan. The stadia method is discussed in class and is used as a data-gathering tool in a practical exercise. The applications of modern computer programs to reduce data for and the plotting of detail and contour plans are introduced. Services of professional surveyors are explained, as are engineering situations where surveyors must be engaged.</p> <p>Traffic Engineering</p> <p>To applt the transportation planning principles & methods in land transport & airport runway designs.</p>
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents

Surveying

Topics include: use of equipment such as levels, theodolites and tapes and wires; calculations related to this equipment, as well as traversing, horizontal curve setting out,

design of vertical curves, areas and volumes and stadia and contouring; modern developments in surveying; and the role of the professional surveyor.

Traffic Engineering

- Airport Runway Orientation
- Wind Rose Diagram
- Highway Pavement Performance
- Traffic
- Roadbed Soils (Sub grade Material)
- Materials of Construction
- Environment
- Drainage
- Reliability
- Transportation Engineering
- Transportation Planning
- Urban Transportation Planning
- Urban Transportation Planning Process
- Coding and Zoning
- Inventory Studies
- Travel Studies
- Forecasts for the Horizontal Year
- Trip General Analysis
- Trip Distribution Analysis
- Modal Split Analysis
- Network Assignment Analysis
- Evaluation

BAE624 Water Supply , Sanitation & Finishing (2 pt)

Subject Objective	This subject provides civil and environmental engineering students with a detailed knowledge of: (i) water pollution control objectives, (ii) the design of potable water and sewage treatment processes, (iii) sewerage and water reticulation systems, (iv) total water cycle management, and (v) the advanced technologies used in the upgrading of water and wastewater treatment plants, desalination and water and biosolids re-use.
Learning outcome	At the completion of this subject, students understand: public health and environmental objectives in water supply and wastewater disposal; the design concepts for drinking water and sewage treatment plants; sewerage systems and water reticulation systems; and new technologies developed to meet the new water quality and water re-use objectives.
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents

- Water Quality
- Dissolved Oxygen
- BOD (Biochemical Oxygen Demand)
- COD (Chemical Oxygen Demand)
- Water Sampling
- Requirements for good Sampling Procedure

BAE622 Architecture (3 pt)

Refer any architecture text book , study & prepare the report on practical application problem given by the tutor.

Professional Diploma/ Bachelor of Engineering (Mechanical)

Year (3)

GENERAL APPLIED ENGINEERING (MECHANICAL) DEGREE

Subjects
<u>BAE 401 Advanced Engineering Mathematics</u>
<u>BAE 402 Calculus</u>
<u>BAE 403 Engineering Mechanics</u>
<u>BAE 404 Engineering Materials & Thermodynamics</u>
<u>BAE 507 Electro-mechanical Energy Conversion</u>
<u>BAE 508 Industrial Engineering & Industrial Management</u>

The detailed contents of the above subjects can be found under Professional Diploma/ Bachelor of Engineering (Electrical)

BAE511 Air-conditioning & Refrigeration

Subject Objective	The Heating, Ventilation, Air Condition and Refrigeration Technology or HVAC/R Program is designed to provide hands-on training on the same equipment used by business and industry. In addition, this program is designed to provide the students with the necessary skills required to become a state licensed independent business owner/contractor or for employment in the industry as a technician in residential, commercial, and/or industrial air conditioning, refrigeration and heating.
Learning outcome	Students will have an opportunity to learn various HVAC/R processes that will provide the basic preparation for entry-level jobs in the field of air conditioning, refrigeration, and heating with the initial focus placed on troubleshooting and service. In addition, they will learn the fundamentals of HVAC/R through hands-on training in (1) Theory of temperature control, (2) Electronics, (3) Design and construction of HVAC equipment, (4) Installation, (5) Maintenance, and (6) Repair. As students advance through the program, related topics of indoor air quality, load calculation, system design, and industry code standards will also be covered.
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test/ Design Project

Contents

- Heat transfer by Conduction
- Convection
- Radition
- Thermal Conductivity, k
- Boundary and Initial Conditions
- Properties and state
- The System
- Internal energy (U)
- Enthalpy (H)
- Work (W)
- Heat (Q)
- Specific Heat Capacity (c)

- Heat Engine
- The characteristic equation of a perfect gas
- Expansion processes
- Adiabatic process
- Isothermal Process

BAE613 Mechanical Instrumentation Process

Subject Objective	This subject aims to extend students' competence in the design of engineered systems and components, as well as familiarising them with modern design approach methodologies.
Learning outcome	While the emphasis is on realistic engineering-team/client/boss interactions, need exploration, project development and delivery, this subject draws heavily on the expertise the students have developed up until this stage of the course. Furthermore, the subject aims to enhance and polish students' capabilities in dealing with human-centric aspects of the design process.
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test/ PLC Program Project

Contents

- Problem-solving Methodology
- Matlab Environment
- Initializing Variables
- Data Format
- Printing Matrices
- Useful Commands and Functions
- Fundamental Engineering Computations
- Two-Dimensional Arrays and Matrices
- Variational Method
- Collational Method
- Subdomain Method
- Galerkin's Method
- Least Square Method

BAE614 Machine Design

Subject Objective	The objectives of this subject are to give students an understanding of the kinematics and dynamics of rigid bodies in general planar motion, which is typically encountered in design and analysis of mechanical systems, and an elementary understanding of the vibration of mechanical systems, in particular the dynamic behaviour of single-degree-of-freedom mechanical systems with various damping and applied forces.
Learning outcome	Students should be able to: model problems in rigid body planar and spatial kinematics and rigid body planar dynamics; understand energy methods in contrast to direct applications of Newton's second law of motion for setting up a model; understand the physics of a problem formulated from a real mechanical system; appreciate the role of vibration in machines and structures in the engineering world; understand the procedures required to evaluate a vibration problem; and analyse the dynamic response of single-degree-of-freedom mechanical systems. The subject also covers the concept of a rigid body, full nomenclature used in kinematics, two-body velocity equations and velocity diagrams of planar motion; two-body acceleration equations and acceleration diagram; three-body velocity equations and acceleration equations including Coriolis acceleration term; angular velocity acceleration equations including three-dimensional problems; $F=ma$ applied to a rigid-body-dynamics, significance of 'centre of mass', the 'moment' relationship ($M=Ia$, etc.); angular momentum, conservation of angular momentum (general case, centre of mass moving, no 'fixed' point); linear and angular impulse problems; energy methods for general planar motion; elementary principles of vibration theory, free vibration of undamped single-degree-of-freedom system; free decay vibration of damped single-degree-of-freedom system; and the forced vibration of single-degree-of-freedom system.
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test
TOPICS	Topics covered include the mechanical design process, graphical presentation of engineering ideas and components, computer-aided design, engineering materials and processes and aspects of engineering knowledge. A prototype design-and-build project is a major component of this subject
<u>Specific Contents</u>	<ul style="list-style-type: none"> • Balancing , Forces, Cam Profile • Resultant Effects of Engine, V-Engine Mechanism • Arrangement to balance the primary moment (C.W) • FORCES IN ENGINE, Inertia Forces and D'Alembert's Principle

BAE512 Building Service Water Supply System

Subject Objective	This subject provides mechanical engineering students with a detailed knowledge of: (i) building water supply control objectives, (ii) the design of potable water supply processes & piping system mechanical design.
Learning outcome	At the completion of this subject, students understand: public health and environmental objectives in water the design concepts for water supply piping design
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents

- Pressure loss in pipe
- Pressure loss in pipet by loss coefficient method
- Pressure loss in pipe by Equivalent Length Method
- To find the duct pipe by Equal Friction Method
- To find the duct pipe by Balance Capacity Method
- Design the piping system

BAE311 Plant Engineering (2 pt)

Subject Objective	The objectives of this subject are to: have an understanding of the behaviour of linear (or approximately linear) dynamic systems that are typically encountered in the practice of mechanical engineering; and gain an understanding of how such systems can be controlled, or have their dynamics altered, so as to achieve desired outcomes.
Learning outcome	<p>Topics covered include:</p> <ul style="list-style-type: none"> dynamic models: component block diagram, laplace transform, undamped free and forced vibration of SDOF systems, damped free and forced vibration of SDOF systems, resonance and beats, logarithmic decrement, response under the harmonic motion of the base, coupled-tank systems, vibration of 2DOF systems, vibration isolation, vibration absorbers Matlab and Simulink dynamic response: system modelling diagrams, poles and zeros, effect of pole locations, first order systems, second order systems, effects of zeros and additional poles, stability basic properties of feedback: the basic equations of control, control of steady-state error, PID control, pole placement method the root-locus design method: root-locus of a basic feedback systems, dynamic compensation, examples control system implementation and introduction to advanced control systems.
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents

- *Three Degree of freedom*
 - (a) **Newton's method**
 - (b) **Mechanical Impedance method**
 - (c) **Influence coefficients**
 - (d) **Matrix method**

- (e) **Holzer method**
- (f) **Matrix Iteration method**

- **INTRODUCTION TO CONTROL SYSTEM**
- **DIFFERENTIAL EQUATIONS**
- **LINEARIZATION OF A NON-LINEAR FUNCTION**
- **MODELLING OF CONTROL SYSTEMS**
- **FREQUENCY RESPONSE METHODS**
- **Stability**

BAE312 Design Engineering (Manufacturing) (2 pt)

This unit is the same as

BAE621 Structural Engineering (3 pt)

The following contents can be added for manufacturing process

Subject Objective	The objectives of this subject are to: explain and provide examples of manufacturing processes involved in casting, forming machining and joining of materials; identify and describe the manufacturing process by which products are made of different materials: metals, polymers, ceramics and composites; demonstrate improved technical written and graphical communication skills by completion of specified laboratory reports and site visit reports; and demonstrate basic problem-solving skills relating to manufacturing and production.
Learning outcome	Students learn the processes and materials available, as well as a competent and practical approach to evaluating, selecting and recognising the connections between the materials/processes and engineering design
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents

All contents in structural engineering

PLUS

- The design and manufacturing processing of products in various environments ranging from low volume to high volume and with various levels of capital investment in the manufacturing system.
- The modern concepts of quality management, including Taguchi methods, after looking at process quality control and its origins.
- Modern metrology equipment and methods are treated in a similar manner: modern equipment and methods and their origins.
- The computer systems on manufacturing. Firstly, students gain some experience with manufacturing in a CAD/CAM environment.
- Industrial robots in environments such as fabrication, welding and assembly. Topics such as: CIM, CAPP, JIT, GT, FMS, MRP, Toyota and Kanban are introduced in a project environment

BAE313 Environmental Control (2 pt)

This unit is the same as

[BAE 523A Environmental Engineering](#)

BAE314 Mechanical Power Generation (2 pt)

Subject Objective	This subject aims to develop students' fundamental knowledge and understanding of the dynamics of various mechanical power generation systems;
Learning outcome	To provide students with knowledge and skills in vibration testing and data acquisition; facilitate students' in-depth learning of the theory and methods, including modelling, modal analysis, system identification and numerical approaches; familiarise students with techniques and data acquisition system used in vibration testing, measurement, signal processing for determining the dynamic characteristics of a physical system; and enable students to apply the learnt methods to real world applications which include vehicle suspension design, vibration analysis and condition monitoring of rotating machines & application of PLC control system
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents**Mechanical**

Basic vibration theory for the analysis of two or more degrees of freedom multi-body mechanical systems, basic topics on widely-used engineering measurements, data acquisitions, spectrum analysis, signal processing and their applications in vibration control and machine condition monitoring.

PLC

- **PLC Basics**
- **PLC Structure**
- **PLC in Comparison with Other Control Systems**
- **PLC's CPU**
- **PLC's Memory**
- **PLC in Comparison with Other Control Systems**
- **PLC's CPU**
- **PLC's Memory**
- **Programming Devices**
- **Programming Languages**

- **Instruction Set**
- **Typical Combinations of Languages**
- **Basic Symbols**
- **Elementary Logic Circuit**
- **PLC's Functions**
- **Industrial Programming**
- **PLC PRACTICE**
- **Selection of PLC**
- **Types of I/O & Capacity Needed**

- **Control System Basic**
- **Sequence Control**
- **Automatic Control**
- **Terms of Sequence Control**
- **Basic Knowledge on Contacts**

- **INDUSTRIAL MACHINE CONTROLS**

BAE315 Materials Engineering (2 pt)

Subject Objective	Mechanical engineers design, construct, maintain, inspect and manage private and public work projects. The common materials used in construction engineering applications and construction are concrete, steel, timber and masonry. It is essential for mechanical engineers to have a basic understanding of these construction materials, in relation to their production, properties, testing and application.
Learning outcome	To help students acquire fundamental knowledge of the production, physical and engineering properties of construction materials; understand the effects of environments on the properties and performance of these materials; familiarise themselves with the relevant engineering standards and other specifications and standards, in relation to the requirements and testing methods and interpretation of test results; improve analytical and communication skills by presenting test reports; select material in relation to specified requirements; and develop an awareness of the use of waste materials in construction.
Credit Point	2
Hours	48
Assessment	Assignment/ Test/ Online MCQ Test

Contents

- Load, Stress and Strain, Hook's law ,
- Principal of Superposition
- Tensile Test , Factor of Safety
- Strain Energy, Resilience
- Impact Loads
- Varying Cross-section and Loads
- Strain Energy , Resilience
- Compound Bars
- Temperature Stresses

1. Requirements, variability, selection and standards relating to use of construction materials
2. Steels: production, types, usage, mechanical properties and testing and failure modes

Elective (2 pt)

Subjects
BAE513 Production Technology
BAE611 Maintenance Engineering
BAE612 Engineering Metallurgy

Refer any text book , study & prepare the report on practical application problem given by the tutor.

Professional Diploma/ Bachelor of Engineering (Civil-Building Services)

By mixing the degree level Electrical/ Mechanical & Civil Engineering subjects with Advanced Diploma level Electrical/ Mechanical & Civil subjects relevant to Civil-Building services, the individualized study plan for this professional diploma can be arranged.

Professional Diploma/ Bachelor of Engineering (Mechanical-Mechtronics)

By mixing the degree level Electrical/ Mechanical & Civil Engineering subjects with Advanced Diploma level Electrical/ Mechanical & Civil subjects relevant to Mechanical-Mechatronics, the individualized study plan for this professional diploma can be arranged.

The supporting curriculums from Information Technology & Business Management.

Engineering curriculums are supported by Information Technology & Business Management.

The details of the supporting curriculums are also presented.

Diploma/ Advanced Diploma of Engineering

At the following link, those programs can be viewed

<http://www.highlightcomputer.com/detailedcontent.htm>

Bachelor of Applied Science (Information Technology)

Year 1+2 Refer Diploma & Advanced Diploma in Information Technology Detailed Contents

Bachelor of Applied Science (Computer Science & Computer Technology)

Year (3)

Unit	Topics	Reference	Points
ICT 301	General Electrical Knowledge	EE101	3
ICT 302	Digital Electronics	EE209/H012	3
ICT 303	Amplifier	EE208/H013	3
ICT 304	Material Science	E081	3
EE204	Physics	E046	3
EE201	Mathematics 1	E050	3
EE202	Mathematics 2	E026	3
EE306	Basic Control	I008	3
BAE605	Management		3
BAE408	Analog & Digital Electronics		3
		TOTAL	30

Year (4)

Unit	Topics	Reference	Points
ICT 401	Advanced Mathematics 1	BAE401	3
ICT 402	Advanced Mathematics 2	BAE402	3
BAE604	Telecommunication System		3
BAE508	Project Management		3
ICT 305	Professional Programming (1) C++		3
ICT 403	Professional Programming (2) Object Oriented		3
ICT 404	Professional Programming (3) Java		3
ICT 405	Professional Practice (1) Network		3
ICT 406	Professional Practice (2) Website		3
ICT 407	Artificial Intelligence		3
		TOTAL	30

Refer Diploma & Advanced Diploma in Electrical Engineering Detailed Contents

ICT 305 Professional Programming (1) C++

- Introduction
- Basic program architecture
- Variables
- Console programs
- Program control
- String
- Arrays
- Object oriented programming
- Classes
- Design of classes
- Methods
- Inheritance
- The class object
- Abstract classes
- Interfaces
- Static members
- More about arrays
- Types
- Enum
- Struct
- Generic types
- Exception handling
- Comments
- Extension methods
- Collection classes
- List Stack
- Linked list
- Dictionary
- Text file
- Binary files
- Object serialization
- Lottery
- Expression

ICT 403 Professional Programming (2) Object Oriented

object-oriented-programming-using-c-sharp

- Introduction to object oriented programming
- Unified Modelling Language (UML)
- Inheritance & Method Overriding

- Object rules & the importance of polymorphism
- Overloading
- Object oriented software analysis and design
- Generic collection & how to serialize them
- C# development tools
- Creating & using exceptions
- Agile programming
- Case studies

ICT 404 Professional Programming (3) Java

object-oriented-programming-using-java

- Introduction to object oriented programming
- Unified Modelling Language (UML)
- Inheritance & Method Overriding
- Object rules & the importance of polymorphism
- Overloading
- Object oriented software analysis and design
- Collection framework
- Java development tools
- Creating & using exception
- Agile programming
- Case study

ICT 405 Professional Practice (1) Network

This competency standard unit covers develop services for network clients for emails, internet access, shared resources and the like. It encompasses safe working practices, installing and configuring Domain Name Server (DNS), email servers, Dynamic Host Configuration Protocol (DHCP), remote access servers, Network Address Translation (NAT), directory services, Authentication Servers and documenting development activities.

Essential knowledge and associated skills

This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices and developing network services.

The extent of the essential knowledge and skills required is given Volume 2 Part 2, Clauses

- **Network infrastructure**

Evidence shall show an understanding of network infrastructure to an extent indicated by the following aspects:

- a. Domain Name Service (DNS) encompassing
 - DNS Server Service
 - Root name server
 - Configuring zones
 - a. *Note:* Examples include configuring for dynamic updates and delegating zone for DNS
 - Caching – only server
 - DNS client
 - Testing DNS Server service
 - Manually creating DNS source
 - Managing and monitoring DNS
- b. Dynamic Host Configuration Protocol (DHCP)
 - Installation of DHCP Server Service
 - DHCP scopes, superscopes and multicast scopes
 - DHCP – DNS integration
 - Active Directory™
 - Managing and monitoring DHCP
- c. Network Infrastructure encompassing
 - Configuring and troubleshooting remote access
 - a. *Note:* Examples include remote access policy, configuration of remote access profile, Virtual Private Network (VPN), multi link connection, routing and remote access for DHCP
 - Managing and monitoring remote access
 - Remote access security
 - *Note.* Examples include authentication protocols, encryption protocols and access policy
- d. Network Protocols encompassing
 - Installation, configuration and troubleshooting of network protocols
 - a. *Note:* Examples include Transmission Control Protocol / Internet Protocol (TCP/IP), NWLink and network bindings
 - Configure TCP/IP packets
 - Configuring and troubleshooting network protocol security and IP Security (IPSec)
 - Managing and monitoring network traffic
- e. Internet Naming Services in a network encompassing
 - Installation, configuring and troubleshooting
 - Configuring Internet Naming Services replication
 - Configuring an application networking interface
 - Managing and monitoring Internet Naming Services
- f. IP Routing encompassing
 - Installation, configuring and troubleshooting of IP routing protocols
 - a. *Note:* This includes updating routing tables, and implementing demand-dial routing
 - Managing and monitoring IP routing
 - a. *Note:* This includes border routing, internal routing and IP routing protocols
- g. Network Address Translation (NAT) encompassing
 - Installing Internet connection sharing

- Installing NAT
- Configure NAT properties and interfaces
- h. Certificate Services encompassing
 - Installing and configuring Certificate Authority
 - Issuing and revoking certificates
 - Removing the Encrypted File System recovery keys

- **Directory services**

Evidence shall show an understanding of directory services to an extent indicated by the following aspects:

- a. Installing and configuring directory services encompassing
 - Installing forests, trees and domains including automatic domain controller
 - Creating sites, subnets, site links and connection objects
 - Configuring server objects including site membership and global catalogue designation
 - Transferring of operations master roles
 - Verification and troubleshooting of directory services installation
 - Implementation of and organisational unit structure
- b. Domain Name Service (DNS) for directory services encompassing
 - Installation and configuration of DNS for directory services
 - a. *Note:* Examples are integration with existing DNS infrastructure, configuration of zones for dynamic and secure dynamic updates and creation and configuration of DNS records
 - Management, monitoring and troubleshooting of DNS
- c. Change and Configuration Management encompassing
 - Implementing and troubleshooting Group Policy
 - a. *Note:* Examples are Group Policy Object (GPO), linking to an existing GPO, delegation of administrative control of Group Policy, filtering of Group Policy settings by using security groups and modification of Group Policy prioritisation
 - Managing and troubleshooting user environments using Group Policy
 - Configuring directory services to support Remote Installation Services (RIS) including configuration of RIS options and security.
- d. Components of a directory service infrastructure encompassing
 - Management of directory objects
 - a. *Note:* Examples are moving objects, publishing resources in the directory service infrastructure, location of objects in the directory service infrastructure, creation and management of objects manually and by scripting, access control of objects and delegation of administrative control
 - Monitoring, optimisation and troubleshooting of the directory services infrastructure performance and replication
 - Backup and restoring directory services infrastructure
 - a. *Note:* Examples are authoritative and non authoritative restoration of directory services, restoration from systems failure and the seizing of operations master roles

- e. Security encompassing
 - Applying security policies using Group Policy
 - Creating, analysing and security modification by using Security Configuration and Analysis snap-in and the Security Templates snap-in
 - Implementation of an audit policy
- f. Monitoring and analysing security events

Multi-layer switched networks

Evidence shall show an understanding of multi-layer switched networks to an extent indicated by the following aspects:

a) Campus network design encompassing:

- o core layer
- o distribution layer
- o access layer
- o selection of appropriate devices
- o defining workgroups

b) Managing Redundant Links encompassing:

- o Spanning Tree Protocol (STP)
- o Controlling STP in redundant environments
- o STP in Virtual Local Area Network (VLAN) environments
- o Configuring redundant routing protocols for a fault-tolerant routing

Note. An example is Hot Standby routing protocol (HSRP)

c) Fast layer 2 services encompassing:

- o Fast Ethernet
- o Trunking
- o Fast Ether channels

- o Gigabit services

- d) Inter VLAN Routing encompassing:
 - o Hardware vs. Software switching
 - o Overview of fast switching technologies
 - o Elements of a multi-layer switch
 - o Configuring multi-layer switches

- e) Multicast encompassing:
 - o Multi-cast group management
 - o Configuring multi-cast control at layer 2
 - o Configuring multi-cast control at layer 3

- f) Controlling Access to the Campus Network

- g) Managing Network Traffic

ICT 406 Professional Practice (2) Website

This unit covers installation, set up, implementation and provision of on-going support of web services. It encompasses working safely, installing and administering server software and databases, server side scripting, configuring access and security and documenting work activities.

Development, implementation and testing HTML pages with at least four of the following features:

Relative and absolute links, images and table formatting

Cascaded styles sheets

Forms	
New browser windows	
Validation of form data	
<u>Development, implementation and testing of server scripting for database access with at least four of the following features:</u>	
Form data input response	
Form data processing	
Database access	
Output of database table contents	
Insertion of table data to database	
Installation and administration of key features of Web and Web application servers	
	Programming elements
Evidence shall show an understanding of the programming elements to an extent indicated by the following aspects:	
a) Algorithm Design encompassing:	
o Problem Definition	
o Steps in Problem-Solving	
o Modular Design	
o Top-Down Design	
o Flow-Charts and Structured Programming	
o Pseudo-Code	
o Filtering allowable Data Input	

- o Using standard Input & Output methods
- o Object-Oriented Design (brief intro.)
- o Documentation Rationale
- o Acceptable Documentation Method

- b) Machine-Code, Assemblers and Compilers
- c) Brief History of Languages & Limitations
- d) Parameters of different programming languages encompassing:
 - o Constants and variables
 - o Data types and declarations
 - o Logical flow control
 - o Detecting breaches of structure
 - o Documentation instruction examples
 - o Procedures and function calls
 - o Parameter-passing
 - o Local and global variables
 - o Object-oriented methods
 - o Classes and objects,
 - o encapsulation and inheritance.
 - o Visual programming methods
 - o General-purpose program libraries

e) Data structures encompassing:

- o Records
- o Arrays
- o File Input/output

f) Testing and validation encompassing:

- o Sequencing the process
- o Inconsistencies detection

Note, An examples is comparing code to documentation, commonly called —Desk-Checking'.

- o Test data selection
- o Modular testing & debug
- o Problems with using

Client side programming

Evidence shall show an understanding of client side programming them to an extent indicated by the following aspects:

a) Client server architecture

b) Hyper Text Markup Language (HTML) encompassing:

- o Forms
- o Table
- o Cascading style sheets

c) Hyper Text Markup Language (HTML) scripting encompassing:

- o Exposed object model

- o Events and event handling
- o Objects methods, properties, events
- o Window, document, form, and form elements
- o String object, methods, properties
- o Form field validation

Note: Examples of scripting language are JavaScript and Visual Basic (VB) Script

d) Extendable Markup Language (XML) encompassing:

- o Syntax
- o Structure (well formed XML)
- o Schemas
- o Transformations
- o Parsing Document Object Model (DOM) and Simple API (SAX)
- o Scripting to Document Object Model (DOM)

e) Extendible Stylesheet Language (XSL) generating HTML from XML

f) Wireless thin client programming

Note. Examples include Java2 Micro Edition (JEME), Mobile Information Device Profile (MIDP), Windows CE and Palm OS

g) Consideration for system architecture

h) Configurations and profile overview

	Server scripting
Evidence shall show an understanding of server scripting the to an extent indicated by the following aspects:	

- a) Client server architecture
- b) Web and Application Servers
- c) Server scripting languages e.g. JSP, ASP, PHP, Perl
- d) Server script Tags
- e) Integrating script with HTML
- f) Server script object model
- g) Request, Response, Session, Application
- h) Using server objects
- i) Server components
- j) Using components in server scripts
- k) Scope of server components e.g. session, page, application
- l) Component get / set methods
- m) Deploying server components
- n) Advanced server scripting concepts

Database access

Evidence shall show an understanding of database access to an extent indicated by the following aspects:

a) Relational Databases encompassing:

- o Tables, keys, design rules and normalisation
- o Database management utilities

Note. Example include MSSQL, MYSQL and Access

b) Structural query language (SQL) queries encompassing:

- o Select, insert, update and delete processes
- o Application of conditionals `__where`, `__distinct` and `__like`
- o Create and dropping tables

c) Data Base connectivity components encompassing:

- o Drivers, data sources
- o Database connectivity component loading
- o Query connection and execution
- o ResultSets / RecordSets
- o Rows, columns, cursors, concurrency, pooling
- o Iterating through ResultSets / RecordSets

Note. Example include ODBC, JDBC, ADO

	Web applications and services
Evidence shall show an understanding of web servers to an extent indicated by the following aspects:	
a) Comparison of HTTP servers and platforms	

Note. Examples include IIS and Apache

b) Comparison of Application servers and platforms

Note. Examples include J2EE / tomcat, .NET

c) HTTP Servers encompassing:

- o Installation requirements and methods
- o Security configuration
- o Content publishing and security

d) WEB application technologies encompassing:

- o Server installation and deployment
- o Security

e) Server scripting technologies encompassing:

- o WEB application installation and deployment
- o Application server administration

f) Web services overview encompassing:

- o WEB services XML, API, RPC
- o XML API processing
- o XML DOM
- o SOAP (simple object access protocol)
- o WEB Services Security

ICT 407 Artificial Intelligence

- Paths to artificial intelligent
- Agents and environment
- Framework for agents environment
- Agent oriented programming languages
- Net logo development
- Movement, Behaviour & Decision making
- Terms of movement
- Animated mapping simulation Embodiment
- Reactive versus cognitive agents
- Emergence, Self organization
- Adaptibility evolution
- Communication
- Search behaviour
- Reasoning rules and logic
- Knowledge & reasoning using decision trees
- Intelligence
- Design objectives for artificial intelligence
- Computer problem solving ability

Bachelor of Business

Year 1 Refer Diploma in Management Detailed Contents

Year 2 Refer Diploma & Advanced Diploma in Information Technology Detailed Contents

YEAR (3)

Bachelor of Business (E-Business & Management)

The learning system will be based on self study. Read the given references study materials and prepare the project work. You need to read the books in English.

The following units common to MBA course are to be studied.

[Mgt 301 Electronics Business](#)

[Mgt 302 Information Security](#)

[Mgt 303 Management Information System](#)

[Mgt 304 Electronics Commerce](#)

[Mgt 305 Quantitative Methods for Management](#)

[Mgt 306 Human Resources Management](#)

[Mgt 307 Marketing Management](#)

[Mgt 308 Artificial Intelligence](#)

To assess Level 3, you need to write the report of 10 pages each on what you have learnt in the unit.

YEAR (4)

Mgt 401 Management Project

Mgt 402 Electronics Business Project

Mgt 301 Electronics Business

- Project Objective
- Business Capabilities
- Benefits
- Deliverables & Dependencies
- Costs
- Financial Appraisal
- Timescales & Milestones
- Success Criteria
- Risks
- the impacts of electronic commerce
- drivers and inhibitors of electronic commerce from the perspective of the CEOs
- the impacts of Electronic Commerce on the Industry Supply Chain
- Electronic Commerce Maturity Model

Mgt 302 Information Security

	Fundamentals of network security
Evidence shall show an understanding of fundamentals of network security to an extent indicated by the following aspects:	
a) Network Security fundamentals	
b) Securing Perimeter Routers	
c) Access Control Lists (ACLs)	
d) Router Authentication, Authorisation and Accounting (AAA) Security	

- e) Intrusion Detection
- f) Internet Protocol (IP) Security
- g) Virtual Private Network (VPN)
- h) Firewalls
- i) Translations and Connections
- j) Access Control Lists for Firewalls
- k) AAA and Firewalls
- l) Intrusion
- m) Intrusion Detection Systems (IDS)
- n) Firewall Failover and System Maintenance
- o) Firewall VPN's
- p) Firewall Device Management

- ❑ Introduction of Computer Networks and Internet :
 - ❖ Overview of the Internet, client/server program, circuit switching, packet switching, physical media, queuing delay and packet loss, TCP/IP Service models, Internet Protocol Stack (Layers)
- ❑ Application Layer :
 - ❖ Service requirements, WWW, HTTP, FTP, Electronic Mail, Domain Name System, Socket programming
- ❑ Transport Layer
 - ❖ Service models, Multiplexing/Demultiplexing, Connection-less transport (UDP), Principles of reliable data transfer, Connection-oriented transport (TCP), TCP congestion control
- ❑ Network Layer :
 - ❖ Routing and forwarding, IP(The Internet Protocol) IPv4, IPv6 ,Routing algorithms, Routing in the Internet, Multicast
- ❑ Link Layer and Local Area Networks :
 - ❖ Link layer services, Error detection and correction, Multiple Access Protocols, Link layer addressing, Ethernet, Hubs and switches, Point-to-Point Protocol
- ❑ understand principles of network security:
 - ❖ cryptography and its *many* uses beyond “confidentiality”
 - ❖ authentication
 - ❖ message integrity
 - ❖ key distribution

- ❖ security in practice:
- ❖ firewalls
- ❖ security in application, transport, network, link layers
- ❖ key distribution
- ❖ security in practice:
- ❖ firewalls
- ❖ security in application, transport, network, link layers

Mgt 303 Management Information System (MIS)

- The role of information system
- Hardware & software in enterprise
- Database management system
- Business Telecommunication system
- Communication network
- Network application
- Contemporary mobile service
- Examples of information systems
- Management of MIS
- Managing the Digital Firm
- Emergence of the Digital Firm
- The business information value chain
- A Business Perspective on Information Systems
- Variation in returns on information technology investment
- Sociotechnical Systems
- New Options for Organizational Design:
- The Digital Firm and the Collaborative Enterprise
- Redesigned workflow for insurance underwriting
- The Challenges of Information Systems: Key Management issues

Mgt 304 Electronics Commerce

- **Types of E-commerce**
- **Understanding E-commerce: Organizing Themes**
- **E-commerce Business Models and Concepts**
- **The Internet and World Wide Web: E-commerce Infrastructure**
- **Building an E-commerce Web Site**

- **Online Security and Payment Systems**
- **Marketing Communications**
- **E-commerce Marketing Concepts**
- **Ethical, Social, and Political Issues in E-commerce**
- **Online Retail and Services**
- **E-commerce Business Models and Concepts**
- **The Internet and World Wide Web: E-commerce Infrastructure**
- **Security and Encryption**
- **E-commerce Payment Systems**
- **E-commerce Marketing Communications**
- **Ethical, Social, and Political Issues in E-commerce**
- **Online Service Industries**
- **Supply Chain Management and Collaborative Commerce**
- **Auctions, Portals, and Communities**
- **Online Content and Media**
- **Social Networks, Auctions, and Portals**
- **Online Content Providers: Digital Media**
-

Mgt 305 Quantitative Methods for Management

- Research approach
- Data source
- Qualitative method
- Quantitative Methods
- Experiment research & observation
- Questionnaires survey
- Sampling
- Survey analysis
- Statistical analysis
- Writing research report

- Prescriptive Process Models
- Agile Development

Mgt 306 Human Resources Management

- Meeting Present and Emerging Strategic Human Resource Challenges
- **Managing Work Flow and Conducting Job Analysis**
- Understanding Equal Opportunity and the Legal Environment
- Managing Diversity
- Recruiting and Selecting Employees
- Appraising and Managing Performance
- Rewarding Performance
- Managing Compensation

Mgt 307 Marketing Management

- Company (Distributor) background (e.g. brief history, nature of business, etc.)
- Marketing objective(s) on the Chosen product/service
- S.W.O.T Analysis
- Target customers
- Product Positioning in the market
- Describe the current marketing mix:
 - Product
 - Pricing
 - Distribution
 - Marketing Communications (Promotion)
- overall competitive strategy
- planning the details of the marketing mix.
- sales& marketing materials
- understanding of company's competitors
- Marketing Recommendations for improvement
- marketing strategies

Mgt 308 Artificial Intelligence

This is the same as

<u>ICT 407</u>	<u>Artificial Intelligence</u>
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Mgt 401 Management Project

Mgt 402 Electronics Business Project

Two reports one for Management for (Mgt 303+Mgt 305+Mgt 306) & another for Electronics Business + Marketing (Mgt 301+Mgt 302+Mgt 304+Mgt 307+Mgt 308) subjects are required to be presented.

Each should contain 4000 to 6000 words of how you pursue the study in Management,, Marketing, Electronics Business subjects should be described.

The project should contain management plans, business plan & performance, task, job procedures IT integration etc of the topics of your choices.

<http://www.filefactory.com/file/3dcrz90tirvh/Dip%2BAdv%20Dip%2BB%20Bus%20S%20Course%20Outline.doc>

IQY Technical College ၏ Engineering Work Studies သင်တန်းများ

(သင်တန်းကြေး--ကျပ်၅သောင်းOnline)

Dip EI (Diploma in Electrical Installations)--- (Course Number 106689EI)

EEM201+EEM202+EEM203+EEM206+EEM208

- EEM201-Principle of Electricity
- EEM202-Electrical Knowledge
- EEM203-Electrical safety
- EEM206-Electrical Wiring
- EEM208-Electrical Installation Design

Dip M& E (Diploma in Mechanical and Electrical Services)--- (Course Number 106689ME)

- MEM204-.Airconditioning
- MEM205-Ventilation
- MEM207/EEM201-Principle of Electricity
- MEM208/EEM203-Electrical safety
- MEM209 Automation and Control
- CEM201-Sanitation

Professional Certificate in Hotel Construction (Course Number 206689HC)

- Hotel Restaurants and Bar
- Restaurant Design Principles.
- Building Control
- Building Technology Electrical Mechanical System
- Fire Safety Engineering
- Materials for Civil & Construction Engineers
- Building Construction
- Building Services
- Estimating
- Electrical Wiring Commercial
- Detailing
- Air Distribution in Buildings
- Building Systems For Interior Designers

IQY Technical College Unit/ Subject Coding

IQY QF Level	Year	Course	Coding
1	1	Certificate/Diploma	1xxxx
			2xxxx
2	2	Advanced Diploma	3xxxx
3	3+4	Bachelors degree	4xxxx
			5xxxx
			6xxxx
4	5+6	Bachelors (Hons)	6xxxx
		Graduate Diploma/Masters	7xxxx
5	7+8+9	Doctorate	6XXXX
			7xxxx
			8xxxx

Advanced Diploma in Engineering Practice (Myanmar Language) (27764)

Pre-requisite

Completion of Diploma in General Engineering OR Experience OR Completion of Certificate Level courses

Credit

Total 60 credits Each 5 Credits

Civil Engineering

CEM202-Estimating

CEM203-Drawing

CEM204-.Construction

CEM205-.Iron work

CEM206-Welding

CEM207/ EEM201-Principle of Electricity

CEM208/EEM202-Electrical Knowledge

CEM209/EEM203-Electrical safety

CEM210/MEM204-.Airconditioning

CEM211/MEM205-Ventilation

CEM21- Brick Laying Practice

[Learning Record to submit for credit for each unit](#)

Mechanical Engineering

MEM201-Principle of Engine

MEM202-.Auto Electronics

MEM203-.Auto Electricity

MEM204-.Airconditioning

MEM205-Ventilation

MEM206-Welding

MEM207/EEM201-Principle of Electricity

MEM208/EEM203-Electrical safety

MEM209-Automation and Control

MEM210-Mechatronics

MEM211/ CEM205-.Iron work

MEM212/ CEM203-Drawing

[Learning Record to submit for credit for each unit](#)

Electrical Engineering

EEM201-Principle of Electricity

EEM202-Electrical Knowledge

EEM203-Electrical safety

EEM204-Electrical Works

EEM205-AC and DC Electricity and Electronics

EEM206-Electrical Wiring

EEM207-Fault Finding

EEM208-Electrical Installation Design

EEM210- Advanced Electrical Power Principle

EEM211-Power Transmission and Distribution

Elective

EEM212 / MEM203-.Auto Electricity

OR

EEM213/ MEM204-.Airconditioning

[Learning Record to submit for credit for each unit](#)

Please note that the students who complete the entire course in Myanmar Language must attend 1 year bridging program in English to continue the degree program.

Diploma/ Advanced Diploma in Air-conditioning and Refrigeration Engineering

www.iqytechnicalcollege.com/advdipare.htm

Diploma in Air-conditioning and Refrigeration Engineering

30 credits- Each -6 credits x 5 units

MEM204-.Airconditioning

MEM205-Ventilation

MEM207/EEM201-Principle of Electricity

MEM208/EEM203-Electrical safety

MEM209 Automation and Control

Advanced Diploma in Air-conditioning and Refrigeration Engineering

Each 3 units x 10= 30 credits+ Two Practical Units

EE201 Engineering Mathematics

EE204 Engineering Physics

EE111 Electro-magnetism and Basic Electrical Machines

ME106 Electrical Circuits

ME334 Air-conditioning & Refrigeration

ME102 Engineering Thermodynamics

ME107 Heat Transfer

RE003 Solar and Thermal Energy System

BAE511 Air-conditioning and Refrigeration (Advanced)

BAE606 Building Service Electrical and Mechanical Engineering

PC8 Air-conditioning and Refrigeration Basic Servicing

PC10 Electrical Machine Winding

Advanced Diploma in Electro-Mechanical and Construction Engineering

Pre-requisite

- THS –Diploma in General Engineering & Drafting OR ITC/THS- 5 Years experience
- Non year 10 passed matured workers
-

Delivery and Assessment

- Online Live Lessons+ Assignment
- Pay the fees and submit the assignment to receive transcripts
- On completion of all, the award will be issued.

Core Units (6 Credits points per unit x 10 = 60 Credits)

- ADEMC201-Sustainability and Electrical Practice
- ADEMC202-Engineering Practice
- ADEMC203-Design and Technology
- ADEMC204-General Electrical Engineering
- ADEMC205-General Civil Engineering and Construction
- ADEMC206-General Mechanical Engineering
- ADEMC207-Mathematics,Physics and Chemistry
- ADEMC208-Engineering Materials
- ADEMC209-Engineering Management
- ADMEC210-Workshop Practice and Safety

Advanced Diploma of Rural Development Engineering

www.highlightcomputer.com/adrde.htm

www.highlightcomputer.com/adrde.pdf

Objective of the course

This course aims to provide the necessary skills required for people in rural areas to perform the followings

- Agricultural Foods Production and Animal Handling
- Building Construction, Drawing, Water Supply, Road and Bridge Construction, Irrigation
- Electrical Supply & Solar Electrical Supply System
- Hydraulics
- Machine Repair, Welding and Machining
- Water Chemical Treatment
- Transportation & Logistics

Course Structure

The course consists of Civil, Electrical and Mechanical Engineering principle together with Transportation, Logistics and Agricultural Foods Production.

Outcome of the course

After having completed this course, the attenders can perform rural developmental engineering basic works in their regions.

Detailed Structure of the course

Credit Points- 60 points to complete Advanced Diploma of Rural Development. Diploma and Certificate in Rural Development can be awarded upon completion of the specific units.

List of Subjects

Advanced Certificate in Rural Development Engineering (16 Credits)

(MVTC Level (3) (Course Number MVTC301)

CE106 Brick Laying, Sprouting and Gutter Construction (4 Points)

CE104 Construction Drawing (4 Points)

CE110 Building Construction (4 Points)

CE107 Water Supply (4 Points)

Diploma in Rural Development (32 Credits)

(MVTC Level (4) (Course Number MVTC401)

All units in Certificate in Rural Development (16 Credits)

CE111 Road Bridge and Irrigation System Construction (4 Points)

MVTC13PC9 Electrical Wiring (4 Points)

MVTC201Agriculture+MVTC202Animal Handling(4 Points)

MVTC204 Water Chemical Treatment (4 Points)

Advanced Diploma in Rural Development (60Credits)

(MVTC Level (5) (Course Number MVTC501)

All units in Diploma in Rural Development

RE002 Grid Connected Power System (4 Points) together with EE101 DC Circuits+EE112 AC Circuits

EE118 Electrical Supply System (4 Points)

ME108 Principle of Engine+MVTC13PC7 Engine Repairs (4 Points)

ME201 Hydraulics (4 Points)

MVTC13PC6 Welding+MVTC13PC5FittingMachining (4 Points)

MVTC209 Transport Logistics (4 Points)

Mgt101 Management Studies (4 Points)

ADVANCED STUDY

The candidates who have successfully completed Advanced Diploma of Rural Development Engineering can continue the study in Professional Diploma/ Bachelor of Applied Engineering/ Bachelor of Engineering Technology in Electrical Engineering or Civil Engineering or Mechanical Engineering or Mechatronics Engineering or Renewable Energy Engineering and Bachelor of Management Programs at St Clements University or STC Technological University.

LESSONS

MVTC301-Advanced Certificate in Rural Development (16 Credits)

CE104 Construction Drawing (4 Points)

www.iqytechnicalcollege.com/CECertDip.zip

VIDEO

Lesson 1

<https://youtu.be/PLu5G9xNMtE>

Lesson 2

<https://youtu.be/g9tCFIR9HzE>

Lesson 3

<https://youtu.be/YhgQEaUbaxQ>

Lesson 4

<https://youtu.be/PK4g9r8sNhw>

www.iqytechnicalcollege.com/CECertDip.zip

Study CE104A

Exercises Download Link

www.highlightcomputer.com/DipCivilEnggAssignments.pdf

Page 4 to 7

CE110 Building Construction (4 Points)

www.iqytechnicalcollege.com/CECertDip.zip

VIDEOS



Lesson 1

<https://youtu.be/luvLYjbuGWQ>

Lesson 2

https://youtu.be/YFKdn_EJyX8

Lesson 3

<https://youtu.be/HdpiNwnuos4>

Lesson 4

<https://youtu.be/uyg6AQc5WtE>

Lesson 5

<https://youtu.be/V7C5r7lQGdE>

Lesson 6

<https://youtu.be/TZCwHVCsj0g>

Lesson 7

<https://youtu.be/-984GNIF1b0>

Lesson 8

<https://youtu.be/yzm8vB6mXBk>

Lesson 9

https://youtu.be/UTsxZ72d_c0

Lesson 10

<https://youtu.be/o6nuV8oRYkg>

Lesson 11

<https://youtu.be/iV1dms6MYrQ>

Lesson 12

https://youtu.be/Upl4_WzeDAE

Lesson 13

<https://youtu.be/Eu2svu0k3kE>

Lesson 14

<https://youtu.be/nQW5bDDsS74>

Lesson 15

https://youtu.be/kAqyl_hTyLg

Lesson 16

https://youtu.be/u7oWgrM3_3Y

Lesson 17

https://youtu.be/Hq4imm_U0W4

Lesson 18

<https://youtu.be/rNMOTo5sZV4>

Lesson 19

<https://youtu.be/EUQzvKhYEhc>

Lesson 20

<https://youtu.be/LZINc2CNDfE>

Lesson 21

<https://youtu.be/tHwd9iVcZUQ>

Lesson 22

https://youtu.be/az4_K8TpPE0

Lesson 23

<https://youtu.be/lKzhftFn4PI>

Lesson 24

<https://youtu.be/A0x24Ue9YIE>

EXERCISE ASSIGNMENTS

<http://highlightcomputergroup4.zoomshare.com/files/pc3assignment.pdf>

Certificate+Diploma Engineering (Civil)

To download, do not click the link, copy the link into address bar of the new browser page and then press “Enter”

www.iqytechnicalcollege.com/CECertDip.zip Study CE110

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Exercises Download Link

www.highlightcomputer.com/DipCivilEnggAssignments.pdf

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Practical

PC 3-Certificate in Building Construction

<http://www.highlightcomputer.com/PracticalCourses.htm#d>

- **Practical Demonstration Videos(Youtube)**

Construction

<http://youtu.be/oR3Z8ZKesJ0>

<http://youtu.be/a7UYxAY1BbA>

http://youtu.be/_47yGGCJ4xk

Roofing

<http://youtu.be/bTOhIWp2A3Y>

<http://youtu.be/myuUPoIHn9U>

Scaffolding

<http://youtu.be/xwvuwVdVkFbg>

Stair Construction

<http://youtu.be/JB1i8NO2rcA>

Stone Veneer Building

<http://youtu.be/MmnbA8CrzS0>

- **Written Lesson Notes in Myanmar+ English**

www.iqytechnicalcollege.com/CECertDip.zip

- [Engineering Drawing—See CE104](#)
- [Building Construction--See CE106](#)

PC3BuildingConstruction1.pdf (98.84MB)

<http://www.filefactory.com/file/7hk1m392wbx9/n/PC3BuildingConstruction1.pdf>

PC3BuildingConstruction2.pdf (94.66MB)

<http://www.filefactory.com/file/tsalkeel0ib/n/PC3BuildingConstruction2.pdf>

PC3BuildingConstruction3.pdf (91.29MB)

<http://www.filefactory.com/file/1ml8ethr4s2x/n/PC3BuildingConstruction3.pdf>

PC2PlumbingCourse4.pdf (105.12MB)

<http://www.filefactory.com/file/497ogpe2zrqh/n/PC2PlumbingCourse4.pdf>

PC3BuildingConstruction6.pdf (112.85MB)

<http://www.filefactory.com/file/4n08wgevlb2j/n/PC3BuildingConstruction6.pdf>

PC3BuildingConstruction7.pdf (59.92MB)

<http://www.filefactory.com/file/33hfeo9xxtqz/n/PC3BuildingConstruction7.pdf>

Textbooks in Myanmar Language

LMA)Building Estimating.pdf (25.51MB)

[http://www.filefactory.com/file/9d7mwa6d18f/n/LMA\)Building_Estimating.pdf](http://www.filefactory.com/file/9d7mwa6d18f/n/LMA)Building_Estimating.pdf)

LMA)1-Drawing .pdf (33.6MB)

[http://www.filefactory.com/file/4pnlm938i5pn/n/LMA\)1-Drawing_.pdf](http://www.filefactory.com/file/4pnlm938i5pn/n/LMA)1-Drawing_.pdf)

LMA)Building Engineering Handbook.pdf (9.41MB)

[http://www.filefactory.com/file/5cuh5xbhs3q9/n/LMA\)Building_Engineering_Handbook.pdf](http://www.filefactory.com/file/5cuh5xbhs3q9/n/LMA)Building_Engineering_Handbook.pdf)

EXERCISE ASSIGNMENTS

<http://highlightcomputergroup4.zoomshare.com/files/pc3assignment.pdf>

CE107 Water Supply (4 Points)

www.iqytechnicalcollege.com/CECertDip.zip

VIDEOS

Lesson 1

<https://youtu.be/uet7br9U7vo>

Lesson 2

<https://youtu.be/EZOnxtgpW-g>

Lesson 3

<https://youtu.be/WZ3CPCnuSWY>

Lesson 4

<https://youtu.be/z9g9HwDpyU>

Lesson 5

<https://youtu.be/sZziW7Jcx3c>

Lesson 6

<https://youtu.be/C1VjCawfeoY>

Lesson 7

https://youtu.be/0ct_ZF52e1U

Lesson 8

https://youtu.be/JYc_cQQLE64

Lesson 9

https://youtu.be/ehZoz58Fq_8

Lesson 10

<https://youtu.be/8UcHyDiYWP8>

Lesson 11

<https://youtu.be/Pw3BBwQw7hI>

Lesson 12

<https://youtu.be/mhoV6eeP9NM>

Lesson 13

<https://youtu.be/eJW-XMexfBk>

Lesson 14

<https://youtu.be/IF3E0PdWMYs>

Lesson 15

https://youtu.be/g_d6CoaZ_TE

Lesson 16

<https://youtu.be/fPMRvSVGXs0>

Lesson 17

<https://youtu.be/ttnzRICRQ9I>

Lesson 18

<https://youtu.be/2cgvnOfAMXY>

Lesson 19

<https://youtu.be/nrTWrs7euN0>

Lesson 20

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Notes

Certificate+Diploma Engineering (Civil)

To download, do not click the link, copy the link into address bar of the new browser page and then press "Enter"

www.iqytechnicalcollege.com/CECertDip.zip Study CE107

Exercises [Download Link](#)

www.highlightcomputer.com/DipCivilEnggAssignments.pdf

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Practical

PC 2-Certificate in Plumbing

<http://www.highlightcomputer.com/PracticalCourses.htm#b>

Pipe Fitting

<http://youtu.be/oVo3lpKYdgU>

<http://youtu.be/BrMDSHEeL6k>

<http://youtu.be/uUxnWvaNTs0>

Plumbing

<http://youtu.be/gypTjOYnFw8>

http://youtu.be/P1Qb_3kvsGM

<http://youtu.be/MfjQfwzQ6mo>

- **Written Lesson Notes in Myanmar+ English**

www.iqytechnicalcollege.com/CECertDip.zip

Plumbing-See CE107

PC2PlumbingCourse1.pdf (118.52MB)

<http://www.filefactory.com/file/6rc20540jn0n/n/PC2PlumbingCourse1.pdf>

PC2PlumbingCourse2.pdf (115.91MB)

<http://www.filefactory.com/file/4vmhhj48bd9v/n/PC2PlumbingCourse2.pdf>

PC2PlumbingCourse3.pdf (119.86MB)

<http://www.filefactory.com/file/1ue18eu0xi93/n/PC2PlumbingCourse3.pdf>

Textbooks in Myanmar Language

Cop_SEWERAGE_AND_SANITARY_WORKS_PART-3.pdf (5.14MB)

[http://www.filefactory.com/file/40u4kzo5lipz/n/Cop_SEWERAGE_AND_SANITARY_WORKS_PA
RT-3.pdf](http://www.filefactory.com/file/40u4kzo5lipz/n/Cop_SEWERAGE_AND_SANITARY_WORKS_PART-3.pdf)

Class Lesson +Audio

www.highlightcomputer.com/mvtcpracticalcourses.htm

See PC2

EXERCISE ASSIGNMENTS

<http://highlightcomputergroup4.zoomshare.com/files/pc2assignment.pdf>

CE106 Brick Laying, Sprouting and Gutter Construction (4 Points)

www.iqytechnicalcollege.com/CECertDip.zip

CE 106 Brick Laying

VIDEO

<https://youtu.be/sKOTNcQXpRM>

Notes

Certificate+Diploma Engineering (Civil)

To download, do not click the link, copy the link into address bar of the new browser page and then press "Enter"

www.iqytechnicalcollege.com/CECertDip.zip

Study CE106

[Exercises Download Link](#)

Practicals

PC 1-Certificate in Bricklaying & Masonry

- **Practical Demonstration Videos (Youtube)**

- Brick Laying
 - <http://youtu.be/HB9nAUQ402s>
 - <http://youtu.be/UDrd2B7qRZQ>
 - http://youtu.be/fXiO50LKS_g
 -
- Concrete Stair Building
 - http://youtu.be/d_28wf-r_QM
 - <http://youtu.be/3Y9-C6392II>
 - <http://youtu.be/z72SeHNEN-8>

- **Written Lesson Notes in Myanmar+ English**

www.igytechnicalcollege.com/CECertDip.zip

- Bricklaying-See CE106 Part ½

PC1BrickLayingCourse1.pdf (64.44MB)

<http://www.filefactory.com/file/6ygg0q0eho3p/n/PC1BrickLayingCourse1.pdf>

PC1BrickLayingCourse2.pdf (68.98MB)

<http://www.filefactory.com/file/52n0xu67t8g7/n/PC1BrickLayingCourse2.pdf>

PC1BrickLayingCourse3.pdf (55.84MB)

<http://www.filefactory.com/file/4l9sj7lXu3bz/n/PC1BrickLayingCourse3.pdf>

VIDEO

<https://youtu.be/sKOTNcQXpRM>

CE106 MVTC13PC 1-Certificate in Bricklaying & Masonry

www.igytechnicalcollege.com/CECertDip.zip

Exercises Download Link

www.highlightcomputer.com/DipCivilEnggAssignments.pdf

- **Practical Demonstration Videos (Youtube)**

- Brick Laying
 - <http://youtu.be/HB9nAUQ402s>
 - <http://youtu.be/UDrd2B7qRZQ>
 - http://youtu.be/fXiO50LKS_g

-

- Concrete Stair Building
 - http://youtu.be/d_28wf-r_QM
 - <http://youtu.be/3Y9-C6392II>
 - <http://youtu.be/z72SeHNEN-8>

- **Written Lesson Notes in Myanmar+ English**

www.igytechnicalcollege.com/CECertDip.zip

- Bricklaying-See CE106 Part ½

PC1BrickLayingCourse1.pdf (64.44MB)

<http://www.filefactory.com/file/6ygg0q0eho3p/n/PC1BrickLayingCourse1.pdf>

PC1BrickLayingCourse2.pdf (68.98MB)

<http://www.filefactory.com/file/52n0xu67t8g7/n/PC1BrickLayingCourse2.pdf>

PC1BrickLayingCourse3.pdf (55.84MB)

<http://www.filefactory.com/file/4l9sj7lXu3bz/n/PC1BrickLayingCourse3.pdf>

Class Lesson +Audio

www.highlightcomputer.com/mvtcpracticalcourses.htm

See PC1

EXERCISE ASSIGNMENTS

<http://highlightcomputergroup4.zoomshare.com/files/pc1assignment.pdf>

PC 4-Certificate in Gutter Construction

- Practical Demonstration Videos (Youtube)

Wall Guttering

<http://youtu.be/b-Cdlrcjfis>

- Written Lesson Notes in Myanmar+ English

www.iqytechnicalcollege.com/CECertDip.zip

Building Construction (Gutter Construction)--See CE106

PC4GutterConstruction1.pdf (47.37MB)

<http://www.filefactory.com/file/4ahvhx48od87/n/PC4GutterConstruction1.pdf>

PC4GutterConstruction2.pdf (42.73MB)

<http://www.filefactory.com/file/5716wpqkv5hb/n/PC4GutterConstruction2.pdf>

PC4GutterConstruction3.pdf (40.51MB)

<http://www.filefactory.com/file/4o9r0l99tuib/n/PC4GutterConstruction3.pdf>

PC4GutterConstruction4.pdf (56.02MB)

<http://www.filefactory.com/file/1851ziplmuwd/n/PC4GutterConstruction4.pdf>

Contents	Unit Code
Spouting/ Guttering	Building Construction

-

Contents	Unit Code
--------------------------	---------------------------

Drainage pipe, Ventilation

Building services

EXERCISE ASSIGNMENTS

<http://highlightcomputergroup4.zoomshare.com/files/pc4assignment.pdf>

Class Lesson +Audio

www.highlightcomputer.com/mvtpcpracticalcourses.htm

See PC4

MVTC401-Diploma in Rural Development (32 Credits)

CE111 Road Bridge and Irrigation System Construction (4 Points)

<http://www.mongroupsdney1.com/AdvDipCivilEnggCE111114115.zip>

VIDEOS

Civil Video1

Civil Video2

Civil Video3

VIDEO

Lesson 1 Stress and strain

<http://youtu.be/u1LyOKSxOfQ>

Lesson 2 Centre of mass

<http://youtu.be/EY8rM9MSE1k>

Lesson 3 Equilibrium

<http://youtu.be/YtJmMWJIZqI>

Lesson 4 Thermal expansion

<http://youtu.be/EM0DmVWSv8k>

Lesson 5 Strength of materials 1

<http://youtu.be/j1Cx4gVGSk>

Lesson 6 Structure

BAE621B1

<http://youtu.be/TNM7KtiWtr0>

Notes

www.highlightcomputer.com/CE114.pdf

www.highlightcomputer.com/CE115.pdf

www.highlightcomputer.com/CE115Part2.pdf

www.highlightcomputer.com/CE114StructurePart2Instruction.zip

Exercises Download Link

www.highlightcomputer.com/DipCivilEnggAssignments.pdf

Page 29 to 31

MVTC13PC9 Electrical Wiring (4 Points)

Electrical workshop

EE102

Basic Electrical Fitting & Wiring

LESSON VIDEO-MYANMAR+ENGLISH

Lesson 1

<https://youtu.be/zSsvWcnfL8k>

Lesson 2

<https://youtu.be/qzymoBHwc8c>

Lesson 3

<https://youtu.be/iJ7l9WnyRc8>

Lesson 4

<https://youtu.be/DzlyM4QoG7w>

Lesson 5

<https://youtu.be/HVbn9ULdtf8>

Lesson 6

<https://youtu.be/5W-tozOR3r0>

Lesson 7

<https://youtu.be/b13dBzLfYCo>

Lesson 8

<https://youtu.be/ElnP0HKifa4>

Lesson 9

<https://youtu.be/2R7-LA9V0nY>

LESSON VIDEO- ENGLISH

E001+002+005+008+033/ E101+102+105+108+137+G106

Page 128 to 136 of http://www.filefactory.com/file/cf9bf8f/n/Video_Lessons.pdf

www.highlightcomputer.com/Video_Lessons.pdf

Electrical workshop

[Electrical workshop Lesson 1 OHS.zip](#)

(E101)

<https://youtu.be/5A9bw-oxqfI>

[Electrical workshop Lesson 2 Workplace hazard+Fix & secure equipment.zip](#)

(E102)

<http://youtu.be/aVKhYs9ga7Y>

[Electrical workshop Lesson 3 Mechanical fixing.zip](#)

(E105)

http://youtu.be/s0SUSmL_e4E

[Electrical workshop Lesson 4 Basic electrical wiring.zip](#)

(E108)

<http://youtu.be/gTjcE8ssull>

[Electrical workshop Lesson 5 Wiring circuits.zip](#)

(E107)

SUNP0007

<http://youtu.be/m0dN0Wp6LCI>

[Electrical workshop Lesson 6 Electrical safety testing.zip](#)

(E137)

<http://youtu.be/LqRybJxm0tE>

[Electrical workshop Lesson 7 Testing insulation and polarity.zip](#)

(E137)

<http://youtu.be/9j63r3Wz6y8>

<http://youtu.be/e5MjQdEua-U>

[Electrical workshop Lesson 8 Testing lighting polarity.zip](#)

LESSON

www.iqytechnicalcollege.com/EECertDipPart1a.zip

Do EE102

[Exercises Download Link](#)

www.highlightcomputer.com/DipElectEnggAssignments.pdf

EE107

Electrical Equipments/ MVTC 213-PC9Certificate in Electrical Wiring

LESSON VIDEO-MYANMAR+ENGLISH

Lesson 1

<https://youtu.be/NmC1hRklQBo>

Lesson 2

https://youtu.be/n6ru_boMLZ0

Lesson 3

<https://youtu.be/iXld3EiVmCM>

Lesson 4

<https://youtu.be/LhKv6EuEjs4>

Lesson 5

<https://youtu.be/mMe9S6d8d3w>

Lesson 6

<https://youtu.be/m9jOXnOfY6c>

Lesson 7

<https://youtu.be/HL6vf9G9mFY>

Lesson 8

<https://youtu.be/IGOeWPQ-B0M>

Lesson 9

<https://youtu.be/Qgnz3mFUFB0>

LESSON VIDEO- ENGLISH

www.igytechnicalcollege.com/EECertDipPart1a.zip

Do EE107

[Exercises Download Link](#)

www.highlightcomputer.com/DipElectEnggAssignments.pdf

ENGLISH LESSONS

<http://www.mongroupsdney1.com/youtubevideos.htm#a>

See EE107

Maximum Demand Calculation & Cable Selection—Thanlyin TU- 5 Jan 2016 Lecture

www.mongroupsdney1.com/CableselectionPPT.pdf

AS3000

AS3008

Advanced Electrical Wiring

<u>EE106</u>	<u>Advanced Electrical Wiring</u>

LESSON VIDEO-MYANMAR+ENGLISH

Lesson 1

<https://youtu.be/E5e-Uy6MHEM>

Lesson 2

<https://youtu.be/6LnOUyBWRTs>

Lesson 3

https://youtu.be/jSVZlejrF_w

Lesson 4

<https://youtu.be/SPGR6DnDt-M>

Lesson 5

<https://youtu.be/nT31m6zPcWg>

Lesson 6

<https://youtu.be/FFIXQ1rb4zA>

https://youtu.be/H0BWho_JfLI

Lesson 7

<https://youtu.be/qGbSbHZ21Yc>

https://youtu.be/P2-k_NLqliU

Lesson 8

https://youtu.be/ZPI3-H_MUwA

<https://youtu.be/UrJ9BRTYfoY>

Lesson 9

Lesson

www.iqytechnicalcollege.com/EECertDipPart1a.zip

Do EE105+106

[Exercises Download Link](#)

www.highlightcomputer.com/DipElectEnggAssignments.pdf

- **Written Lesson Notes in Myanmar+ English**

PC9Wiring1.pdf (59.02MB)

<http://www.filefactory.com/file/500298aqb20x/n/PC9Wiring1.pdf>

PC9Wiring2.pdf (60.58MB)

<http://www.filefactory.com/file/622ofias9rmn/n/PC9Wiring2.pdf>

Textbooks in Myanmar Language

LMA)Fault Finding.pdf (34.92MB)

[http://www.filefactory.com/file/2f6n1nnfkt2r/n/LMA\)Fault_Finding.pdf](http://www.filefactory.com/file/2f6n1nnfkt2r/n/LMA)Fault_Finding.pdf)

Product_Safety_by_AyeThwin.pdf (2.71MB)

http://www.filefactory.com/file/5hxjwqdke3k9/n/Product_Safety_by_AyeThwin.pdf

LMA)Home Wiring.pdf (9.37MB)

[http://www.filefactory.com/file/2zd41tgh8943/n/LMA\)Home_Wiring.pdf](http://www.filefactory.com/file/2zd41tgh8943/n/LMA)Home_Wiring.pdf)

LMA)Electrician Training.pdf (16.06MB)

[http://www.filefactory.com/file/4dy3wuq3eqid/n/LMA\)Electrician_Training.pdf](http://www.filefactory.com/file/4dy3wuq3eqid/n/LMA)Electrician_Training.pdf)

LMA)Electricity.pdf (2.69MB)

[http://www.filefactory.com/file/5nvlyaglfauz/n/LMA\)Electricity.pdf](http://www.filefactory.com/file/5nvlyaglfauz/n/LMA)Electricity.pdf)

LMA)AC to DC.pdf (13.13MB)

[http://www.filefactory.com/file/28ruflw4tfnf/n/LMA\)AC_to_DC.pdf](http://www.filefactory.com/file/28ruflw4tfnf/n/LMA)AC_to_DC.pdf)

LMA)Electrical Knowledge).pdf (0.21MB)

[http://www.filefactory.com/file/wx7xy00mrjt/n/LMA\)Electrical_Knowledge_\).pdf](http://www.filefactory.com/file/wx7xy00mrjt/n/LMA)Electrical_Knowledge_).pdf)

Design_Electrical_Installation_Systems_by_YanKyawMoe.pdf (8.35MB)

http://www.filefactory.com/file/5gqiq9laiaah/n/Design_Electrical_Installation_Systems_by_YanKyawMoe.pdf

Electrical_Safety_Basic_by_YanKyawMoe.pdf (1.35MB)

http://www.filefactory.com/file/6dtu2kn0gloh/n/Electrical_Safety_Basic_by_YanKyawMoe.pdf

EXERCISE ASSIGNMENTS



<http://highlightcomputergroup4.zoomshare.com/files/pc9assignment.pdf>

Class Lesson +Audio

www.highlightcomputer.com/mvtpcpracticalcourses.htm

See PC9

MVTC201Agriculture+MVTC202Animal Handling(4 Points)

CERTIFICATE IN AGRICULTURE FOOD PRODUCTION (MVTC201)

www.highlightcomputer.com/AgricultureLesson.pdf

CERTIFICATE IN ANIMALS HANDLING (MVTC202)

www.highlightcomputer.com/Animal1.pdf

MVTC2-4 Water Chemical Treatment (4 Points)

CERTIFICATE IN LABORATORY WATER OPERATIONS (MVTC204)

www.highlightcomputer.com/WaterChemicalNotes.pdf

MVTC501 Advanced Diploma in Rural Development (60Credits)

RE002 Grid Connected Power System (4 Points) together with EE101 DC Circuits+EE112 AC Circuits

RE002- Grid Connected Photovoltaic Power Systems

www.iqytechnicalcollege.com/RE002.zip

EE101 Dc Circuits+EE112 AC Circuits

www.iqytechnicalcollege.com/EECertDipPart1a.zip

[Exercises Download Link](#)

www.highlightcomputer.com/DipElectEnggAssignments.pdf

VIDEOS

RE002- Grid Connected Photovoltaic Power Systems-Electrical

Day 14Part 1

[Grid Connected Photovoltaic Power Systems 1\(Myanmar+English\)](#)

Topics-Sun Geometry, Solar Cell Connection

[Grid Connected Photovoltaic Power Systems 2\(Myanmar+English\)](#)

Topics-Solar Electrical System Installation

[Grid Connected Photovoltaic Power Systems 3\(Myanmar+English\)](#)

Topics-Power Output from solar cell, Grid Connection

[Grid Connected Photovoltaic Power Systems 4\(Myanmar+English\)](#)

Topics-Solar Installation Inspection

[Grid Connected Photovoltaic Power Systems 5\(Myanmar+English\)](#)

Topics-Lightning & Surge Protection, Metering

RE002- Grid Connected Photovoltaic Power Systems-Electrical

www.highlightcomputer.com/Day 14-Part 1-RE002- Grid Connected Photovoltaic Power Systems-Electrical.zip

RE002 Grid Connected PV system

RE 002 Part 1

Sun geometry 1

Daily irradiance 2, 9

Power output calculation 29, 31, 36

Pen circuit voltage 37,40,41,42,44

Inverter diagram 45,46,48,52,53

Grid protection 55, 56, 57, 58, 59

Lightening surge protection 62, 63

Net metering 64, 67, 68, Inspection& testing

73 PV array location 81, 82, 89, 90

PV power system 92,93,

Typical arrays 97,98,100,102,105,

Grid connected inverter 134,135,136,137,139,146

RE002 Part 2

Economy 16,20,23

Mgt101 Management Studies (4 Points)

www.highlightcomputer.com/Mgt101.zip

MVTC13PC6 Welding+MVTC13PC5FittingMachining (4 Points)

PC 7-Certificate in Engine Operation& Basic Servicing

ME 108

Principle of Engines

LESSON

<https://youtu.be/Hz4l27zBg9o>

Notes

<http://www.igytechnicalcollege.com/MECertDipPart3.zip> Study ME108

[Exercises Download Link](#)

www.highlightcomputer.com/DipMechEnggAssignments.pdf

Page 36 to 38

- **Practical Demonstration Videos (Youtube)**

Engine

Engine Operation

http://youtu.be/D2oRi_Ah3Qw

<http://youtu.be/134v3KwjfOo>

<http://youtu.be/hX5JsvqQdYY>

Engine Assembly

<http://youtu.be/kSo7QLPWous>

http://youtu.be/873FS9_69XQ

<http://youtu.be/6Fe1XoZ2EsM>

<http://youtu.be/t4YVfT0zgjc>

Engine Operation+ Maintenance+ Servicing

<http://youtu.be/NdT6sC8vZoA>

<http://youtu.be/Y64KllvgFp0>

<http://youtu.be/UP1hjxiTRqc>

Gear Box

<http://youtu.be/aEpt5k9StnA>

<http://youtu.be/9cEqWWSFM6w>

Hydraulic pump

<http://youtu.be/0lUGOJovRr0>

Ignition

<http://youtu.be/fD3CeDKnDXQ>

Power Steering

<http://youtu.be/aLIDMkLhtgQ>

<http://youtu.be/3xFRPInWxks>

<http://youtu.be/E3JNnE14kOQ>

<http://youtu.be/ljk7dFtc6iw>

Steering

http://youtu.be/e_fUAoA8_Nk

<http://youtu.be/8wwue7d8LsM>

<http://youtu.be/FUr6Jlca0jM>

<http://youtu.be/AQupRDqe1hU>

Oil Pump

<http://youtu.be/yQFeOQPPtSI>

<http://youtu.be/F1LTndD89Eo>

Pump assembly

http://youtu.be/9G0Qjf_aPp4

<http://youtu.be/4318Rkolnwg>

Compressor

<http://youtu.be/gnHHTX2ybg0>

http://youtu.be/t8s_LodB3t8

- **Written Lesson Notes in Myanmar+ English**

PC7Engine1.pdf (79.88MB)

<http://www.filefactory.com/file/5t146pcis1jn/n/PC7Engine1.pdf>

PC7Engine2.pdf (91.37MB)

<http://www.filefactory.com/file/45wtntlk5o39/n/PC7Engine2.pdf>

PC7Engine3.pdf (96.42MB)

<http://www.filefactory.com/file/5up6yb6vpwid/n/PC7Engine3.pdf>

PC7Engine4.pdf (125.64MB)

<http://www.filefactory.com/file/3rk3d5lczh87/n/PC7Engine4.pdf>

PC7Engine5.pdf (85.97MB)

<http://www.filefactory.com/file/5girb9s0zkk/n/PC7Engine5.pdf>

PC7Engine6.pdf (54.66MB)

<http://www.filefactory.com/file/4hm9hi7tn2px/n/PC7Engine6.pdf>

Textbooks in Myanmar Language

LMA)Automotive 1.pdf (63.9MB)

[http://www.filefactory.com/file/4qi580wuyimb/n/LMA\)Automotive_1.pdf](http://www.filefactory.com/file/4qi580wuyimb/n/LMA)Automotive_1.pdf)

LMAAuto EFI .pdf (42.17MB)

http://www.filefactory.com/file/16c4rsn1p95/n/LMAAuto_EFI_.pdf

LMA)AutoElectricity.pdf (80.31MB)

[http://www.filefactory.com/file/6dq2ozaud8bd/n/LMA\)AutoElectricity.pdf](http://www.filefactory.com/file/6dq2ozaud8bd/n/LMA)AutoElectricity.pdf)

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www.highlightcomputer.com/mvtcpracticalcourses.htm

See PC7

EXERCISE ASSIGNMENTS

<http://highlightcomputergroup4.zoomshare.com/files/pc7assignment.pdf>

MVTC13PC6 Welding+MVTC13PC5FittingMachining (4 Points)

MTC13 PC 6-Certificate in Welding

- **Practical Demonstration Videos (Youtube)**

Welding

<http://youtu.be/JQDXMNokDfk>

<http://youtu.be/Br1wBGZpqcc>

- **Written Lesson Notes in Myanmar+ English**

PC6Welding1.pdf (102.44MB)

<http://www.filefactory.com/file/3sxvo5m6rvid/n/PC6Welding1.pdf>

PC6Welding2.pdf (104.91MB)

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PC6Welding3.pdf (110.26MB)

<http://www.filefactory.com/file/20112foljyb1/n/PC6Welding3.pdf>

PC6Welding4.pdf (103.43MB)

<http://www.filefactory.com/file/281u6fo318ml/n/PC6Welding4.pdf>

PC6Welding5.pdf (101.34MB)

<http://www.filefactory.com/file/30v2cgi6qnz9/n/PC6Welding5.pdf>

EXERCISE ASSIGNMENTS

<http://highlightcomputergroup4.zoomshare.com/files/pc6assignment.pdf>

MTC13 PC 5-Certificate in Fitting & Machining

- **Practical Demonstration Videos (Youtube)**

Workshop

Drilling

<http://youtu.be/7XHyRDCcPO0>

<http://youtu.be/xQgHiPkWUT4>

Lathe

<http://youtu.be/9ONbdNyK7Rk>

Milling

http://youtu.be/T3yxKBJ_YQg

Shaping

<http://youtu.be/aVvEmbzKpyY>

<http://youtu.be/SKG0SD05Jic>

Written Lesson Notes in Myanmar+ English

PC5FittingMachining1.pdf (115.17MB)

<http://www.filefactory.com/file/1rwkh7dormg5/n/PC5FittingMachining1.pdf>

PC5FittingMachining2.pdf (111.92MB)

<http://www.filefactory.com/file/781te7eb8jfd/n/PC5FittingMachining2.pdf>

PC5FittingMachining3.pdf (120.08MB)

<http://www.filefactory.com/file/otj4ail7lqh/n/PC5FittingMachining3.pdf>

PC5FittingMachining4.pdf (115.86MB)

<http://www.filefactory.com/file/1d6n0uadex53/n/PC5FittingMachining4.pdf>

PC5FittingMachining5.pdf (125.88MB)

<http://www.filefactory.com/file/7jqo3irrld3d/n/PC5FittingMachining5.pdf>

PC5FittingMachining6.pdf (108.76MB)

<http://www.filefactory.com/file/47xxwuitf2rl/n/PC5FittingMachining6.pdf>

PC5FittingMachining7.pdf (51MB)

<http://www.filefactory.com/file/vyx9cp95uzn/n/PC5FittingMachining7.pdf>

Class Lesson +Audio

www.highlightcomputer.com/mvtpcpracticalcourses.htm

See PC6

EXERCISE ASSIGNMENTS

<http://highlightcomputergroup4.zoomshare.com/files/pc5assignment.pdf>

MVTC209 Transport Logistics (4 Points)

www.highlightcomputer.com/LogisticNotes.pdf

ME201 Hydraulics (4 Points)

ME201 Fluid Mechanics

VIDEO

Lesson 1

<https://youtu.be/EDL0FEp7tS0>

Lesson 2

<https://youtu.be/TfggYG-cSqc>

Lesson 3

<https://youtu.be/F8HYmLYHSQM>



Notes

To download, do not click the link, copy the link into address bar of the new browser page and then press “Enter”

www.iqytechnicalcollege.com/CECertDip.zip Study CE107

ME201 Fluid Mechanics

www.iqytechnicalcollege.com/MECertDip.zip

Study ME201

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www.highlightcomputer.com/DipCivilEnggAssignments.pdf

www.iqytechnicalcollege.com/MECertDip.zip

[Exercises Download Link](#)

www.highlightcomputer.com/DipMechEnggAssignments.pdf

[Mechanical Video](#)

EE118 Electrical Supply System (4 Points)

EE118	Electrical Energy Supply System
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Lesson 1

<https://youtu.be/fsVjRrMj3fw>

Lesson 2

https://youtu.be/og-n_8RzqQE

Lesson 3

<https://youtu.be/wjAtPNwGKOQ>

Lesson 4

<https://youtu.be/wjAtPNwGKOQ>

Lesson 5

https://youtu.be/-FNsW_NYtp8

Lesson 6

<https://youtu.be/OHFFNtw9X8s>

LESSON

www.iqytechnicalcollege.com/EECertDipPart1b.zip

Do EE118

[Exercises Download Link](#)

www.highlightcomputer.com/DipElectEnggAssignments.pdf

ENGLISH LESSONS

<http://www.mongroupsydney1.com/youtubevideos.htm#a>

See EE118

www.iqytechnicalcollege.com/EECertDipPart1b.zip

[Exercises Download Link](#)

www.highlightcomputer.com/DipElectEnggAssignments.pdf

ELECTRICAL VIDEOS

[Electrical Video1](#)

[Electrical Video2](#)

[Electrical Video3](#)

[Electrical Video4](#)

[Electrical Video5](#)

[Electrical Video6](#)

[Electrical Video7](#)

MVTC601-Professional Diploma of Rural Development Engineering

(Bachelor of Applied Engineering-Rural Development)

(St Clements University/ STC Technological University)

TOTAL 24 Units at 60 Credit points

BE General Discipline (Total 12 units)

(Each 2 Credit points)

YEAR 2+3

Professional Diploma in Engineering (Year 3)

www.iqytechnicalcollege.com/profdipengg.htm

1 BAE 401 Advanced Engineering Mathematics (2 pt)

2 BAE 402 Calculus (2 pt)

3 BAE 403 Engineering Mechanics (2 pt)

4 BAE 404 Engineering Materials & Thermodynamics (2 pt)

5 RE001- Foundation Studies in Renewable Energy and Sustainability (2 pt)

6.RE003- Solar and Thermal Energy Systems (2 pt)

7.RE004- Energy Storage Systems(2 pt)

10 RE010-Engineering Materials(2 pt)

11 RE012a-Electrical Engineering Part 1(2 pt)

12RE016-Design& Management (2 pt)

Professional Diploma/BE (Rural Development)

(Total 12 units) (Each 2 Credit points)

YEAR 4+5

13.RE013-Electrical Machines (2 pt)

<http://www.iqytechnicalcollege.com/profdipelectengg.htm#z6>

14.BAE 501 Advanced Power Systems & Power Transmission Networks

<http://www.iqytechnicalcollege.com/profdipelectengg.htm#z9>

Rural Electrical Power Supply System

<http://www.iqytechnicalcollege.com/BRDE-BAE501R Rural Power Supply.pdf>

16.BAE 604 Telecommunication Engineering

<http://www.iqytechnicalcollege.com/profdipelectengg.htm#z11>

Rural Telecommunication System

<http://www.iqytechnicalcollege.com/BRDE-BAE604R Rural Telecommunication.pdf>

<http://www.iqytechnicalcollege.com/BRDE-BAE 604 Part 2.pdf>

17.BAE421 Building Construction Engineering (2 pt)

<http://www.iqytechnicalcollege.com/profdipcivilengg.htm#z3>

18. BAE422 Estimating (2 pt)

<http://www.iqytechnicalcollege.com/profdipcivilengg.htm#z7>

19. BAE423 Fluid Mechanics (2 pt)

<http://www.iqytechnicalcollege.com/profdipcivilengg.htm#z6>

20. BAE424 Reinforced Concrete (2 pt)

<http://www.iqytechnicalcollege.com/profdipcivilengg.htm#z8>

22. BAE 523A Environmental Engineering (2 pt)

<http://www.iqytechnicalcollege.com/profdipcivilengg.htm#z10>

23.BAE621 Structural Engineering (2 pt)

<http://www.iqytechnicalcollege.com/profdipcivilengg.htm#z11>

24.BAE511 Air-conditioning & Refrigeration (2 pt)

<http://www.iqytechnicalcollege.com/profdipmechengg.htm#z8>

Solar Powered Refrigeration for Rural Area

<http://www.iqytechnicalcollege.com/BAE511R Solar Refrigeration.pdf>

<http://www.iqytechnicalcollege.com/BAE511RPart 2.pdf>

Engineering Competency Demonstration Report

25.BAE608 Engineering Competency Demonstration Report (2 credit points)

Engineering Handbook Applications

www.iqytechnicalcollege.com/Form185engghandbookapplication.htm

Advanced Diploma in Information Technology (Course Outline)

	St Clements+ Highlight Course	Pt				Australian IT Diploma Course
THEORETICAL TRAINING						
ICT 201	Organisational Behaviour	5			BSBWOR502B BSBMGT516A BSBSUS501A	Ensure team effectiveness Facilitate continuous improvement Develop workplace policy and procedures for sustainability
ICT 202	Information Systems Principles and Networking	5	BAE602		ICANWK516A ICANWK532A ICANWK614A	Determine best-fit topology for a local network Identify and resolve network problems Manage IT security
ICT 203	Information Systems, Analysis and Design	5	BAE602	2	ICAPRG602A ICAICT509A ICAICT603A ICAICT608A ICAPMG606A ICAICT713A	Manage the development of technical solutions from business specifications Gather data to identify business requirements Manage the use of appropriate development methodologies Interact with clients on a business level Manage IT project quality Manage IT services
ICT 204	Advanced Programming	5	BAE601		ICAPRG527A ICAPRG501A ICAPRG505A	Apply intermediate object-oriented language skills Apply advanced object-oriented language skills Build advanced user interface
ICT 205	Project Work	5	BAE602	Core	ICAPRG506A	Manage copyright, ethics and privacy in an IT environment
ICT 206	WORK PERFORMANCE ASSESSMENT			Core	ICAPMG601A	Establish IT project governance
				Core	ICAPMG602A	*Manage IT project initiation
				Core	ICAPMG603A	*Manage IT project planning
				Core	ICAPMG604A	*Manage IT project delivery
	Total	30		Core	ICAPMG605A	*Manage IT project closure

32115 Advanced Diploma in General Engineering and Drafting (with Basic Business and IT)

For the students who have not passed Year 10/ University Entrance Examination.

Tutoring for the university entrance examination level subjects are concurrently provided

Unit number & Points	Unit name	Credit Points
EE201G	Mathematics	3 Pt
EE204G	Physics	3 Pt
ME 207G	Chemistry	3 Pt
EE101	DC Circuit Problems	3 Pt
EE102	Basic Electrical Fitting & Wiring /MVTC 213-PC9 Certificate in Electrical Wiring	3 Pt
EE103	Basic Electrical Drafting / MVTC 213-PC9Certificate in Electrical Wiring	3 Pt
EE105	Electrical Installation Design / MVTC 213-PC9Certificate in Electrical Wiring	3 Pt
EE110	Computer Applications	3 Pt
CE 106A	Detailed Construction & Building Construction Materials/MVTC213 PC1 Certificate in Brick Laying and Masonry	3 Pt
CE 104 A	Building Drawing/ MVTC213 PC1 Certificate in Brick Laying and Masonry	3 Pt

CE 110	Building Construction/MVTC213 PC3 Certificate in Building Construction	3 Pt
CE 107	Sanitation-and-Water-supply/MVTC213 PC2 Certificate in Plumbing	3 Pt
EE107	Electrical Equipment / MVTC 213-PC9Certificate in Electrical Wiring	3 Pt
ME103	Engineering Mechanics	3 Pt
ME 108	Principles of Engines/ PC 7-Certificate in Engine Operation & Basic Servicing	3 Pt
MVTC213 PC5	Certificate in Fitting and Machining	3 Pt
Mgt101G	Business and Management Principle	3 Pt
EE104	Electrical Equipment Safety Protection	3 Pt
Mgt207G	Business Letter Writing/ Business English	3 Pt
EE109	Electrical Control Circuits /MVTC213 PC15 Certificate in Basic Electronics	3 Pt
	Total	60 Pt

The students who complete this course can continue to the study in Advanced Diploma in Electrical/ Civil/ Mechanical Engineering Courses.

The students who do not want to do engineering can do only Mgt101G, Mgt207G and EE110 and then attend Advanced Diploma in Management (OR) Advanced Diploma in Information Technology.

Agricultural Engineering (67443321)

Professional Diploma in Agricultural Engineering Bachelor of Agricultural Engineering

Preliminary Course

Diploma in General Engineering

(First 6 months)(Foundation Year)

FE101 Engineering Mathematics (for Mathematics 1)

FE102 Engineering Physics (For Physics 1)

FE103 Engineering Workshop

FE104 Engineering Drawing (For Technical Drawing)

FE105 Sustainability

Diploma in Agricultural Engineering

YEAR 1

6 credits/ unit x 5=30 Credits

AGRE101 Chemistry (For General Chemistry) (6 Credit)

To complete Chemistry

AGRE 102 Statistics (For Basic Statics) (6 Credit)

AGRE 103 Botany (For Botany) (6 Credit)

(To complete Science)

AGRE 104 Computer (For Computer) (6 Credit)

(To complete Software Design)

AGRE105 Culture Plants (for Morphology of Culture Plants 1+2) (6 Credit)

This subject consists of the following units taken from Australian Agricultural Training Package

AHCNSY306 Implement a propagation plan

AHCNSY306 မျိုးပွား ဖြန့်ဖြူးရေးအစီအစဉ်ကိုအကောင်အထည်ဖော်ပါ

V55

AHCORG403 Manage organic soil improvement

AHCORG403 အော်ဂဲနစ်မြေဆီလွှာတိုးတက်မှုကိုစီမံပါ

V56

AHCPCM301 Implement a plant nutrition program

AHCPCM301 အပင်အာဟာရအစီအစဉ်ကိုအကောင်အထည်ဖော်ပါ

V57

AHCPCM302 Provide information on plants and their culture

AHCPCM302 အပင်များနှင့်၎င်းတို့၏သဘာဝအကြောင်းသတင်းအချက်အလက်ပေးပါ

V58

AHCPCM304 Report on health and condition of trees

AHCPCM304 သစ်ပင်၏ကျန်းမာရေးနှင့်အခြေအနေ

V59

The students will need to do internet research for the activities given by teachers

Reference Textbook

The students will need to submit 20 pages study report by reading the reference book.

Advanced Diploma in Agricultural Engineering

YEAR 2

6 credits/ unit x 5=30 Credits

AGRE201 Analytical Chemistry (for Analytical Chemistry)(6 credits)

ECh11011	Engineering Chemistry I

The students will need to submit 20 pages study report by reading the reference book.

AGRE202 Organic Chemistry (for Organic Chemistry) (6 credits)

ChE 11001	Organic Chemistry
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The students will need to submit 20 pages study report by reading the reference book.

AGRE203/CE115 Estimating (Civil Engineering) (6 credits)

BAE 644-Estimating

BAE 690-Mechanical Estimating

AGRE204 Meterology (6 credits)

Textbook

The students will need to submit 20 pages study report by reading the reference book.

AGRE205 General Civil Engineering for Agriculture (6 credits)

As part of Agricultural Engineering, the students are required to complete some units
Diploma in Civil Engineering at Year 2

CE105 Hydraulics

CE-106 Brick Laying

CE107 Sanitation Water Supply

Professional Diploma in Agricultural Engineering Technology
Bachelor of Technology (Agricultural Engineering)

YEAR 3

6 credits/ unit x 5=30 Credits

AGRE301 Agriculture of Garden Plants (for Agriculture of Garden Plants) (6 credits)

This subject consists of the following units taken from Australian Agricultural Training Package

AHCPHT306 ဟင်းသီးဟင်းရွက်သီးနှံများစိုက်ပျိုးပါ

V63

AHCPHT307 - Prepare raw materials and compost feedstock

AHCPHT307 - ကုန်ကြမ်းများနှင့်မွေးမြူရေးပစ္စည်းများပြင်ဆင်ပါ

V64

AHCPHT310 Coordinate horticultural crop harvesting

AHCPHT310 ဟင်းသီးဟင်းရွက်သီးနှံရိတ်သိမ်းမှုညှိနှိုင်းဆောင်ရွက်သည်

V65

The students will need to do internet research for the activities given by teachers

Reference Textbook

- horti2008

from the following link

The students will need to submit 20 pages study report by reading the reference book.

AGRE302 Agriculture of Plantation Plants, Plant Feeding & Plant Protection for (Agriculture of Plantation Plants, Plant Feeding & Plant Protection) (6 credits)

This subject consists of the following units taken from Australian Agricultural Training Package

AHCPGD301 Implement a plant establishment program

AHCPGD301 စက်ရုံတည်ထောင်ခြင်းအစီအစဉ်ကိုအကောင်အထည်ဖော်ပါ

V60

AHCPHT303 Implement a post-harvest program

AHCPHT303 ရိတ်သိမ်းချိန်လွန်အစီအစဉ်ကိုအကောင်အထည်ဖော်ပါ

V61

AHCPHT305 Regulate crops

AHCPHT305 ကောက်ပဲသီးနှံများကိုထိန်းညှိပါ

V62

AHCPHT306 Establish horticultural crops

AHCPMG301 Control weeds

AHCPMG301 ထိန်းချုပ်မှုပေါင်းပင်

V66

AHCPMG302 Control plant pests, diseases and disorders

AHCPMG302 စက်ရုံပိုးမွှားများ၊ ရောဂါများနှင့်ရောဂါများကိုထိန်းချုပ်သည်

V67

AHCPMG305 Survey pests

AHCPMG305 ပိုးမွှားစစ်တမ်း

V68

AHCSS00027 Agricultural Chemical Skill Set.

AHCSS00027 စိုက်ပျိုးရေးဓာတ်ုကျွမ်းကျင်မှုသတ်မှတ်။

V70

AHCSS00074 Agricultural Chemical Skill Set.

AHCSS00074 စိုက်ပျိုးရေးဓာတ်ုကျွမ်းကျင်မှုအစုံ။

V71

AHCWHS301 Contribute to work health and safety processes

AHCWHS401 Maintain work health and safety processes.

AHCWHS401 အလုပ်ကျွန်းမာရေးနှင့်ဘေးကင်းရေးလုပ်ငန်းစဉ်များကိုထိန်းသိမ်းပါ။

V72

The students will need to do internet research for the activities given by teachers

Reference Textbook

- AgriculturalProducts&YouPPT
- Gardening_pleasures

from the following link

The students will need to submit 20 pages study report by reading the reference book.

AGRE303 Agricultural Economy (for Agricultural Economy)

Read

- GlobalTrendsInAgriculture
- HumanNeeds&FoodProducts
- Conservation_on_private_land

from the following link

The students will need to submit 20 pages study report by reading the reference book.

AGRE303 Food Science and Technology (6 credits)

Read

- CareersinFoodSciencePPT
- HumanNeeds&FoodProducts
- Sustainable Agriculture

from the following link

Video

Read any two textbooks
from the following link

The students will need to submit 20 pages study report by reading the reference book.

AGRE304 Agricultural Ecology (6 credits)

Read

- Agriculture_and_Ecosystems-Lesson

from the following link

The students will need to submit 20 pages study report by reading the reference book.

AGRE305 Plant Physiology (6 credits)

Read

The students will need to submit 20 pages study report by reading the reference book.

Professional Diploma in Agricultural Engineering

Bachelor of Engineering (Agricultural Engineering)

YEAR 4

6 credits/ unit x 5=30 Credits

AGRE401 Agricultural Water and Drainage (6 Credits)

CPCPCM3022A Weld polyethylene and polypropylene pipes using fusion method

CPCPCM3023A Fabricate and install non-ferrous pressure piping

CPCPCM4012A Estimate and cost work

CPCPDR2021A Locate and clear blockages.

CPCPDR2022A - Install domestic treatment plants

CPCPDR2023A Maintain effluent disinfection systems

CPCPDR2024A Install stormwater and sub-soil drainage systems

CPCPDR2025A Drain work site

CPCPDR2026A Install prefabricated inspection openings and enclosures

CPCPDR3021A Plan layout of a residential sanitary drainage system

CPCPDR3022A - Install below ground sanitary drainage systems.

CPCPDR3023A - Install on-site disposal systems

CPCPFS3031A - Fabricate and install fire hydrant and hose reel systems

CPCPSN3025A Install pre-treatment facilities.

CPCPWT3020A - Connect and install storage tanks to a domestic water supply

CPCPWT3021A Set out and install water services.

CPCPWT3022A - Install and adjust water service controls and devices.

CPCPWT3023A - Install and commission water heating systems

CPCPWT3025A Install water pumpset

CPCPWT3027A Connect irrigation systems from drinking water supply

CPCPWT4011B Design and size heated and cold water services and systems.

RIICBS208D Conduct road maintenance operations

RIICBS303D - Conduct materials transfer vehicle operations

RIICCM201D - Carry out measurements and calculations

RIICCM202D – Identify, locate and protect underground services

RIICCM203D - Read and interpret plans and job specifications

RIICCM205D Carry out manual excavation

RIICCM206D - Support plant operations

RIICCM207D - Spread and compact materials manually

RIICCM208D Carry out basic levelling.

RIICCM209D Carry out concrete work.

RIICCM210D - Install trench support

RIICCM211D - Erect and dismantle temporary fencing and gates

RIICCM301D Construct and dismantle fences and gates

RIICPL301D Install water mains pipelines

RIICPL302D Install stormwater systems

RIICPL303D Install sewer pipelines

RIICRC203D Install sub-soil drainage.

RIICRC204D Install and maintain roadside fixtures.

RIICRC208D - Lay pipes

RIICRC301D Maintain drainage system

RIICRC304D Maintain sealed road

The students will need to submit 20 pages study report by viewing the reference videos

Read

- water_sampling
- Water sampling and analysis
- Surface water sampling methods and analysis

from the following link

(Note when you Unzip, some files need to be skipped)

The students will need to submit 20 pages study report by reading the reference book

AGRE402 General Zootechnics (6 Credits)

This subject consists of the following units taken from Australian Agricultural Training Package

Video

Read

- Animal Handling and Transport

from the following link

The students will need to submit 20 pages study report by reading the reference book

AGRE403 Agricultural Mechanisation

As part of this subject, the students will need to do some Mechanical Units

ME101 Applied Mechanics

ME108 Principle of Engine

ME103 Engineering Mechanics

ME104 Machine Principle

ME106 Electrical Principle

ME102+107 Engineering Thermodynamics

ME334 Airconditioning and Refrigeration

ME234 Wind Energy Conversion System

Read

- Agricultural_Process_Engineering

from the following link

The students will need to submit 20 pages study report by reading the reference book

AGRE403 Soil Knowledge (6 Credits)

AHCSOL401 Sample soils and interpret results

AHCSOL401 မြေဆီလွှာကိုနမူနာယူပြီးရလဒ်များကိုဘာသာပြန်ပါ

V69

Read

- Conservation_on_private_land

from the following link

The students will need to submit 20 pages study report by reading the reference book

AGRE404 Brand Management (6 Credits)

As part of this subject, the students will need to study some units from Diploma in Management Program

Study

- Mgt101 Management ,
- Mgr105 Quality Management

BAE608 Engineering Competency Demonstration Report (6 Credits)

The Institution of Professional Engineers Myanmar

AGTI to BE Conversion Program

AGTI

3 Years Attendance	2 Years Attendance
<p><u>ENG601- Engineering Studies</u> AGTI Certificate (60 Credits)</p> <p><u>ENG602-Engineering Applications</u> Work Experience Curriculum Vitae (10 Credits)</p> <p><u>ENG603-Engineering Practicals</u> Engineering Practice Report or Experience Portfolio (10 Credits)</p> <p><u>BAE705 Engineering Competency Development</u> Other degree OR Appropriate Self Study Record Continuing Professional Development (10 Credits)</p> <p>Degree Level Study -Engineering Mathematics+Materials+Mechanic Seminars (4 days) BAE401 Engineering Mathematics BAE402 Calculus RE010 Engineering Materials BAE403 Engineering Mechanics (10 Credits)</p> <p>Degree Level Study -Engineering Management Seminars (2 days) BAE508 Management BAE605 Engineering Management (10 Credits)</p> <p>Degree Level Study -Engineering Subjects Seminars (4 days) 3 or 4 subjects at BE Final Level (10 Credits)</p>	<p>Enrol IQY Professional Diploma in Engineering Final Stage</p> <p>http://www.iqytechnicalcollege.com/enrolment.htm</p> <p>THS/GTI-Equivalent /BE Bridging Program Enrolment</p>
Total 120 Credits	

Degree Level Study -Engineering Subjects Seminars (4 days)

Electrical Power

BAE 501 Advanced Power Systems & Power Transmission Networks

BAE 506 Power System Stability & Protection

RE013-Electrical Machines

Electronics

RE014-Electronics Control

BAE 604 Telecommunication Engineering

BAE 601 Computer Programming

Or other subjects by discussing with trainer

Civil

BAE621 Structural Engineering

BAE421 Building Construction Engineering

BAE623 Surveying & Traffic Engineering

Or other subjects by discussing with trainer

Mechanical

BAE613 Mechanical Instrumentation Process

BAE311 Plant Engineering

BAE614 Machine Design

Or other subjects by discussing with trainer

ICT

ICT 403 Professional Programming

ICT 405 Professional Practice (1) Network

BAE408 Analog & Digital Electronics

Or other subjects by discussing with trainer

Contact

Secretary -U Ye Htet Naing Phone- 09 43064330

Training Officer (Academic)-Dr Thwin Thu Lynn (IQY)- Ph-09785048872

PART (1) AUSTRALIAN ELECTRICIAN TESTING SYSTEM

[Electrician Capstone unit.pdf](#)

http://www.filefactory.com/file/c392ae1/n/Electrician_Capstone_unit.pdf

Electrician Capstone Test Old Questions

[Electrician Capstone Unit Study Guide.zip](#)

http://www.filefactory.com/file/c4bbf1b/n/Electrician_Capstone_Unit_Study_Guide.zip

[Electrician Licensing Requirements.zip](#)

[SubstationEntry.zip](#)

[Construction ElectricalSafety.zip](#)

[InserviceTesting.zip](#)

[Stage 1 Part 1.zip](#)

http://www.filefactory.com/file/c0cb8ab/n/Stage_1_Part_1.zip

PART (2) AUSTRALIAN ELECTRICAL INSTALLATION STANDARDS & RULES

[Wiring Rule AS3000](#)

[Wiring Rule AS3008](#)

[Wiring Rule AS3012](#)

[Wiring Rule AS3017](#)

[Wiring Rule AS3760](#)

[Wiring Rule AS3019](#)

[Electrical Practice for Construction Work](#)

[Competent person testing & tagging](#)

PART (3) ELECTRICAL TRADE LESSONS

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
UEENEEE001B Apply OHS practices in the workplace	UEENEEE101A Apply Occupational Health and Safety regulations, codes and practices in the workplace	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1	EE011 = EE07 + Additional					
See 1 below	See 3 below						
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
2	
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
4	
5	Video-- Electrical workshop Lesson 1 OHS.zip http://www.filefactory.com/file/c0adbfa/n/Electrical_workshop_Lesson_1_OHS.zip Electrical workshop Lesson 2 Workplace hazard+Fix & secure equipment.zip http://www.filefactory.com/file/c0adca2/n/Electrical_workshop_Lesson_2_Workplace_hazard_Fix_secure_equipment.zip Electrical workshop Lesson 3 Mechanical fixing.zip

	http://www.filefactory.com/file/c0adc1d/n/Electrical_workshop_Lesson_3_Mechanical_fixing.zip Electrical workshop Lesson 4 Basic electrical wiring.zip http://www.filefactory.com/file/c0add65/n/Electrical_workshop_Lesson_4_Basic_electrical_wiring.zip Electrical workshop Lesson 5 Wiring circuits.zip http://www.filefactory.com/file/c0ade9b/n/Electrical_workshop_Lesson_5_Wiring_circuits.zip Electrical workshop Lesson 6 Electrical safety testing.zip http://www.filefactory.com/file/c0adf90/n/Electrical_workshop_Lesson_6_Electrical_safety_testing.zip Electrical workshop Lesson 7 Testing insulation and polarity.zip http://www.filefactory.com/file/c0ad031/n/Electrical_workshop_Lesson_7_Testing_insulation_and_polarity.zip Electrical workshop Lesson 8 Testing lighting polarity.zip http://www.filefactory.com/file/c0ad1d8/n/Electrical_workshop_Lesson_8_Testing_lighting_polarity.zip
6	(2) Click HERE to download other Exercises
7	EE07 & EE011 units mapping for Theory study & Exercises
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf
9	EE07 & EE011 units mapping for Theory study & Exercises Attend the face to face session Stage 1 Electrical workshop practicals.pdf Wiring Equipments to purchase
10	UEENEEE001 OHSWorkbook.zip

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
UEENEEE002B Dismantle, assemble and fabricate electrotechnology components	UEENEEE102A Fabricate, assemble and dismantle utilities industry components	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1	EE011 = EE07 + Additional					
See 1 below	See 3 below						
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
2	
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
4	
5	<p>Video-- Electrical workshop Lesson 1 OHS.zip</p> <p>http://www.filefactory.com/file/c0adbfa/n/Electrical_workshop_Lesson_1_OHS.zip</p> <p>http://www.filefactory.com/file/c0adca2/n/Electrical_workshop_Lesson_2_Workplace_hazard_Fix_secure_equipment.zip</p> <p>Electrical workshop Lesson 3 Mechanical fixing.zip</p> <p>http://www.filefactory.com/file/c0adc1d/n/Electrical_workshop_Lesson_3_Mechanical_fixing.zip</p> <p>Electrical workshop Lesson 4 Basic electrical wiring.zip</p>

	http://www.filefactory.com/file/c0add65/n/Electrical_workshop_Lesson_4_Basic_electrical_wiring.zip Electrical workshop Lesson 5 Wiring circuits.zip http://www.filefactory.com/file/c0ade9b/n/Electrical_workshop_Lesson_5_Wiring_circuits.zip Electrical workshop Lesson 6 Electrical safety testing.zip http://www.filefactory.com/file/c0adf90/n/Electrical_workshop_Lesson_6_Electrical_safety_testing.zip Electrical workshop Lesson 7 Testing insulation and polarity.zip http://www.filefactory.com/file/c0ad031/n/Electrical_workshop_Lesson_7_Testing_insulation_and_polarity.zip Electrical workshop Lesson 8 Testing lighting polarity.zip http://www.filefactory.com/file/c0ad1d8/n/Electrical_workshop_Lesson_8_Testing_lighting_polarity.zip
6	(2) Click HERE to download other Exercises
7	EE07 & EE011 units mapping for Theory study & Exercises
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf
9	EE07 & EE011 units mapping for Theory study & Exercises Attend the face to face session Stage 1 Electrical workshop practicals.pdf Wiring Equipments to purchase
10	Fixing Equipments E002_E005.zip

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
UEENEEE004B Solve problems in multiple path d.c. circuits	UEENEEE104A Solve problems in d.c. circuits	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1	EE011 = EE07 + Additional					
See 1 below	See 3 below						
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
2	
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
4	
5	Video- http://www.filefactory.com/file/cf8739b/n/E003+E004.zip
6	(2) Click HERE to download other Exercises
7	EE07 & EE011 units mapping for Theory study & Exercises
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011.pdf
9	EE07 & EE011 units mapping for Theory study & Exercises Stage 1 Electrical workshop practicals.pdf Wiring Equipments to purchase
10	DC Circuit E003 E004.zip

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
UEENEEE005B Fix and secure equipment	UEENEEE105A Fix and secure electrotechnology equipment	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1	EE011 = EE07 + Additional					
See 1 below	See 3 below						
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	http://www.filefactory.com/file/c0b67b7/n/Electrical Workshop Wiring E001 2 3 4 5 7 8 33 G003 4 7.zip
2	
3	http://www.filefactory.com/file/c0b67b7/n/Electrical Workshop Wiring E001 2 3 4 5 7 8 33 G003 4 7.zip
4	
5	Video-- Electrical workshop Lesson 1 OHS.zip http://www.filefactory.com/file/c0adbfa/n/Electrical workshop Lesson 1 OHS.zip Electrical workshop Lesson 2 Workplace hazard+Fix & secure equipment.zip

	http://www.filefactory.com/file/c0adca2/n/Electrical_workshop_Lesson_2_Workplace_hazard_Fix_secure_equipment.zip Electrical workshop Lesson 3 Mechanical fixing.zip http://www.filefactory.com/file/c0adc1d/n/Electrical_workshop_Lesson_3_Mechanical_fixing.zip Electrical workshop Lesson 4 Basic electrical wiring.zip http://www.filefactory.com/file/c0add65/n/Electrical_workshop_Lesson_4_Basic_electrical_wiring.zip Electrical workshop Lesson 5 Wiring circuits.zip http://www.filefactory.com/file/c0ade9b/n/Electrical_workshop_Lesson_5_Wiring_circuits.zip Electrical workshop Lesson 6 Electrical safety testing.zip http://www.filefactory.com/file/c0adf90/n/Electrical_workshop_Lesson_6_Electrical_safety_testing.zip Electrical workshop Lesson 7 Testing insulation and polarity.zip http://www.filefactory.com/file/c0ad031/n/Electrical_workshop_Lesson_7_Testing_insulation_and_polarity.zip Electrical workshop Lesson 8 Testing lighting polarity.zip http://www.filefactory.com/file/c0ad1d8/n/Electrical_workshop_Lesson_8_Testing_lighting_polarity.zip http://uploading.com/files/f213323b/Electrical%2Bworkshop.zip/
6	(2) Click HERE to download other Exercises
7	EE07 & EE011 units mapping for Theory study & Exercises
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011.pdf
9	Stage 1 Electrical workshop practicals.pdf Wiring Equipments to purchase
10	Fixing Equipments E002 E005.zip

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
UEENEEE007B Use drawings, diagrams, schedules and manuals	UEENEEE107A Use drawings, diagrams, schedules, standards, codes and specifications	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1	EE011 = EE07 + Additional					
See 1 below	See 3 below						
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
2	ElectricalDrawing1.zip , ElectricalDrawing2.zip , ElectricalDrawing3.pdf , GeneralDrawing1.zip , GeneralDrawing2.zip
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
4	ElectricalDrawing1.zip , ElectricalDrawing2.zip , ElectricalDrawing3.pdf , GeneralDrawing1.zip , GeneralDrawing2.zip
5	Video-- Electrical workshop Lesson 1 OHS.zip http://www.filefactory.com/file/c0adbfa/n/Electrical_workshop_Lesson_1_OHS.zip Electrical workshop Lesson

	<p>2 Workplace hazard+Fix & secure equipment.zip</p> <p>http://www.filefactory.com/file/c0adca2/n/Electrical_workshop_Lesson_2_Workplace_hazard_Fix_secure_equipment.zip</p> <p>Electrical workshop Lesson 3 Mechanical fixing.zip</p> <p>http://www.filefactory.com/file/c0adc1d/n/Electrical_workshop_Lesson_3_Mechanical_fixing.zip</p> <p>Electrical workshop Lesson 4 Basic electrical wiring.zip</p> <p>http://www.filefactory.com/file/c0add65/n/Electrical_workshop_Lesson_4_Basic_electrical_wiring.zip</p> <p>Electrical workshop Lesson 5 Wiring circuits.zip</p> <p>http://www.filefactory.com/file/c0ade9b/n/Electrical_workshop_Lesson_5_Wiring_circuits.zip</p> <p>Electrical workshop Lesson 6 Electrical safety testing.zip</p> <p>http://www.filefactory.com/file/c0adf90/n/Electrical_workshop_Lesson_6_Electrical_safety_testing.zip</p> <p>Electrical workshop Lesson 7 Testing insulation and polarity.zip</p> <p>http://www.filefactory.com/file/c0ad031/n/Electrical_workshop_Lesson_7_Testing_insulation_and_polarity.zip</p> <p>Electrical workshop Lesson 8 Testing lighting polarity.zip</p> <p>http://www.filefactory.com/file/c0ad1d8/n/Electrical_workshop_Lesson_8_Testing_lighting_polarity.zip</p>
6	(2) Click HERE to download other Exercises
7	Stage 1 Electrical workshop practicals.pdf
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf
9	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p>Attend the face to face session</p>

	Stage 1 Electrical workshop practicals.pdf Wiring Equipments to purchase
10	ElectricalDrawing1.zip , ElectricalDrawing2.zip , ElectricalDrawing3.pdf , GeneralDrawing1.zip , GeneralDrawing2.zip

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
UEENEEE008B Lay wiring/cabling and terminate accessories for extra-low voltage circuits	UEENEEE108A Lay wiring/cabling and terminate accessories for extra-low voltage (ELV) circuits	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1	EE011 = EE07 + Additional					
See 1 below	See 3 below						
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
2	
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
4	
5	<p>Video-- Electrical workshop Lesson 1 OHS.zip http://www.filefactory.com/file/c0adbfa/n/Electrical_workshop_Lesson_1_OHS.zip Electrical workshop Lesson 2 Workplace hazard+Fix & secure equipment.zip</p> <p>http://www.filefactory.com/file/c0adca2/n/Electrical_workshop_Lesson_2_Workplace_hazard_Fix_secure_equipment.zip</p> <p>Electrical workshop Lesson 3 Mechanical fixing.zip</p> <p>http://www.filefactory.com/file/c0adc1d/n/Electrical_workshop_Lesson_3_Mechanical_fixing.zip</p> <p>Electrical workshop Lesson 4 Basic electrical wiring.zip</p> <p>http://www.filefactory.com/file/c0add65/n/Electrical_workshop_Lesson_4_Basic_electrical_wiring.zip</p> <p>Electrical workshop Lesson 5 Wiring circuits.zip</p>

	<p>http://www.filefactory.com/file/c0ade9b/n/Electrical_workshop_Lesson_5_Wiring_circuits.zip</p> <p>Electrical workshop Lesson 6 Electrical safety testing.zip</p> <p>http://www.filefactory.com/file/c0adf90/n/Electrical_workshop_Lesson_6_Electrical_safety_testing.zip</p> <p>Electrical workshop Lesson 7 Testing insulation and polarity.zip</p> <p>http://www.filefactory.com/file/c0ad031/n/Electrical_workshop_Lesson_7_Testing_insulation_and_polarity.zip</p> <p>Electrical workshop Lesson 8 Testing lighting polarity.zip</p> <p>http://www.filefactory.com/file/c0ad1d8/n/Electrical_workshop_Lesson_8_Testing_lighting_polarity.zip</p> <p>http://uploading.com/files/f213323b/Electrical%2Bworkshop.zip/</p>
6	2) Click HERE to download other Exercises
7	EE07 & EE011 units mapping for Theory study & Exercises
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011.pdf
9	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p>Attend the face to face session</p> <p>Stage 1 Electrical workshop practicals.pdf</p> <p>Wiring Equipments to purchase</p>
10	Wiring Notes 1. Wiring Notes 2 Switchboard Wiring 1Wiring E033 E008 2Wiring E033 E008

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
UEENEEE033B Document occupational hazards and risks in electrical work	UEENEEE137A Document and apply measures to control OHS risks associated with electrotechnology work	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1	EE011 = EE07 + Additional					
See 1 below	See 3 below						
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
2	
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
4	
5	<p>Video-- Electrical workshop Lesson 1 OHS.zip</p> <p>http://www.filefactory.com/file/c0adbfa/n/Electrical_workshop_Lesson_1_OHS.zip</p> <p>http://www.filefactory.com/file/c0adca2/n/Electrical_workshop_Lesson_2_Workplace_hazard_Fix_secure_equipment.zip</p> <p>Electrical workshop Lesson 3 Mechanical fixing.zip</p> <p>http://www.filefactory.com/file/c0adc1d/n/Electrical_workshop_Lesson_3_Mechanical_fixing.zip</p> <p>Electrical workshop Lesson 4 Basic electrical wiring.zip</p>

	http://www.filefactory.com/file/c0add65/n/Electrical_workshop_Lesson_4_Basic_electrical_wiring.zip Electrical workshop Lesson 5 Wiring circuits.zip http://www.filefactory.com/file/c0ade9b/n/Electrical_workshop_Lesson_5_Wiring_circuits.zip Electrical workshop Lesson 6 Electrical safety testing.zip http://www.filefactory.com/file/c0adf90/n/Electrical_workshop_Lesson_6_Electrical_safety_testing.zip Electrical workshop Lesson 7 Testing insulation and polarity.zip http://www.filefactory.com/file/c0ad031/n/Electrical_workshop_Lesson_7_Testing_insulation_and_polarity.zip Electrical workshop Lesson 8 Testing lighting polarity.zip http://www.filefactory.com/file/c0ad1d8/n/Electrical_workshop_Lesson_8_Testing_lighting_polarity.zip http://uploading.com/files/f213323b/Electrical%2Bworkshop.zip/
6	2) Click HERE to download other Exercises
7	EE07 & EE011 units mapping for Theory study & Exercises
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011.pdf
9	EE07 & EE011 units mapping for Theory study & Exercises Attend the face to face session Stage 1 Electrical workshop practicals.pdf Wiring Equipments to purchase
10	Electrical safe working.zip NREL Disconnect Reconnect.zip

Study Guide EE07 & EE011

What to study				Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011			
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07				
	UEENEEG106A Terminate cables, cords and accessories for low voltage circuits	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below	
Study Option 1	Study Option 1	EE011 = EE07 + Additional						
See 1 below	See 3 below							
Study Option 2	Study Option 2							
See 2 below	See 4 below							

1	
2	
3	
4	ELV Cable termination
5	<p>Video-- Electrical workshop Lesson 1 OHS.zip</p> <p>http://www.filefactory.com/file/c0adbfa/n/Electrical_workshop_Lesson_1_OHS.zipElectrical workshop Lesson 2 Workplace hazard+Fix & secure equipment.zip</p> <p>http://www.filefactory.com/file/c0adca2/n/Electrical_workshop_Lesson_2_Workplace_hazard_Fix_secure_equipment.zip</p> <p>Electrical workshop Lesson 3 Mechanical fixing.zip</p> <p>http://www.filefactory.com/file/c0adc1d/n/Electrical_workshop_Lesson_3_Mechanical_fixing.zip</p> <p>Electrical workshop Lesson 4 Basic electrical wiring.zip</p>

	http://www.filefactory.com/file/c0add65/n/Electrical_workshop_Lesson_4_Basic_electrical_wiring.zip Electrical workshop Lesson 5 Wiring circuits.zip http://www.filefactory.com/file/c0ade9b/n/Electrical_workshop_Lesson_5_Wiring_circuits.zip Electrical workshop Lesson 6 Electrical safety testing.zip http://www.filefactory.com/file/c0adf90/n/Electrical_workshop_Lesson_6_Electrical_safety_testing.zip Electrical workshop Lesson 7 Testing insulation and polarity.zip http://www.filefactory.com/file/c0ad031/n/Electrical_workshop_Lesson_7_Testing_insulation_and_polarity.zip Electrical workshop Lesson 8 Testing lighting polarity.zip http://www.filefactory.com/file/c0ad1d8/n/Electrical_workshop_Lesson_8_Testing_lighting_polarity.zip http://uploading.com/files/f213323b/Electrical%2Bworkshop.zip/
6	
7	Only practical assessment in class
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011.pdf
9	Attend face to face class http://www.filefactory.com/file/2f8e3fph9trr/n/G106_G033_Practical.zip
10	ELV Cable termination Wiring Notes 1. Wiring Notes 2 Switchboard Wiring 1Wiring_E033_E008 2Wiring_E033_E008 ElectricalDrawing1.zip ElectricalDrawing2.zip ElectricalDrawing3.pdf

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
	UEENEEG063A Arrange circuits, control and protection for general electrical installations	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1	EE011 = EE07 + Additional					
See 1 below	See 3 below						
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	
2	
3	
4	
5	<p><u>Electrical wiring + Electrical Installation requirement</u></p> <p> </p> <p><u>G003+G004+G007 Lesson 1 Electrical installation protection.zip</u></p> <p> </p> <p><u>http://www.filefactory.com/file/c35d2f2/n/G003_G004_G007_Lesson_1_Electrical_installation_protection.zip</u></p> <p> </p> <p><u>G003+G004+G007 Lesson 2 Electrical system safety.zip</u></p>

http://www.filefactory.com/file/cf937ac/n/G003_G004_G007_Lesson_2_Electrical_system_safety.zip

[G003+G004+G007 Lesson 3 Heating+Cable ckt protection exercise.zip](#)

http://www.filefactory.com/file/c0abfe8/n/G003_G004_G007_Lesson_3_Heating_Cable_ckt_protection_exercise.zip

[G003+G004+G007 Lesson 4 Wiring system.zip](#)

http://www.filefactory.com/file/cf939f0/n/G003_G004_G007_Lesson_4_Wiring_system.zip

[G003+G004+G007 Lesson 5 Hazardous area electrical system.zip](#)

http://www.filefactory.com/file/cf94af8/n/G003_G004_G007_Lesson_5_Hazardous_area_electrical_system.zip

[G003+G004+G007 Lesson 6 Overload protection RCD.zip](#)

http://www.filefactory.com/file/cf94bcf/n/G003_G004_G007_Lesson_6_Overload_protection_RCD.zip

	G003+G004+G007 Lesson 7 RCD + Metering.zip http://www.filefactory.com/file/cf94cae/n/G003_G004_G007_Lesson_7_RCD_Metering.zip G003+G004+G007 Lesson 8 Switch board installation.zip http://www.filefactory.com/file/cf94c40/n/G003_G004_G007_Lesson_8_Switch_board_installation.zip G003+G004+G007 Lesson 9 Cable selection+Maximum demand.zip http://www.filefactory.com/file/cf94dbb/n/G003_G004_G007_Lesson_9_Cable_selection_Maximum_demand.zip G003+G004+G007 Lesson 10 Electrical installation safety testing.zip http://www.filefactory.com/file/cf94123/n/G003_G004_G007_Lesson_10_Electrical_installation_safety_testing.zip
6	
7	EE07 & EE011 units mapping for Theory study & Exercises Only face to face class assessment
8	Only face to face class assessment
9	EE07 & EE011 units mapping for Theory study & Exercises Attend face to face class PRACTICAL

	<p><u>Workshop 2+3</u></p> <p><u>WorkShop Part 2 Practical 1 to 6 .zip</u></p> <p><u>WorkShop Part 2 Practical 7 to 12 .zip</u></p> <p><u>WorkShop Part 2 Practical 13 to 17 .zip</u></p> <p><u>WorkShop Part 2 Practical 18 to 21 .zip</u></p> <p><u>ElectricalWorkshopPart3 G008 Group1Machine .zip</u></p> <p><u>ElectricalWorkshopPart3 G008 Group2LineProtection .zip</u></p> <p><u>ElectricalWorkshopPart3 G008 Group3InstrumentsDevices .zip</u></p> <p><u>OTHER PRACTICALS</u></p> <p><u>ELECTRICAL WORKSHOP PART 2 G003 G004 G009 .zip</u></p> <p><u>Electrical Workshop Part 2 Practical 1 to 18.zip</u></p> <p><u>Electrical Workshop Part 2 Practical 19 to 21.zip</u></p> <p><u>G003 G004 G009Practicals.pdf</u></p>
10	<p><u>Construction ElectricalSafety.zip</u></p> <p><u>InserviceTesting.zip</u></p> <p><u>Wiring Notes 1.</u> <u>Wiring Notes 2</u> <u>Switchboard Wiring</u> <u>1Wiring E033 E008</u> <u>2Wiring E033 E008</u></p>

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
UEENEEG007A Select wiring systems and cables for low voltage general electrical installations	UEENEEG107A Select wiring systems and cables for low voltage general electrical installations	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1	EE011 = EE07 + Additional					
See 1 below	See 3 below						
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
2	AS3000-2007Overview.zip AS3000 AS3008TablesExtract.zip WiringRules.zip <u>Part (1) Study the following notes</u> Installation Requirement 1-A.zip Installation Requirement 1-B.zip

	Installation_Requirement_2-A.zip Installation_Requirement_2-B.zip Stage_2_Wiring.zip
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
4	AS3000-2007Overview.zip AS3000_AS3008TablesExtract.zip WiringRules.zip <u>Part (1) Study the following notes</u> Installation_Requirement_1-A.zip Installation_Requirement_1-B.zip Installation_Requirement_2-A.zip Installation_Requirement_2-B.zip Stage_2_Wiring.zip
5	<u>G007</u> G007 Lesson 1 AS3000 Wiring rule overview.zip http://www.filefactory.com/file/cf94220/n/G007_Lesson_1_AS3000_Wiring_rule_overview.zip G007 Lesson 2 Maximum Demand calculation.zip

	<p>http://www.filefactory.com/file/cf9456f/n/G007_Lesson_2_Maximum_Demand_calculation.zip</p> <p>G007 Lesson 3 Cable selection.zip</p> <p>http://www.filefactory.com/file/cf9465c/n/G007_Lesson_3_Cable_selection.zip</p> <p>G007 Lesson 4 Cable voltage drop calculation.zip</p> <p>http://www.filefactory.com/file/cf9479e/n/G007_Lesson_4_Cable_voltage_drop_calculation.zip</p> <p>G007 Lesson 5 Derating of cable part 1.zip</p> <p>http://www.filefactory.com/file/cf95acb/n/G007_Lesson_5_Derating_of_cable_part_1.zip</p> <p>G007 Lesson 6 Derating of cable part 2.zip</p> <p>http://www.filefactory.com/file/cf95a6b/n/G007_Lesson_6_Derating_of_cable_part_2.zip</p> <p>G007 Lesson 7 Derating of cable for HRC fuse protection.zip</p> <p>http://www.filefactory.com/file/cf95cd7/n/G007_Lesson_7_Derating_of_cable_for_HRC_fuse_protection.zip</p> <p>G007 Lesson 8 Final subcircuit fault loop impedance.zip</p> <p>http://www.filefactory.com/file/cf95dd1/n/G007_Lesson_8_Final_subcircuit_fault_loop_impedance.zip</p> <p><u>Electrical Installation requirement</u></p>
6	Click HERE to download the other exercises
7	EE07 & EE011 units mapping for Theory study & Exercises

	Do the assignments from the following book & submit the assignment (1) Cable Installation.zip
	Do the assignments from the following book & submit the assignment (2) Regulatory Requirement.zip
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf
9	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p>PRACTICAL</p> <p><u>Workshop 2+3</u></p> <p>WorkShop Part 2 Practical 1 to 6 .zip</p> <p>WorkShop Part 2 Practical 7 to 12 .zip</p> <p>WorkShop Part 2 Practical 13 to 17 .zip</p> <p>WorkShop Part 2 Practical 18 to 21 .zip</p> <p>ElectricalWorkshopPart3 G008 Group1Machine .zip</p> <p>ElectricalWorkshopPart3 G008 Group2LineProtection .zip</p> <p>ElectricalWorkshopPart3 G008 Group3InstrumentsDevices .zip</p> <p><u>OTHER PRACTICALS</u></p> <p>ELECTRICAL WORKSHOP PART 2 G003 G004 G009 .zip</p> <p>Electrical Workshop Part 2 Practical 1 to 18.zip</p> <p>Electrical Workshop Part 2 Practical 19 to 21.zip</p> <p>G003 G004 G009Practicals.pdf</p>
10	

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
UEENEEG003A Install low voltage wiring and accessories	UEENEEG103A Install low voltage wiring and accessories	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1	EE011 = EE07 + Additional					
See 1 below	See 3 below						
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
2	
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip <u>G103+104 Notes+Lessons</u> http://www.filefactory.com/file/2bg8qift6nzh/n/G103_G104_zip
4	<u>Wiring Notes 1.</u> <u>Wiring Notes 2</u> <u>Switchboard Wiring</u> <u>1Wiring_E033_E008</u>

2Wiring_E033_E008

Fixing Equipments

E002_E005.zip Lighting.zip

E_trade_1.zip

E_trade_2.zip

E_trade_3.zip

E_trade_4.zip

G008_General_Notes_1.zip

G008_General_Notes_2.zip

Hazard_Identification.zip

G003_G004_Wiring_2_Part_1.zip

G003_G004_Wiring_2_Part_2.zip

Cable_CktProt_E_Accessories.zip

Cable_Conduit_E_Accessories.zip

Elect_Installation_Protection_Method_Devices.zip

Elect_Installation_Requirement_1.zip

	<u>Elect_Installation_Requirement_1.zip</u> <u>Elect_Installation_Requirement_2.zip</u> <u>ElectricInstallationDesign.zip</u> <u>ElectSystSafety1.zip</u> <u>ElectSystSafety2.zip</u> <u>FireProtHeatingTestingEarthing.zip</u> <u>GeneralWiring.zip</u> <u>HazardLightingPanel.zip</u> <u>PanelRCDWireSpecial_Installation.zip</u> <u>ProtectionMethods.zip</u>
5	<u>Electrical wiring + Electrical Installation requirement</u> <u>G003+G004+G007 Lesson 1 Electrical installation protection.zip</u> <u>http://www.filefactory.com/file/c35d2f2/n/G003_G004_G007_Lesson_1_Electrical_installation_protection.zip</u> <u>G003+G004+G007 Lesson 2 Electrical system safety.zip</u>

http://www.filefactory.com/file/cf937ac/n/G003_G004_G007_Lesson_2_Electrical_system_safety.zip

[G003+G004+G007 Lesson 3 Heating+Cable ckt protection exercise.zip](#)

http://www.filefactory.com/file/c0abfe8/n/G003_G004_G007_Lesson_3_Heating_Cable_ckt_protection_exercise.zip

[G003+G004+G007 Lesson 4 Wiring system.zip](#)

http://www.filefactory.com/file/cf939f0/n/G003_G004_G007_Lesson_4_Wiring_system.zip

[G003+G004+G007 Lesson 5 Hazardous area electrical system.zip](#)

http://www.filefactory.com/file/cf94af8/n/G003_G004_G007_Lesson_5_Hazardous_area_electrical_system.zip

[G003+G004+G007 Lesson 6 Overload protection RCD.zip](#)

http://www.filefactory.com/file/cf94bcf/n/G003_G004_G007_Lesson_6_Overload_protection_RCD.zip

	<p>G003+G004+G007 Lesson 7 RCD + Metering.zip</p> <p>http://www.filefactory.com/file/cf94cae/n/G003_G004_G007_Lesson_7_RCD_Metering.zip</p> <p>G003+G004+G007 Lesson 8 Switch board installation.zip</p> <p>http://www.filefactory.com/file/cf94c40/n/G003_G004_G007_Lesson_8_Switch_board_installation.zip</p> <p>G003+G004+G007 Lesson 9 Cable selection+Maximum demand.zip</p> <p>http://www.filefactory.com/file/cf94dbb/n/G003_G004_G007_Lesson_9_Cable_selection_Maximum_demand.zip</p> <p>G003+G004+G007 Lesson 10 Electrical installation safety testing.zip</p> <p>http://www.filefactory.com/file/cf94123/n/G003_G004_G007_Lesson_10_Electrical_installation_safety_testing.zip</p>
6	Click HERE to download the other exercises
7	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p><u>Assessment</u> Read the above notes files and do the assignments for the following tutorial file.</p> <p>WiringPracticals.zip</p> <p>G003G004Tutorial.zip</p>
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf
9	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p>Attend the face to face class</p> <p>PRACTICAL</p> <p>http://www.filefactory.com/file/54l4d5rif1z3/n/Advanced_Wiring_Part_1_zip</p>

Advanced Wiring Part 1+2—G103

[http://www.filefactory.com/file/1xb18xg1gaz1/n/Advanced Wiring Part 1 and 2 .zip](http://www.filefactory.com/file/1xb18xg1gaz1/n/Advanced+Wiring+Part+1+and+2.zip)

Electrical Installation Safety Testing

[http://www.filefactory.com/file/5mv9s6dx174h/n/Electrical Installation Safety Testing .zip](http://www.filefactory.com/file/5mv9s6dx174h/n/Electrical+Installation+Safety+Testing.zip)

Workshop 2+3

[WorkShop Part 2 Practical 1 to 6 .zip](#)

[WorkShop Part 2 Practical 7 to 12 .zip](#)

[WorkShop Part 2 Practical 13 to 17 .zip](#)

[WorkShop Part 2 Practical 18 to 21 .zip](#)

[ElectricalWorkshopPart3 G008 Group1Machine .zip](#)

[ElectricalWorkshopPart3 G008 Group2LineProtection .zip](#)

[ElectricalWorkshopPart3 G008 Group3InstrumentsDevices .zip](#)

OTHER PRACTICALS

[ELECTRICAL WORKSHOP PART 2 G003 G004 G009 .zip](#)

[Electrical Workshop Part 2 Practical 1 to 18.zip](#)

[Electrical Workshop Part 2 Practical 19 to 21.zip](#)

[G003 G004 G009Practicals.pdf](#)

10

Power Distribution Trade [Power Distribution Trade.zip](#)

Metering [Metering.zip](#)

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
	UEENEEG033A Solve problems in single and three phase low voltage electrical apparatus and circuits	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1	EE011 = EE07 + Additional					
See 1 below	See 3 below						
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1		
2		
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip <u>G033</u> http://www.filefactory.com/file/1b2utxydvcx7/n/G033.zip	
4	<u>Wiring Notes 1.</u> <u>Wiring Notes 2 Switchboard Wiring</u> <u>1Wiring_E033_E008 2Wiring_E033_E008</u>	

Fixing Equipments

[E002_E005.zip Lighting.zip](#)

[E_trade_1.zip](#)

[E_trade_2.zip](#)

[E_trade_3.zip](#)

[E_trade_4.zip](#)

[G008_General_Notes_1.zip](#)

[G008_General_Notes_2.zip](#)

[Hazard_Identification.zip](#)

[G003_G004_Wiring_2_Part_1.zip](#)

[G003_G004_Wiring_2_Part_2.zip](#)

[Cable_CktProt_E_Accessories.zip](#)

[Cable_Conduit_E_Accessories.zip](#)

[Elect_Installation_Protection_Method_Devices.zip](#)

[Elect_Installation_Requirement_1.zip](#)

[Elect_Installation_Requirement_1.zip](#)

	<u>Elect_Installation_Requirement_2.zip</u> <u>ElectricInstallationDesign.zip</u> <u>ElectSystSafety1.zip</u> <u>ElectSystSafety2.zip</u> <u>FireProtHeatingTestingEarthing.zip</u> <u>GeneralWiring.zip</u> <u>HazardLightingPanel.zip</u> <u>PanelRCDWireSpecial_Installation.zip</u> <u>ProtectionMethods.zip</u>	
5	<u>Electrical wiring + Electrical Installation requirement</u> <u>G003+G004+G007 Lesson 1 Electrical installation protection.zip</u> <u>http://www.filefactory.com/file/c35d2f2/n/G003_G004_G007_Lesson_1_Electrical_installation_protection.zip</u> <u>G003+G004+G007 Lesson 2 Electrical system safety.zip</u>	

http://www.filefactory.com/file/cf937ac/n/G003_G004_G007_Lesson_2_Electrical_system_safety.zip

G003+G004+G007 Lesson 3 Heating+Cable ckt protection exercise.zip

http://www.filefactory.com/file/c0abfe8/n/G003_G004_G007_Lesson_3_Heating_Cable_ckt_protection_exercise.zip

[G003+G004+G007 Lesson 4 Wiring system.zip](#)

http://www.filefactory.com/file/cf939f0/n/G003_G004_G007_Lesson_4_Wiring_system.zip

[G003+G004+G007 Lesson 5 Hazardous area electrical system.zip](#)

http://www.filefactory.com/file/cf94af8/n/G003_G004_G007_Lesson_5_Hazardous_area_electrical_system.zip

[G003+G004+G007 Lesson 6 Overload protection RCD.zip](#)

http://www.filefactory.com/file/cf94bcf/n/G003_G004_G007_Lesson_6_Overload_protection_RCD.zip

[G003+G004+G007 Lesson 7 RCD + Metering.zip](#)

	<p>http://www.filefactory.com/file/cf94cae/n/G003_G004_G007_Lesson_7_RCD_Metering.zip</p> <p>G003+G004+G007 Lesson 8 Switch board installation.zip</p> <p>http://www.filefactory.com/file/cf94c40/n/G003_G004_G007_Lesson_8_Switch_board_installation.zip</p> <p>G003+G004+G007 Lesson 9 Cable selection+Maximum demand.zip</p> <p>http://www.filefactory.com/file/cf94dbb/n/G003_G004_G007_Lesson_9_Cable_selection_Maximum_demand.zip</p> <p>G003+G004+G007 Lesson 10 Electrical installation safety testing.zip</p> <p>http://www.filefactory.com/file/cf94123/n/G003_G004_G007_Lesson_10_Electrical_installation_safety_testing.zip</p> <p><u>Electrical wiring + Electrical Installation requirement</u></p>	
6	Click HERE to download the other exercises	
7	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p><u>Assessment</u></p> <p>Read the above notes files and do the assignments for the following tutorial file.</p> <p>WiringPracticals.zip</p> <p>G003G004Tutorial.zip</p>	
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011.pdf	

9	<p>Attend the face to face class</p> <p>http://www.filefactory.com/file/2f8e3fph9trr/n/G106_G033_Practical_zip</p>	
10	<p>Power Distribution Trade Power_Distribution_Trade.zip</p> <p>Metering Metering.zip</p> <p>PRACTICAL</p> <p><u>Workshop 2+3</u></p> <p>WorkShop Part 2 Practical 1 to 6 .zip</p> <p>WorkShop Part 2 Practical 7 to 12 .zip</p> <p>WorkShop Part 2 Practical 13 to 17 .zip</p> <p>WorkShop Part 2 Practical 18 to 21 .zip</p> <p>ElectricalWorkshopPart3_G008_Group1Machine .zip</p> <p>ElectricalWorkshopPart3_G008_Group2LineProtection .zip</p> <p>ElectricalWorkshopPart3_G008_Group3InstrumentsDevices .zip</p> <p><u>OTHER PRACTICALS</u></p> <p>ELECTRICAL WORKSHOP PART 2 G003 G004 G009 .zip</p> <p>Electrical Workshop Part 2 Practical 1 to 18.zip</p> <p>Electrical Workshop Part 2 Practical 19 to 21.zip</p> <p>G003_G004_G009Practicals.pdf</p>	

Study Guide EE07 & EE011

What to study				Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011			
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07				
	UEENEEG108A Trouble-shoot and repair faults in low voltage electrical apparatus and circuits	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below	
Study Option 1	Study Option 1	EE011 = EE07 + Additional						
See 1 below	See 3 below							
Study Option 2	Study Option 2							
See 2 below	See 4 below							

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4	G008_General_Notes_1.zip G008_General_Notes_2.zip MachineControlCkt1.zip MachineControlCkt2.zip MachineControlCkt3.zip

[MachineRepair1.zip](#)

[MachineRepair2.zip](#)

[MachineRepair3.zip](#)

[ProcessControlCkt1.zip](#)

[ProcessControlCkt2.zip](#)

[ProcessControlCkt3.zip](#)

[ESI 8 Insulation 1](#)

[ESI 8 Insulation 2](#)

[ESI 9.1 Protection Relay Construction](#)

[ESI 9.2 Test Equipment](#)

[ESI 33.1 Power Quality Concept](#)

[ESI 33.2 Harmonic in capacitor](#)

[ESI 33.3 Harmonic effect on machines](#)

[ESI 3.1 HV Measurement Cable Test.zip](#)

[ESI 3.2 Magnetic measurement.zip](#)

[ESI 3.3 Power measurement.zip](#)

	<u>ESI 3.4 RLC measurement 1.zip</u> <u>ESI 3.4 RLC measurement 2.zip</u> <u>ESI 3.4 RLC measurement 3.zip</u> <u>ESI 3.5 Digital equipments.zip</u> <u>ESI 3.6 V.A.W meter.zip</u> <u>ESI 3.7T and M.zip</u> <u>ESI 3.8 Thermography.zip</u> <u>ESI 4 11 Power Transformer.zip</u> <u>ESI 5 Machinery Installation.zip</u> <u>ESI 7 Drawing Switching Diagram.zip</u> <u>ESI 7 Electrical Installation Design.zip</u> <u>ESI10.1 HV equipments.zip</u> <u>ESI10.2 Substation equipments.zip</u> <u>ESI12 14 Harmonic.zip</u> <u>ESI12 14 Reactor.zip</u> <u>ESI12 14 Syn Motor Generator.zip</u> <u>ESI 13 Voltage regulation devices.zip</u>
5	<u>Fault finding + Electrical control equipments</u> G008+G009

	G008+G009 Lesson 1 AC Machine+AC motor control.zip http://www.filefactory.com/file/c0a683c/n/G008_G009_Lesson_1_AC_Machine_AC_motor_control.zip G008+G009 Lesson 2 Synchronous machine+DC machine+Transformer.zip http://www.filefactory.com/file/c0a7ad3/n/G008+G009_Lesson_2_Synchronous_machine+DC_machine+Transformer.zip
6	
7	EE07 & EE011 units mapping for Theory study & Exercises Class test
8	PRACTICAL <u>Workshop 2+3</u> WorkShop Part 2 Practical 1 to 6 .zip WorkShop Part 2 Practical 7 to 12 .zip WorkShop Part 2 Practical 13 to 17 .zip WorkShop Part 2 Practical 18 to 21 .zip ElectricalWorkshopPart3_G008_Group1Machine .zip ElectricalWorkshopPart3_G008_Group2LineProtection .zip ElectricalWorkshopPart3_G008_Group3InstrumentsDevices .zip <u>OTHER PRACTICALS</u> ELECTRICAL WORKSHOP PART 2_G003_G004_G009 .zip Electrical Workshop Part 2 Practical 1 to 18.zip Electrical Workshop Part 2 Practical 19 to 21.zip G003_G004_G009Practicals.pdf
9	EE07 & EE011 units mapping for Theory study & Exercises Attend the face to face class
10	

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
	UEENEEG109A Develop and connect electrical control circuits	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1	EE011 = EE07 + Additional					
See 1 below	See 3 below						
Study Option 2	Study Option 2						
See 2 below	See 4 below						

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4	G009.zip G043 G045 7762AF Notes G043 G045 Part 1 7762AF Notes H085 66 I006 Note 1 Sensors 1 H085 66 I006 Note 2 Sensors 2 H085 66 I006 Note 3 Sensors 3 H085 66 I006 Note 4 Control Concept1

[H085 66 I006 Note 5 Control Concept2](#)

[H085 66 I006 Note 6 Electronics Signal](#)

[H085 66 I006 Note 8 Process Control 1](#)

[H085 66 I006 Note 9 Process Control 2](#)

[ProcessControlCkt1.zip](#)

[ProcessControlCkt2.zip](#)

[ProcessControlCkt3.zip](#)

[H026 3 Ph Power Control Electronics 1](#)

[H026 3 Ph Power Control Electronics 2](#)

[H026 3 Ph Power Control Electronics 3](#)

[H026 3 Ph Power Control Electronics 4](#)

[ESI 27 1 Relay Principle 1.zip](#)

[ESI 27 1 Relay Principle 2.zip](#)

[ESI 27 1 Relay Principle 3.zip](#)

[ESI 27.2 Element of Relay Protection.zip](#)

[ESI12 14 Syn Motor Generator.zip](#)

[ESI 19.1 Computer Control.zip](#)

	ESI 19.4 Turbine Control.zip ESI 22.2 Voltage surge control.zip
5	Fault finding + Electrical control equipments G008+G009 G008+G009 Lesson 1 AC Machine+AC motor control.zip http://www.filefactory.com/file/c0a683c/n/G008_G009_Lesson_1_AC_Machine_AC_motor_control.zip G008+G009 Lesson 2 Synchronous machine+DC machine+Transformer.zip http://www.filefactory.com/file/c0a7ad3/n/G008+G009_Lesson_2_Synchronous_machine+DC_machine+Transformer.zip
6	
7	EE07 & EE011 units mapping for Theory study & Exercises Concurrently assessed with G043+G045+I006 & relevant EE011 units
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf
9	EE07 & EE011 units mapping for Theory study & Exercises Attend face to face session PRACTICAL <u>Workshop 2+3</u> WorkShop Part 2 Practical 1 to 6 .zip WorkShop Part 2 Practical 7 to 12 .zip

	WorkShop Part 2 Practical 13 to 17 .zip WorkShop Part 2 Practical 18 to 21 .zip ElectricalWorkshopPart3 G008 Group1Machine .zip ElectricalWorkshopPart3 G008 Group2LineProtection .zip ElectricalWorkshopPart3 G008 Group3InstrumentsDevices .zip <u>OTHER PRACTICALS</u> ELECTRICAL WORKSHOP PART 2 G003 G004 G009 .zip Electrical Workshop Part 2 Practical 1 to 18.zip Electrical Workshop Part 2 Practical 19 to 21.zip G003 G004 G009Practicals.pdf
10	

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
UEENEEG001B Solve problems in electromagnetic circuits	UEENEEG101A Solve problems in electromagnetic devices and related circuits	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below

Study Option 1	Study Option 1	EE011 = EE07 + Additional
See 1 below	See 3 below	
Study Option 2	Study Option 2	
See 2 below	See 4 below	

1	http://www.filefactory.com/file/c0b6601/n/Elect_Fundamental_E029_G012_G001_G002_G060.zip
2	G001 Part 1 G001 Part 2
3	http://www.filefactory.com/file/c0b6601/n/Elect_Fundamental_E029_G012_G001_G002_G060.zip
4	G001 Part 1 G001 Part 2
5	Electro-magnetism http://www.filefactory.com/file/cf9b277/n/G001.zip
6	Click HERE to download the other exercises
7	EE07 & EE011 units mapping for Theory study & Exercises
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011.pdf
9	EE07 & EE011 units mapping for Theory study & Exercises Practicals Work performance and practical instruction Work performance + Practical Instruction Back up Click HERE to download practicals
10	

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
UEENEEG002B Solve problems in low voltage a.c. circuits	UEENEEG102A Solve problems in low voltage a.c. circuits	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below

Study Option 1	Study Option 1	EE011 = EE07 + Additional
See 1 below	See 3 below	
Study Option 2	Study Option 2	
See 2 below	See 4 below	

1	http://www.filefactory.com/file/c0b6601/n/Elect_Fundamental_E029_G012_G001_G002_G060.zip
2	G002
3	http://www.filefactory.com/file/c0b6601/n/Elect_Fundamental_E029_G012_G001_G002_G060.zip
4	G002
5	<p>G002 Lesson 1 Sine wave and it's values.zip</p> <p>http://www.filefactory.com/file/c0ad22c/n/G002_Lesson_1_Sine_wave_and_it_s_values.zip</p> <p>G002_Lesson_2_AC_RL+RC_Series_circuits.zip</p> <p>http://www.filefactory.com/file/c0ad67c/n/G002_Lesson_2_AC_RL+RC_Series_circuits.zip</p> <p>G002 Lesson 3 AC Series RLC circuits.zip</p> <p>http://www.filefactory.com/file/c0ad35d/n/G002_Lesson_3_AC_Series_RLC_circuits.zip</p> <p>G002 Lesson 4 AC Parallel circuits.zip</p> <p>http://www.filefactory.com/file/c0ad4f3/n/G002_Lesson_4_AC_Parallel_circuits.zip</p> <p>G002 Lesson 5 Three phase circuit basics.zip</p> <p>http://www.filefactory.com/file/c0ad468/n/G002_Lesson_5_Three_phase_circuit_basics.zip</p> <p>G002 Lesson 6 Balanced three phase circuit.zip</p> <p>http://www.filefactory.com/file/c0ad5d9/n/G002_Lesson_6_Balanced_three_phase_circuit.zip</p>
6	Click HERE to download the other exercises

7	EE07 & EE011 units mapping for Theory study & Exercises
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf
9	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p><u>Practicals</u> <u>Work performance and practical instruction</u> <u>Work performance + Practical Instruction Back up</u></p> <p>Click <u>HERE</u> to download practicals</p>
10	

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
UEENEEE011C Manage risk in electrotechnology activities	UEENEEE011C Manage risk in electrotechnology activities	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1	EE011 = EE07 + Additional					
See 1 below	See 3 below						
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	http://www.filefactory.com/file/c0b7b84/n/Project_specification_planning_management_Risk_OHS.G069_G070_E071_E011_E017.zip
2	RiskManagement.pdf E011E017note1 E011E017note2 E011_E017Notes3.zip
3	http://www.filefactory.com/file/c0b7b84/n/Project_specification_planning_management_Risk_OHS.G069_G070_E071_E011_E017.zip
4	RiskManagement.pdf

	E011E017note1 E011E017note2 E011_E017Notes3.zip
5	Video- http://www.filefactory.com/file/cf8750b/n/E011+E017.zip
6	Click HERE to download the other exercises
7	EE07 & EE011 units mapping for Theory study & Exercises E011_E017_Assignment
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011.pdf
9	E07 & EE011 units mapping for Theory study & Exercises
10	

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
UEENEEE071B Write specifications for electrical engineering projects	UEENEEE071B Write specifications for electrical engineering projects	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1	EE011 = EE07 + Additional					
See 1 below	See 3 below						
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	http://www.filefactory.com/file/c0b7b84/n/Project_specification_planning_management_Risk_OHS.G069_G070_E071_E011_E017.zip
2	Class Teaching Notes +Flexible study Notes References for Electrical Contracting & Estimating Est Estimating1 Estimating2 Estimating3 Week 1-Overview of NSW Electrical Service Rules E071DesiE071HVOVerheadConductors_Wk2-3 .zip

	E071LVOverheadConductor_Wk4-5 .zip E071Hazard Identification Wk6 .zip E071General Wiring Wk7-8 .zip E071UGCableSpecification Wk9-10-11 .zip E071TelecomDatacom Wk12 .zip E071Switching Wk13 .zip E071DesignStdOHDevelopment Wk14-16 .zip (2B) Flexible study Notes References for Specifications Service Rule 1 Service Rule 2 Service Rule 3 6-ElectricalDrawing 12-Specifications 13-BSpecifications 14-Specifications
3	http://www.filefactory.com/file/c0b7b84/n/Project_specification_planning_management_Risk_OHS.G069_G070_E071_E011_E017.zip
4	As in 2

5	<p><u>Project Specifications+ Project Planning +Project Management (1)</u></p> <p>E071+G069+G070Part1.zip</p> <p>http://www.filefactory.com/file/cf91ac4/n/E071_G069_G070Part1.zip</p> <p><u>Project Specifications+ Project Planning +Project Management (2)</u></p> <p>E071+G069+G070Part2.zip</p> <p>http://www.filefactory.com/file/cf91da1/n/E071+G069+G070Part2.zip</p> <hr/> <p><u>Project Specifications+ Project Planning +Project Management (1)</u></p> <p><u>http://uploading.com/files/6d26b85c/E071%252BG069%252BG070Part%2B1.zip/</u></p> <p><u>Project Specifications+ Project Planning +Project Management (2)</u></p> <p><u>http://uploading.com/files/bmf8bf9f/E071%252BG069%252BG070Part%2B2.zip/</u></p>
6	Click <u>HERE</u> to download the other exercises
7	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p><u>E071 MEM09004 Tutorial</u> <u>E071 MEM09004 Tutorial Mod.zip</u></p> <p><u>Propose strategies to identify client needs 1.pdf</u></p>
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf
9	EE07 & EE011 units mapping for Theory study & Exercises
10	<u>Costing Quotation.zip</u>

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
MEM09004B Perform electrical/electronic detail drafting	UEENEEG179A Develop detailed electrical drawings	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1	EE011 = EE07 + Additional					
See 1 below	See 3 below						
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	
2	ElectricalDrawing1.zip ElectricalDrawing2.zip ElectricalDrawing3.pdf GeneralDrawing1.zip GeneralDrawing2.zip ElectricInstallationDesign.zip ElectSystSafety1.zip ElectSystSafety2.zip

[FireProtHeatingTestingEarthing.zip](#)

[GeneralWiring.zip](#)

[HazardLightingPanel.zip](#)

[PanelRCDWireSpecial_Installation.zip](#)

[6-ElectricalDrawing](#)

[12-Specifications](#)

[13-BSpecifications](#)

[14-Specifications Propose strategies to identify client needs 1.pdf](#)

[1WiringInstallationDrawing](#)

[7MachineDriveSystems](#)

[8PowerElectronicsDevices AutoCAD 2D 3D Lessons](#)

[Symbol A](#)

[Symbol B](#)

[Symbol C](#)

[Symbol D](#)

[Symbol E](#)

	Symbol F Symbol G
3	
4	As in 2
5	
6	E071_MEM09004_Tutorial E071_MEM09004_Tutorial_Mod.zip MEM09004-Electronics Drawing Electronics_Drawing.zip
7	EE07 & EE011 units mapping for Theory study & Exercises
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf
9	EE07 & EE011 units mapping for Theory study & Exercises
10	E071DesiE071HVOverheadConductors_Wk2-3_.zip 6-ElectricalDrawing

Study Guide EE07 & EE011

What to study				Which exercises to do			What practical to do	Resources
Main study			Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit			Study Option (1) EE-07	Study Option (2) EE-07			
UEENEEI006B Solve problems in process controllers, transmitters and converters	UEENEEI120A Provide solutions to problems in industrial control systems		See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1		EE011 = EE07 + Additional					
See 1 below	See 3 below							
Study Option 2	Study Option 2							
See 2 below	See 4 below							

1	Amplifier+Power Supply+Digital H011+H012+H013.zip http://www.filefactory.com/file/c0b64d1/n/Amplifier_Power_Supply_Digital_H011_H012_H013.zip Process control-I006+I008+I020.zip http://www.filefactory.com/file/c0b7d9d/n/Process_control-I006_I008_I020.zip
2	AnalogDigitalSignalConditioning H085_66_I006_Note_1_Sensors_1 H085_66_I006_Note_2_Sensors_2 H085_66_I006_Note_3_Sensors_3 H085_66_I006_Note_4_Control_Concept1

	H085 66 I006 Note 5 Control Concept2 H085 66 I006 Note 6 Electronics Signal H085 66 I006 Note 8 Process Control 1 H085 66 I006 Note 9 Process Control 2 PID.zip
3	I020 Part 2 http://www.filefactory.com/file/7338x8vlddrj/n/I020_Part_2_zip
4	As 2
5	Process Control+ Digital Electronics +Signal Processing I006 Lesson 1 Process control Intro+Signal conditioning.zip http://www.filefactory.com/file/c0b2798/n/I006_Lesson_1_Process_control_Intro+Signal_conditioning.zip I006 Lesson 2 Op-amp in process control.zip http://www.filefactory.com/file/c0b25d5/n/I006_Lesson_2_Op-amp_in_process_control.zip I006 Lesson 3 Pnuematic.zip http://www.filefactory.com/file/c0b145a/n/I006_Lesson_3_Pnuematic.zip I006 Lesson 3+H012 Lesson 1 Digital principle+Logic gates.zip http://www.filefactory.com/file/c0b1488/n/I006_Lesson_3_H012_Lesson_1_Digital_principle_Logic_gates.zip I006 Lesson 4+H012 Lesson 2 Equivalent gate.zip http://www.filefactory.com/file/c0b16a2/n/I006_Lesson_4_H012_Lesson_2_Equivalent_gate.zip

I006 Lesson 5+H012 Lesson 3 Number system.zip

http://www.filefactory.com/file/c0b544e/n/I006_Lesson_5_H012_Lesson_3_Number_system.zip

I006 Lesson 6+H012 Lesson 4 Binary subtraction.zip

http://www.filefactory.com/file/c0b55f2/n/I006_Lesson_6_H012_Lesson_4_Binary_subtraction.zip

I006 Lesson 7+H012 Lesson 5 Encoder+Decoder.zip

http://www.filefactory.com/file/c0b18c8/n/I006_Lesson_7_H012_Lesson_5_Encoder_Decoder.zip

I006 Lesson 8+H012 Lesson 6 SR Flipflop.zip

http://www.filefactory.com/file/c27e44a/n/I006_Lesson_8_H012_Lesson_6_SR_Flipflop.zip

I006 Lesson 9+H012 Lesson 7 Shift register+Data latches.zip

http://www.filefactory.com/file/c0b1885/n/I006_Lesson_9_H012_Lesson_7_Shift_register_Data_latches.zip

I006 Lesson 10+H012 Lesson 8 Counter.zip

http://www.filefactory.com/file/c0b194c/n/I006_Lesson_10_H012_Lesson_8_Counter.zip

I006 Lesson 11+H012 Lesson 9 Display.zip

http://www.filefactory.com/file/c0b2ad0/n/I006_Lesson_11_H012_Lesson_9_Display.zip

I006 Lesson 12 Digital signal processing.zip

http://www.filefactory.com/file/c0b2b27/n/I006_Lesson_12_Digital_signal_processing.zip

I006 Lesson 13 Digital control design.zip

http://www.filefactory.com/file/c0b2cf2/n/I006_Lesson_13_Digital_control_design.zip

I006 Lesson 14 DAC.zip

http://www.filefactory.com/file/c0b2d00/n/I006_Lesson_14_DAC.zip

I006 Lesson 15 Ramp AD.zip

http://www.filefactory.com/file/c0b2d7d/n/I006_Lesson_15_Ramp_AD.zip

I006 Lesson 16 Sample and hold.zip

http://www.filefactory.com/file/c0b2548/n/I006_Lesson_16_Sample_and_hold.zip

I006 Lesson 17 Micro processor compatible DAC.zip

http://www.filefactory.com/file/c0b260b/n/I006_Lesson_17_Micro_processor_compatible_DAC.zip

I006 Lesson 18 Thermocouple.zip

http://www.filefactory.com/file/c0b2e67/n/I006_Lesson_18_Thermocouple.zip

I006 Lesson 19 Temperature measurement.zip

http://www.filefactory.com/file/c0b2fdd/n/I006_Lesson_19_Temperature_measurement.zip

I006 Lesson 20 Proportional mode.zip

http://www.filefactory.com/file/c0b2f26/n/I006_Lesson_20_Proportional_mode.zip

I006 Lesson 21 Industrial transducer.zip

http://www.filefactory.com/file/c0b2f95/n/I006_Lesson_21_Industrial_transducer.zip

I006 Lesson 22 Force measurement.zip

http://www.filefactory.com/file/c0b2673/n/I006_Lesson_22_Force_measurement.zip

I006 Lesson 23 Open loop control+Proportional control.zip

http://www.filefactory.com/file/c0b56d5/n/I006_Lesson_23_Open_loop_control_Proportional_control.zip

I006 Lesson 24 Closed loop control.zip

http://www.filefactory.com/file/c0b21e4/n/I006_Lesson_24_Closed_loop_control.zip

I006 Lesson 25 Electronics signal in process control.zip

http://www.filefactory.com/file/c0b220c/n/I006_Lesson_25_Electronics_signal_in_process_control.zip

I006 Lesson 26 PCM.zip

http://www.filefactory.com/file/c0b2255/n/I006_Lesson_26_PCM.zip

I006 Lesson 27 Control loop.zip

http://www.filefactory.com/file/c0b23bd/n/I006_Lesson_27_Control_loop.zip

I006 Lesson 28 Strain gauge+Piezo electric.zip

http://www.filefactory.com/file/c0b230b/n/I006_Lesson_28_Strain_gauge_Piezo_electric.zip

I006 Lesson 29 Light transducer.zip

http://www.filefactory.com/file/c0b237b/n/I006_Lesson_29_Light_transducer.zip

Process Control+ Digital Electronics +Signal Processing

	<u>PID Control</u> <u>I020 Part 1</u> http://www.filefactory.com/file/1xq2qz7knp3z/n/I020_Part_1_zip <u>I020 Part 2</u> http://www.filefactory.com/file/7338x8vlddrj/n/I020_Part_2_zip
6	Click <u>HERE</u> to download other Exercises
7	EE07 & EE011 units mapping for Theory study & Exercises <u>I006 Tutorials.zip</u>
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf
9	EE07 & EE011 units mapping for Theory study & Exercises <u>Practicals</u> <u>Work performance and practical instruction</u> Click <u>HERE</u> to download practicals
10	<u>PLC Textbook1</u> <u>PLC Textbook2</u> <u>PLC Textbook3</u> <u>PLC 6487E.zip</u> PLC References <u>User Manuals.zip</u> <u>TRILOGI5-purdue</u> <u>SetupTL6Edu Installation</u> <u>Installation Instruction</u> <u>F Nano-Product Sheets</u>

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
	UEENEEG006A Solve problems in single and three phase low voltage machines	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1	EE011 = EE07 + Additional					
See 1 below	See 3 below						
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	
2	
3	Elect Machine-G043+G044+G045.zip http://www.filefactory.com/file/c0b6668/n/Elect_Machine-G043_G044_G045.zip
4	G043_G045_7762AF_Notes G043_G045_Part_1_7762AF_Notes
5	
6	Click HERE to download other Exercises
7	EE07 & EE011 units mapping for Theory study & Exercises G015_G046_G040_G043_G045_G042Tutorials
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011.pdf
9	EE07 & EE011 units mapping for Theory study & Exercises Practicals Work performance and practical instruction Click HERE to download practicals

10	<p data-bbox="168 119 1467 167">ESI12_14_Syn_Motor_Generator.zip ESI_13_Voltage_regulation_devices.zip</p> <p data-bbox="168 207 660 255">ESI_19.4_Turbine_Control.zip</p> <p data-bbox="168 295 907 343">ESI_19.2_Generator_Control_Load_Flow.zip</p> <p data-bbox="168 383 582 430">ESI_19.3_Generator_.zip</p> <p data-bbox="168 470 560 518">Synchronous Generator</p> <div data-bbox="168 558 1758 877"> <p data-bbox="168 566 985 614">2.Un intentional islanding in distribution grids</p> <p data-bbox="168 654 1108 702">2.Un intentional islanding in distribution grids-Part 2</p> <p data-bbox="168 742 1108 790">2.Un intentional islanding in distribution grids-Part 3</p> </div> <div data-bbox="168 885 1758 1204"> <p data-bbox="168 893 593 941">2.Distribution Network 1</p> <p data-bbox="168 981 593 1029">2.Distribution Network 2</p> <p data-bbox="168 1069 593 1117">2.Distribution Network 3</p> </div> <div data-bbox="168 1212 1758 1484"> <p data-bbox="168 1220 705 1268">3.Prime mover characteristics</p> <p data-bbox="168 1308 1243 1356">3. Requirement of mechanical thermal plant in Co-generation</p> <p data-bbox="168 1396 817 1444">3.Study for mechanical thermal plant</p> </div>
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[3. Generator Paralleling](#)

[Synchronous Generator Operation \(Power System Operation\)](#)

[Lesson 1](#)

[Lesson 3](#)

[Power System Operation \(General aspect\) Reading 1](#)

[Power System Operation \(General aspect\) Reading 2](#)

[Power System Operation \(General aspect\) Reading 3](#)

[Power System Operation \(General aspect\) Reading 4](#)

[Power System Operation \(General aspect\) Reading 5](#)

[Power System Operation \(General aspect\) Reading](#)

MACHINE CONTROL

[MachineControlCkt1.zip](#)

[MachineControlCkt2.zip](#)

[MachineControlCkt3.zip](#)

[Motor control 2](#)

[Motor control 3](#)

[Motor control 4](#)

[Motor control 5](#)

[Motor control 6](#)

[Motor control 7](#)

[Motor control 8](#)

[Motor control 9](#)

[Motor control 10](#)

[Motor control 11](#)

[Motor control 12](#)

[Motor control 13](#)

[Motor control 14](#)

[Motor control 15](#)

[Motor control 16](#)

[8273Z Variable Speed Drives](#)

Lesson 1-[Part a](#) [Part b](#) [Part c](#) [Part d](#)

Lesson 2 [Part a](#) [Part b](#) [Part c](#)

Lesson 3 [Part a](#) [Part b](#)

Lesson 4 [Part a](#) [Part b](#)

Lesson 5 [Part a](#) [Part b](#)

Lesson 6 [Part a](#) [Part b](#)

Lesson 7 [Part a](#) [Part b](#)

Lesson 8 [Part a](#) [Part b](#)

Lesson 9 [Part a](#) [Part b](#)

Lesson 10 [Part a](#) [Part b](#)

Lesson 11 [Part a](#) [Part b](#)

Lesson 12 [Part a](#) [Part b](#)

Lesson 13 [Part a](#) [Part b](#)

Lesson 14 [Part a](#) [Part b](#)

Lesson 15 [Part a](#) [Part b](#)

Lesson 16 [Part a](#) [Part b](#) [Part c](#)

Lesson 17 [Part a](#) [Part b](#) [Part c](#)

Study Guide EE07 & EE011

What to study		Which exercises to do		What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise	Additional exercises for EE011	
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07	
UEENEEH025B Provide solutions to single phase electronic power control problems	UEENEEI148A Solve problems in single phase electronic power control circuits	See 5 below	See 6 below	See 7 below	See 8 below
Study Option 1	Study Option 1	EE011 = EE07 + Additional			
See 1 below	See 3 below				
Study Option 2	Study Option 2				
See 2 below	See 4 below				

1	Power Electronics -H025+H026.zip http://www.filefactory.com/file/c0b6857/n/Power Electronics -H025 H026.zip
2	H025 Operational Amplifier H026 3 Ph Power Control Electronics 1 H026 3 Ph Power Control Electronics 2

	H026 3 Ph Power Control Electronics 3 H026 3 Ph Power Control Electronics 4
3	As 1
4	As 2
5	<p>Operational amplifier+ single phase power control equipments</p> <p>H025 Lesson 1-Differential Amplifier.zip http://www.filefactory.com/file/c20fef9/n/H025 Lesson 1-Differential Amplifier.zip</p> <p>H025 Lesson 2-Comparator.zip http://www.filefactory.com/file/c0b072e/n/H025 Lesson 2-Comparator.zip</p> <p>H025 Lesson 3-Timer IC.zip http://www.filefactory.com/file/c0b077e/n/H025 Lesson 3-Timer IC.zip</p> <p>H025 Lesson 4-Op Amp Circuit 1 & 2.zip http://www.filefactory.com/file/c0b08c8/n/H025 Lesson 4-Op Amp Circuit 1 2.zip</p> <p>H025 Lesson 5-Op amp characteristics+Band widthe compensation.zip http://www.filefactory.com/file/c0b09da/n/H025 Lesson 5-Op amp characteristics Band widthe compensation.zip</p>

H025 Lesson 6-Op amp diode characteristics.zip

http://www.filefactory.com/file/c0b09e1/n/H025_Lesson_6-Op_amp_diode_characteristics.zip

H025 Lesson 7-Sine & square wave oscillators.zip

http://www.filefactory.com/file/c0b090a/n/H025_Lesson_7-Sine_square_wave_oscillators.zip

H025 Lesson 8-Op amp ckt-Integrator+Differentiator.zip

http://www.filefactory.com/file/c0b0909/n/H025_Lesson_8-Op_amp_ckt-Integrator_Differentiator.zip

H025 Lesson 9-Active filter.zip

http://www.filefactory.com/file/c0b0916/n/H025_Lesson_9-Active_filter.zip

H025 Lesson 10-Multistage Op amp ckt.zip

http://www.filefactory.com/file/c0b0948/n/H025_Lesson_10-Multistage_Op_amp_ckt.zip

H025 Lesson 11-Transducers.zip

http://www.filefactory.com/file/c0b0978/n/H025_Lesson_11-Transducers.zip

	<p>H025 Lesson 12-Introduction to control.zip</p> <p>http://www.filefactory.com/file/c0b0986/n/H025_Lesson_12-Introduction_to_control.zip</p> <p><u>Operational amplifier+ single phase power control equipments</u></p> <p>http://uploading.com/files/983aee66/H025.zip/</p>
6	<p>Click <u>HERE</u> to download other Exercises</p>
7	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p><u>Electronics_H025_Tutorials</u></p>
8	<p>http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf</p>
9	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p><u>Practicals</u> <u>Work performance and practical instruction</u></p> <p>Click <u>HERE</u> to download practicals</p>
10	

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
UEENEEH026B Provide solutions to polyphase electronic power control problems	UEENEEI149A Solve problems in polyphase electronic power control circuits	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1	EE011 = EE07 + Additional					
See 1 below	See 3 below						
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	Power Electronics -H025+H026.zip http://www.filefactory.com/file/c0b6857/n/Power_Electronics_-H025_H026.zip
2	H026 3 Ph Power Control Electronics 1 H026 3 Ph Power Control Electronics 2 H026 3 Ph Power Control Electronics 3 H026 3 Ph Power Control Electronics 4
3	As 1
4	As 2
5	Three phase power control equipments H026 Lesson 1-Single &Three phase power control.zip

	http://www.filefactory.com/file/c0b1ac9/n/H026_Lesson_1-Single_Three_phase_power_control.zip H026 Lesson 2-Solid state switching devices.zip http://www.filefactory.com/file/c0b1af2/n/H026_Lesson_2-Solid_state_switching_devices.zip H026 Lesson 3-Inverter Converter.zip http://www.filefactory.com/file/c0b1a59/n/H026_Lesson_3-Inverter_Converter.zip H026 Lesson 4-Power Diodes.zip http://www.filefactory.com/file/c0b1a8f/n/H026_Lesson_4-Power_Diodes.zip H026 Lesson 5-AC Motor speed control.zip http://www.filefactory.com/file/c0b1ba7/n/H026_Lesson_5-AC_Motor_speed_control.zip H026 Lesson 6-Current fed inverter.zip http://www.filefactory.com/file/c0b1b0d/n/H026_Lesson_6-Current_fed_inverter.zip
6	Click HERE to download other Exercises
7	EE07 & EE011 units mapping for Theory study & Exercises
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf
9	EE07 & EE011 units mapping for Theory study & Exercises Practicals Work performance and practical instruction Click HERE to download practicals
10	

NOTE

The link in the yellow shaded cell can be accessed to download the notes if the direct link is not working

[Syllabus and Engineers Australia Competency.zip](#)

[Electrical diploma with electrician licensing program.zip](#)

Study the following units before you study any electrical units

[Electrician Licensing Requirements.zip](#)

[SubstationEntry.zip](#)

[Construction ElectricalSafety.zip](#)

[InserviceTesting.zip](#)

RECOGNITION OF PRIOR LEARNING (RPL)

Download the following references if you want to apply for RPL

[RPL Policy](#)

[Mutal Recognition/ Enrolment adjustment credit \)\(previous study\)](#)

[108 prev stud 1 1 .pdf](#)

□□□□ [Yellow Form 102 Enrolment Adjustment Credit \(Recognition of Prior Learning\)](#)

[102 yellow rpl 1 1 .pdf](#)

Gap training & assessment record for RPL [Word File](#) [PDF File](#)

STAGE 1

E001+E002+E007+E008+E005+E033+C002+C003

UEENEEE001		Apply OHS practices in the work place
UEENEEE002		Dismantle, assemble and fabricate electrotechnology components
UEENEEE005		Fix and secure equipment
UEENEEE007		Use drawings, diagrams, schedules and manuals
UEENEEE008		Lay wiring/cabling and terminate accessories for extra-low voltage circuits
UEENEEE033		Document occupational hazards and risks in electrical work

[Stage 1 Part 1.zip](#)

http://www.filefactory.com/file/c0cb8ab/n/Stage_1_Part_1.zip

E002+E005+E007+E008+E033-Wiring

Electrical safe working

1Wiring_E033_E008_

2Wiring_E033_E008_

Circuit safety

ConstructionElectricalSafety

DC_Circuit_E003_E004

E002_E005

Bachelor of Technology

Entry Requirement

- Completion of Advanced Diploma in Electro-mechanical and Construction Engineering

[ADEMC201-Sustainability and Electrical Practice](#)

[ADEMC202-Engineering Practice](#)

[ADEMC203-Design and Technology](#)

[ADEMC204-General Electrical Engineering](#)

[ADEMC205-General Civil Engineering and Construction](#)

[ADEMC206-General Mechanical Engineering](#)

[ADEMC207-Mathematics, Physics and Chemistry](#)

[ADEMC208-Engineering Materials](#)

[ADEMC209-Engineering Management](#)

[ADEMC210-Workshop Practice and Safety](#)

Completion Requirement , one of the following ways

1. Completion of BE (Special Program) Form 109 Subjects

[BAE401 Engineering Mathematics](#)

[BAE402 Calculus](#)

[RE010 Engineering Materials](#)

[BAE403 Engineering Mechanics \(10 Credits\)](#)

Additional Unit

[BAE404 Engineering Thermodynamics](#)

[RE505- Green Building Design \(3 credits\)](#)

[RE016A-Design & Management \(4 credits\)](#)

[BAE 523A Environmental Engineering \(1 credit\)](#)

[RE003- Solar and Thermal Energy Systems \(1 credit\)](#)

[RE004- Energy Storage Systems \(1 credit\)](#)

- 2 Selection of Examination (or) Assignment -Electrical, Civil, Mechanical, ICT based on Electrical, Civil, Mechanical, ICT subjects in Advanced Diploma in Electro-mechanical and Construction Engineering to determine the discipline of BTech degree.
- 3 Work experience submission to confer Bachelor of Technology (Special) degree.
- 4 Completion of Year 3 in BE Program for the students who completed Advanced Diploma in Electrical Engineering, Advanced Diploma in Civil Engineering, Advanced Diploma in Mechanical Engineering, Advanced Diploma in ICT Engineering,

Assignment Submission , one of the following ways

1. Messenger—to be advised
2. E mail —iqytechnicalcollege@gmail.com
3. Personal No 307(B) Thura 2 Street, 9 Ward, South Okkalapa , Yangon on Saturday, Sunday

BACHELOR OF APPLIED ENGINEERING (ELECTRICAL)

Pre-requisite

Advanced Diploma in Electrical Engineering

ASSESSMENT

The learning and assessment system involves two parts

- (1) Completion of the course works- submission of the assignments (Theory/ Practical/ Calculations) for the competency units of the subject
(Grading—Complete or Incomplete)
- (2) Completion of the course works- submission of the assignments Theory/ Practical/ Calculations) for the over all knowledge of the subject
(Grading—Complete or Incomplete)
- (3) Sitting the final test for the subject by either online or paper based test- -Grading—In accordance with St Clements University Higher Education School-Niue Students Handbook.

The following is the list of the subjects and competency units

BACHELOR OF APPLIED ENGINEERING (ELECTRICAL)

Subjects	Points	Competency Units
BAE 401 Advanced Engineering Mathematics	9	Maths 301 Introduction to Complex Variables (1 pt) Maths 302 Elementary Linear Algebra (1 pt) Maths 401 Continuous Distributions (1 pt) Maths 402 Discrete Distributions (1 pt) Maths 403 Engineering Mathematics (1 pt) Maths 501 Introduction to Probability(1 pt) Maths 501 Linear Algebra & Matrices (1 pt) Maths 502 Finite Difference Methods for Partial Differential Equations & Mathematical Modelling (1 pt) Maths 601 Random Variables (1 pt)
BAE 402 Calculus	3	Maths 304 Integration and Differential Equations. (1 pt) Maths 403 Second Order Ordinary Differential Equations

		(1 pt) Maths 303 Engineering Mathematics (1 pt)
BAE 403 Engineering Mechanics	1	ME 301 Applied Mathematics (1 pt)
BAE 404 Engineering Materials & Thermodynamics	3	ME 334 Engineering Thermodynamics (1 pt) ME 434 Wind Turbines (1 pt) ME 634 Pneumatics (1 pt)
BAE 405 Advanced Circuit Analysis	3	EE 301 Electrical Circuits (1 pt) EE 303 Engineering Circuit Analysis (1 pt) EE 404 Electrical Measurement (1 pt)
BAE 406 Electro-mechanics	2	EE 502 Electrical Machines (1 pt) ME 301 Machine Principle (1 pt)
BAE 407 Advanced Electro-magnetics Field & Materials	1	EE 407 Electromagnetism (1 pt)
BAE 408 Analogue & Digital Electronics	5	EE 403 Introduction to Electronic Engineering (1 pt) EE 524 Power Electronics & Applied Electronics (1 pt) EE 405 Digital System (1 pt) EE 526 Digital Signal Processing (1 pt) EE 527 Digital Image Processing 1/ 2 (1 pt)
BAE 501 Advanced Power Systems & Power Transmission Networks	3	EE 512 Power System (1 pt) EE 302 Power System Technology (Optional) EE 402 Electrical Power (1 pt) EE 513 Power Transmission and Distribution Lines (1 pt)
BAE 502 Linear System	1	EE 304 Computer Mathematics (1 pt)
BAE 503 Control System	4	EE 601 Non Linear Control Applications (1 pt) EE 601 Control Engineering , Feedback and Control System , P ID_ Control (1 pt) EE 624 Process Control (1 pt)

		ME 534 Numerical Control Part 1 / 2 (1 pt)
BAE 504 Power System Analysis	1	EE 614 Power System Analysis
BAE 505 Power System Optimization	1	EE 613 Power System Optimization
BAE 506 Power System Stability & Protection	2	EE 615 Power System Stability & Power Quality (1 pt) EE 616 Power System Protection (1 pt)
BAE 507 Electro-mechanical Energy Conversion	2	EE 602 Motor Control Electronics (1 pt) ME 434 Mechtronics & Robotics (1 pt)
BAE 508 Industrial Engineering & Industrial Management	1	Mgt 501 Basic Management & Communication Skills (1 pt)
BAE 601 Computer Programming	3	IT 401 Object Oriented Programming (1 pt) IT 402 Structured Programming (1 pt) IT 403 Visual Basic Programming (1 pt)
BAE 602 Computer Network	1	ICT 202 Information Systems Principles and Networking (1 pt)
BAE 603 Software Engineering	3	ICT 106 Software Engineering (1 pt) ICT 203 Information Systems, Analysis and Design (1 pt) EE 626 Nano Technology (1 pt)
BAE 604 Telecommunication Engineering	2	EE 525 Data Communication (1 pt) EE 603 Electronics Telecommunication (1 pt)
BAE 605 Engineering Management	5	Mgt 502 Operation Management (1 pt) Mgt 503 Production & Operation Management (1 pt) Mgt 504 Project Management (1 pt) Mgt 505 Quality Management and Manufacturing Engineering (1 pt) Mgt 506 Strategic Financial Management (1 pt)

BAE 606 Building Service Electrical & Mechanical Engineering	2	EE 617 Building Electrical and Mechanical System (1 pt) ME 334 Airconditioning and Refrigeration (1 pt) CE 301 Building Construction (Optional) CE 301 Conceise Hydroulics (Optional)
BAE 607 Radio Wave Propagation & Microwave Techniques	2	EE 625 Radio Wave Propagation (1 Pt) EE 626 Microwave Technique (1pt)
Total Credit points	60	

STAGE (1) DIPLOMA IN CIVIL ENGINEERING (Each 2.5 Credits) (30 Pt)

CE 101 Mathematics

CE 102 Physics

CE 103 Basic Surveying

CE 104 Fluid Dynamics

CE 105 Hydraulic

CE 106 Hydrology

CE 107 Sanitation-and-Water-supply

CE 108 Electrical Principle

CE 109 Energy Efficient Building Design

CE 110 Building Construction

CE 111 Engineering Mechanics

ME 301 Applied Mathematics

Sequence of study

CE 101, CE 102, CE 111, CE 110, ME 301

CE 103, CE 104, CE 105, CE 106, CE 107, CE 108

CE 109

STAGE (2) BASIC MECHANICAL ENGINEERING (30 Pt) (Each unit has 1 point)

Maths 101 Engineering Mathematics (1 pt)

Maths 301 Introductory Finite Difference Methods-for-partial differential equations(1 pt)

Maths 302 Elementary-Linear-Algebra(1 pt)

Maths 403 Engineering-Mathematics(1 pt)

Maths 501 Linear Algebra (1 pt)

Maths 303 Introductory Finite Volume Methods-for- partial differential equations(1 pt)

ME 103 Engineering Mechanics (2pt)

ME 101 Applied Mathematics (1 pt)
ME 107 Heat Transfer (1 pt)
ME 306 Theory-of-waves-in-materials (1 pt)
ME 102 Engineering Thermodynamics (2pt)
ME 234 Wind Turbines (1 pt)
ME 634 Pneumatics (1 pt)
ME 105 Electrical Principle (1 pt)
ME 106 Electrical Circuits (1 pt)
ME 104 Machine Principle (2 pt)
ME 304 Introduction to Nonlinearity-in-control-systems (1 pt)
ME 203 Control Engineering (1 pt)
EE 624 Process Control (2 pt)
ME 534 Numerical Control (1 pt)
ME 434 Mechtronics-Robotics (1 pt)
Mgt 501 Basic Management (1 pt)
EE 617 Building Electrical and Mechanical System Part 1 (2 pt)
ME 334 Airconditioning and Refrigeration (2 pt)

STAGE (3) BASIC ELECTRICAL & ELECTRONICS ENGINEERING (18 Pt)

Files--Certificate in Electrical Engineering, Diploma in Electrical Engineering, Advanced Diploma in Electrical Engineering , see the following contents

EE101 DC Circuit Problems
EE102 Basic Electrical Fitting & Wiring
EE103 Basic Electrical Drafting
EE104 Electrical Equipments Safety Protection

EE105 Electrical Installation Design

EE107 Electrical Equipments

EE106 Advanced Electrical Wiring

EE108 Electrical Fault Finding

EE109 Electrical Control Circuits

EE111 Electromagnetism & Basic Electrical Machines

EE112 Alternating Current Principle

EE113 Electrical Fundamental

EE115 Basic Analogue & Digital Electronics

EE116 Process Control System

EE117 Solar Electrical System

EE119 Electrical Risk Assessment

EE120 Electrical Contracting & Specifications

EE308 Sustainability

STAGE (4 A) ADVANCED MECHANICAL ENGINEERING STUDY (6Pt)

ME 108 Principle of Engines

ME 109 Engineering Drawing

ME 201 Introduction to Fluid Mechanics

ME 204 Engineering Fluid Mechanics

ME 301 Fluid Dynamics

EE 305 Corrosion Prevention

STAGE (4B)ADVANCED ELECTRICAL & ELECTRONICS ENGINEERING STUDY

(ADVANCED DIPLOMA) (4 pt)

Files--Certificate in Electrical Engineering, Diploma in Electrical Engineering, Advanced Diploma in Electrical Engineering , see the following contents (Each 2.5 pt)

EE201 Engineering Mathematics

EE204 Engineering Physics

EE302 Advanced Engineering Mathematics

EE307 Energy Efficient Building Design

STAGE (5)BACHELOR OF APPLIED ENGINEERING (BUILDING SERVICE) DEGREE (32 pt)

Subjects	Points	Competency Units	Page
BAE 401 Advanced Engineering Mathematics	9	Maths 301 Introduction to Complex Variables (1 pt) Maths 302 Elementary Linear Algebra (1 pt) Maths 401 Continuous Distributions (1 pt) Maths 402 Discrete Distributions (1 pt) Maths 403 Engineering Mathematics (1 pt) Maths 501 Introduction to Probability(1 pt) Maths 501 Linear Algebra & Matrices (1 pt) Maths 502 Finite Difference Methods for Partial Differential Equations & Mathematical Modelling (1 pt) Maths 601 Random Variables (1 pt)	
BAE 402 Calculus	3	Maths 304 Integration and Differential Equations (1 pt) Maths 403 Second Order Differential Equations (1 pt) Maths 303 Engineering Mathematics (1 pt)	
BAE 403 Engineering Mechanics	1	ME 301 Applied Mathematics (1 pt)	
BAE 404 Engineering Materials & Thermodynamics	3	ME 334 Engineering Thermodynamics (1 pt) ME 434 Wind Turbines (1 pt)	

		ME 634 Pneumatics (1 pt)	
BAE 508 Industrial Engineering & Industrial Management	1	Mgt 501 Basic Management & Communication Skills (1 pt)	
BAE 601 Computer Programming	3	IT 401 Object Oriented Programming (1 pt) IT 402 Structured Programming (1 pt) IT 403 Visual Basic Programming (1 pt)	
BAE 605 Engineering Management	5	Mgt 502 Operation Management (1 pt) Mgt 503 Production & Operation Management (1 pt) Mgt 504 Project Management (1 pt) Mgt 505 Quality Management and Manufacturing Engineering (1 pt) Mgt 506 Strategic Financial Management (1 pt)	
BAE 606 Building Service Electrical & Mechanical Engineering	2	EE 617 Building Electrical and Mechanical System (1 pt) ME 334 Airconditioning and Refrigeration (1 pt) CE 301 Building Construction (Optional) CE 301 Conceise Hydroulics (Optional)	
BAE 609 Design Project	5		
Total Credit points	32Pt		

Stage	Points
Stage 1—Diploma in Civil Engineering	30
Stage 2	30
Stage 3	18
Stage 4A	6
Stage 4B	4
Stage 5	32

Total (Bachelor of Applied Engineering-Mechtronics)	120
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STAGE (1) DIPLOMA IN MECHANICAL ENGINEERING (30 Pt) (Each unit has 1 point)

Maths 101 Engineering Mathematics (1 pt)

Maths 301 Introductory Finite Difference Methods-for-partial differential equations(1 pt)

Maths 302 Elementary-Linear-Algebra(1 pt)

Maths 403 Engineering-Mathematics(1 pt)

Maths 501 Linear Algebra (1 pt)

Maths 303 Introductory Finite Volume Methods-for- partial differential equations(1 pt)

ME 103 Engineering Mechanics (2pt)

ME 101 Applied Mathematics (1 pt)

ME 107 Heat Transfer (1 pt)

ME 306 Theory-of-waves-in-materials (1 pt)

ME 102 Engineering Thermodynamics (2pt)

ME 234 Wind Turbines (1 pt)

ME 634 Pneumatics (1 pt)

ME 105 Electrical Principle (1 pt)

ME 106 Electrical Circuits (1 pt)

ME 104 Machine Principle (2 pt)

ME 304 Introduction to Nonlinearity-in-control-systems (1 pt)

ME 203 Control Engineering (1 pt)

EE 624 Process Control (2 pt)

ME 534 Numerical Control (1 pt)

ME 434 Mechtronics-Robotics (1 pt)

Mgt 501 Basic Management (1 pt)

EE 617 Building Electrical and Mechanical System Part 1 (2 pt)

ME 334 Airconditioning and Refrigeration (2 pt)

STAGE (2)BASIC ELECTRICAL & ELECTRONICS ENGINEERING (17 Pt)

Files--Certificate in Electrical Engineering, Diploma in Electrical Engineering, Advanced Diploma in Electrical Engineering , see the following contents

EE101 DC Circuit Problems

EE102 Basic Electrical Fitting & Wiring

EE103 Basic Electrical Drafting

EE104 Electrical Equipments Safety Protection

EE105 Electrical Installation Design

EE107 Electrical Equipments

EE106 Advanced Electrical Wiring

EE108 Electrical Fault Finding

EE109 Electrical Control Circuits

EE111 Electromagnetism & Basic Electrical Machines

EE112 Alternating Current Principle

EE113 Electrical Fundamental

EE115 Basic Analogue & Digital Electronics

EE116 Process Control System

EE117 Solar Electrical System

EE119 Electrical Risk Assessment

EE120 Electrical Contracting & Specifications

STAGE (3) ADVANCED MECHANICAL ENGINEERING STUDY (13 Pt)

GROUP (1) (7 pt)

ME 108 Principle of Engines

ME 109 Engineering Drawing

ME 201 Introduction to Fluid Mechanics

ME 202 Introduction to Aero Dynamics

ME 204 Engineering Fluid Mechanics

ME 206 Introduction to Turbo Machinery

ME 301 Fluid Dynamics

GROUP (2) (4 pt)

ME 205 Manufacturing Processes-and-Materials

ME 302 Automation-and-Robotics

ME 303 Computer Aided Design and Manufacturing

ME 305 Corrosion Prevention

GROUP (3) (2 pt)

ME 207 Chemical Thermodynamics

ME 208 Hydrocarbons

STAGE (4) ADVANCED ELECTRICAL & ELECTRONICS ENGINEERING STUDY

(ADVANCED DIPLOMA) (10 pt)

Files--Certificate in Electrical Engineering, Diploma in Electrical Engineering, Advanced Diploma in Electrical Engineering , see the following contents

EE121 Electronics Power Control Devices

EE201 Engineering Mathematics

EE202 Electrical Circuits

EE203 Three Phase Power Circuits

EE204 Engineering Physics

EE206 AC Machines

EE207 DC Machines

EE208 Operational Amplifiers

EE209 Analogue Electronics

EE301 Advanced Electrical Drafting

EE302 Advanced Engineering Mathematics (Optional)

STAGE (5)BACHELOR OF APPLIED ENGINEERING (MECHTRONICS) DEGREE

Subjects	Points	Competency Units	Page
BAE 401 Advanced Engineering Mathematics	9	Maths 301 Introduction to Complex Variables (1 pt) Maths 302 Elementary Linear Algebra (1 pt) Maths 401 Continuous Distributions (1 pt) Maths 402 Discrete Distributions (1 pt) Maths 403 Engineering Mathematics (1 pt) Maths 501 Introduction to Probability(1 pt) Maths 501 Linear Algebra & Matrices (1 pt) Maths 502 Finite Difference Methods for Partial Differential Equations & Mathematical Modelling (1 pt) Maths 601 Random Variables (1 pt)	
BAE 402 Calculus	3	Maths 304 Integration and Differential Equations (1 pt) Maths 403 Second Order Differential Equations (1 pt) Maths 303 Engineering Mathematics (1 pt)	
BAE 403 Engineering Mechanics	1	ME 301 Applied Mathematics (1 pt)	
BAE 404 Engineering Materials & Thermodynamics	3	ME 334 Engineering Thermodynamics (1 pt) ME 434 Wind Turbines (1 pt) ME 634 Pneumatics (1 pt)	
BAE 405 Advanced Circuit Analysis	3	EE 301 Electrical Circuits (1 pt) EE 303 Engineering Circuit Analysis (1 pt) EE 404 Electrical Measurement (1 pt)	
BAE 406 Electro-mechanics	2	EE 502 Electrical Machines (1 pt) ME 301 Machine Principle (1 pt)	
Subjects	Points	Competency Units	Page

BAE 408 Analogue & Digital Electronics	5	EE 403 Introduction to Electronic Engineering (1 pt) EE 524 Power Electronics & Applied Electronics (1 pt) EE 405 Digital System (1 pt) EE 526 Digital Signal Processing (1 pt) EE 527 Digital Image Processing 1/ 2 (1 pt)	
BAE 502 Linear System	1	EE 304 Computer Mathematics (1 pt)	
BAE 503 Control System	4	EE 601 Non Linear Control Applications (1 pt) EE 601 Control Engineering , Feedback and Control System , PID_Control (1 pt) EE 624 Process Control (1 pt) ME 534 Numerical Control Part 1 / 2 (1 pt)	
BAE 507 Electro-mechanical Energy Conversion	2	EE 602 Motor Control Electronics (1 pt) ME 434 Mechtronics & Robotics (1 pt)	
BAE 508 Industrial Engineering & Industrial Management	1	Mgt 501 Basic Management & Communication Skills (1 pt)	
BAE 601 Computer Programming	3	IT 401 Object Oriented Programming (1 pt) IT 402 Structured Programming (1 pt) IT 403 Visual Basic Programming (1 pt)	
BAE 602 Computer Network	1	ICT 202 Information Systems Principles and Networking (1 pt)	
BAE 603 Software Engineering	3	ICT 106 Software Engineering (1 pt) ICT 203 Information Systems, Analysis and Design (1 pt) EE 626 Nano Technology (1 pt)	
BAE 604 Telecommunication Engineering	2	EE 525 Data Communication (1 pt)	
BAE 605 Engineering Management	5	Mgt 502 Operation Management (1 pt)	

		Mgt 503 Production & Operation Management (1 pt) Mgt 504 Project Management (1 pt) Mgt 505 Quality Management and Manufacturing Engineering (1 pt) Mgt 506 Strategic Financial Management (1 pt)	
BAE 606 Building Service Electrical & Mechanical Engineering	2	EE 617 Building Electrical and Mechanical System (1 pt) ME 334 Airconditioning and Refrigeration (1 pt) CE 301 Building Construction (Optional) CE 301 Conceise Hydroulics (Optional)	
Total Credit points	50 Pt		

Stage	Points
Stage 1—Diploma in Mechanical Engineering	30
Stage 2	17
Stage 3	13
Stage 4	10
Stage 5	50
Total (Bachelor of Applied Engineering-Mechtronics)	120

Bachelor of Applied Engineering (Electrical+Electronics) with Certificate IV in Electrical & Electronics Trade Studies

www.electricaldiploma2013.zoomshare.com/files/BAppEngElectricalElectronics.htm

Course Development Ideas, Brief Description of the subjects & Resources Links

This is a course that combines the trade skills, para-professional and professional competencies in electrical and electronics engineering.

Today industry demands the multi-skilled professionals. Especially in electro-technology industry, the graduates need to be equipped with multiple skills.

This course combines the Electrical & Electronics Trade Skills, Engineering Associate Competencies & Engineering Technologists Competencies.

Bachelor of Applied Engineering is designed to be equivalent to Engineering Technologist Degree.

The program consists of three level of electrical & electronics engineering competencies

Stage 1-- Year 1 is composed of Electrical & Electronics Trade Units.

The relevant electro-technology training package units are combined up to the stage of pre-capstone assessment level in electrical trades as well as theoretical part of telecommunication cabler competencies. The award after the Year 1 is Certificate IV in Electrical & Electronic Trade Studies.

Stage 2-Year 2 is composed of Advanced Diploma level Electrical & Electronic Training Package units. It is designed to train the students with both electrical and electronic engineering skills and knowledge at engineering associates level.

After the Year 2, the students can be graduated with Advanced Diploma in Applied Engineering (Electrical & Electronics)

Stage 3- Year 3 & 4 is composed of the degree level electrical and electronic engineering units. The study is a combined studies of electrical power, electronics, computer programming, computer networking, control system, building services engineering and renewable energy.

At the Advanced Diploma level, electro-technology training package units are referred as detailed contents. But the packaging is based on the study areas.

For example, the unit GE2 Electrical Machine is composed of several electro-technology training package units at trades & technician level related to electric machineries.

Program Objectives

Certificate IV in Electrical & Electronics Trade Studies

One year Certificate IV in Electrical & Electronics Trade Studies is designed to train the students to work as Engineering Trades Persons (Electrical/Electronics) in wide ranges of electrical & electronic industries

It is designed to provide the following competencies.

- Breadth, depth and complexity of knowledge and competencies would cover selecting, adapting and transferring skills and knowledge to Australian environments and providing technical advice and some leadership in resolution of specified problems. This would be applied across a range of roles in a variety of contexts with some complexity in the extent and choice of options available.
- Performance of a defined range of skilled operations, usually within a range of broader related activities involving known routines, methods and procedures, where some discretion and judgement is required in the selection of equipment, services or contingency measures and within known time constraints.
- Applications may involve some responsibility for others. Participation in teams including group or team coordination may be involved.
- Distinguishing Features of Learning Outcomes
- Do the competencies enable an individual with this qualification to:
 - demonstrate some relevant theoretical knowledge
 - apply a range of well-developed skills
 - apply known solutions to a variety of predictable problems
 - perform processes that require a range of well-developed skills where some discretion and judgement is required
 - interpret available information, using discretion and judgement
 - take responsibility for own outputs in work and learning
 - take limited responsibility for the output of others
- Breadth, depth and complexity of knowledge and competencies would cover a broad range of varied activities or application in a wider variety of contexts most of which are complex and non-routine. Leadership and guidance are involved when organising activities of self and others as well as contributing to technical solutions of a non-routine or contingency nature.
- Performance of a broad range of skilled applications including the requirement to evaluate and analyse current practices,

- develop Australian criteria and procedures for performing current practices and provision of some leadership and guidance to others in the application and planning of the skills.
- Applications involve responsibility for, and limited organisation of, others.
- Distinguishing Features of Learning Outcomes
- Do the competencies enable an individual with this qualification to:
 - demonstrate understanding of a broad knowledge base incorporating some theoretical concepts
 - apply solutions to a defined range of unpredictable problems
 - identify and apply skill and knowledge areas to a wide variety of contexts, with depth in some areas
 - identify, analyse and evaluate information from a variety of sources
 - take responsibility for own outputs in relation to specified quality standards
- take limited responsibility for the quantity and quality of the output of others.

Diploma/ Advanced Diploma in Applied Engineering (Electrical+ Electronics)

Two years Advanced Diploma in Applied Engineering (Electrical & Electronics) is designed to train the students to work as Engineering Associates Technicians in wide ranges of electrical & electronic industries to perform a wide range of functions within engineering enterprises and engineering teams.

It is designed to provide the following competencies.

- To be closely familiar with standards and codes of practice, and to become expert in their interpretation and application to a wide variety of situations.
- To develop very extensive experience of practical installations, and may well be more knowledgeable than Professional Engineers or Engineering Technologists on detailed aspects of plant and equipment that can contribute very greatly to safety, cost or effectiveness in operation.
- To develop high levels of expertise in aspects of design and development processes. These might include, for example, the use of advanced software to perform detailed design of structures, mechanical components and systems, manufacturing or process plant, electrical and electronic equipment, information and communications systems, and so on.
- To do the construction of experimental or prototype equipment.
- To develop detailed practical knowledge and experience complementing the broader or more theoretical knowledge of others.

Bachelor Applied Engineering (Electrical+ Electronics)

Four years Bachelor of Applied Engineering (Electrical & Electronics) is designed to train the students to work as Engineering Technologists in wide ranges of industries.

The training is designed to provide expertise to the students which may be at a high level, and fully equivalent to that of a Professional Engineer. That is designed

- to exercise the same breadth of perspective as Professional Engineers, or carry the same wide-ranging responsibilities for stakeholder interactions, for system integration, and for synthesising overall approaches to complex situations and complex engineering problems.
- to possess for a strong understanding of practical situations and applications, with the intellectual challenge of keeping abreast of leading-edge developments as a specialist in a technology domain and how these relate to established practice. For this purpose Engineering Technologists need a strong understanding of scientific and engineering principles and a well-developed capacity for analysis.
- to apply current and emerging technologies, often in new contexts; or with the application of established principles in the development of new practice.
- To contribute to the advancement of technology.
- to take responsibility for engineering projects, services, functions and facilities within a technology domain, for specific interactions with other aspects of an overall operating context and for managing
- to contribute the specialist work to a broader engineering system or solution. In these roles, Engineering
- to focus on sustainable solutions and practices which optimise technical, social, environmental and economic outcomes within the technology domain and over a whole systems life cycle.
- to have an intimate understanding of the standards and codes of practice that underpin the technology domain and ensure that Technology Outcomes comply with statutory requirements. Engineering Technologists are required to interact effectively with Professional Engineers and Engineering Associates, with other professionals, tradespersons, clients, stakeholders and society in general, to ensure that technology outcomes and developments fully integrate with the overall system and context.
- to ensure that all aspects of a technological product, or operation are soundly based in theory and fundamental principle.
- to understand how new developments relate to their specific field of expertise.
- to interpret technological possibilities, to investigate interfaces, limitations, consequences, costs and risks.

Credit Points

To be relevant to International Standard Credit Points system, the credit points for the studies are arranged as follows

Stage	Year	Course	Credit Points
1	1	Certificate IV in Electrical & Electronics Trade Studies	30
2	2	Diploma/ Advanced Diploma in Applied Engineering (Electrical+ Electronics)	30

Total points after Advanced Diploma			60
3	3	Bachelor Applied Engineering (Electrical+ Electronics) Part 1	30
3	4	Bachelor Applied Engineering (Electrical+ Electronics) Part 2	30
Total points after Bachelor of Applied Engineering			120

Time allocations & detailed credit arrangement for each unit at degree level

More detailed developments are required.

Structures of the units

GE-General Engineering IE-Intermediate Engineering

BAE-Bachelor of Applied Engineering

Year 1 Certificate IV in Electrical & Electronics Trades

Semester 1

IE6	Principle of Electricity
IE13	Workshop
GE14	Fitting & Machining
GE16	Engineering Drawing I
GE1	Electrical Wiring (EE) Part 1
GE27	Machine Principle(ME)
IE3	Material Science
GE6	Occupational Health & Safety

Semester 2

GE1	Electrical Wiring Part 2
IE23	Industrial Computer System
GE13	Principle of Engine
IE31	Introduction to Renewable Energy Technology
GE18	Air-conditioning & Refrigeration (ME)
GE2	Electrical Machine (EE)
GE8	Electronics (EE)
IE32	Telecommunication Cabling & Installation

Year 2- Diploma/Advanced Diploma in Applied Engineering -(Electrical & Electronics)

Semester 1-

Diploma in Engineering Technology-(Electrical & Electronics)

IE1	Engineering Mathematics
IE2	Engineering Physics
IE7+ IE8	Electrical Circuit (EE)
GE10	Industrial Electronics (EE)
GE3	Electrical Distribution (EE)
GE9	Process Control (EE/ME)
GE11	Programmable Logic Controller (EE/ME)
IE15	Advanced Engineering Design & Project Work
IE27	Control Concept

Semester 2-

Advanced Diploma in Engineering Technology-(Electrical & Electronics)

IE4	Advanced Engineering Mathematics
GE34	Engineering Business Management
GE4	Power System Operation (EE)
GE5	Power System Protection
GE20	Computer Networking (EE)

GE26	Energy Efficient Building Design
IE10	Transmission Line (EE)
GE7	Project Management (EE/CE/ME)

Year 3 - Bachelor of Applied Engineering -(Electrical & Electronics) Part 1

Semester 1-

BAE 401	Higher Engineering Mathematics
BAE 402	Calculus
GE12	Photovoltaic Solar Electrical System
GE24	Manufacturing Management (ME)
IE24	Microprocessor
IE28	Electronic Signal & System
IE29	Electrical Estimating

Semester 2-

IE34	Electricity Supply Industrial Skills
IE16	Power System Analysis-Fault Calculation
GE19	Computer Programming (EE/CE/ME)
IE26	Electrical Communication Fundamental
BAE 405	Advanced Circuit Analysis
BAE 406	Electro-mechanics
BAE 407	Advanced Electro-magnetics Field & Materials
BAE 408	Analogue & Digital Electronics

Year 4 - Bachelor of Applied Engineering -(Electrical & Electronics) Part 2

Semester 1-

- Professional Studies (Part 1)

IE33	Hybrid Energy System
IE18	Building services
BAE 502	Linear System
BAE 503	Control System
BAE 504	Power System Analysis
BAE 505	Power System Optimization
BAE 507	Electro-mechanical Energy Conversion

Semester 2-

- Professional Studies (Part 2)

BAE 508	Industrial Engineering & Industrial Management
BAE 603	Software Engineering
BAE 607	Radio Wave Propagation & Microwave Techniques

	PLUS Other elective BAE units at level 5 & 6
	Design Project

Learning Resources

- [Certificate to Advanced Diploma Curriculum & Resources Download Link](#)
- [Bachelor of Applied Engineering \(Electrical & Electronics\) Curriculum & Detailed Contents](#)
- [Bachelor Degree Resources Download Link](#)

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BMgt+BAppSC (IT)

Year 1+2

Advanced Diploma in Management (60 cp)+
Diploma in Information Technology(30 cp)

Year 3+4

Bachelor of Applied Science (Computer Science & Computer Technology)

Year (3)

Unit	Topics	Reference	Points
ICT 301	General Electrical Knowledge	EE101	3
ICT 302	Digital Electronics	EE209/H012	3
ICT 303	Amplifier	EE208/H013	3
ICT 304	Material Science	E081	3
EE204	Physics	E046	3
EE201	Mathematics 1	E050	3
EE202	Mathematics 2	E026	3
EE306	Basic Control	I008	3
BAE605	Management		3
BAE408	Analog & Digital Electronics		3
	Mgt 301 Electronics Business		3
	Mgt 302 Information Security		3
	Mgt 303 Management Information System		4
		TOTAL	40

Year (4)

Unit	Topics	Reference	Points
ICT 401	Advanced Mathematics 1	BAE401	3
ICT 402	Advanced Mathematics 2	BAE402	3
BAE604	Telecommunication System		3
BAE508	Project Management		3
ICT 305	Professional Programming (1) C++		3
ICT 403	Professional Programming (2) Object Oriented		3
ICT 404	Professional Programming (3) Java		3
ICT 405	Professional Practice (1) Network		3
ICT 406	Professional Practice (2) Website		3
ICT 407	Artificial Intelligence		3
	Mgt 304 Electronics Commerce		3
	Mgt 305 Quantitative Methods for Management		3
	Mgt 306 Human Resources Management		3
	Mgt 307 Marketing Management		3
		TOTAL	42

Total credit points Year 1+2= 90+ Yr3+4=82 = 172

IQY Technical College သည် Bachelor of Engineering (Rural Development) Engineering (online) Course အသစ်ကို Year 10/ THS/ITC အောင်များ အတွက်ထပ်မံဖွင့်မည်။ စိုက်ပျိုးရေး၊မွေးမြူရေး၊ဆောက်လုပ်ရေး၊လျှပ်စစ်၊ ကျေးလက်ရေဖြန့်ဖြူးရေး၊နေစွမ်းအင်မှလျှပ်စစ်ထုတ်လုပ်ရေး၊နေစွမ်းအင်သုံးရေခဲ စက်ဘာသာများပါဝင်သည်။

MVTC601-Professional Diploma of Rural Development Engineering

(Bachelor of Engineering-Rural Development Engineering)
BE(RDE)

(STC Technological University)

Advanced Diploma of Rural Development Engineering

Objective of the course

This course aims to provide the necessary skills required for people in rural areas to perform the followings

- Agricultural Foods Production and Animal Handling
- Building Construction, Drawing, Water Supply, Road and Bridge Construction, Irrigation
- Electrical Supply & Solar Electrical Supply System
- Hydraulics
- Machine Repair, Welding and Machining
- Water Chemical Treatment
- Transportation & Logistics

Course Structure

The course consists of Civil, Electrical and Mechanical Engineering principle together with Transportation, Logistics and Agricultural Foods Production.

Outcome of the course

After having completed this course, the attenders can perform rural developmental engineering basic works in their regions.

Detailed Structure of the course

Credit Points- 60 points to complete Advanced Diploma of Rural Development. Diploma and Certificate in Rural Development can be awarded upon completion of the specific units.

List of Subjects

Year 1

Advanced Certificate in Rural Development Engineering (16 Credits)

(MVTC Level (3) (Course Number MVTC301)

CE106 Brick Laying, Sprouting and Gutter Construction (4 Points)

CE104 Construction Drawing (4 Points)

CE110 Building Construction (4 Points)

CE107 Water Supply (4 Points)

Diploma in Rural Development (32 Credits)

(MVTC Level (4) (Course Number MVTC401)

All units in Certificate in Rural Development (16 Credits)

CE111 Road Bridge and Irrigation System Construction (4 Points)

MVTC13PC9 Electrical Wiring (4 Points)

MVTC201Agriculture+MVTC202Animal Handling(4 Points)

MVTC204 Water Chemical Treatment (4 Points)

Year 2

Advanced Diploma in Rural Development (60Credits)

(MVTC Level (5) (Course Number MVTC501)

All units in Diploma in Rural Development

RE002 Grid Connected Power System (4 Points) together with EE101 DC Circuits+EE112 AC Circuits

EE118 Electrical Supply System (4 Points)

ME108 Principle of Engine+MVTC13PC7 Engine Repairs (4 Points)

ME201 Hydraulics (4 Points)

MVTC13PC6 Welding+MVTC13PC5 Fitting Machining (4 Points)

MVTC209 Transport Logistics (4 Points)

Mgt101 Management Studies (4 Points)

(Bachelor of Engineering-Rural Development Engineering)

BE(RDE)

(STC Technological University)

TOTAL 21 Units at 60 Credit points

Entry requirement AGTI/ City & Guild Diploma

YEAR 3

Professional Diploma in Engineering (Year 3)

www.iqytechnicalcollege.com/profdipengg.htm

1 BAE 401 Advanced Engineering Mathematics (3 pt)

2 BAE 402 Calculus (3 pt)

3 BAE 403 Engineering Mechanics (3 pt)

4 BAE 404 Engineering Materials & Thermodynamics (3 pt)

5. BAE421 Building Construction Engineering (3 pt)

6. BAE422 Estimating (3 pt)

7. BAE423 Fluid Mechanics (3 pt)

- 8. BAE424 Reinforced Concrete (3 pt)
- 9. BAE 523A Environmental Engineering (3 pt)
- 10. BAE621 Structural Engineering (3 pt)
- 11. RE012a-Electrical Engineering Part 1(2 pt)
- 12. RE016-Design & Management (3 pt)

Professional Diploma/BE (Rural Development)

(Total 12 units) (Each 2 Credit points)

Year 4

- 13. RE013-Electrical Machines (3 pt)
- 14. BAE 501 Advanced Power Systems & Power Transmission Networks
Rural Electrical Power Supply System (3 pt)
- 15. RE001- Foundation Studies in Renewable Energy and Sustainability (2 pt)
- 16. RE003- Solar and Thermal Energy Systems (3 pt)
- 17. RE004- Energy Storage Systems(3 pt)
- 18. RE010-Engineering Materials(3 pt)
- 19. BAE 604 Telecommunication Engineering (3 pt)
Rural Telecommunication System
- 20. BAE511 Air-conditioning & Refrigeration (3 pt)
Solar Powered Refrigeration for Rural Area

Engineering Competency Demonstration Report

21.BAE608 Engineering Competency Demonstration Report (2 credit points)

Engineering Handbook Applications

DIPLOMA IN CIVIL ENGINEERING

Pre-requisite

Trade Certificate or Certificate in Civil Engineering/ Building / Brick Laying/ Carpentry /Surveying etc or work experience.

ASSESSMENT (DIPLOMA)

Completion of the course works- submission of the assignments Theory/ Practical/ Calculations) for the over all knowledge of the subject
(Grading—Complete or Incomplete)

BACHELOR OF APPLIED ENGINEERING (BUILDING SERVICE)

Pre-requisite

Diploma in Civil Engineering

ASSESSMENT

The learning and assessment system involves two parts

(1) Part (1)

Completion of the course works- submission of the assignments Theory/ Practical/ Calculations) for the over all knowledge of the subject
(Grading—Complete or Incomplete)

(2) Completion of the course works- submission of the assignments (Theory/ Practical/ Calculations) for the competency units of the subject (Grading—Complete or Incomplete)

(3) Part (2)

Sitting the final test for the subject by either online or paper based test- -Grading—In accordance with St Clements University Higher Education School-Niue Students Handbook.

STAGE (1) DIPLOMA IN CIVIL ENGINEERING (Each 2.5 Credits) (30 Pt)

Certificate in Construction Studies

CE 106A Detailed Construction & Building Construction Materials

CE 104 A Building Drawing

CE 101 Mathematics

CE 102 Physics

CE 108 Electrical Principle

DIPLOMA IN CIVIL ENGINEERING

CE 104 Fluid Dynamics

CE 105 Hydraulic

CE 106 Hydrology

CE 107 Sanitation-and-Water-supply

CE 109 Energy Efficient Building Design

CE 110 Building Construction

EE102 Basic Electrical Fitting & Wiring

Year (2) Advanced Diploma in Civil Engineering Program(30 pt) (Each 2.5 pt)

YEAR (2) SEMESTER (1)

CE103-Surveying

CE111A-Road+Bridges

CE113 Structure 1

CE114 Structure 2

CE115 Estimating & Specification

YEAR (2) SEMESTER (2)

EE104 Electrical Equipments Safety Protection

EE105 Electrical Installation Design

ME 102 Engineering Thermodynamics

ME 334 Airconditioning and Refrigeration

EE106 Advanced Electrical Wiring

CE 111 Engineering Mechanics+ ME 301 Applied Mathematics

EE308 Sustainability

Year (3) Part 1 ADVANCED GENERAL CIVIL ENGINEERING DEGREE LEVEL

Subjects	Points	Competency Units	Page
BAE 401 Advanced Engineering Mathematics	9	Maths 301 Introduction to Complex Variables (1 pt) Maths 302 Elementary Linear Algebra (1 pt) Maths 401 Continuous Distributions (1 pt) Maths 402 Discrete Distributions (1 pt) Maths 403 Engineering Mathematics (1 pt) Maths 501 Introduction to Probability(1 pt) Maths 501 Linear Algebra & Matrices (1 pt) Maths 502 Finite Difference Methods for Partial Differential Equations & Mathematical Modelling (1 pt) Maths 601 Random Variables (1 pt)	
BAE 402 Calculus	3	Maths 304 Integration and Differential Equations (1 pt) Maths 403 Second Order Differential Equations (1 pt) Maths 303 Engineering Mathematics (1 pt)	
BAE 403 Engineering Mechanics	1	ME 301 Applied Mathematics (1 pt)	
BAE 404 Engineering Materials & Thermodynamics	3	ME 334 Engineering Thermodynamics (1 pt) ME 434 Wind Turbines (1 pt) ME 634 Pneumatics (1 pt)	
BAE 508 Industrial Engineering & Industrial Management	1	Mgt 501 Basic Management & Communication Skills (1 pt)	
Total Credit points in this group	17 pt		

Year (3) Part 2 ADVANCED GENERAL CIVIL ENGINEERING DEGREE LEVEL (18 Pt)

BAE421 Building Construction Engineering (4 pt)

BAE422 Estimating (2 pt)

BAE423 Fluid Mechanics (2 pt)

BAE424 Reinforced Concrete (2 pt)

BAE425 Timber Engineering (2 pt)

BAE521 Road & Bridge (2 pt)

BAE522 Rock Mechanics (2 pt)

BAE523 Soil Mechanics (2 pt)

TOTAL 35 Pt

Year (4) Part 1

BAE 601 Computer Programming	3	IT 401 Object Oriented Programming (1 pt) IT 402 Structured Programming (1 pt) IT 403 Visual Basic Programming (1 pt)
BAE 605 Engineering Management	5	Mgt 502 Operation Management (1 pt) Mgt 503 Production & Operation Management (1 pt) Mgt 504 Project Management (1 pt) Mgt 505 Quality Management and Manufacturing Engineering (1 pt) Mgt 506 Strategic Financial Management (1 pt)
BAE 606 Building Service Electrical & Mechanical Engineering	2	EE 617 Building Electrical and Mechanical System (1 pt) ME 334 Airconditioning and Refrigeration (1 pt) CE 301 Building Construction (Optional) CE 301 Conceise Hydroulics (Optional)
BAE 609 Design Project	3	
Total Credit points in this group	13 Pt	

Year (4) Part 1

(12 Pt)

BAE621 Structural Engineering (3 pt)

BAE623 Surveying & Traffic Engineering (2 pt)

BAE624 Water Supply , Sanitation & Finishing (2 pt)

BAE 608 Engineering Competency Demonstration Report Writing (2pt)

SELF STUDY

BAE622 Architecture (3 pt)

TOTAL 25 pt

DIPLOMA IN MECHANICAL ENGINEERING

Pre-requisite

Trade Certificate or Certificate in Mechanical Engineering/ Fitting /Machining/Welding/Auto Mechanic etc or work experience.

ASSESSMENT (DIPLOMA)

Completion of the course works- submission of the assignments Theory/ Practical/ Calculations) for the over all knowledge of the subject
(Grading—Complete or Incomplete)

BACHELOR OF ENGINEERING (MECHANICAL)

Pre-requisite

Diploma in Mechanical Engineering

ASSESSMENT

The learning and assessment system involves two parts

(1) Part (1)

Completion of the course works- submission of the assignments Theory/ Practical/ Calculations) for the over all knowledge of the subject
(Grading—Complete or Incomplete)

(2) Completion of the course works- submission of the assignments (Theory/ Practical/ Calculations) for the competency units of the subject (Grading—Complete or Incomplete)

(3) Part (2)

Sitting the final test for the subject by either online or paper based test- -Grading—In accordance with St Clements University Higher Education School-Niue Students Handbook.

Year (1)

Certificate in Mechanical Engineering (Each 1.5 Credits) (15 Pt)

Unit Number	Unit Name	Credit Points
Maths 101	Engineering Mathematics	1.5
ME 101	Applied Mathematics	1.5
ME 102	Engineering Thermodynamics	1.5
ME 103	Engineering Mechanics	1.5
ME 104	Machine Principle	1.5
ME 105	Electrical Principle	1.5
ME 106	Electrical Circuits	1.5
ME 107	Heat Transfer	1.5
ME 108	Principle of Engines	1.5
ME201	Introduction to Fluid Mechanics	1.5
	Total	15

Diploma in Mechanical Engineering (Each 1.5 Credits) (15 Pt)

ME 202 Introduction to Aero Dynamics

ME 203 Control Engineering

ME 204 Engineering Fluid Mechanics

ME 205 Manufacturing Processes-and-Materials

ME 206 Introduction to Turbo Machinery

ME 207 Chemical Thermodynamics

ME 208 Hydrocarbons

ME 209 Introduction-to-polymer-science-and-technology

ME 234 Wind Turbines

Mgt 501 Basic Management

Year (2)

Advanced Diploma in Mechanical Engineering (Each 1.5 Credits) (30 Pt)

Mathematics

Maths 403 Engineering-Mathematics

Maths 301 Introductory Finite Difference Methods-for-pdes

Maths 302 Elementary-Linear-Algebra

Maths 303 Introductory Finite Volume Methods-for-pdes

Maths 501 Linear Algebra-c-1

Mechanical Engineering

ME 301 Fluid Dynamics

ME 302 Automation-and-Robotics

ME 303 Computer Aided Design and Manufacturing

ME 304 Introduction to Nonlinearity-in-control-systems

ME 305 Corrosion Prevention

ME 306 Theory-of-waves-in-materials

ME 334 Airconditioning and Refrigeration

ME 434 Mechtronics-Robotics

ME 534 Numerical Control Part 1

ME 634 Pneumatics

EE 617 Building Electrical and Mechanical System Part 1

EE 624 Process Control

Mgt 503 Production & Operation Management

Mgt 505 Quality Management and Manufacturing Engineering

Year (3)

GENERAL APPLIED ENGINEERING (MECHANICAL) DEGREE

Subjects	Points	Competency Units	Page
BAE 401 Advanced Engineering Mathematics	9	Maths 301 Introduction to Complex Variables (1 pt) Maths 302 Elementary Linear Algebra (1 pt) Maths 401 Continuous Distributions (1 pt) Maths 402 Discrete Distributions (1 pt) Maths 403 Engineering Mathematics (1 pt) Maths 501 Introduction to Probability(1 pt) Maths 501 Linear Algebra & Matrices (1 pt) Maths 502 Finite Difference Methods for Partial Differential Equations & Mathematical Modelling (1 pt) Maths 601 Random Variables (1 pt)	
BAE 402 Calculus	3	Maths 304 Integration and Differential Equations (1 pt) Maths 403 Second Order Differential Equations (1 pt) Maths 303 Engineering Mathematics (1 pt)	
BAE 403 Engineering Mechanics	1	ME 301 Applied Mathematics (1 pt)	

BAE 404 Engineering Materials & Thermodynamics	3	ME 334 Engineering Thermodynamics (1 pt) ME 434 Wind Turbines (1 pt) ME 634 Pneumatics (1 pt)	
BAE 507 Electro-mechanical Energy Conversion	2	EE 602 Motor Control Electronics (1 pt) ME 434 Mechtronics & Robotics (1 pt)	
BAE 508 Industrial Engineering & Industrial Management	1	Mgt 501 Basic Management & Communication Skills (1 pt)	
BAE511 Air-conditioning & Refrigeration	2 pt	ME511 Air-conditioning & Refrigeration	
BAE613 Mechanical Instrumentation Process	2 pt	ME 613 Mechanical Instrumentation & Process	
BAE614 Machine Design	2 pt	ME 614 Machine Design Part 1 Part 2 Part 3	
BAE512 Building Service Water Supply System	2 pt	ME512 Building Service Water Supply System	
BAE511 Air-conditioning & Refrigeration	2 pt	ME511 Air-conditioning & Refrigeration	
BAE613 Mechanical Instrumentation Process	2 pt	ME 613 Mechanical Instrumentation & Process	
	31 pt		

Year (4) Part 1 BE (Mechanical + General Related Subjects)

BAE 601 Computer Programming	3	IT 401 Object Oriented Programming (1 pt) IT 402 Structured Programming (1 pt) IT 403 Visual Basic Programming (1 pt)	
BAE 602 Computer Network	1	ICT 202 Information Systems Principles and Networking (1 pt)	
BAE 603 Software Engineering	3	ICT 106 Software Engineering (1 pt) ICT 203 Information Systems, Analysis and Design (1 pt) EE 626 Nano Technology (1 pt)	
BAE 605 Engineering Management	5	Mgt 502 Operation Management (1 pt) Mgt 503 Production & Operation Management (1 pt)	

		Mgt 504 Project Management (1 pt) Mgt 505 Quality Management and Manufacturing Engineering (1 pt) Mgt 506 Strategic Financial Management (1 pt)	
BAE 606 Building Service Electrical & Mechanical Engineering	2	EE 617 Building Electrical and Mechanical System (1 pt) ME 334 Airconditioning and Refrigeration (1 pt) CE 301 Building Construction (Optional) CE 301 Conceise Hydroulics (Optional)	
Total Credit points	14 Pt		

Year (4) Part 2

Bachelor of Engineering (Mechanical) Specialization (13 pt)

BAE311 Plant Engineering (2 pt)

BAE312 Design Engineering (2 pt)

BAE313 Environmental Control (2 pt)

BAE314 Mechanical Power Generation (2 pt)

BAE315 Materials Engineering (2 pt) Part 1 Part 2

BAE 608 Engineering Competency Demonstration Report Writing (3 pt)

Elective (2 pt)

Subjects	Points	Units
BAE513 Production Technology	2 pt	ME513 Production Technology
BAE611 Maintenance Engineering	2 pt	ME 611 Maintenance Engineering
BAE612 Engineering Metallurgy	2 pt	ME 612 Metallurgy

DIPLOMA OF AUTOMOTIVE ENGINEERING

PART (1) RELATED BASIC KNOWLEDGE (13 pt) (Each 1 pt)

Maths 101+302+403 (EE201) Engineering Mathematics

Maths 301+501+303 (EE302) Advanced Engineering Mathematics

ME103 Engineering Mechanics(EE204 Engineering Physics)

Mgt 501 Basic Management (EE309 Project Management)

EE101 DC Circuit Problems

EE102 Basic Electrical Fitting & Wiring

EE103 Basic Electrical Drafting

EE104 Electrical Equipments Safety Protection

EE111 Electromagnetism & Basic Electrical Machines

EE112 Alternating Current Principle

EE113 Electrical Fundamental

EE208 Operational Amplifiers

EE209 Analogue Electronics

PART (2) BASIC MECHANICAL (6 pt) (Each 2 pt)

Refer www.highlightcomputer.com/advdipmechengg.htm
and do the following units

ME108 Principle of Engine

ME 101 Applied Mathematics+ ME 103 Engineering Mechanics

ME 102 Engineering Thermodynamics

PART (3) SPECIALIZED AUTOMOTIVE ENGINEERING (10 pt) (Each 2 pt)

AE 101 Auto Diesel+ Auto Electrics

AE 102 Auto General Engine+ Fuel System+ Transmission

AE 103 Engine Assembly +Electrical +Electronics

AE 104 Brake & Steering System

AE 105 Automotive Mechanic

PROFESSIONAL DIPLOMA IN AUTOMOTIVE ENGINEERING

Year 3

Unit number	Unit name
BAE 401	Advanced Engineering Mathematics
BAE 402	Calculus
BAE 403	Engineering Mechanics
BAE 404	Engineering Materials & Thermodynamics
AE301	Automotive Engineering
AE302	Auto Vehicle Safety

RE004	Energy Storage Systems (2 pt)
RE005	Renewable Energy Resource Analysis (2 pt)
AE303	Automotive Chasis(2 pt)
RE010	Engineering Materials (2 pt)
AE304	AE304 Engine Testing(2pt)
RE016	Design & Management (BAE508) (2 pt)

Year 4

Subject	
BAE681	Welding Engineering
BAE684	Computerised Engine Control
BAE685	Electric Vehicle Technology
AE401	Automotive Mechatronics
BAE314	Mechanical Power Generation
BAE315	Materials Engineering
BAE511	Air-conditioning & Refrigeration
BAE690	Mechanical Estimating
BAE613	Mechanical Instrumentation Process
BAE614	Machine Design
RE007	Energy System Efficiency
AE402	Diesel Engine Repair
Graduating Unit	
BAE 605	Engineering Management
BAE 608	Engineering Competency Demonstration Report

BE+BAppSCIT

Year 1+2

Adv Dip in Engineering (60cp)+Dip IT (30 cp)

Year 3+4

Bachelor of Engineering (Electrical)

YEAR 3 +4

Subjects

BAE 401 Advanced Engineering Mathematics

BAE 402 Calculus

BAE 403 Engineering Mechanics

BAE 404 Engineering Materials & Thermodynamics

BAE 405 Advanced Circuit Analysis

BAE 406 Electro-mechanics

BAE 407 Advanced Electro-magnetics Field & Materials

BAE 408 Analogue & Digital Electronics

<u>ICT 302</u>	<u>Digital Electronics</u>	3
<u>ICT 303</u>	<u>Amplifier</u>	3
<u>ICT 304</u>	<u>Material Science</u>	3

BAE 501 Advanced Power Systems & Power Transmission Networks

BAE 502 Linear System

BAE 503 Control System

BAE 504 Power System Analysis

BAE 505 Power System Optimization

<u>BAE 506 Power System Stability & Protection</u>
<u>BAE 507 Electro-mechanical Energy Conversion</u>
<u>BAE 508 Industrial Engineering & Industrial Management</u>
<u>BAE 601 Computer Programming</u>
<u>BAE 602 Computer Network</u>
<u>BAE 603 Software Engineering</u>
<u>BAE 604 Telecommunication Engineering</u>
<u>BAE 605 Engineering Management</u>
<u>BAE 606 Building Service Electrical & Mechanical Engineering</u>
<u>BAE 607 Radio Wave Propagation & Microwave Techniques</u>
<u>BAE 608 Professional Engineer Competency Demonstration Report</u>
<u>ICT 401 Advanced Mathematics 1</u>
<u>ICT 402 Advanced Mathematics 2</u>
<u>ICT 305 Professional Programming (1) C++</u>

Engineering 72 CP+ ICT =12 CP= 84 CP

Year 5

<u>ICT 403</u>	<u>Professional Programming (2) Object Oriented</u>	3
<u>ICT 404</u>	<u>Professional Programming (3) Java</u>	3
<u>ICT 405</u>	<u>Professional Practice (1) Network</u>	3
<u>ICT 406</u>	<u>Professional Practice (2) Website</u>	3
<u>ICT 407</u>	<u>Artificial Intelligence</u>	3

Year 5= Engineering =24 CP+ICT 15 CP= 39 CP\

Total= Yr 1+2 90CP+ Yr 3+4=84CP+ Yr 5= 39 CP=Total 213 CP

Bachelor of Engineering (Civil)

Year (3) Part 1 ADVANCED GENERAL CIVIL ENGINEERING DEGREE LEVEL

Subjects
<u>BAE 401 Advanced Engineering Mathematics</u>

<u>BAE 402 Calculus</u>		
<u>BAE 403 Engineering Mechanics</u>		
<u>BAE 404 Engineering Materials & Thermodynamics</u>		
	<u>General Electrical Knowledge</u>	3
<u>ICT 302</u>	<u>Digital Electronics</u>	3
<u>ICT 303</u>	<u>Amplifier</u>	3
<u>ICT 304</u>	<u>Material Science</u>	
<u>BAE 508 Industrial Engineering & Industrial Management</u>		

Year (3) Part 2 ADVANCED GENERAL CIVIL ENGINEERING DEGREE LEVEL (18 Pt)

BAE421 Building Construction Engineering (4 pt)

BAE422 Estimating (2 pt)

BAE423 Fluid Mechanics (2 pt)

BAE424 Reinforced Concrete (2 pt)

BAE425 Timber Engineering (2 pt)

BAE521 Road & Bridge (2 pt)

BAE522 Rock Mechanics (2 pt)

BAE523 Soil Mechanics (2 pt)

BAE 523A Environmental Engineering

TOTAL 35 Pt

Year (4) Part 1

<u>BAE 601 Computer Programming</u>
<u>BAE 605 Engineering Management</u>
<u>BAE 606 Building Service Electrical & Mechanical Engineering</u>
<u>ICT 401Advanced Mathematics 1</u>

[ICT 402Advanced Mathematics 2](#)

[ICT 305Professional Programming \(1\) C++](#)

Year (4) Part 1

(12 Pt)

[BAE621 Structural Engineering \(3 pt \)](#)

[BAE623 Surveying& Traffic Engineering \(2 pt\)](#)

[BAE624 Water Supply , Sanitation & Finishing \(2 pt \)](#)

[BAE 608 Engineering Competency Demonstration Report Writing \(2pt\)](#)

SELF STUDY

[BAE622 Architecture \(3 pt \)](#)

Engineering 72 CP+ ICT =12 CP= 84 CP

Year 5

ICT 403	Professional Programming (2) Object Oriented	3
ICT 404	Professional Programming (3) Java	3
ICT 405	Professional Practice (1) Network	3
ICT 406	Professional Practice (2) Website	3
ICT 407	Artificial Intelligence	3

Year 5= Engineering =24 CP+ICT 15 CP= 39 CP\

Total= Yr 1+2 90CP+ Yr 3+4=84CP+ Yr 5= 39 CP=Total 213 CP

Bachelor of Engineering (Mechanical)

Year (3)

GENERAL APPLIED ENGINEERING (MECHANICAL) DEGREE

Subjects		
<u>BAE 401 Advanced Engineering Mathematics</u>		
<u>BAE 402 Calculus</u>		
<u>BAE 403 Engineering Mechanics</u>		
<u>BAE 404 Engineering Materials & Thermodynamics</u>		
	<u>General Electrical Knowledge</u>	3
<u>ICT 302</u>	<u>Digital Electronics</u>	3
<u>ICT 303</u>	<u>Amplifier</u>	3
<u>ICT 304</u>	<u>Material Science</u>	
<u>BAE 507 Electro-mechanical Energy Conversion</u>		
<u>BAE 508 Industrial Engineering & Industrial Management</u>		
<u>BAE511 Air-conditioning & Refrigeration Part 1</u>		
<u>BAE613 Mechanical Instrumentation Process</u>		
<u>BAE614 Machine Design</u>		
<u>BAE512 Building Service Water Supply System</u>		
<u>BAE511 Air-conditioning & Refrigeration Part 2</u>		
<u>BAE613 Mechanical Instrumentation Process</u>		
<u>ICT 401Advanced Mathematics 1</u>		
<u>ICT 402Advanced Mathematics 2</u>		
<u>ICT 305Professional Programming (1) C++</u>		

Year (4) Part 1 BE (Mechanical + General Related Subjects)

<u>BAE 601 Computer Programming</u>
<u>BAE 602 Computer Network</u>
<u>BAE 603 Software Engineering</u>
<u>BAE 605 Engineering Management</u>
<u>BAE 606 Building Service Electrical & Mechanical Engineering</u>

Year (4) Part 2

Bachelor of Engineering (Mechanical) Specialization (13 pt)

[BAE311 Plant Engineering \(2 pt\)](#)

[BAE312 Design Engineering \(2 pt\)](#)

[BAE313 Environmental Control \(2 pt\)](#)

[BAE314 Mechanical Power Generation \(2 pt\)](#)

[BAE315 Materials Engineering \(2 pt\) Part 1 Part 2](#)

[BAE 608 Engineering Competency Demonstration Report Writing \(3 pt\)](#)

Elective (2 pt)

Subjects	
<u>BAE513 Production Technology</u>	
<u>BAE611 Maintenance Engineering</u>	
<u>BAE612 Engineering Metallurgy</u>	

Engineering 72 CP+ ICT =12 CP= 84 CP

Year 5

<u>ICT 403</u>	<u>Professional Programming (2) Object Oriented</u>	3
<u>ICT 404</u>	<u>Professional Programming (3) Java</u>	3
<u>ICT 405</u>	<u>Professional Practice (1) Network</u>	3
<u>ICT 406</u>	<u>Professional Practice (2) Website</u>	3
<u>ICT 407</u>	<u>Artificial Intelligence</u>	3

Year 5= Engineering =24 CP+ICT 15 CP= 39 CP\

Total= Yr 1+2 90CP+ Yr 3+4=84CP+ Yr 5= 39 CP=Total 213 CP

BE+BMgt

Year 1+2

Advanced Diploma in Engineering 60 credit+
Diploma in Management 30 credits concurrent study

Year 3+4

Bachelor of Engineering (Electrical)

YEAR 3 +4

Subjects

[BAE 401 Advanced Engineering Mathematics](#)

[BAE 402 Calculus](#)

[BAE 403 Engineering Mechanics](#)

[BAE 404 Engineering Materials & Thermodynamics](#)

[BAE 405 Advanced Circuit Analysis](#)

[BAE 406 Electro-mechanics](#)

[BAE 407 Advanced Electro-magnetics Field & Materials](#)

[BAE 408 Analogue & Digital Electronics](#)

MANAGEMENT

[Mgt 301 Electronics Business](#)

[Mgt 302 Information Security](#)

<u>BAE 501 Advanced Power Systems & Power Transmission Networks</u>
<u>BAE 502 Linear System</u>
<u>BAE 503 Control System</u>
<u>BAE 504 Power System Analysis</u>
<u>BAE 505 Power System Optimization</u>
<u>BAE 506 Power System Stability & Protection</u>
<u>BAE 507 Electro-mechanical Energy Conversion</u>
<u>BAE 508 Industrial Engineering & Industrial Management</u>
<p>MANAGEMENT</p> <p><u>Mgt 303 Management Information System</u></p> <p><u>Mgt 304 Electronics Commerce</u></p> <p><u>Mgt 305 Quantitative Methods for Management</u></p>
<u>BAE 601 Computer Programming</u>
<u>BAE 602 Computer Network</u>
<u>BAE 603 Software Engineering</u>
<u>BAE 604 Telecommunication Engineering</u>
<u>BAE 605 Engineering Management</u>
<u>BAE 606 Building Service Electrical & Mechanical Engineering</u>
<u>BAE 607 Radio Wave Propagation & Microwave Techniques</u>
<u>BAE 608 Professional Engineer Competency Demonstration Report</u>

MANAGEMENT

Mgt 306 Human Resources Management

Mgt 307 Marketing Management

Mgt 308 Artificial Intelligence

Yr 3+4 Total Engineering = 72 CP+ Management=24 cp= 96 cp

Total Credit points= 90cp (Yr 1+2)+ 96 cp (Yr 3+4+5)= 186 cp

Bachelor of Engineering (Civil)

**Year (3) Part 1 ADVANCED GENERAL CIVIL ENGINEERING
DEGREE LEVEL**

Subjects
<u>BAE 401 Advanced Engineering Mathematics</u>
<u>BAE 402 Calculus</u>
<u>BAE 403 Engineering Mechanics</u>
<u>BAE 404 Engineering Materials & Thermodynamics</u>
<u>BAE 508 Industrial Engineering & Industrial Management</u>
MANAGEMENT
<u>Mgt 301 Electronics Business</u>
<u>Mgt 302 Information Security</u>

Year (3) Part 2 ADVANCED GENERAL CIVIL ENGINEERING DEGREE LEVEL (18 Pt)

[BAE421 Building Construction Engineering \(4 pt\)](#)

[BAE422 Estimating \(2 pt\)](#)

[BAE423 Fluid Mechanics \(2 pt\)](#)

[BAE424 Reinforced Concrete \(2 pt\)](#)

[BAE425 Timber Engineering \(2 pt \)](#)

[BAE521 Road & Bridge \(2 pt \)](#)

[BAE522 Rock Mechanics \(2 pt \)](#)

[BAE523 Soil Mechanics \(2 pt \)](#)

[BAE 523A Environmental Engineering](#)

MANAGEMENT

[Mgt 303 Management Information System](#)

[Mgt 304 Electronics Commerce](#)

[Mgt 305 Quantitative Methods for Management](#)

TOTAL 35 Pt

Year (4) Part 1

<u>BAE 601 Computer Programming</u>
<u>BAE 605 Engineering Management</u>
<u>BAE 606 Building Service Electrical & Mechanical Engineering</u>
<u>BAE 609 Design Project</u>
Total Credit points in this group

Year (4) Part 1

(12 Pt)

[BAE621 Structural Engineering \(3 pt \)](#)

[BAE623 Surveying& Traffic Engineering \(2 pt\)](#)

[BAE624 Water Supply , Sanitation & Finishing \(2 pt \)](#)

[BAE 608 Engineering Competency Demonstration Report Writing \(2pt\)](#)

SELF STUDY

[BAE622 Architecture \(3 pt \)](#)

MANAGEMENT

[Mgt 306 Human Resources Management](#)

[Mgt 307 Marketing Management](#)

[Mgt 308 Artificial Intelligence](#)

Yr 3+4Total Engineering = 72 CP+ Management=24 cp= 96 cp

Total Credit points= 90cp (Yr 1+2)+ 96 cp (Yr 3+4+5)= 186 cp

Bachelor of Engineering (Mechanical)

Year (3)

GENERAL APPLIED ENGINEERING (MECHANICAL) DEGREE

Subjects
<u>BAE 401 Advanced Engineering Mathematics</u>
<u>BAE 402 Calculus</u>
<u>BAE 403 Engineering Mechanics</u>
<u>BAE 404 Engineering Materials & Thermodynamics</u>
<u>BAE 507 Electro-mechanical Energy Conversion</u>
<u>BAE 508 Industrial Engineering & Industrial Management</u>
<u>BAE511 Air-conditioning & Refrigeration Part 1</u>
<u>BAE613 Mechanical Instrumentation Process</u>
<u>BAE614 Machine Design</u>
<u>BAE512 Building Service Water Supply System</u>
<u>BAE511 Air-conditioning & Refrigeration Part 2</u>
<u>BAE613 Mechanical Instrumentation Process</u>
 MANAGEMENT <u>Mgt 301 Electronics Business</u> <u>Mgt 302 Information Security</u>

Year (4) Part 1 BE (Mechanical + General Related Subjects)

<u>BAE 601 Computer Programming</u>

<u>BAE 602 Computer Network</u>
<u>BAE 603 Software Engineering</u>
<u>BAE 605 Engineering Management</u>
<u>BAE 606 Building Service Electrical & Mechanical Engineering</u>

MANAGEMENT

[Mgt 303 Management Information System](#)

[Mgt 304 Electronics Commerce](#)

[Mgt 305 Quantitative Methods for Management](#)

Year (4) Part 2

Bachelor of Engineering (Mechanical) Specialization (13 pt)

[BAE311 Plant Engineering \(2 pt\)](#)

[BAE312 Design Engineering \(2 pt\)](#)

[BAE313 Environmental Control \(2 pt\)](#)

[BAE314 Mechanical Power Generation \(2 pt\)](#)

[BAE315 Materials Engineering \(2 pt\) Part 1 Part 2](#)

[BAE 608 Engineering Competency Demonstration Report Writing \(3 pt\)](#)

Elective (2 pt)

Subjects
<u>BAE513 Production Technology</u>
<u>BAE611 Maintenance Engineering</u>
<u>BAE612 Engineering Metallurgy</u>

MANAGEMENT

[Mgt 306 Human Resources Management](#)

[Mgt 307 Marketing Management](#)

[Mgt 308 Artificial Intelligence](#)

Yr 3+4Total Engineering = 72 CP+ Management=24 cp= 96 cp

Total Credit points= 90cp (Yr 1+2)+ 96 cp (Yr 3+4+5)= 186 cp

PROFESSIONAL DIPLOMA IN SCHOOL & VOCATIONAL EDUCATION)

(BACHELOR OF EDUCATION (SCHOOL & VOCATIONAL EDUCATION)

www.highlightcomputer.com/bedschoolvet.htm

This course aims to provide the teacher education theories and practical applications in school and vocational education classes.

Principles of teaching , learning , training and assessment are combined with instruction design methodologies and knowledge related to learning environment.

Modern learning technologies and technology in classroom contexts are added..

Teachers who are working in voluntary schools can be provided with necessary teaching and training knowledge to work as qualified teachers by attending this course.

Pre-requisite

Degree Holders	Non Degree Holders
<ul style="list-style-type: none">• Bachelor Degree & Teaching Experiences	<ul style="list-style-type: none">• Completion of Year 11+12 (Certificate in General & Vocational Education Level 4) PLUS• Completion of Diploma level qualification in Engineering, IT & Management courses of IQY Technical College & other vocational colleges/schools

Course structure

This course integrates Diploma in Teaching Practice , Teaching Practicum and Advanced study in Education to achieve 120 credit points required to get Professional Diploma in School & Vocational Education .awarded by IQY Technical College (Authorized Training Centre of Singapore Institute of Engineering Technologists, Member of ASEAN Federation of Engineering Organizations)

The universities (STC Technological University & St Clements University) affiliated to IQY Technical College award Bachelor of Education (School & Vocational Education) to holders of Professional Diploma in School & Vocational Education.

Year 1/2

Diploma in Teaching Practice (60 credits)

jointly taught by (STC Technological University/St Clements University)
Singapore Institute of Engineering Technologists/ IQY Technical College)

ENROLMENT LINK

Click the following link & fill the form.

<http://www.emailmeform.com/builder/form/tq48xQ6acb>

List of Subjects for Teaching Practice

- ED101P Teaching Support (5 Credits)
- ED102P Application of Information Technology in School Education (5 Credits)
- ED103P Classroom Management (5 Credits)
- ED104P Teaching Portfolio (5 Credits)
- ED105P Inclusive Teaching (5 Credits)
- ED106P Subject Area Knowledge (5 Credits)

ED107 Theory of Education, Educational Technology & Teaching Practice

(15 Credits)

ED107A-Theory of Education (ED101) (Slide 1 to 60 Principle of Learning)
ED107B-Education Technology (ED102) (Slide 61 to 100)
ED107C-Teaching Practice (ED103 Classroom Management) (Slide 101 to 140)
ED107D-Lesson Planning (ED104 Teaching Portfolio)(Slide 241 to 300)
ED107E-Teaching& Learning (Slide 141 to 160+ Slide 200 to 240)
ED107F-Inclusive Teaching (ED105 Inclusive Teaching Slide 161 to 200)
ED107G-Evaluation& Assessment (Slide 301 to 320)

ED108 Curriculum Study , Teaching & Learning (15- Credits)

Interpreting Curriculums

Study Sequence for Graduates

ED106 Subject Area Knowledge (Present Degree)

Part (1) Theory Training & Assignment (Certificate in Teaching Practice)

ED107 Theory of Education, Educational Technology & Teaching Practice

(15 Credits)

ED108 Curriculum Study , Teaching & Learning (15 Credits)

Part (2) Teaching Practice Portfolio Presentation (Diploma in Teaching Practice)

ED101P Teaching Support (5 Credits)

ED102P Application of Information Technology in School Education (5 Credits)

ED103P Classroom Management (5 Credits)

ED104P Teaching Portfolio (5 Credits)

ED105P Inclusive Teaching (5 Credits)

Study Sequence for Experienced Teachers

ED106 Subject Area Knowledge (Present Degree)

Part (1) Theory Training & Assignment (Certificate in Teaching Practice)

ED107 Theory of Education, Educational Technology & Teaching Practice

(15 Credits)

ED108 Curriculum Study , Teaching & Learning (15 Credits)

Part (2) Teaching Practice Portfolio Presentation (Diploma in Teaching Practice)

The following subjects can be exempted by presenting the reference letter from the school.

ED101 Teaching Support (5 Credits)

ED103 Classroom Management (5 Credits)

ED105 Inclusive Teaching (5 Credits)

The following subject needs to be studied

ED102 Application of Information Technology in School Education (5 Credits)

Teaching portfolio needs to be presented for the following subject

ED104 Teaching Portfolio(5 Credits)



REFERENCE EDUCATION THEORIES

- ED 101 Theory of Education (5 Credits)
- ED 102 Education Technology (5 Credits)
- ED 103 Teaching Practice (5 Credits)
- ED 104 Lesson Planning (5 Credits)
- ED 105 Principle of Learning (5 Credits)
- ED 106 Interpreting Curriculums (5 Credits)

VIDEOS

IQY Teacher Training 1

<https://youtu.be/CHqmQ1Ifwa4>

IQY Teacher Training 2

<https://youtu.be/i-VpgngRumw>

IQY Teacher Training 3

<https://youtu.be/eYujIkvdPYw>

IQY Teacher Training 4

<https://youtu.be/n9y49b5qO8g>

TEACHER TRAINING- IQY-AUDIO Download Links

VN860195.zip (96.74MB)

<http://www.filefactory.com/file/6s4a0e57kz25/n/VN860195.zip>

VN860197.zip (98.04MB)

<http://www.filefactory.com/file/19yvqu2vqrdl/n/VN860197.zip>

VN860196.zip (39.01MB)

<http://www.filefactory.com/file/5ukezf8qmmb3/n/VN860196.zip>

VN860136 (147MB)

<http://www.filefactory.com/file/3wbq5wqon6zn/VN860136.zip>

STUDY GUIDES & LESSONS

ED101 to ED106

www.highlightcomputer.com/ED101106.pdf

ED107 Lessons

ED107 Exercises

www.highlightcomputer.com/ED107Exercises.pdf

ED107 Part 1 (Slide 1 to 20) ED107A-Theory of Education (ED101) (Slide 1 to 60 Principle of Learning)

www.highlightcomputer.com/ED1071.pdf

ED107 Part 2 (Slide 21 to 40) ED107A-Theory of Education (ED101) (Slide 1 to 60 Principle of Learning)

www.highlightcomputer.com/ED1072.pdf

ED107 Part 3 (Slide 41 to 60) ED107A-Theory of Education (ED101) (Slide 1 to 60 Principle of Learning)

www.highlightcomputer.com/ED1073.pdf

ED107 Part 4 (Slide 61 to 80) ED107B-Education Technology (ED102) (Slide 61 to 100)

www.highlightcomputer.com/ED1074.pdf

ED107 Part 5 (Slide 81 to 120) ED107B-Education Technology (ED102) (Slide 61 to 100)+ ED107C-Teaching Practice (ED103 Classroom Management) (Slide 101 to 140)

www.highlightcomputer.com/ED1075.pdf

ED107 Part 6 (Slide 121 to 140) ED107C-Teaching Practice (ED103 Classroom Management) (Slide 101 to 140)

www.highlightcomputer.com/ED1076.pdf

ED107 Part 7 (Slide 141 to 160) ED107E-Teaching& Learning (Slide 141 to 160)

www.highlightcomputer.com/ED1077.pdf

ED107 Part 8 (Slide 161 to 180) (ED105 Inclusive Teaching Slide 161 to 200)

www.highlightcomputer.com/ED1078.pdf

ED107 Part 9 (Slide 181 to 200) (ED105 Inclusive Teaching Slide 161 to 200)

www.highlightcomputer.com/ED1079.pdf

ED107 Part 10 (Slide 201 to 220) (ED107E-Teaching & Learning Slide 200 to 240)

www.highlightcomputer.com/ED10710.pdf

ED107 Part 11 (Slide 221 to 240) (ED107E-Teaching& Learning Slide 200 to 240)

www.highlightcomputer.com/ED10711.pdf

ED107 Part 12 (Slide 241 to 260) ED107D-Lesson Planning (ED104 Teaching Portfolio)(Slide 241 to 300)

www.highlightcomputer.com/ED10712.pdf

ED107 Part 13 (Slide 261 to 280) - ED107D Lesson Planning (ED104 Teaching Portfolio)(Slide 241 to

300)

www.highlightcomputer.com/ED10713.pdf

ED107 Part 14 (Slide 261 to 300) - ED107D Lesson Planning (ED104 Teaching Portfolio)(Slide 241 to 300)

www.highlightcomputer.com/ED10714.pdf

ED107 Part 15 (Slide 301 to 320)- ED107G-Evaluation& Assessment (Slide 301 to 320)

www.highlightcomputer.com/ED10715.pdf

ED108 Lessons

ED108 Exercises

www.highlightcomputer.com/ED108Exercises.pdf

ED108 Part 1 (Slide 1 to 20)

www.highlightcomputer.com/ED1081.pdf

ED108 Part 2 (Slide 21 to 40)

www.highlightcomputer.com/ED1082.pdf

ED108 Part 3 (Slide 41 to 60)

www.highlightcomputer.com/ED1083.pdf

ED108 Part 4 (Slide 61 to 80)

www.highlightcomputer.com/ED1084.pdf

ED108 Part 5 (Slide 81 to 100)

www.highlightcomputer.com/ED1085.pdf

ED108 Part 6 (Slide 101 to 120)

www.highlightcomputer.com/ED1086.pdf

ED108 Part 7 (Slide 121 to 140)

www.highlightcomputer.com/ED1087.pdf

ED108 Part 8 (Slide 141 to 160)

www.highlightcomputer.com/ED1088.pdf

|

OPTIONAL

(Certificate in Vocational Education& Training-Engineering Technology Teaching)

Online training & assignment

<http://www.highlightcomputer.com/gtc.htm>

ADDITIONAL REFERENCES FOR ED107 LESSONS

ED 101 Theory of Education

www.highlightcomputer.com/ED101.ppt

ED 102 Education Technology

www.highlightcomputer.com/ED102.ppt

Integration of Learning Technology in Teaching & Learning Part 1

http://youtu.be/bV_CJdY7fs0

Technology in Classroom

<http://youtu.be/rzLQq6D6-OU>

ED 103 Teaching Practice

www.highlightcomputer.com/ED103Part1.ppt

www.highlightcomputer.com/ED103Part2.ppt

ED 104 Lesson Planning

www.highlightcomputer.com/ED104.ppt

ED 105 Principle of Learning

www.highlightcomputer.com/ED105.ppt

ED 106 Interpreting Curriculums

www.highlightcomputer.com/ED106.ppt

ED101 to ED106 ASSIGNMENTS

www.highlightcomputer.com/ED101106.pdf

Year 3 / 4

Professional Diploma in School & Vocational Education

60 credits in the following subjects

ED437 Teaching Skills (5 Credits)

ED438 Assessment & Feedback (5 Credits)

ED439 Fostering Students' Learning (5 Credits)

ED 402A Educational Leadership & Change Management in School Education

(10 Credits)

ED407A Learning Environment in School Education(10 Credits)

ED440 Science Teaching (5 Credits)
ED441 Mathematics Teaching (5 Credits)
ED442 Technology Teaching (5 Credits)
ED443 TVET Teaching (10 Credits)

GROUP (1) CURRICULUM SUBJECTS

ED437 Teaching Skills (5 Credit Points)

- **ED431-Critical Thinking**

www.highlightcomputer.com/ED431CriticalThinking.pptx

VIDEOS

<https://youtu.be/Cekuc04E2xM>

Assessment

-

Assignment

Refer your textbooks, select one chapter and write the followings

- the main purpose, the key question, the most important information, the main references or conclusions, the key idea, the main assumptions of the material, the implications, and the main point of view.
- Prepare one assessment requiring critical thinking by the students.
- Do internet research by using www.google.com and type Socratic questioning then submit the examples of Socratic questions.

- **ED431-Reflection& Evaluation (Day 2)**

www.highlightcomputer.com/ED431ReflectionEvaluation.pptx

VIDEO

https://youtu.be/Ezre_83QIfE

Assessment

Assignment

Write the lesson plan on how will you provide Problem Based Learning & Self Reflection for a group of students

Write one significant event in your class teaching and write down your own plan how to improve your teaching.

- **ED431-Teaching and learning strategies (Day 3)**

www.highlightcomputer.com/ED431Teachinglearningstrategies.pptx

VIDEO

https://youtu.be/gMJi_3CSDq0

Assessment

Assignment

- Outline 3 teaching strategies that you prefer to apply in your teaching and discuss the good points and bad points. Also write how to improve them for best teaching and learning

ED438 Assessment & Feedback (5 Credit Points)

ED432A-assessment principles+ED432B-constructive feedback+

Lessons

Down load and study the following power point slides and answer the questions

www.highlightcomputer.com/ED432ABC.pptx

VIDEO

<https://youtu.be/CIi1k4NECoQ>

Assessment

Assignment

ED432A-assessment principles

Provide three assessment evidences that you use in teaching.

ED432B-constructive feedback

Provide three assessment feedbacks that you provide to your students

ED439 Fostering Students' Learning (5 Credit Points)

ED433H-consequences for student learning+ED433I-improving students learning+ED433J-different ways of thinking about university teaching+ED433K-identify problems and issues

Lessons

Down load and study the following power point slides and answer the questions

www.highlightcomputer.com/ED433HIJK.pptx

VIDEO

<https://youtu.be/F2gUlg4qBho>

Assessment

Assignment

Provide one task that you want your students to do critical thinking.

Write one learning outcome of the lesson that you are teaching & provide your plan how to teach, facilitate & assess the students to reach that outcome

ED434H-reflect critically on and evaluate own teaching+ED434J-reflecting on learning from formal learning programs

Lessons

Down load and study the following power point slides and answer the questions

www.highlightcomputer.com/ED434HIJK.pptx

VIDEO

<https://youtu.be/wIbNCUXxlMI>

Assessment

Assignment

Write a plan how will you maximize the effectiveness of teaching & learning for your students

ED 402A Educational Leadership & Change Management for School Education (10 CP)

Video

· Day 10 Session 2-Change Management

<http://youtu.be/ynkcUcKr8tQ>

· Powerpoint+Audio
POWER POINT

· Day10Session2+3.ppt (0.57MB)

<http://www.mongroupsdney1.com/Day10Session23.ppt>

· AUDIO

<http://yourlisten.com/Kyaw.Naing/day-10-session-23>

ASSIGNMENT

Down load the following file

www.highlightcomputer.com/MgtAdvDip.zip

Read the contents in "Mgt 211" and answer the followings.

- Q1. How does leadership relate to management?
- Q2. Explain Instructional leadership
- Q3. Explain Transformational leadership
- Q4. Explain Moral leadership
- Q5. Explain Participative leadership
- Q6. Explain Managerial leadership
- Q7. Explain Contingent leadership
- Q8. Explain New Model of Leadership
- Q9. Compare manager and leader.
- Q10. What are the competencies of a leader?
- Q11. What type of leadership is preferred by you and provide the reason.

ED407A Learning Environment in Schools (10 CP)

· POWER POINT

Day10Session1.ppt (11.78MB)

<http://www.mongroupsyzdney1.com/Day10Session1.ppt>

AUDIO

<http://yourlisten.com/Kyaw.Naing/day-10-session-1>

ASSIGNMENT

Based on your classroom experience, write the factors important for class room environment.

Project

Prepare a project plan how to develop a school that will provide the education for needy students.

GROUP (2) TEACHING PRACTICE SUBJECTS

ED440 Science Teaching (5 credits)

Review the Science Teaching Videos in the following links

<http://www.highlightcomputer.com/y712lessons.htm#A>

<http://www.highlightcomputer.com/y910.htm>

Then develop your own teaching plan which combines e-Learning strategies. Your plan should contain

- Written notes to be given to students
- The lessons to be explained to the students
- Exercises to be given to the students
- Time frame and detailed teaching plan

ED441 Mathematics Teaching (5 credits)

Review the Mathematics Teaching Videos in the following links

<http://www.highlightcomputer.com/y712lessons.htm#A>

<http://www.highlightcomputer.com/y910.htm>

Then develop your own teaching plan which combines e-Learning strategies. Your plan should contain

- Written notes to be given to students
- The lessons to be explained to the students
- Exercises to be given to the students
- Time frame and detailed teaching plan

ED442 Technology Teaching (5 credits)

Review the Technology Teaching Videos in the following links

<http://www.highlightcomputer.com/y712lessons.htm#A>

<http://www.highlightcomputer.com/y910.htm>

Then develop your own teaching plan which combines e-Learning strategies. Your plan should contain

- Written notes to be given to students
- The lessons to be explained to the students
- Exercises to be given to the students
- Time frame and detailed teaching plan

GROUP (3) TVET TEACHING SUBJECTS

ED443 TVET Teaching (10 Credits)

Lesson Video

NNER Conference Presentation by Myanmar Vocational Training Collaboration Youtube

<https://youtu.be/2ZYnsJWSZU4>

(1) Select any two Vocational Education Subjects from the following link

<http://www.mongroupsdney.com/mvtclessons.htm>

(2) Teach the students

(3) Provide evidence of their works

GROUP (4) SELF DEVELOPMENT SUBJECTS

www.highlightcomputer.com/selfdevelopmentsubjects.htm

Download from above link

ED 308 Computer Supported Learning & Distance Education.zip (44.37MB)

ED 408 Middle & High School Teaching.zip (3.63MB)

ED 403 School Culture.zip (14.7MB)

ED 305 Science Teaching.zip (14.87MB)

ED 306 Technology Teaching.zip (4.63MB)

ED 304 Maths Teaching.zip (10.03MB)

ED 204 School & Vocational Education.zip (26.56MB)

ED 208 Inclusive Teaching.zip (5.38MB)

ED 207 Teacher Education.zip (9.65MB)

ED 205 Teaching & Measuring.zip (3.79MB)

ED 203 K-12 Education.zip (3.17MB)

BE Industrial Engineering

First year

Teaching period	Subject title	Credit points
ICT103	Programming for Engineers and Scientists	15
FE101	Number Systems and Linear Algebra	15
FE102	Principles of Physics A	15
ADMEC203	Engineering Design and Problem Solving	15
ME303	Computer Aided Design	15
EE201/EE302	Calculus and Differential Equations	15
EE101/113/202	Introduction to Electrical and Electronic Engineering	15
ME101	Mechanics of Solids	15



Second year

Teaching period	Subject title	Credit points
BAE401	Vector Calculus	15
ADMEC203	Ideas to Innovation	15
RE010	Engineering Materials	15
ME201	Fluid Mechanics	15
BAE312	Systems Modelling	15
RE001/RE005	Sustainability and Renewable Energy Design	15

Teaching period	Subject title	Credit points
BAE508	Engineering Enterprise	15
BAE402	Engineering Probability and Statistics	15



Third year

Teaching period	Subject title	Credit points
BAE503	Control Systems	15
BAE408	Digital Electronics and Controllers	15
EE306/EE624	Measurement and Instrumentation	15
BAE614	Mechanical Component Design	15
BAE672-ME-EE Course	Systems Engineering	15
BAE404/ME102/ME107	Thermodynamics	15
BAE608	Engineering Design Project	30



Fourth year

Teaching period	Subject title	Credit points
BAE605	Engineering Project	30
Elective EE/CE/ME		

Teaching period	Subject title	Credit points
BAE608	Engineering Major Project	60
internship	Work Integrated Learning	60
BAE606	Integrated Building Design	15
Mgt307	Commercialising Innovation	15
BAE682 (ME Mech)	Design for Manufacture	15
BAE691 (ME Mech)	Robotic Systems Design	15

Bachelor of Engineering Management

To complete Bachelor of Engineering Managements, the following units are required to complete. Total Credit points= 120

	Units	Credit Points
Part 1	<u>General Management</u>	
	Mgt 101 Management	5
	Mgt 102 Performance Management	5
	Mgt 104 Project Management	5
	Mgt 105 Quality Management	5
	Mgt 106 Financial Management	5
	Mgt107 Industrial Risk & Safety Management	5
Part 2	<u>Leadership & Management</u>	
	Mgt 202 Change Management	5
	Mgt 203 Inventory & Budget Management	5
	Mgt 204 Continuous Improvement Management	5
	Mgt 208 Safety Management	5
	Mgt 209 Risk Management	5
	Mgt 211 Leadership	5
	Mgt 213 Conflict Management	5
Part 3	<u>Engineering & Information Management</u>	
	Mgt 210 Professional Development Management	5
	Mgt 303 Management Information System	5
	Mgt 305 Quantitative Methods for Management	5
	Mgt 306 Human Resources Management	5
	BAE606 Building Service Engineering Project	5

	RE007 Energy Efficiency Management	5
	RE016/BAE 508-Design& Management	5
Part 4	Engineering Topics	
	E071 Contract Management	5
	K041 Energy Efficient Building Management	5
	ME 205 Manufacturing Processes-and-Materials	5
	ME 303 Computer Aided Design and Manufacturing	5

Professional Diploma/ BE (Special Program) for Experienced Site Engineers

This course is designed to provide formal engineering degree qualification for experienced engineers with relevant engineering diploma by combining their engineering experience and relevant BE level higher education studies.

It has total 120 credit points in which 60 credits points is awarded for engineering diploma and the remaining points are to be assessed on work experience, training and higher education studies.

Pre-requisite

- AGTI (3 Years) with minimum 7 Years experience
- Other engineering diplomas/ certificates with non engineering degrees such as BSc/BA/BEcon /BSc(IT) etc and minimum 10 years experience
- Matured age engineers/ technicians
- Marine Engineers (MOT Second Class)

Arrangement of study

B Tech- Completion of Part 2 + 3 Stream 1 or Stream 2—for Experienced +Non Experience Engineers

B E- Completion of Part 1+2+3 Stream 1 or Stream 2-for Only Experienced Engineers

PART (1)- Entry Qualification and Experience Assessment

ENG601- Engineering Studies

AGTI Certificate / Relevant Engineering Diplomas(60 Credits)

ENG602-Engineering Applications

Work Experience Curriculum Vitae (10 Credits)

ENG603-Engineering Practicals

Engineering Practice Report or Experience Portfolio (10 Credits)

BAE705 Engineering Competency Development

Other degree OR Appropriate Self Study Record

Continuing Professional Development

(10 Credits)

PART (2)- Degree Level Studies in General Engineering and Management

Degree Level Study Part 1-Engineering Mathematics+Materials+Mechanic Seminars (4 days)

BAE401 Engineering Mathematics

BAE402 Calculus

RE010 Engineering Materials

BAE403 Engineering Mechanics (10 Credits)

Study Record

<http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf>

Degree Level Study Part 2 -Engineering Management Seminars (2 days)

BAE508 Management

BAE605 Engineering Management (10 Credits)

Study Record

<http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf>

PART (3)- Degree Level Studies in Higher Engineering

Stream 1-Combined Studies

(To be supported by Live Online Lectures)

Stream 2-Discipline Studies-

(Personal Attendance or Self study Online)

Stream (1)- Combined studies-

- Professional Diploma/BE (Electrical and Renewable Energy Engineering)
 - Professional Diploma/BE (Civil and Renewable Energy Engineering)
 - Professional Diploma/BE (Mechanical and Renewable Energy Engineering)
- Which will depend on the discipline of AGTI/ Engineering Diploma

Degree Level Study Part 3 -Engineering Subjects Seminars (4 days)

5 subjects at BE Final Level (10 Credits)

- RE505- Green Building Design (3 credits)
- RE016A-Design & Management (4 credits)

- BAE 523A Environmental Engineering (1 credit)
- RE003- Solar and Thermal Energy Systems (1 credit)
- RE004- Energy Storage Systems (1 credit)

Stream (2)- Discipline studies

- Professional Diploma/BE (Electrical)
 - Professional Diploma/BE (Civil)
 - Professional Diploma/BE (Mechanical)
- Which will depend on the discipline of AGTI/ Engineering Diploma

Degree Level Study -Engineering Subjects Seminars (4 days)

3 or 4 subjects at BE Final Level (10 Credits)

Civil

BAE621 Structural Engineering

BAE421 Building Construction Engineering

BAE623 Surveying & Traffic Engineering

Study Record

<http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf>

Mechanical

Mechanical

BAE613 Mechanical Instrumentation Process

BAE311 Plant Engineering

BAE614 Machine Design

Study Record

<http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf>

Electrical

Electrical Power

BAE 501 Advanced Power Systems& Power Transmission Networks

BAE 506 Power System Stability& Protection

RE013-Electrical Machines

Electronics

RE014-Electronics Control

BAE 604 Telecommunication Engineering

BAE 601 Computer Programming

Or other subjects by discussing with trainer Study Record

Professional Diploma/ BE (Special Program) for Experienced Site Engineers

This course is designed to provide formal engineering degree qualification for experienced engineers with relevant engineering diploma by combining their engineering experience and relevant BE level higher education studies.

It has total 120 credit points in which 60 credits points is awarded for engineering diploma and the remaining points are to be assessed on work experience, training and higher education studies.

Pre-requisite

- AGTI (3 Years) with minimum 7 Years experience
- Other engineering diplomas/ certificates with non engineering degrees such as BSc/BA/BEcon /BSc(IT) etc and minimum 10 years experience
- Matured age engineers/ technicians
- Marine Engineers (MOT Second Class)

Arrangement of study

B Tech- Completion of Part 2 + 3 Stream 1 or Stream 2—for Experienced +Non Experience Engineers

B E- Completion of Part 1+2+3 Stream 1 or Stream 2-for Only Experienced Engineers

PART (1)- Entry Qualification and Experience Assessment

ENG601- Engineering Studies

AGTI Certificate / Relevant Engineering Diplomas(60 Credits)

ENG602-Engineering Applications

Work Experience Curriculum Vitae (10 Credits)

ENG603-Engineering Practicals

Engineering Practice Report or Experience Portfolio (10 Credits)

BAE705 Engineering Competency Development

Other degree OR Appropriate Self Study Record

Continuing Professional Development

(10 Credits)

PART (2)- Degree Level Studies in General Engineering and Management

Degree Level Study Part 1-Engineering Mathematics+Materials+Mechanic Seminars (4 days)

BAE401 Engineering Mathematics

BAE402 Calculus

RE010 Engineering Materials

BAE403 Engineering Mechanics (10 Credits)

Study Record

<http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf>

Degree Level Study Part 2 -Engineering Management Seminars (2 days)

BAE508 Management

BAE605 Engineering Management (10 Credits)

Study Record

<http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf>

PART (3)- Degree Level Studies in Higher Engineering

Stream 1-Combined Studies

(To be supported by Live Online Lectures)

Stream 2-Discipline Studies-

(Personal Attendance or Self study Online)

Stream (1)- Combined studies-

- Professional Diploma/BE (Electrical and Renewable Energy Engineering)
 - Professional Diploma/BE (Civil and Renewable Energy Engineering)
 - Professional Diploma/BE (Mechanical and Renewable Energy Engineering)
- Which will depend on the discipline of AGTI/ Engineering Diploma

Degree Level Study Part 3 -Engineering Subjects Seminars (4 days)

5 subjects at BE Final Level (10 Credits)

- RE505- Green Building Design (3 credits)
- RE016A-Design & Management (4 credits)

- BAE 523A Environmental Engineering (1 credit)
- RE003- Solar and Thermal Energy Systems (1 credit)
- RE004- Energy Storage Systems (1 credit)

Stream (2)- Discipline studies

- Professional Diploma/BE (Electrical)
 - Professional Diploma/BE (Civil)
 - Professional Diploma/BE (Mechanical)
- Which will depend on the discipline of AGTI/ Engineering Diploma

Degree Level Study -Engineering Subjects Seminars (4 days)

3 or 4 subjects at BE Final Level (10 Credits)

Civil

BAE621 Structural Engineering

BAE421 Building Construction Engineering

BAE623 Surveying & Traffic Engineering

Study Record

<http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf>

Mechanical

Mechanical

BAE613 Mechanical Instrumentation Process

BAE311 Plant Engineering

BAE614 Machine Design

Study Record

<http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf>

Electrical

Electrical Power

BAE 501 Advanced Power Systems& Power Transmission Networks

BAE 506 Power System Stability& Protection

RE013-Electrical Machines

Electronics

RE014-Electronics Control

BAE 604 Telecommunication Engineering

BAE 601 Computer Programming

Or other subjects by discussing with trainer Study Record

BE (Electrical/Civil/Mechanical with Renewable Energy) Programs

Pre-requisite= Advanced Diploma in Engineering (Electrical/Machnaical/Civil)

Total Credit points= 60

BE (Electrical/Mechanical/Civil with Renewable Energy) (Total 12 units)

YEAR 3 (24 credit points / 2 points per unit)

1 BAE 401 Advanced Engineering Mathematics

2 BAE 402 Calculus

3 BAE 403 Engineering Mechanics

4 BAE 404 Engineering Materials & Thermodynamics

5 RE001- Foundation Studies in Renewable Energy and Sustainability

6.RE003- Solar and Thermal Energy Systems

7.RE004- Energy Storage Systems

8 RE005- Renewable Energy Resource Analysis

9.RE006- Wind Energy Conversion Systems

10 RE010-Engineering Materials

11 RE012a-Electrical Engineering Part 1

12RE016/ BAE508-Design & Project Management

BE (Electrical with Renewable Energy)

YEAR 4 (36 credit points / 3 points per unit)

- 1 BAE 601 Computer Programming
 - 2 BAE 602 Computer Network
 - 3 BAE 603 Software Engineering
 - 4 RE012b-Electrical Engineering Part 2
 - 5 RE002- Grid Connected Photovoltaic Power Systems
 - 6 RE013-Electrical Machines
 - 7 RE014-Electronics Control
 - 8 RE015-Electrical Project/ Practice
 - 9 BAE 501 Advanced Power Systems & Power Transmission Networks
 - 10 BAE 506 Power System Stability & Protection
 - 11 BAE 604 Telecommunication Engineering
 - 12.RE007- Energy System Efficiency
 - 13 BAE 608 Professional Engineer Engineering Competency Demonstration Report & BAE 605 Engineering Management (Completion Certification with no credit points)
-

BE (Civil with Renewable Energy)

YEAR 4 (36 credit points / 3 points per unit)

- 1 RE011a-Civil & Mechanical Engineering Part 1
- 2 RE011b-Civil & Mechanical Engineering Part 2a

3 BAE 606 Building Service Electrical & Mechanical Engineering

4BAE421 Building Construction Engineering

5 BAE422 Estimating

6 BAE423 Fluid Mechanics

7 BAE424 Reinforced Concrete

8 BAE522 Rock Mechanics

9 BAE 523A Environmental Engineering

10BAE621 Structural Engineering

11BAE623 Surveying & Traffic Engineering

12BAE624 Water Supply , Sanitation & Finishing

13 BAE 608 Professional Engineer Engineering Competency Demonstration Report & BAE 605 Engineering Management (Completion Certification with no credit points)

BE (Mechanical with Renewable Energy)

YEAR 4 (36 credit points / 3 points per unit)

1 RE011a-Civil & Mechanical Engineering Part 1

2 RE011b-Civil & Mechanical Engineering Part 2a

3BAE 606 Building Service Electrical & Mechanical Engineering

4 BAE311 Plant Engineering

5 BAE314 Mechanical Power Generation

6 BAE315 Materials Engineering

7 BAE511 Air-conditioning & Refrigeration

8 BAE512 Building Service Water Supply System

9 BAE613 Mechanical Instrumentation Process

10 BAE614 Machine Design

11.RE007- Energy System Efficiency

12 BAE 601 Computer Programming

13 BAE 608 Professional Engineer Engineering Competency Demonstration Report & BAE 605 Engineering Management (Completion Certification with no credit points)

BE (Electrical/Civil/Mechanical with Renewable Energy) Programs

Pre-requisite= Advanced Diploma in Engineering (Electrical/Machnaical/Civil)

Total Credit points= 60

BE (Electrical/Mechanical/Civil with Renewable Energy) (Total 12 units)

YEAR 3 (24 credit points / 2 points per unit)

1 BAE 401 Advanced Engineering Mathematics

2 BAE 402 Calculus

3 BAE 403 Engineering Mechanics

4 BAE 404 Engineering Materials & Thermodynamics

5 RE001- Foundation Studies in Renewable Energy and Sustainability

6.RE003- Solar and Thermal Energy Systems

7.RE004- Energy Storage Systems

8 RE005- Renewable Energy Resource Analysis

9.RE006- Wind Energy Conversion Systems

10 RE010-Engineering Materials

11 RE012a-Electrical Engineering Part 1

12RE016/ BAE508-Design & Project Management

BE (Electrical with Renewable Energy)

YEAR 4 (36 credit points / 3 points per unit)

- 1 BAE 601 Computer Programming
 - 2 BAE 602 Computer Network
 - 3 BAE 603 Software Engineering
 - 4 RE012b-Electrical Engineering Part 2
 - 5 RE002- Grid Connected Photovoltaic Power Systems
 - 6 RE013-Electrical Machines
 - 7 RE014-Electronics Control
 - 8 RE015-Electrical Project/ Practice
 - 9 BAE 501 Advanced Power Systems & Power Transmission Networks
 - 10 BAE 506 Power System Stability & Protection
 - 11 BAE 604 Telecommunication Engineering
 - 12.RE007- Energy System Efficiency
 - 13 BAE 608 Professional Engineer Engineering Competency Demonstration Report & BAE 605 Engineering Management (Completion Certification with no credit points)
-

BE (Civil with Renewable Energy)

YEAR 4 (36 credit points / 3 points per unit)

- 1 RE011a-Civil & Mechanical Engineering Part 1
- 2 RE011b-Civil & Mechanical Engineering Part 2a

3 BAE 606 Building Service Electrical & Mechanical Engineering

4BAE421 Building Construction Engineering

5 BAE422 Estimating

6 BAE423 Fluid Mechanics

7 BAE424 Reinforced Concrete

8 BAE522 Rock Mechanics

9 BAE 523A Environmental Engineering

10BAE621 Structural Engineering

11BAE623 Surveying & Traffic Engineering

12BAE624 Water Supply , Sanitation & Finishing

13 BAE 608 Professional Engineer Engineering Competency Demonstration Report & BAE 605 Engineering Management (Completion Certification with no credit points)

BE (Mechanical with Renewable Energy)

YEAR 4 (36 credit points / 3 points per unit)

1 RE011a-Civil & Mechanical Engineering Part 1

2 RE011b-Civil & Mechanical Engineering Part 2a

3BAE 606 Building Service Electrical & Mechanical Engineering

4 BAE311 Plant Engineering

5 BAE314 Mechanical Power Generation

6 BAE315 Materials Engineering

7 BAE511 Air-conditioning & Refrigeration

8 BAE512 Building Service Water Supply System

9 BAE613 Mechanical Instrumentation Process

10 BAE614 Machine Design

11.RE007- Energy System Efficiency

12 BAE 601 Computer Programming

13 BAE 608 Professional Engineer Engineering Competency Demonstration Report & BAE 605 Engineering Management (Completion Certification with no credit points)

Bachelor of Engineering (Computer Aided Engineering)

[BE \(Civil with CAE\)](#)

[BE \(Electrical with CAE\)](#)

[BE \(Mechanical with CAE\)](#)

[BE \(CAE\)](#)

[BTech \(CAE\) \(BE Year 3 CAE\)](#)

Year 1

Diploma/ Advanced Diploma in Electro-mechanical and Construction Engineering

Year 2

Civil ETAB+REVIT

Mechanical and Electrical 181 M & E Software

Mechanical CAM/CNC/Master CAM

BTech (CAE) (BE Year 3 CAE)

Year 3

[1 BAE 401 Advanced Engineering Mathematics](#)

[2 BAE 402 Calculus](#)

[3 BAE 403 Engineering Mechanics](#)

[4 BAE 404 Engineering Materials & Thermodynamics](#)

[5 RE001- Foundation Studies in Renewable Energy and Sustainability](#)

[6.RE003- Solar and Thermal Energy Systems](#)

[7.RE004- Energy Storage Systems](#)

8 RE005- Renewable Energy Resource Analysis

[9.RE006- Wind Energy Conversion Systems](#)

[10 RE010-Engineering Materials](#)

[11 RE012a-Electrical Engineering Part 1](#)

[12RE016/ BAE508-Design & Project Management](#)

1 BAE 401 Advanced Engineering Mathematics

2 BAE 402 Calculus

Mathcad

3 BAE 403 Engineering Mechanics

Gear Box Design

MESYS Shaft System Calculation - Interface with TBK Gear Calculation

1/TBK 2014 CAD PugIn for SOLIDWORKS: pinion shaft run out

2/TBK 2014 CAD-PlugIn for SOLIDWORKS: Bidirectional connection for CAD and calculation

3/TBK 2014 CAD-PlugIn for SOLIDWORKS: Create bevel gears in SOLIDWORKS

4/TBK 2014 CAD-PlugIn for SOLIDWORKS: Cylindrical gear with involute spline hub (DIN5480)

5/TBK 2014 CAD-PlugIn for SOLIDWORKS: save eAssistant password

6/TBK 2014 CAD-PlugIn for SOLIDWORKS: Insert gear manufacturing data

7/TBK 2014 CAD-PlugIn for SOLIDWORKS: pinion shaft with involute spline (DIN 5480)

BAE 403 MESYS-Axial-Radial-Rollerbearings

BAE403 Ball Screw ReportExample_BallScrew

BAE403 DIN743_CalculationBasis

BAE403 ExampleSlewingRing

BAE403 FlyerRollingBearingAnalysis

BAE403 FlyerShaftCalculation

BAE403 FlyerTrackRoller

BAE403 MESYS_Manual

BAE403 Tutorial_Angular_Contact

BAE403 Tutorial_Cylindrical_Roller

BAE403 TutorialShaft

BAE403 TutorialShaftSystems

BAE403 TutorialShiftGearTransmission

Software

BAE403 Calcula-3.5

BAE403 Engg Power Tools eptool20

BAE403 Engg Power Tool eptool19

BAE403 Shaft Calculation Tutorial_SolutionFiles

BAE 404 Engineering Materials & Thermodynamics

Engineering Materials

[Materials Database Online Software](#)

Engineering Thermodynamics

Videos

1/Steam

2/Solid Liquid Equilibria using Excel
3/Residue Curves for Benzene(x1) + Ethanol(x2) + Methanol(x3)
4/Sillen Basics
5/Z vs. Pr Plot using Matlab
6/Using Preos.xlsx to plot an isotherm
7/LLE Excel Macro
8/PrMix Spreadsheet
9/Publishing from Matlab to html to Microsoft Word
10/Fitting Pxy data using Excel

5 RE001- Foundation Studies in Renewable Energy and Sustainability
6.RE003- Solar and Thermal Energy Systems

RE001+003 Charge Controller V1.95-Windows

RE001+003 eLOG-Windows

RE001+003 Inverter(SHI&STI)V1.1-Windows

RE001+003 Inverter(TP)V1.1-Windows

RE001+003 Inverter(UPower)V1.2-Windows

RE001+003 SPP-02(Sealed)V4.0-Windows

RE001+003 SunDATForSketchUp-V3-9-0-B12

RE001+003-SPP Tools(Li)V3.0

Wire Calculator- Online

Sundata

7.RE004- Energy Storage Systems

The ESWare™ Suite

ES/Analyzer

ES/Optimizer

S/Pilot

9.RE006- Wind Energy Conversion Systems

WAsP Bundle

Wind farm production

Wake Effect Model

Micro siting

Wind Power Potential

Wind Resource Mapping

Wind Climate Estimate

Wind Atlas Generation

10 RE010-Engineering Materials

[Materials Database Online Software](#)

11 RE012a-Electrical Engineering Part 1

Circuit Draw

RE012 CLStudent_Setup

RE012 edraw-max_setup_full5371

RE012 gnucap-master

RE012 LTspiceXVII

RE012 ngspice-31_64

RE012 pecs

RE012 solveelec25ensetup

1/Spice

2/Analog Circuit Simulator

3/SIM Plus

4/Circuit Logix

5/SPICE

6/Multi SIM

7/PSPICE

8/LSPICE

9/SIMULATOR

10/Android Circuit Simulation'

[NgSpice](#) –[GnuCap](#) –.

[EasyEDA](#) –[CircuitLogix](#) –[LTSpice](#)

[TopSpice](#) –[Circuit Simulator 1.5j](#) [MacSpice](#) [SimScale](#) –[5Spice](#) [Beige Bag](#) [Micro-Cap 10](#) [PECS](#) –

12RE016/ BAE508-Design & Project Management

RE016-user-manual-seavus-project-viewer

Year 4

BE (Civil with CAE)

BE (Electrical with CAE)

BE (Mechanical with CAE)

BE (CAE)

Specialized Professional Software Applications- Open Studies

Diploma in Work Studies/ Advanced Diploma in Work Studies/ Bachelor of Work Studies

This course is structured as linking Skills Recognition and Bridging of work experiences and training in vocational practice other than engineering to academic qualifications at Diploma/ Advanced Diploma and Bachelors degree levels.

This course is prepared and taught by IQY Technical College/ Myanmar Vocational Training Collaboration/ STC Technological University and St Clements University Myanmar College.

အင်ဂျင်နီယာလုပ်ငန်းမဟုတ်သောအခြားအသက်မွေးဝမ်းကျောင်းအလုပ်အကိုင်အကြံပြုနှင့်လေ့ကျင့်သင်ကြားမှုများကိုအထက်တန်းပညာရေးနှင့်တက္ကသိုလ်ပညာရေးပူးပေါင်းပြီး Diploma/ Advanced Diploma/ Bachelors သို့ များရရှိစေရန် IQY Technical College/ Myanmar Vocational Training Collaboration/ STC Technological University/ St Clements University Myanmar College တို့က စီစဉ်သင်ကြားသည်။

Diploma in Work Studies (30 credits)

Outcome

On completion of this course, the candidates will be able to effectively provide vocational work services to the customers.

ဤသင်တန်းပြီးပါကစားသုံးသူတို့ ကိုလိုအပ်သောအလုပ်များလုပ်ပေးနိုင်မည်။

Course Structure (သင်ရိုးဖွဲ့ စည်းပုံ)

It consists of compulsory work-based unit and elective units

WS101 Vocational Studies (10 credits)

- Vocational Experience and/ or completion of Vocational Training and studies at other schools and training centres

WS102 Safety Training (5 credits)

WS103 English (5 credits)

WS104 Myanmar Vocational Training Certificate (10 credits)

Optional

WS105 Myanmar

Advanced Diploma in Work Studies (30 credits)

Outcome

On completion of this course, the candidates will be able to effectively organize and manage the services needed by the customers.

ဤသင်တန်းပြီးပါကစားသုံးသူတို့ ကိုလိုအပ်သောအလုပ်များလုပ်ပေးသောလုပ်ငန်းကိုထိရောက်စွာ စီမံခန့်ခွဲနိုင်မည်။

Course Structure

It consists of credit transfer from Diploma in Work Studies, compulsory work-based unit and compulsory theory studies units.

Credit Transfer Completion of Diploma in Work Studies (30 Credit Points)

Mgt 101 Management (5 Credit points)

Mgt 201 Customer Service Management (5 Credit points)

Mgt 203 Inventory & Budget Management (5 Credit points)

Mgt 208 Safety Management (5 Credit points)

Mgt 211 Leadership in Humanitarian Works (5 Credit points)

WS 201 Business Plan and Work Record (5 Credit points)

Total Credits = 60 (5 Credit points)

Bachelor of Work Studies (60 credits)

Outcome

On completion of this course, the candidates will be able to effectively set up the strategic tasks and judge the nature of humanities services needed by the customers

ဤသင်တန်းပြီးပါကစားသုံးသူတို့ ကိုလိုအပ်သောအလုပ်များလုပ်ပေးသောလုပ်ငန်းကိုထိရောက်စွာ စီမံခန့်ခွဲနိုင်မည်သာမကလုပ်ငန်းမဟာဗျူဟာချမှတ်ရန်ခြံ့ချိန်ကြံဆစွမ်းရည်လဲရရှိမည်။

Course Structure

It consists of credit transfer from Advanced Diploma in work Studies, compulsory self study unit compulsory theory studies units and a Work based project

Credit transfer

Completion of Diploma in Work Studies (60 Credit Points)

Subjects

(English Notes+ Myanmar Explanation)

ED 431-Critical Thinking (10 Credits)

Mgt 303 Management Information System (10 Credits)

Mgt 306 Human Resources Management (10 Credits)

Mgt302 Information Security (10 Credits)

Mgt 307 Marketing Management (10 Credits)

(English)

BWS 401 Advanced Work Studies (Individualized Unit) (10 Credits)

Total Credits 120

Sample Structure (သင်ရိုးဖွဲ့ စည်းပုံနမူနာ)

Garment Factory Worker (အထည်ချုပ်လုပ်ငန်းအလုပ်သမားသို့ မဟုတ်အထည်ချုပ်သင်တန်းဆင်းသူ)

WS101 Vocational Studies (10 credits)

By submitting work experience or Certificate issued by other training school, WS101 will be given credits

အလုပ်အတွေ့ အကြုံတင်ပြခြင်းသို့ မဟုတ်အခြားသင်တန်းဆင်းလက်မှတ်တင်ပြခြင်းဖြင့်

WS101 Vocational Studies (10 credits)ရရှိမည်။

Study at IQY (အောက်ပါတို့ ကို IQY တွင်တက်ရန်

WS102 Safety Training (5 credits), WS103 English (5 credits)

WS104 Myanmar Vocational Training Certificate (10 credits)

ပြီးစီးပါက Diploma in Work Studies (Garment) ရရှိပြီး Advanced Diploma/ Bachelors

Degree ဆက်တက်နိုင်မည်။ When completed, Diploma in Work Studies (Garment) will

be awarded and then can proceed to Advanced Diploma in Work Studies (Garment) and Bachelor of Work Studies (Garment).

WS104 Myanmar Vocational Training Certificate (10 credits)

CERTIFICATE IN AGRICULTURE FOOD PRODUCTION (MVTC201)

CERTIFICATE IN ANIMALS HANDLING (MVTC202)

CERTIFICATE IN BUSINESS (MVTC203)

CERTIFICATE IN LABORATORY WATER OPERATIONS (MVTC204)

CERTIFICATE IN COMMUNITY SERVICE (MVTC205)

CERTIFICATE IN PROPERTIES SERVICES (MVTC206)

CERTIFICATE IN PERFORMING (MVTC207)

CERTIFICATE IN PUBLIC SAFETY (MVTC208)

CERTIFICATE IN LOGISTICS (MVTC209)

As Myanmar Vocational Training Certificate is designed with the study resources for the above vocational areas, the workers who are working in other vocational areas can study ADEMC203-Design and Technology (Year 12 Level) Subjects as tertiary preparation.

မြန်မာ့အသက်မွေးဝမ်းကျောင်းပညာလေ့ကျင့်ရေးလက်မှတ်ကိုအထက်ပါလုပ်ငန်းများအတွက်စီစဉ်ထားသည့်အဆိုပါဘာသာများသည်အလုပ်နှင့်မသက်ဆိုင်ပါက ADEMC203-Design and Technology (Year 12 Level) ကိုအထက်တန်းပညာရေးပေါင်းကူးအဖြစ်သင်နိုင်သည်။

BWS/BSc-Engg /Prof Dip Engg Sc (Course 5066689)

THS/ITC/ Year 10 မှဝင်သူများသည်အောက်ပါအစီအစဉ်အတိုင်းတက်ရမည်။

Year 1

Diploma in General Engineering and Certificate in Tertiary Preparation (First 6 months)

Diploma in Electrical/Mechanical/Civil Engineering (Myanmar Version) (Second 6 months)

Associate Degree in Work Studies-Engineering

Year 2

Advanced Diploma in Electrical/Mechanical/Civil Engineering Part 1+Associate Degree of Work Studies in Engineering (Course 332256)

Year 3

BTech/BE ဆက်မတက်နိုင်ပါက Bachelor of Work Studies-Engineering /Professional Diploma in Work Studies-Engineering ကို Year 3 တွင်အခမဲ့တက်ကာဘွဲ့ရယူနိုင်မည်။

အလုပ်အတွေ့အကြုံတစ်နှစ်ရှိပါက Bachelor of Work Studies-Engineering ကို Bachelor of Science-Engineering (Professional Diploma in Engineering Science) သို့ CV (Curriculum Vitae) တင်ပြပြီးအဆင့်မြှင့်နိုင်သည်။

IQY ကျောင်းသားအားလုံး IQY Technical College website www.iqytechnicalcollege.com

သင်ရိုးများ <http://www.iqytechnicalcollege.com/offeredcourses.htm>

စာရင်းသွင်းခြင်း <http://www.iqytechnicalcollege.com/enrolment.htm>

သင်တန်းကြေးပြန်အမ်းမှုပေါ်လစီ www.highlightcomputer.com/iqyrefundpolicy.pdf

ကိုမလွဲမသွေဖတ်ရှုသိရှိရမည်။

Career Conversion System

- BE graduates can convert their specialist field by attending final year semester 2 of Professional Diploma in Engineering (Electrical/Civil/Mechanical/Building Services/ Mechatronics/Telecommunication/ICT).
- B Tech graduates can convert their specialist field by attending final year of Professional Diploma in Engineering (Electrical/Civil/Mechanical/Building Services/ Mechatronics/Telecommunication/ICT).

Fees

6.3 Lakhs Kyats (Face to Face)

4 Lakhs (Online)

Fees

(Singapore Institute of Engineering Technologist Membership Application Fee and ASEAN Engineering Technologist/ Engineering Technician/ associate Technologist/ Associate Technician Registration fees are extra)

- AGTI graduates can attend Year 3 & 4 of Professional Diploma in Engineering (Electrical/Civil/Mechanical/Building Services/ Mechatronics/Telecommunication/ICT).

Fees

6.3 Lakhs Kyats (Face to Face)

4 Lakhs (Online)

Fees

(Singapore Institute of Engineering Technologist Membership Application Fee and ASEAN Engineering Technologist/ Engineering Technician/ associate Technologist/ Associate Technician Registration fees are extra)

AGTI with over 10 years experience or with other degrees,

Please see the following link

<http://www.iqytechnicalcollege.com/IPEM%20AGTI%20to%20BE%20Conversion%20Mod.pdf>

AND

<http://www.iqytechnicalcollege.com/IPEM%20AGTI%20to%20BE%20Conversion%20Mod.pdf>

Enrolment

<http://www.emailmeform.com/builder/form/T34dj3Wg8DNweJf04>

Certificate in Information Technology (Introductory Course)

	St Clements+Highlight IT Course	Australian ICA20105_R1 Training Package Certificate 2 in IT
	COMPULSORY UNITS	CORE UNITS
ICT 101	Information Technology Fundamentals + Workplace Evidences	ICAU2005B Operate computer hardware ICAU2231B Use computer operating system ICAW2001B Work effectively in an IT environment
ICT 102	Computer Applications and Operations + workplace evidences	BSBCMN106A Follow workplace safety procedures ICAD2012B Design organisational documents using computing packages ICAU2006B Operate computing packages ICAU2013B Integrate commercial computing packages ICAW2002B Communicate in the workplace
	<u>Technical Report Presentation</u> The candidate to provide customer interaction record at the workplace. It may include log book, work record etc The candidate will need to provide the report on which programs he or she installed at workplace & clients & highlight the significant things The candidate communicate with teacher via e-mail & browse the reference sites as directed by the teacher & retrieve the information	<u>Elective Units</u> ICAS2009B Interact with clients ICAS2016B Record client support requirements ICAI2015B Install software applications ICAS2008B Maintain inventories for equipment, software and documentation ICPMM263B Access and use the internet ICPMM32B Capture a digital image

Certificate in Financial Management

Financial Management is an important aspect in Business Management. This course does not train the students to become accountants but it trains the students to understand the financial statements of the company & to assess the financial situation of the company & will be able to perform the financial management.

By doing this course, the students will be able to

- Explain how accounting information assists in making decisions.
- Describe the components of the balance sheet.
- Analyze business transactions and relate them to changes in the balance sheet.
- Compare features of proprietorships, partnerships, and corporations
- Explain how income is measured using both the accrual basis and cash basis accounting methods.
- Use the concepts of recognition, matching, and cost recovery to record revenues and expenses.
- Prepare an income statement and show how it is related to the balance sheet.
- Prepare a statement of cash flows and show how it differs from an income statement.
- Use double-entry accounting.
- Analyze and journalize transactions.
- Post journal entries to the ledgers.
- Prepare and use a trial balance.
- Correct erroneous journal entries and describe how errors affect accounts.
- Use T-accounts to analyze accounting relationships.
- Explain how computers have transformed processing of accounting data
- Explain the concept of the statement of cash flows.
- Classify activities affecting cash as operating, investing, or financing activities.
- Use the direct method to measure cash flow.
- Determine cash flows from income statement and balance sheet accounts.
- Use the indirect method to calculate cash flows from operations.
- Relate depreciation to cash flows provided by operating activities.
- Reconcile net income to cash provided by operating activities.
- Adjust for gains and losses from fixed asset sales and debt extinguishments in the statement of cash flows.
- Use the T-account approach to prepare the statement of cash flows.

Completion of this course can be given the credit in Mgt 106 Financial Management subject in Diploma in Management Course.

Learning Resources

Mgt106-Financial Management.ppt

Mgt106-Financial Management.ppt with audio explanation

Mgt106-Financial Management References.pdf

Mgt 106 Financial Management Questions.pdf

Certificate in Occupational Health and Safety (12128)

This course aims to provide the general safety knowledge for workers in all workplace.

Credit points 15

Contents

- OHS101 Workplace Safety (10 Credits)
- OHS102 Workplace Safety Risk Assessment (5 Credits)

Contents

- Safety Responsibilities
- Work Environment
- Materials Handling
- Chemical and Fire Safety
- Working at Height Safety
- Confined Space Area Safety
- General Physical and Psychological Impacts
- Electrical Safety
- CPR
- Risk Assessment

IQY Technical College

Diploma in Tourism Management

Course 214467

List of subjects (3 creditsx 10= 30 credits)

- TMGT101 Tourism Management
- TMGT102 Tour Guiding
- TMGT103 Airline Ticketing
- TMGT104 Advertising in Tourism Management
- TMGT105 Cultural awareness in Hospitality and Tourism
- TMGT106 Tourist Safety and Security
- TMGT107 Code of Ethics of Tour Operators
- TMGT108 Global Code of Ethics for Tourism
- TMGT109 Dispute Resolution in Tourism Management
- TMGT110 Destination Attractiveness
- TMGT110 Example
- Work as Tour guide

DIPLOMA OF AUTOMOTIVE ENGINEERING

PART (1) RELATED BASIC KNOWLEDGE (13 pt) (Each 1 pt)

Maths 101+302+403 (EE201) Engineering Mathematics

Maths 301+501+303 (EE302) Advanced Engineering Mathematics

ME103 Engineering Mechanics(EE204 Engineering Physics)

Mgt 501 Basic Management (EE309 Project Management)

EE101 DC Circuit Problems

EE102 Basic Electrical Fitting & Wiring

EE103 Basic Electrical Drafting

EE104 Electrical Equipments Safety Protection

EE111 Electromagnetism & Basic Electrical Machines

EE112 Alternating Current Principle

EE113 Electrical Fundamental

EE208 Operational Amplifiers

EE209 Analogue Electronics

PART (2) BASIC MECHANICAL (6 pt) (Each 2 pt)

ME108 Principle of Engine

ME 101 Applied Mathematics+ ME 103 Engineering Mechanics

ME 102 Engineering Thermodynamics

PART (3) SPECIALIZED AUTOMOTIVE ENGINEERING (10 pt) (Each 2 pt)

AE 101 Auto Diesel+ Auto Electrics

AE 102 Auto General Engine+ Fuel System+ Transmission

AE 103 Engine Assembly +Electrical +Electronics

AE 104 Brake & Steering System

AE 105 Automotive Mechanic

DIPLOMA OF MARINE ENGINEERING

Mar E 101 Mathematics

Mar E 102 Applied Mechanics

Mar E 103 Heat & Heat Engine

Mar E 104 Engineering Drawing

Mar E 105 Workshop Technology

Mar E 106 General Seamanship

Mar E 107 Marine Electrical Practice

Mar E 108 Automation and Power Electronics

Mar E 109 Computerized Control

Mar E 110 General Engineering Knowledge

Mar E 111 Motor Engineering Knowledge

Mar E 112 General Mechanical Engineering

Mar E 113 Ship Construction

Mar E 114 Marine Engine Room Watch-keeping

Mar E 115 Electro-technology

YEAR (1)

Diploma of Management

Mgt 101 Management
Mgt 102 Performance Management
Mgt 103 Operation Management
Mgt 105 Quality Management
Mgt 106 Financial Management
Mgt 108 Computer Application in
Management

Mgt 107 Industrial Risk & Safety
Assessment
Mgt 104 Project Management

YEAR (2)

Advanced Diploma of Information Technology Management

Study the following units

ICT 103 Applied Programming

ICT 105 Systems Analysis and Programs

ICT 106 Software Engineering

ICT 202 Information Systems Principles and Networking

ICT 203 Information Systems, Analysis and Design

ICT 204 Advanced Programming

ICT 104 Program Projects

Mgt 501 Communication Skills & Management Leadership

Study BAE 508 Industrial Engineering & Industrial Management . You need to read the books in English.

(Focus on Mgt 501 Communication Skills & Mgt 501 Basic Management)

& do the exercises assigned by teacher.

YEAR (3)

Bachelor of Business (E-Business & Management)

The learning system will be based on self study. Read the given references study materials and prepare the project work. You need to read the books in English.

The following units common to MBA course are to be studied.

Mgt 301	Electronics Business
Mgt 302	Information Security
Mgt 303	Management Information System
Mgt 304	Electronics Commerce
Mgt 305	Quantitative Methods for Management
Mgt 306	Human Resources Management
Mgt 307	Marketing Management
Mgt 308	Artificial Intelligence

To assess Level 3, you need to write the report of 10 pages each on what you have learnt in the unit.

YEAR (4)

Mgt 401 Management Project

Mgt 402 Electronics Business Project

Two reports one for Management for (Mgt 303+Mgt 305+Mgt 306) & another for Electronics Business + Marketing (Mgt 301+Mgt 302+Mgt 304+Mgt 307+Mgt 308) subjects are required to be presented.

Each should contain 4000 to 6000 words of how you pursue the study in Management,, Marketing, Electronics Business subjects should be described.

The project should contain management plans, business plan & performance, task, job procedures IT integration etc of the topics of your choices.

Certificate/ Diploma in Computer Aided Engineering

Dip CAE

Topics

- ETAB
- REVIT
- Auto CAD
- Smart Plant
- Staad
- CAD WROX
- ELECTRICAL CAD
- TEKLA
- CNC
- Master CAM
- CAM

Online Training

Advanced Diploma in Engineering Design

www.highlightcomputer.com/dipenggdesign.pdf

This course trains the students to work as Engineering Design Drafters in Electrical, Civil & Mechanical Engineering Design and Construction.

The graduates of the courses satisfy the academic requirement for Associate Membership (Engineering Technician) of Singapore Institute of Engineering Technologists

The students can follow three strands

- Mechanical
- Civil
- Electrical

to complete the program

Pre-requisite

Completion of

Diploma in Engineering (Design & Drafting) or other diploma level relevant qualifications

Course 31115 Advanced Diploma in Mechanical Engineering Design

Total 30 Credit points. Each unit has 3 credit points. Total 10 units (Accumulated credit 60 points with Diploma in Engineering (Design & Drafting))

- ME 205 Manufacturing Processes-and-Materials & ME 303 Computer Aided Design and Manufacturing
- ME101 Applied Mathematics & CE113 Structure 1
- ME102 Engineering Thermodynamics
- ME201 Fluid Mechanics
- ME104 Machine Principle
- ME 234 Wind Turbines
- ME 334 Airconditioning and Refrigeration
- ME109 Engineering Drawing
- ME110 Mechanical Engineering Design Software Applications

Note-

The students who have completed Computer Aided Design training related to Mechanical design at affiliated educational establishment will be given advanced standing for the following units

- ME109 Engineering Drawing
- ME110 Mechanical Engineering Design Software Applications

Further Course-

The graduates of this course can continue Advanced Diploma in Mechanical Engineering which is recognized by Singapore Institute of Engineering Technologists as satisfying the academic requirement for Member /Fellow (Engineering Technologists)

Course 31015 Advanced Diploma in Civil Engineering Design

Total 30 Credit points. Each unit has 3 credit points. Total 10 units (Accumulated credit 60 points with Diploma in Engineering (Design & Drafting))

- CE111A-Road+Bridges
- ME101 Applied Mathematics & CE113 Structure 1
- ME201 Fluid Mechanics
- CE 109 Energy Efficient Building Design
- CE106A (Part 1) Detailed Construction & Building Construction Materials
- CE106A (Part 2) Brick Laying & Sprouting & Guttering
- CE115 Estimating & Specification
- ME 334 Airconditioning and Refrigeration
- CE104B Building Drawing Advanced
- CE120 Civil Engineering Design Software Applications

Note-

The students who have completed Computer Aided Design training related to Civil design at affiliated educational establishment will be given advanced standing for the following units

- CE104B Building Drawing Advanced
- CE120 Civil Engineering Design Software Applications

Further Course-

The graduates of this course can continue Professional Diploma in Civil Engineering which is recognized by Singapore Institute of Engineering Technologists as satisfying the academic requirement for Member /Fellow (Engineering Technologists).

Course 30915 Advanced Diploma in Electrical Engineering Design

- Total 30 Credit points. Each unit has 3 credit points. Total 10 units (Accumulated credit 60 points with Diploma in Engineering (Design & Drafting))

- CE 109/EE307 Energy Efficient Building Design & ME 334 Airconditioning and Refrigeration
- ME101 Applied Mathematics & CE113 Structure 1
- EE117 Solar Electrical System
- EE103B Advanced Electrical Drafting
- EEE306 Electro-mechanical Control & EE121 Electronic Power Control Devices
- EE202 Electrical Circuits & EE112 Alternating Current Principle
- EE118 Electrical Energy Supply System
- EE111 Electro-magnetism & Basic Electrical Machines
- EE110 Computer Applications in Electrical Design

Note-

The students who have completed Computer Aided Design training related to Electrical design at affiliated educational establishment will be given advanced standing for the following units

- EE103B Advanced Electrical Drafting
- EE110 Computer Applications in Electrical Design

Further Course-

The graduates of this course can continue Professional Diploma in Electrical Engineering which is recognized by Singapore Institute of Engineering Technologists as satisfying the academic requirement for Member /Fellow (Engineering Technologists).

Diploma in Vocational Education & Training, Diploma in Technical Teaching (Training, Assessment & Learning Management)
Diploma in Engineering Education (YTU)

www.highlightcomputer.com/ProfDipTechTchg.pdf

Objective of the course

This Diploma in Engineering Education/Professional Diploma in Technical Teaching (Training, Assessment & Learning Management) is designed as Teachers Education Professional Development for teachers in Government Technical Colleges , Technological Universities and other Vocational Education and Training Institutions in Myanmar to upgrade their skills and knowledge in training and assessment, curriculum design and development, management of technical training institutions, adult and vocational education and training ,assessment validation and current accreditation rules and requirements of Myanmar Engineering Council as well as current training and assessment practices of overseas industrialized countries.

Learning Outcomes

After completion of the levels of the training programs, the students should be able to

- Understand adult learning principles in technical education and training contexts
- Apply the skills in training, assessment, course development, curriculum development, learning management and management of technical training institutions.
- Understand the accreditation requirements of Myanmar Engineering Council in accredited engineer, technologist and technician education & prepare for the compliance processes.
- Understand the technology, science and mathematics teaching & educational pedagogies principles of outcome based education and effectively utilize them in the workplace
- Provide effective work-based learning & career development for the working people in industries and apply the various ways of assessing the competences

Components of the course

- Educational theories ,educational technology, teaching and learning, teaching and measuring.
- Lesson planning, interpreting curriculums, class room management, instruction and assessment design, training principle, competency based training and assessment integrated the competencies of Australian Training and Assessment (TAE40110) course
- Management of educational establishment in line with the accreditation requirements of Myanmar Engineering Council by customizing the competencies in Australian Vocational Education and Training Diploma (TAE50111) to be relevant to the requirements of Myanmar Vocational Education and Training .
- Postgraduate level educational knowledge related to Learning Technology, Technology in classrooms, educational leadership, leadership and change management , computer supported learning and distance education,
- Teaching practicum preparation at different levels of training

Level	Course	Abbreviation	Pre-requisite	Target Group
1	Diploma in Vocational Education & Training (Certificate in Vocational Education & Training for completion of certain subjects)	Dip VET	Degree/Diploma /Certificate In relevant professional/vocational areas	Vocational Education Teachers in various training courses
2	Diploma in Technical Teaching	Dip Tech Tchg	Diploma in Vocational Education & Training	Government Technical College Teachers
3	Diploma in Engineering Education	Dip Engg Ed	Diploma in Technical Teaching	Technological University Teachers
4	Diploma in Engineering Education (Specialist Discipline)	Dip Engg Ed (Specialist Area)	Diploma in Engineering Education	Technological University Teachers with specialized teaching in specific area of study.

Training & Assessment System Overview

Level	Course	2 weeks workshop (Assessment based on participation in workshop sessions)	Teaching Experience Assessment +Teaching Portfolio Assessment (Individual Assessment-During/After two weeks workshop) (The candidates can submit their portfolios)	Self study & Assignment Assessment (Individual Assessment)
1	Diploma in Vocational Education & Training (Certificate in Vocational Education & Training for completion of certain subjects)	ED120-Part (2A) Basic Teaching Practicum Preparation ED121-Part (2B) Training & Assessment Practice (Day 1 to 6 Session 3 s)	ED 103 Teaching Practice ED 104 Lesson Planning ED 106 Interpreting Curriculums ED 107 Teaching & Learning ED 201 Class Room Management & Teaching	ED 101 Theory of Education ED 102 Education Technology

Level	Course	2 weeks workshop (Assessment based on participation in workshop sessions)	Teaching Experience Assessment +Teaching Portfolio Assessment (Individual Assessment- During/After two weeks workshop)	Self study & Assignment Assessment (Individual Assessment)
2	Diploma in Technical Teaching	ED 202 Curriculum & Design ED 405 Training Principle ED220-Part (2) Vocational Education & Training Practice (Diploma in Vocational Education & Training TAE50111) (All session 3s)	ED 206 Designing Instructions & Assessment	ED 401 Adult Learning Technology ED 205 Teaching & Measuring ED411-Engineering Education (1)
3	Diploma in Engineering Education	ED 301 Educational Policy (Myanmar Engineering Council Accreditation Requirements) ED309 Educational Communication ED311 Outcome based Education ED320-Part (2) Myanmar Engineering Council's Accreditation Compliance Practice (All Sessions 1/2/3)	ED301P- Curriculum design for accreditation compliance ED302P-Overall accreditation and compliance practice	ED 402 Educational Leadership ED 308 Change Management ED 407 Learning Environment ED412 Engineering Education (2)

Level	Course	2 weeks workshop (Assessment based on participation in workshop sessions)	Teaching Experience Assessment +Teaching Portfolio Assessment (Individual Assessment- During/After two weeks workshop)	Self study & Assignment Assessment (Individual Assessment)
4	Diploma in Engineering Education (Specialist Discipline)		ED 308 Computer Supported Learning & Distance Education ED310 Learning Technology I & II ED312 Technology in Classrooms	ED 304 Maths Teaching ED 305 Science Teaching ED 306 Technology Teaching ED 404 Educational Research (Part 2) ED413 Engineering Education (3)

Study Areas & Levels of Training

Level 1-Educational Theories , Teaching Pedagogies & Training and Assessment Practice

Part (1) Educational Theoretical Subjects

- ED 101 Theory of Education
- ED 102 Education Technology
- ED 103 Teaching Practice
- ED 104 Lesson Planning
- ED 105 Principle of Learning
- ED 106 Interpreting Curriculums
- ED 107 Teaching & Learning
- ED 201 Class Room Management & Teaching

ED120-Part (2A) Basic Teaching Practicum Preparation

ED101P-Teaching Support

ED102P- Application of Information Technology in School /Vocational Education

ED103P- Classroom Management

ED104P- Teaching Portfolio

ED105P- Inclusive Teaching

ED106P- Subject Area Knowledge

ED107P- Theory of Education, Educational Technology & Teaching Practice

ED107PA-Theory of Education

ED107PB-Education Technology

ED107PC-Teaching Practice

ED107PD-Lesson Planning

ED108P- Curriculum Study , Teaching & Learning

ED108PA-Principle of Learning

ED108PB-Interpreting Curriculums

ED108PC-Teaching & Learning

- ED111P Learning Program Design & Development Practice
(TAEDES401A Design and develop learning programs)
- ED112P Assessing the needs of trainees
(TAEDES402A Use training packages and accredited courses to meet client needs Delivery)
- ED113P Group based learning
(TAEDEL401A Plan, organise and deliver group-based learning)
- ED114P Workplace Assessment
(TAEDEL402A Plan, organise and facilitate learning in the workplace Assessment)
- ED115P Assessment Planning
(TAEASS401B Plan assessment activities and processes)
- ED116P Competency Assessment
(TAEASS402B Assess competence)
- ED117P Assessment Validation
(TAEASS403B Participate in assessment validation)
- ED118P Work skills Instruction
(TAEDEL301A Provide work skill instruction)
- ED119P Educational Presentation
(BSBCMM401A Make a presentation)(TAEASS301B Contribute to assessment

Level 2-Adult Vocational Education

Part (1) Adult Vocational Education Theoretical Subjects

- ED 401 Adult Learning Technology
- ED 202 Curriculum & Design
- ED 205 Teaching & Measuring
- ED 206 Designing Instructions & Assessment
- ED 405 Training Principle
- ED411-Engineering Education (1)

ED220-Part (2) Vocational Education & Training Practice (Diploma in Vocational Education & Training TAE50111)

- ED201P-Advanced Assessment Practice
(TAEASS501A: Provide advanced assessment practice)
- ED202P-Assessment Development
(TAEASS502B: Design and develop assessment tools)
- ED203P-Training Facilitation
(TAEDEL502A: Provide advanced facilitation practice)
- ED204P-Learning Strategies
(TAEDES501A: Design and develop learning strategies)
- ED205P- Language Literacy & Numeracy
(TAEELN401A: Address adult language, literacy and numeracy skills)
- ED206P-Continuing Professional Development
(TAEPPD501A: Maintain and enhance professional practice)
- ED207P Learning Resources Design & Development
(TAEDES502A: Design and develop learning resources)
- ED208P Organizational Training Needs Analysis
(TAETAS501B: Undertake organisational training needs analysis)
- ED 404 Educational Research (Part 1)
(TAERES501A: Apply research to training and assessment practice)
- ED209P- Training Program Evaluation
(TAEDES505A: Evaluate a training program)

Level 3-Training Authorities Accreditation Compliance

Part (1) Educational Leadership Subjects

- ED 402 Educational Leadership
- ED 301 Educational Policy (Myanmar Engineering Council Accreditation Requirements)
- ED 308 Change Management
- ED309 Educational Communication
- ED 407 Learning Environment
- ED311 Outcome based Education
- ED412 Engineering Education (2)

- ED301P- Curriculum design for accreditation compliance
- ED302P-Overall accreditation and compliance practice

Level 4-Specialized Teaching Areas

- ED 308 Computer Supported Learning & Distance Education
- ED 304 Maths Teaching
- ED 305 Science Teaching
- ED 306 Technology Teaching
- ED 404 Educational Research (Part 2)
- ED310 Learning Technology I & II
- ED312 Technology in Classrooms
- ED413 Engineering Education (3)

Diploma in Engineering Education

The following units can be added to Diploma in Technical Teaching to award Diploma in Engineering Education

ED411-Engineering Education Part 1

ED412-Engineering Education Part 2

ED413-Engineering Education Part 3

CURRICULUM

Level 1-Educational Theories , Teaching Pedagogies & Training and Assessment Practice

ED101 Theory of Education

Objective-

This unit provided the concept of education to enable the learners to understand the complex system of education by developing an understanding at different levels, inner workings of the individual learner, thinking processes and motivation & apply in practical teaching

Outcomes

- to understand all the different levels of education at the same time,
- to see personal learning and national legislation
- to build an understanding of education at all of these different levels.

Contents

Education theory, Modelling, Classroom Management, Equality of opportunity, Learning & Teaching, Quality Assurance, Theory into practice.

Instruction Reference Textbook-

Theory of Education.pdf by David A Turner + Lecture slides

Assessment

Assignments = 100% (4 assignments with 25% each)

ED 102 Education Technology

Objective-

This unit provide the knowledge to include reference to the use of technology for instruction, training, learning, or teaching. In practice, definitions serve to focus the interest of associations of individuals by emphasizing a particular scope of interest.

Outcomes

- To design, development, utilization, management, and evaluation
- To provide instructional technology,” “instructional systems design,” and “instructional media
- To do the design and development of instruction and instructional resources using education technologies

Contents

Active Learning, Alternative Assessment, Adult Learners, Analysis, Assistive Technology, Cognitive Apprenticeship, Computer-Assisted Instruction

Instruction Reference Textbook-

Education Technology - An Encyclopedia Edited by Ann Kovalchick and Kara Dawson+ Lecture slides
Assessment

Assignments = 100% (7 assignments)

ED 103 Teaching Practice

Objective-

To use developmental process for reflecting on and improving one's teaching; and as an evaluative product for personnel decisions such as tenure, promotion, or a teaching

Outcomes

- To provide different sources of evidence of teaching performance.
- To contribute important information about teaching performance
- To collect variety of sources of information related to teaching
- To reflect more of teaching's intellectual substance and complexity.
- To make teaching more visible through their demonstration of a variety of teaching-related activities.
- To place the initiative for reflecting on and evaluating teaching in the hands of faculty.
- To give the individual an opportunity to think about own teaching —
- To change priorities or teaching strategies as needed, and to reflect about future

Contents

Meaning of Teaching Portfolio, Why Prepare a Teaching Portfolio? ,How Does One Develop a Teaching Portfolio? ,Preparing Portfolio ,Shaping the Final Portfolio ,Keeping Your Portfolio Up to Date ,Assembling an Electronic Portfolio ,Portfolio evaluation.

Instruction Reference Textbook-

Lecture slides

Teaching-portfolio (University of South Australia)

Assessment

Assignments = 100% Portfolio Assessment

ED 104 Lesson Planning

Objective-

This unit provides the methods to apply thought-stimulating examples teaching & learning techniques to be applied in training design and delivery to apply the various techniques and strategies in training design and presentation, that will stick! Specific strategies.

Outcomes

- To create trainings that are fun and memorable.
- To write learner-based trainings that guarantee success for each learner performance.
- To develop learning activities that match the need, learning style, and level of understanding of the participants.
- To use learning strategies that encourage learners to build on their experiences.
- To plan ongoing training activities that evaluate learner mastery during the entire learning event.
- To design blended and accelerated learning strategies that strengthen learning transfer back on the job.
- To identify methods that accurately measure training results.

Contents

Introducing planning, Needs, aims and objectives ANALYSIS OF NEEDS ,THE RATIONALE OF OBJECTIVES ,WRITING YOUR LEARNING OBJECTIVES ,SETTING A VARIETY OF OBJECTIVES , Learning, SKILLS, TECHNIQUES AND METHODS ,JUDGEMENT AND DECISION-MAKING,THE PLACE OF EMOTIONAL EDUCATION,PLANNING FOR THEORETICAL LEARNING,PLANNING FOR LEARNING FROM THE CONCRETE,PLANNING FOR REFLECTIVE LEARNING,PLANNING FOR ACTIVE LEARNING,PLANNING PROGRESSION FROM PRIOR LEARNING,PLANNING FUTURE PROGRESSION,CROSS-CURRICULAR LINKS,DIFFERENTIATION,PLANNING LISTENING ACTIVITIES,PLANNING SPEAKING ACTIVITIES,PLANNING WHOLE CLASS DISCUSSION,PLANNING READING,PLANNING TO DEVELOP COMPREHENSION,TEACHING PUPILS TO LEARN FROM WHOLE BOOKS,PLANNING WRITING,TEACHING ABOUT SUBJECT DISCOURSE ,Pedagogy, TASK ANALYSIS ,A SUCCESSFUL LESSON STRUCTURE ,PLANNING PRACTICE SESSIONS

Instruction Reference Textbook-

Lecture slides

Instructional Design for Action Learning By GERI M C ARDLE

100 Ideas for Lesson Planning – By Anthony Haynes

Read the above textbooks and prepare three lesson plans

Assessment

Assignments = 100% (Assessment of three lesson plans)

ED 105 Principle of Learning

Objective-

To understand the memory concept & apply it in effective teaching and learning.

Outcomes

- To demonstrate the principle of learning
- To understand the principle of control memory
- To understand the principle of Inhibition
- To apply the Principle of Adaptive Specialization as It Applies to Learning and Memory

Contents

FORMATION OF MEMORIES, ORGANIZATION OF MEMORIES, CONSOLIDATION OF MEMORIES, CONTROL OF MEMORIES, ADAPTIVE SPECIALIZATION OF MEMORIES

Instruction Reference Textbook-

Lecture slides

Principle of learning & memory Edited by Rainer H. Kluwe, Gerd Liier and Frank Räsler

Assessment

Assignments = 100% (5 Assignments of 20% each)

ED 106 Interpreting Curriculums

Objective-

To interpret the curriculum & develop the detailed lesson plans in teaching process.

Outcomes

- To interpret the curriculum presented to teachers;
- To adopt the curriculum;

- To understand the curriculum assimilated by learners; and
- To evaluate curriculum.

Contents

KINDS OF CURRICULUM, ORIENTATIONS TO CURRICULUM, ORIENTATIONS TO CURRICULUM, TYPES OF CURRICULUM, Competency Curriculum, LEVELS OF CURRICULUM, STAGES OF THE PROCESS, CURRICULUM PLANNING, CURRICULUM DESIGN, CURRICULUM DEVELOPMENT- PHASES, CURRICULUM DEVELOPMENT. IMPLEMENTATION OF THE CURRICULUM, CURRICULUM EVALUATION, CURRICULAR CHANGES

Instruction Reference Textbook-

Lecture slides

CURRICULUM DESIGN AND DEVELOPMENT-1.pdf

THE CURRICULUM by Cecilia Braslavsky 1

Assessment

Assessment = 100% (Assess as part of Learning outcomes & curriculum development tasks in Residential Workshop session)

ED 107 Teaching & Learning

Objective-

This unit provides new and experienced faculty in all disciplines with practical, tested strategies for addressing all major aspects of college and university teaching, from planning a course through assigning final grades. Graduate student instructors and teaching assistants will also benefit from the foundational knowledge and research findings described in this unit.

Outcomes

- To addresses planning: designing a new course or revising an existing one, creating a syllabus, preparing for the class, and managing classroom conduct and decorum.
- To respond to a Changing Student Body,
- To do “ Discussion Strategies, ” provides ideas for leading a productive discussion, framing challenging questions, and encouraging student participation, both in class and online.
- To explore aspects of the lecture in the Large-Enrolment Course, ” method: preparing and delivering effective lectures, engaging students and providing for student participation, and maintaining instructional quality with limited resources.
- To find the Alternatives and Supplements to Lectures and Discussion,
- To Enhance Students ’ Learning and Motivation, ” provides research -based approaches to helping students become more confident, independent, and self - motivated learners. Informal ways to assess learning and the use of mobile

- To Strengthen Students ' Writing and Problem-Solving Skills, ”

Contents

RESPONDING TO A CHANGING STUDENT BODY ,DISCUSSION STRATEGIES ,THE LARGE-ENROLLMENT COURSE ,Maintaining Instructional Quality with Limited Resources ,ENHANCING STUDENTS' LEARNING AND MOTIVATION ,STRENGTHENING STUDENTS' WRITING AND,PROBLEM-SOLVING SKILLS ,TESTING AND GRADING,PRESENTATION TECHNOLOGIES ,EVALUATION TO IMPROVE TEACHING,TEACHING OUTSIDE THE CLASSROOM ,FINISHING UP

Instruction Reference Textbook-

Lecture slides

Tools for teaching by Barbara Gross Davis

Assessment

Experience Assessment = 100% (Assessed on Formal Teaching experience record for the teachers being employed by Government Technical Colleges & Technological Universities)

Separate assessment system is applied for pre-service teacher trainees.

ED 201 Class Room Management & Teaching

Objective-

To define classroom management, explain the relationship between classroom management and discipline, and describe the concept of “culturally responsive classroom management”

Outcomes

1. To describe the characteristics of an effective teacher
2. To explain why reflection on teaching is so important for teacher growth
3. To describe the reflective decision making model of teaching
4. To identify important factors that affect instructional decision making
- 5.To contrast the characteristics of authoritative, authoritarian, and permissive teachers
- 6.To identify the ongoing tasks involved in classroom management and to explain how each contributes to a well-functioning learning environment

Contents

Instruction Reference Textbook-

Lecture slides

Other Reference

Classroom Management by Deborah Diffily & Charlotte Sassman

Assessment

Experience Assessment = 100% (Assessed on Formal Teaching experience record for the teachers being employed by Government Technical Colleges & Technological Universities)

Separate assessment system is applied for pre-service teacher trainees.

Level 2-Adult Vocational Education

ED 401 Adult Learning Technology

Objective-

This unit provides and skills and the roles of training developers and instructional designers who are responsible for analysing training needs and designing training solutions and products to meet workplace capability requirements, and evaluating the effectiveness of adult training programs.

Outcomes

To provide the guidance and advice to trainers and assessors, promoting innovative practices, e.g. e-learning, and in researching and incorporating best practice in training and assessment into training programs and products.

Contents

- Learner-Centered Teaching and the Use of Technology
- Effective Teaching with Technology in Adult Education
- Adult Learners and Their Development in the Information Society
- Supporting Lifelong Learning and Flexicurity Policies
- Adult Learning Principles as the Foundation for Innovative Technology Applications in Business and Higher Education Venues
- The Role of Learning Styles and Technology
- Innovative Instructional Strategies with the Use of Technology for Adult Learners
- Integrating Adult Learning and Technology for Effective Education:
- Strategic Approaches
- Comparing the Principles of Adult Learning with Traditional Pedagogical Teaching in Relation to the Use of Technology:

- Provide Training through instruction and demonstration of work skills
- Facilitate work-based learning
- Group based delivery
- Design and develop learning programs
- Foster and promote an inclusive learning culture
- Ensure a safe and healthy learning environment
- Individual learning
- Language Literacy & Numeracy

Instruction Reference Textbook-

Lecture Slides

Adult Learning Technology by Victor C.X. Wang

Assessment

Participation in Educational Support Workshop sessions=100%

(Assess as part of Learning outcomes & curriculum development tasks in Residential Workshop session)

ED 202 Curriculum & Design

Objective-

To provide theoretical consideration for the twenty-first century curriculum, & technological and pedagogical innovations influencing curriculum renewal together with sustainable practice in technology-rich environments.

Outcomes

- To address theoretical foundations for the development of curricula.
- To explore the pedagogical options available to higher education instructors
- To explore new ways of accessing and connecting content to multimodal forms
- To examine how curriculum design needs to be influenced by the effective development of virtual collaborative learning environments
- To devise more adaptive, educationally focused teaching and learning

Contents

Curriculum Design for the Twenty-First Century, Online Collaboration: Coordinating Technology, Strategies for Collaborative Learning, Designing a Virtual Collaborative Learning Environment, Curriculum Design as Applied to Virtual Collaborative, Course Evaluation, Creating Curriculum Within the Context of an Enterprise, Teaching Instructional Design, Online education examples.

Instruction Reference Textbook-

Lecture Slides

Curriculum Models for the 21st Century Using Learning Technologies in Higher Education

Assessment

Participation in Educational Support Workshop sessions=100%

(Assess as part of Learning outcomes & curriculum development tasks in Residential Workshop session)

ED 205 Teaching & Measuring

Objective-

To apply adaptive expertise, creative thinking, metacognition, and teamwork in teaching and measuring task

Outcomes

To apply Adaptability, Adaptive expertise, Adaptive problem solving, Communication, Creative thinking , Decision making , Metacognition, Situation awareness & Teamwork

Contents

Cognitive Readiness, A Model for Instruction and Assessment of Cognitive Readiness, The Development and Assessment of Cognitive Readiness: Lessons Learned from K-12 Education, Cognitive Readiness for Solving Equations . Cognitive Readiness Applications, Creative Thinking Abilities: Measures for Various Domains, Using Analogies as a Basis for Teaching Cognitive Readiness . Simulation Assessment of Cognitive Readiness . Assessing Cognitive Readiness in a Simulation- Based Training Environment, Software Support for Teaching and Measuring Cognitive Readiness, Cognitive Readiness for Complex Team Performance, Impact of Individual Game-Based Training on Team Cognitive Readiness

Instruction Reference Textbook-

Teaching and Measuring Cognitive Readiness by Harold F. O'Neil • Ray S. Perez • Eva L. Baker

Assessment

Participation in Educational Support Workshop sessions=100%

(Assess as part of Learning outcomes & curriculum development tasks in Residential Workshop session)

ED 206 Designing Instructions & Assessment

Objective-

To deconstruct the broad-sweeping goals of the standards and transform them into unit plan objectives (more specific) and daily instructional objectives

Outcomes

To entails a logical progression from (1) content area standards to (2) modified standards to

(3) unit plan objectives to (4) daily instructional objectives in an understandable sequence of increasing specificity

Contents

Deconstructing the Standards ,Writing Unit and Daily Instructional Objectives , Writing True–False and Completion, Items and Matching Exercises ,Writing Multiple-Choice Items ,Writing Short-Answer and Essay Items .Performance-Based Assessment ,Portfolios

Instruction Reference Textbook-

Lecture Slides

Designing Elementary Instructions & Assessments

By John L. Badgett Edwin P . Christmann

Assessment

Participation in Educational Support Workshop sessions=100%

(Assess as part of Learning outcomes & curriculum development tasks in Residential Workshop session)

ED 405 Training Principle

Objective-

To provide numerous techniques, designs, case examples, and tips for designing and facilitating training that is participant centred, brain-friendly, and experiential

Outcomes

- To explore all aspects of training.
- To promote an active approach to training
- To provide a practical handbook of techniques

Contents

INTRODUCING ACTIVE TRAINING, DESIGNING AN ACTIVE TRAINING PROGRAM, Assessing Training Needs, Developing Active Training Objectives, Creating Opening Exercises, Preparing Brain-Friendly Lectures, Using

Experiential Learning Approach, Designing Active Training Activities, Sequencing Active Training Activities, Planning Active Training Programs, Blending Technology into Active Training, CONDUCTING AN ACTIVE TRAINING PROGRAM, Beginning an Active Training Program, Gaining Leadership of the Training Group, Giving Presentations and Leading Discussions, facilitating Structured Activities and Promoting Team Learning, Concluding an Active Training Program, EXTENDING THE VALUE OF AN ACTIVE TRAINING PROGRAM, Evaluating an Active Training Program

Instruction Reference Textbook-

Lecture Slides

Active Training by Mel Silberman

Assessment

Participation in Educational Support Workshop sessions=100%

(Assess as part of Learning outcomes & curriculum development tasks in Residential Workshop session)

ED411-Engineering Education (1)

Objective-

To design the engineering educational programs and teaching programs by applying multi disciplinary approaches by combining technological aspects

Outcomes

- To attain the strategies to promote the engineering education
- To apply technological concepts in engineering teaching support system
- To develop the quality work-based learning system
- To write Sociological Rationale of a design curriculum
- To find the strategies to improve the communication skills of engineers
- To design the computer server for engineering education program

Contents

- Pre-university Outreach: Encouraging Students to Consider Engineering Careers
- The ASTutE Tutorial Assistant: Efficient, Accessible and Interactive
- Learning at Work within the Ford Motor Company
- Using Rubrics to Assess the Development of CDIO
- Syllabus Personal and Professional Skills and Attributes at the 2.x.x Level*
- Quality Assurance Issues Relating to the Delivery of Work Based Learning Programmes*

- The Role of Work-Based Learning Methodologies in the 21 st Century
- Development of Life-Long Engineering Education in the 21 st Century
- Traits Analysis and Influences on High Performing Students in Mechanical Education
- The Construction of an Instructional Quality System for Industrial Technology Education
- Design Hegemony: an Exploration of Hegemony in the Curriculum and Instruction of Industrial Design Education
- The Engineering Mechanics Interactive Lecture Series: Oligomedia Resources for Computer-Based Learning
- The Sociological Rationale of the Industrial Design Curriculum
- Achieving Advances and New Developments in Engineering and Technological Education
- Important Considerations in Improving the Acquisition of Communication Skills by Engineers
- Client-Server and Gateway Systems for Remote Control in Engineering Education
- The Development of Online Conference Management Tools as a Student Project*
- Co-operation across Disciplines in Engineering Education Using Technical and Scientific Computing Environments

Instruction Reference Textbook-

Lecture Slides

ED411 folder, read the following files

- AndersonGilbride.pdf
- austin.pdf
- barlow.pdf
- BodenGrays.pdf
- Burns&Chisholm.pdf
- BurnsChisholm1.pdf
- ChaoHuang.pdf
- Chaos.pdf
- ChengHsiao.pdf
- chapman.pdf
- ChengLiao.pdf
- Chisholm1.pdf

- DanilovaZJPs.pdf
- Dulevicius.pdf
- EwaldPage.pdf
- GolNafalskiNguynTran.pdf
- grunwald1.pdf

Assessment

Questions & answers

Level 3-Training Authorities Accreditation Compliance

ED 402 Educational Leadership

Objective-

This course provides the educators with skills to take an active and creative approach to their personal and professional development. While it may be of most interest to those in middle or senior education management, it is also designed to help teachers, governors and those in organizations allied with education.

Outcomes

To attain the competencies in

- Leading and managing
- Changing and learning
- Undertake Tasks and responsibilities

Instruction Reference Textbook-

Educational leadership and learning Practice, policy and research
by Sue Law and Derek Glover

Contents

- The context for educational leadership
- Developing leadership and management effectiveness
- Managing ourselves and leading others
- Motivating and managing others
- Leading effective teams
- Effective communication
- Organizational cultures

- Managing change and creating opportunities
- Educational improvement, inspection and effectiveness
- Leading and managing in learning organizations
- Managing staff and promoting quality
- Managing resources and finance
- Managing stakeholder relationships and partnerships
- Leading and managing for professional development

Assessment

Assignments = 100%

ED 301 Educational Policy (Myanmar Engineering Council Accreditation Requirements)

Objective-

This course provides the educators with Myanmar Engineering Council Laws, Rules, Regulations, Accreditation Requirements, Accreditation Practices, procedures related to accreditation of engineering courses and engineering professionals in Myanmar to enable them to design, develop and teach the engineering programs accredited by Myanmar Engineering Council.

Outcomes

- To understand Myanmar Engineering Council Accreditation Rules & Regulations related to accreditation of Government Technical Colleges & Technological Universities in Myanmar.
- Get the information & knowledge on Current issues related to international & Myanmar Engineering profession.
- Participate in hand on practice workshop focussing on curriculum development & collecting and preparing the materials for accreditation by Myanmar Engineering Council Engineering Accreditation Committee & taking part in mock accreditation sessions.

Contents

- Overview of Myanmar Engineering Council Law, Regulation, Accreditation Principles
- Examples of marine engineers competency assessment in Myanmar/ in line with International Certification standards & explore the way to apply the similar competency based training in other engineering areas
- Requirement of Myanmar Engineering Council & how to design the curriculum to address the learning outcomes
- Discussing the programme structure and course contents(MEng C)
- Discussing the programme delivery and assessment methods

- Assessment Validation Guide of Myanmar Engineering Council
- Educational Resources Development in line with Myanmar Engineering Council Requirements
- Curriculum design for accreditation compliance
- Overall accreditation and compliance practice
- Preparation for self accreditation report
- Engineering Accreditation Plan

Instruction Reference Textbook-

1. Accreditation Manual
2. Graduate Attributes & Terminology.pptx
3. SAR.pptx
4. EngineerCoulcilRegulation
5. Policy - Qualifications Policy POL11 v4
6. Myanmar Engineering Council Law
7. Policies for Accreditation of Programs
8. Time line,EAC Code,Guidelines,Fees

Assessment

Assignments = Participation in workshop sessions

ED 308 Change Management

Objective-

The unit involves candidates in leading a complete cycle of the change process. This process falls into three phases that correspond broadly to the elements of competency.

- i. Preparing for change
- ii. Planning for change
- iii. Implementing and evaluating change

Outcomes

- To provide leadership and support to others within the organization
- To manage change more effectively
- To develop educational business skills
- To analyse work practice and context, and make improvements
- To contribute to innovation and capacity building in the organization.

Contents

- Leadership issues Raising achievement
- The Leadership of Change
- A shift from management to leadership
- How not to do change management
- Managing change and transition

Instruction Reference Textbook-

Lecture Slides

Leadership+ Change Management DVD

Assessment Assignment-100%

ED309 Educational Communication

Objective-

This program uses methods of the social sciences, encompassing both qualitative and quantitative approaches to the study of communication and education. It asks in particular how education and other social systems change under the impact of new media

Outcomes

- Reflect on the historical effects of media and on the cultural uses of developments such as face-to-face speech, writing, printing, photography, film, radio, television, computers, and networked multimedia;
- Use anthropological and linguistic methods to study how the diverse forms of communication, literacy, information processing, and cognition condition educational practice; and
- Explore positive and negative effects of media on social relations and develop strategies for using information and communication technologies to improve conditions of education and life.

Contents

- Creating a production that communicates your message
- Digital Design
- Great Looking Presentations
- Planning

- Technical Papers related to effectiveness of ICT in education
- Access and equity issues
- Educational Communication Portfolio Presentation

Instruction Reference Textbook-

Lecture Slides

ED309 Educational Communication Assignment Tasks-806A Modified (Worked Examples)

Assignment

Assignments = Portfolio Assessment- 100%

ED 407 Learning Environment

Objective-

The objective of this unit is to give the candidate an understanding of the conceptualisation, historical development, assessment, determinants and effects of classroom learning environments.

Outcomes

- To review classroom learning environment for effective educational setting
- To prepare effective educational setting for teaching and learning
- To understand the students' behaviour in the classroom and the cause of the behaviour
- To effectively use the teaching and learning strategies for keeping the good learning environment in the class
- To perform educational survey task on learning environment assessment.

Contents

- Background information about the fields of school and classroom environment
- Outcomes and environment; evaluation of educational innovations
- Quantitative and qualitative methods
- Teachers' use of classroom and school environment instruments in practical attempts to improve their own classrooms and schools.
- Current trends and future desirable directions in research on educational environments.

Instruction Reference Textbook-

Lecture Slides

Assessment

Assignments = 100%

Action Research Project

ED311 Outcome based Education

Objective-

At the end of this training, participants will be able to understand:

- ☐ Outcome-Based Education (OBE)
- ☐ Programme Education Objectives (PEO'S),

Outcomes

Programme Outcomes (PO's), Course Outcomes (CO) and Performance Indicators

- ☐ Bloom's Learning Taxonomy
- ☐ Assessment and Evaluation Methods
- ☐ Continual Quality Improvement Process

Contents

- ☐ The Origins of Outcome Based Education
- ☐ *Approaches to OBE*
- ☐ *OBE Process*
- ☐ Educational Process - Stakeholders
- ☐ Educational Process – Lecturers' Roles
- ☐ Educational Process - References
- ☐ OBE Model Hierarchy
- ☐ Characteristics of OBE curricula
- ☐ *Types of Teaching/Learning Delivery Activities*
- ☐ *OBE Delivery*
- ☐ Continual Quality Improvement (CQI)
- ☐ Essentials for OBE's success
- ☐ Essentials Components of OBE

- ☐ Different Levels of Outcomes
- ☐ Development of Programme Education Objectives
- ☐ CHARACTERISTICS OF GOOD OUTCOME STATEMENTS
- ☐ Course Development
- ☐ ENGINEERING EDUCATION
BLOOM'S TAXONOMY
- ☐ DOMAINS of LEARNING OUTCOMES
- ☐ Assessment in OBE
- ☐ Continual Quality Improvement (CQI)

Instruction Reference Textbook-

Lecture Slides

Final OBE Training at Myanmar July 2014. by **Ir. Professor Academician Dato' Dr. HT Chuah**
President of FEIAP

Assessment

Participation in workshop & presenting the portfolios

ED412 Engineering Education (2)

Objective-

To design the international standard engineering education program by applying total quality management

Outcomes

- To have the knowledge and skills in total quality management
- To foster the cross border co-operation
- To interface the school to engineering programs

Contents

- Secondary School-University Interface: Science and Engineering
- The Educational Process
- Quality Engineering Education: Student Skills and Experience
- The Web as a Tool for Supporting Student Learning
- Develop a Long-Term Plan to Overcome Skills Shortage
- Cross border engineering practice

- Cross-cultural Skills for engineers

Instruction Reference Textbook-

Lecture Slides

ED412 File

Assessment

Assignments = 100% (Two assignments of 50% each)

Level 4-Specialized Teaching Areas

ED 308 Computer Supported Learning & Distance Education

Objective-

This unit provides the skills related to contribute to the central questions of how students can learn collaboratively using the new technologies, the problems that can be expected, and the benefits that may ensue. The various ways to examine how computer supported group work differs from face-to-face group work, and the implications for both educators and students are provided.

Outcomes

- ☐ To offer assessment of e-learning with the hope of offering ideas in terms of practical guide and points of good practices, while addressing potential pitfalls to avoid.
- ☐ To be aware of what constitutes good and effective e-learning practices and how to design them for specific contexts and audiences in the global information
- ☐ Innovative uses of e-learning, Addressing various divides in e-learning, user centred focus in e-learning, special considerations in e-learning and development economy.

Contents

- ☐ Computer-Supported Collaborative Learning in Higher Education:
- ☐ An Introduction
- ☐ Online Group Projects: Preparing the Instructors to Prepare the Students
- ☐ Time, Place and Identity in Project Work on the Net
- ☐ The Collective Building of Knowledge in Collaborative Learning Environments
- ☐ Collaboration or Cooperation
- ☐ Analyzing Small Group
- ☐ Interactions in Educational Environments
- ☐ Mapping Perceived Socio-Emotive Quality of Small-Group Functioning
- ☐ A Constructivist Framework for Online Collaborative Learning:
- ☐ Adult Learning and Collaborative Learning Theory
- ☐ The Real Challenge of Computer-Supported Collaborative Learning
- ☐ Use and Mis-Use of Technology for Online, Asynchronous, Collaborative Learning
- ☐ The Personal and Professional Learning Portfolio
- ☐ An Online Environment for Mentoring, Collaboration, and Publication
- ☐ Problems and Opportunities of Learning Together in a Virtual Learning Environment
- ☐ Web-Based Learning by Tele-Collaborative Production in Engineering Education

- ☐ Relational Online Collaborative Learning Model
- ☐ Online, Offline and In-Between: Analyzing Mediated-Action

Instruction Reference Textbook-

Lecture Slides

Computer Supported Learning by Tim S. Roberts

Assessment

Assignments = 100%

ED 304 Maths Teaching

Objective-

This unit provides the skills to the teachers to act as mechanisms for communicating an approach to mathematics education that is eclectic and embracing, respectful and engaging, reflective and, ultimately, educational.

Outcomes

To provide the methods to the educators in class teaching to provide the students with conceptual understanding of mathematics content through modelling or interpretation of representations,

- computational fluency,
- problem solving through application of the content.

Contents

- Strategies for Vocabulary Development
- Strategies for Using Manipulatives
- Strategies for Teaching Procedures
- Strategies for Understanding Problem Solving
- Strategies for Using Mathematical Games
- Strategies for Assessing
- Mathematical Thinking

Instruction Reference Textbook-

Lecture Slides

- ☐ Multiple Perspectives on Mathematics Teaching and Learning Edited by Jo Boaler
- ☐ Strategies for Teaching Mathematics by *Deborah V. Mink*

Assessment

Assignments = 100%

ED 305 Science Teaching

Objective-

This unit provide the teaching pedagogy in science that effectively enable the teacher to transfer what they learn in our courses into their own classroom practices.

Outcomes

- To shine a spotlight on important work that science teacher educators are doing with teachers and youth
- To describe the professional purposes and benefits realized when they, as science teacher educators, arranged opportunities to teach children or adolescents.
- To utilize model teaching lessons in class room practice

Contents

- Pedagogical Content Knowledge
- Teaching & learning Through experience
- Teaching examples

Instruction Reference Textbook-

Lecture Slides

- Understanding and Developing Science Teachers' Pedagogical Content Knowledge
By John Loughran
- Science Teacher Educators as K-12 Teachers edited by Michael Dias • Charles J. Eick, Laurie Brantley-Dias

Assessment

Assignments = 100%

ED 306 Technology Teaching

Objective-

This unit provides the teaching idea for teaching students with unique opportunities to develop a range of process skills such as critical and creative thinking skills in addition to their practical skills, through undertaking authentic tasks of real purpose.

Outcomes

- To link philosophy and educational issues in my daily work
- To help teachers to improve the teaching by means of the insights that philosophy of technology offers.

Contents

- Philosophy of technology:
- Technological artifacts
- Technological knowledge
- Technological processes
- Technology and the nature of humans
- Ethics and aesthetics of technology
- Learners' philosophies of technology
- Reconceptualizing technology through education
- Practical issues in teaching about technology

Instruction Reference Textbook-

Lecture Slides

Teaching about Technology by MARC J. DE VRIES

Assessment

Assignments = 100%

ED 404 Educational Research

Objective-

This unit describes the performance outcomes, skills and knowledge required to undertake research into educational theory and apply this research to improve current training and assessment practice.

This unit typically applies to those who need to develop skills in research in order to apply educational theory to improve current and future training and assessment practice

Outcomes

- Prepare research brief relating to training and assessment practice
- Conduct research in training and assessment practice
- Investigate and apply educational theory to the research
- Report on application of educational theory to training and assessment practice
- Review entire process

Contents

Qualitative Research and Public Policy

- Multilevel Analysis in Higher Education Research: A Multidisciplinary Approach .
- Conducting Multi-paradigm Inquiry in the Study of Higher Education Organization and Governance: Transforming
- Research Perspectives on Colleges and Universities

- Examining Pathways to and Through the Community College for Youth and Adults
- Review of the Theories Developed to Describe the Process of College Persistence and Attainment

Instruction Reference Textbook-

Lecture Slides

Higher Education: Handbook of Theory and Research

Published under the Sponsorship of the Association for Institutional Research (AIR) and the Association for the Study of Higher Education (ASHE)

Assessment

Assignments = 100%

Prepare & submit one educational research paper.

ED310 Learning Technology I & II

Objective-

On completion of this unit you should be able to demonstrate your achievement of the following learning outcomes:

All participants will be competent, confident and professional users of e-Learning system in teaching

Outcomes

To use e-Learning tools to:

- improve their own professional productivity,
- improve their preparation for classes and teaching generally and
- improve their ability to use and integrate IT appropriately within the classroom

Contents

The Syllabus:

The unit consists of five inter-related modules:

- 1. Module 1: Getting Started and IT Empowerment and Teaching**
 - a. Unit Introduction
- 2. Module 2: IT and Education:**
 - a. The Hype and the Reality
 - b. Multimedia in Education

3. Module 3: Ghosts of Schooling Past, Present and Future

- a. Technology and the Whole Curriculum
- b. Technology as a Classroom Tool
- c. Creating an active learning Environment

4. Module 4: Making the World Wide Web Work for You

- a. The Tools of the Trade
- b. Using the internet for information

5. Module 5: Technology in Your Classroom

- a. Classroom Applications of the
- b. WWW
- c. Educational Software
- d. Ideas, Approaches, Tools and Tricks
- e. Integration
- f. Early Learning and Primary

Tuition Pattern:

This unit is provided as an online unit. All tuition is provided through the online course website. The length of the unit is one semester (12 weeks); however, some students will finish sooner, and some may require additional time to complete it. While the weekly time commitment will vary from student to student, most should allow approximately 10 hours per week total study time for the unit.

Instruction Reference Textbook-

Lecture Slides

The CD in the folder Day 7 Session 2/ 5.Learning Technology 1/ index.html

Recommended Texts and Principal References:

- Shelly G. Cashman T.J. Gunter R.E. Gunter G.A. (2002). Teachers discovering computers: A link to the future WWW. Course Technology, Cambridge.

All other materials are supplied on Course CD-ROMS and online.

Assessment

Two assignments= 100%

ED312 Technology in Classrooms

Objective-

To provide use of technology in educational context by combining with teaching and learning principle, educational leadership skills and educational leadership skills.

Outcomes

On completion of this unit you should be able to demonstrate your achievement of the following learning outcomes:

Upon completion, the participant;

1. Through the use of professional based portfolios will design, implement and evaluate the use of IT, multimedia and the Internet in their own classrooms
2. Using the skills and knowledge developed within the unit, conduct research of the use on learning technologies within the areas of;
 - a. Learning technologies and Developing Leadership Skills in Technology
 - b. Assessing and Changing IT Learning EnvironmentsTeaching and Learning Principles for Technology-Rich Classrooms

Contents The unit consists of 2 inter-related sections:

1. **Section 1**
 - a. Conduct independent research in one of the following
 - i. Developing Leadership Skills in Technology
 - ii. Assessing and Changing IT Learning Environments
 - iii. Teaching and Learning Principles for Technology-Rich Classrooms
2. **Section 2**
 - a. The development of two Portfolios
 - i. "Classroom" based portfolio that demonstrates the use and integration of educational technology in your classroom or workplace.
 - ii. "Personal" based portfolio that provides the student with the opportunity to demonstrate the use and educational practice in professional practice.

Instruction Reference Textbook-

Lecture Slides

Day 8 Session 1/ 7. Technology in classroom/ index.html

Assessment

Assignments = 100%

ED413 Engineering Education (3)

Objective-

This unit provides the engineering educators with engineering ethical issues, New pedagogy , Industrial co-operation & Lifelong learning and Strategic Planning skills in engineering education

Outcomes

Design the engineering programs by taking account on emphasizing in engineering ethics & by utilizing innovative new teaching pedagogies

Contents

- Engineering ethics
- Engineering teaching pedagogies
- New training and work-based approach
- Strategies planning in engineering education

Instruction Reference Textbook-

- ED413 Par1 Ethics
- ED413 Part2 New pedagogy , Industrial co-operation & Lifelong learning
- ED413 Part3 Strategic Planning in Engineering Education
- ED413 Part4 Training & Work-based Approach

Assessment

Assignments = Project 100%

RESOURCES

ASSESSMENT FOR THE SUBJECTS IN PART 1 OF THE LEVELS

The students will have to write 20 pages study report for each of the subjects outlined in the Part 1 of any level .

The report general needs to include

- Book review- Review on each chapter of the book highlighting the key concepts, points, key theory & practical application concepts
- Own idea on how to apply those concepts in real practical applications.
- Examples of curriculum designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book

The book references for the subjects can be downloaded from the following links by entering the given password. The detailed instruction will be given in subject study guides. Some of the units can be assessed in residential training workshops.

Password- to be given

ASSESSMENT FOR THE SUBJECTS IN PART 2 OF THE LEVELS

Follow the specific assessment instruction provided for the units in Part 2 of the levels

ED120-Part (2A) Basic Teaching Practicum Preparation

Study Areas & Levels of Training

Level 1-Educational Theories , Teaching Pedagogies & Training and Assessment Practice

Part (1) Educational Theoretical Subjects

- ED 101 Theory of Education

<http://www.filefactory.com/file/4fuby1dpqs9f/ED%20101%20Theory%20of%20Education.zip>

- ED 102 Education Technology

<http://www.filefactory.com/file/1ghlzng7e0n3/ED%20102%20Education%20Technology.zip>

- ED 103 Teaching Practice

<http://www.filefactory.com/file/1o732n0j46mf/ED%20103%20Teaching%20Practice.zip>

- ED 104 Lesson Planning

<http://www.filefactory.com/file/4m30ym0ez37r/ED%20104%20Lesson%20Planning.zip>

- ED 105 Principle of Learning

<http://www.filefactory.com/file/7660l6kjr8sx/ED%20105%20Principle%20of%20Learning.zip>

- ED 106 Interpreting Curriculums

<http://www.filefactory.com/file/1h141zxbov8z/ED%20106%20Interpreting%20Curriculums.zip>

- ED 107 Teaching & Learning

<http://www.filefactory.com/file/6u5o455lyqj7/ED%20107%20Teaching%20%26amp%3B%20Learning.zip>

- ED 201 Class Room Management & Teaching

<http://www.filefactory.com/file/48gvqykkgiz/ED%20201%20Class%20Room%20Mgt%20%26amp%3B%20Teaching.zip>

Part (2A) Basic Teaching Practicum Preparation

Follow the specific assessment instruction provided for the units in Part 2 of the levels

ED101P-Teaching Support

ED102P- Application of Information Technology in School /Vocational Education

ED103P- Classroom Management

ED104P- Teaching Portfolio

ED105P- Inclusive Teaching

ED106P- Subject Area Knowledge

[Certificate in Teaching Support+ Diploma in Teaching Practice+ Bachelor of Teaching+ Bachelor of Education \(School & Vocational\)](http://www.filefactory.com/file/4a5o50idxqvr/Diploma%20in%20Teaching%20Practice.pdf)

<http://www.filefactory.com/file/4a5o50idxqvr/Diploma%20in%20Teaching%20Practice.pdf>

ED107P- Theory of Education, Educational Technology & Teaching Practice

ED107PA-Theory of Education

ED107PB-Education Technology

ED107PC-Teaching Practice

ED107PD-Lesson Planning

ED108P- Curriculum Study , Teaching & Learning

ED108PA-Principle of Learning

ED108PB-Interpreting Curriculums

ED108PC-Teaching & Learning

ED 107 Lesson Slide 1 to 20 Mod.pdf (4.71MB)

http://www.filefactory.com/file/1w4faybri0p9/n/ED_107_Lesson_Slide_1_to_20_Mod.pdf

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ED107 Lesson Slide 21 to 40.pdf (3.06MB)

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ED107 Lesson Slide 41 to 60.pdf (3.27MB)

http://www.filefactory.com/file/4slgwynziwxz/n/ED107_Lesson_Slide_41_to_60.pdf

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http://www.filefactory.com/file/3o4wea6j5uof/n/ED107_Lesson_Slide_201_to_220.pdf

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ED107 Lesson Slide 241 to 260.pdf (2.83MB)

http://www.filefactory.com/file/p0y76lkvkjd/n/ED107_Lesson_Slide_241_to_260.pdf

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ED107 Lesson Slide 261 to 280.pdf (2.84MB)

http://www.filefactory.com/file/2kdx8ty4uj1d/n/ED107_Lesson_Slide_261_to_280.pdf

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ED107 Lesson Slide 281 to 304.pdf (3.78MB)

http://www.filefactory.com/file/1y06uzz0iaq1/n/ED107_Lesson_Slide_281_to_304.pdf

[Download now!](#)

ED 107 Exercises.pdf (2.3MB)

http://www.filefactory.com/file/1isf2cao4gxx/n/ED_107_Exercises.pdf

[Download now!](#)

ED 108 Curriculum Study , Teaching & Learning Lessons

ED108 Lesson Slide 1 to 20.pdf (2.37MB)

http://www.filefactory.com/file/6r5rg8bucgkx/n/ED108_Lesson_Slide_1_to_20.pdf

[Download now!](#)

ED108 Lesson Slide 21 to 40.pdf (2.69MB)

http://www.filefactory.com/file/1wxu981xeel/n/ED108_Lesson_Slide_21_to_40.pdf

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ED108 Lesson Slide 41 to 60.pdf (2.27MB)

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ED108 Lesson Slide 61 to 80.pdf (2.12MB)

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http://www.filefactory.com/file/5foiol6m9rwx/n/ED108_Lesson_Slide_141_to_168.pdf

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ED 108 Exercises.pdf (1.22MB)

http://www.filefactory.com/file/5o110j6pg6dz/n/ED_108_Exercises.pdf

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Follow the specific assessment instruction provided for the units in Part 2 of the levels

- ED111P Learning Program Design & Development Practice
(TAEDES401A Design and develop learning programs)
- ED112P Assessing the needs of trainees
(TAEDES402A Use training packages and accredited courses to meet client needs Delivery)
- ED113P Group based learning
(TAEDEL401A Plan, organise and deliver group-based learning)
- ED114P Workplace Assessment
(TAEDEL402A Plan, organise and facilitate learning in the workplace Assessment)
- ED115P Assessment Planning
(TAEASS401B Plan assessment activities and processes)
- ED116P Competency Assessment
(TAEASS402B Assess competence)
- ED117P Assessment Validation
(TAEASS403B Participate in assessment validation)
- ED118P Work skills Instruction
(TAEDEL301A Provide work skill instruction)
- ED119P Educational Presentation
(BSBCMM401A Make a presentation)(TAEASS301B Contribute to assessment

RESOURCES FOR ABOVE UNITS

Working in Vocational Education & Assessment

http://www.filefactory.com/file/136bwooflstr/n/3_Assessment_Working_in_VET_zip

Preparing vocational teaching portfolios

http://www.filefactory.com/file/2l9iu8ptfk0t/n/8_Guides_for_preparing_VET_portfolios_zip

Learning , Facilitation & Teaching in Vocational Education and Training

http://www.filefactory.com/file/3b1d9kdudz515/n/4_Learning_Facilitation_Teaching_in_VET_zip

Work-based Learning & Assessment

http://www.filefactory.com/file/5pef2h8dhav9/n/10_Workbased_Learning_amp_Assessment_2_zip

Learning Environment

http://www.filefactory.com/file/5l12qji9s67j/n/12_Learning_Environment_zip

Level 2-Adult Vocational Education

ED220-Part (2) Vocational Education & Training Practice (Diploma in Vocational Education & Training TAE50111)

Part (1) Adult Vocational Education Theoretical Subjects

Password- to be given

- ED 401 Adult Learning Technology

<http://www.filefactory.com/file/68y4bd94ianb/ED%20401%20Adult%20Learning%20Technology.zip>

- ED 202 Curriculum & Design

<http://www.filefactory.com/file/1jotv5d428j1/ED%20202%20Curriculum%20%26amp%3B%20Design.zip>

- ED 205 Teaching & Measuring

<http://www.filefactory.com/file/4eu01ck2awl/ED%20205%20Teaching%20%26amp%3B%20Measuring.zip>

- ED 206 Designing Instructions & Assessment

<http://www.filefactory.com/file/4dnh3r8wsd9t/ED%20206%20Designing%20Instructions%20%26amp%3B%20Assessment.zip>

- ED 405 Training Principle

<http://www.filefactory.com/file/5qupttpxznn/ED%20405%20Training%20Principle.zip>

Part (2) Vocational Education & Training Practice (Diploma in Vocational Education & Training TAE50111)

Follow the specific assessment instruction provided for the units in Part 2 of the levels

- ED201P-Advanced Assessment Practice
(TAEASS501A: Provide advanced assessment practice)
- ED202P-Assessment Development
(TAEASS502B: Design and develop assessment tools)
- ED203P-Training Facilitation
(TAEDEL502A: Provide advanced facilitation practice)
- ED204P-Learning Strategies
(TAEDES501A: Design and develop learning strategies)

- ED205P- Language Literacy & Numeracy
(TAELLN401A: Address adult language, literacy and numeracy skills)
- ED206P-Continuing Professional Development
(TAEPDD501A: Maintain and enhance professional practice)
- ED207P Learning Resources Design & Development
(TAEDES502A: Design and develop learning resources)
- ED208P Organizational Training Needs Analysis
(TAETAS501B: Undertake organisational training needs analysis)
- ED 404 Educational Research (Part 1)
(TAERES501A: Apply research to training and assessment practice)
- ED209P- Training Program Evaluation
(TAEDES505A: Evaluate a training program)

Vocational Education & Training Practice (Diploma in Vocational Education & Training TAE50111) Portfolio Guide

<http://www.filefactory.com/file/rh0eb9n4sfm/TAE50111PortfolioGuide.pdf>

SAMPLE PORTFOLIOS

Please note that the reference & example documents contained in the link of the portfolio can not be downloaded from the internet, they can only be available in DVDs that can be sent upon request.

The document is password protected. Password is needed and can be given upon request.

http://www.filefactory.com/file/3i8k0ls9peup/TAE50110_Diploma%20RPL%20Submission%20U%20Kyaw%20Naing.pdf

Level 3-Training Authorities Accreditation Compliances

ED320-Part (2) Myanmar Engineering Council's Accreditation Compliance Practice

Part (1) Educational Leadership Subjects

- ED 402 Educational Leadership
<http://www.filefactory.com/file/68h2rewfq7jx/ED%20402%20Educational%20Leadership.zip>
- ED 301 Educational Policy (Myanmar Engineering Council Accreditation Requirements)

Registration Rules

<http://www.filefactory.com/file/yzxtm3a7z2b/06.%20Licensing%20%26amp%3B%20Registration%20Rules%20-%20Engineering%20-%20Myanmar%20-%20CCS%2068%20reduced.pdf>

Myanmar Assessment Statement

<http://www.filefactory.com/file/9adocfm4877/06.%20Myanmar%20Assessment%20Statement%20-%2028ACPECC%2014%29.pdf>

Graduates Attributes

<http://www.filefactory.com/file/4r5z3i9uxw5p/1%20Graduate%20Attributes%20%26amp%3B%20Terminology.pptx>

Qualification Policy

<http://www.filefactory.com/file/69mj6zk64zj5/Policy%20%20Qualifications%20Policy%20POL11%20v4.PDF>

Regulations

<http://www.filefactory.com/file/65cxuftzoxmh/Regulations.pdf>

Engineers Australia References

www.highlightcomputer.com/engineersaustraliareferences.htm

- ED 308 Change Management

http://www.filefactory.com/file/4cxrjx86buot/n/9_Leadership_Change_Management_zip

- ED309 Educational Communication

http://www.filefactory.com/file/6tbjy1omi7kz/n/1_Educational_Communication_zip

- ED 407 Learning Environment

<http://www.filefactory.com/file/31o7fw99ux7l/ED%20407%20Learning%20Environment.zip>

- ED311 Outcome based Education

<http://www.filefactory.com/file/6sq2l3hmac3b/Final%20OBE%20Training%20at%20Myanmar%20July%202014.pptx>

Part (2) Myanmar Engineering Council's Accreditation Compliance Practice

- ED301P- Curriculum design for accreditation compliance

<http://www.filefactory.com/file/2vyvpy64k4w3/Accreditation%20Manual.pdf>

Example

www.highlightcomputer.com/OverallProgramGeneral.pdf

- ED302P-Overall accreditation and compliance practice

<http://www.filefactory.com/file/2vyvpy64k4w3/Accreditation%20Manual.pdf>

<http://www.highlightcomputer.com/Accreditation.htm>

Preparation for self accreditation report

<http://www.filefactory.com/file/43x0yutpx31v/2%20SAR.pptx>

Engineering Accreditation Plan

<http://www.filefactory.com/file/2ynzo3fydckb/2015%20YTU%20First%20Workshop.pptx>

ASSIGNMENT

Prepare the portfolios for your section/ department to comply with Myanmar Engineering Council's Accreditation Requirements.

Level 4-Specialized Teaching Areas

The students will have to write 20 pages study report for each of the subjects outlined in the Part 1 of any level .

The report needs to include

- Book review- Review on each chapter of the book highlighting the key concepts, points, key theory & practical application concepts
- Own idea on how to apply those concepts in real practical applications.
- Examples of curriculum designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book

The book references for the subjects can be downloaded from the following links by entering the given password.

Password- to be given

- ED 308 Computer Supported Learning & Distance Education
<http://www.filefactory.com/file/4mdzrx52kl45/ED%20308%20Computer%20Supported%20Learning%20%26amp%3B%20Distance%20Education.zip>
- ED 304 Maths Teaching
<http://www.filefactory.com/file/60ngdjnse60x/ED%20304%20Maths%20Teaching.zip>
- ED 305 Science Teaching
<http://www.filefactory.com/file/4hqlf7r16xyf/ED%20305%20Science%20Teaching.zip>
- ED 306 Technology Teaching
<http://www.filefactory.com/file/3crwj4pdyt7b/ED%20306%20Techology%20Teaching.zip>
- ED 404 Educational Research (Part 2)
<http://www.filefactory.com/file/42pl9c8013ab/ED%20404%20Educational%20Research.zip>

- ED310 Learning Technology I & II

http://www.filefactory.com/file/3bsfz0ehba7z/n/5_Learning_Technology_1.zip

http://www.filefactory.com/file/cvavvr9gonr/n/6_Learning_Technology_2.zip

- ED312 Technology in Classrooms

http://www.filefactory.com/file/7jcivu232opx/n/7_Technology_in_classroom.zip

Diploma in Vocational Education & Training, Diploma in Technical Teaching (Training, Assessment & Learning Management)
Diploma in Engineering Education (YTU)

www.highlightcomputer.com/ProfDipTechTchg.pdf

Objective of the course

This Diploma in Engineering Education/Professional Diploma in Technical Teaching (Training, Assessment & Learning Management) is designed as Teachers Education Professional Development for teachers in Government Technical Colleges , Technological Universities and other Vocational Education and Training Institutions in Myanmar to upgrade their skills and knowledge in training and assessment, curriculum design and development, management of technical training institutions, adult and vocational education and training ,assessment validation and current accreditation rules and requirements of Myanmar Engineering Council as well as current training and assessment practices of overseas industrialized countries.

Learning Outcomes

After completion of the levels of the training programs, the students should be able to

- Understand adult learning principles in technical education and training contexts
- Apply the skills in training, assessment, course development, curriculum development, learning management and management of technical training institutions.
- Understand the accreditation requirements of Myanmar Engineering Council in accredited engineer, technologist and technician education & prepare for the compliance processes.
- Understand the technology, science and mathematics teaching & educational pedagogies principles of outcome based education and effectively utilize them in the workplace
- Provide effective work-based learning & career development for the working people in industries and apply the various ways of assessing the competences

Components of the course

- Educational theories ,educational technology, teaching and learning, teaching and measuring.
- Lesson planning, interpreting curriculums, class room management, instruction and assessment design, training principle, competency based training and assessment integrated the competencies of Australian Training and Assessment (TAE40110) course
- Management of educational establishment in line with the accreditation requirements of Myanmar Engineering Council by customizing the competencies in Australian Vocational Education and Training Diploma (TAE50111) to be relevant to the requirements of Myanmar Vocational Education and Training .
- Postgraduate level educational knowledge related to Learning Technology, Technology in classrooms, educational leadership, leadership and change management , computer supported learning and distance education,
- Teaching practicum preparation at different levels of training

Level	Course	Abbreviation	Pre-requisite	Target Group
1	Diploma in Vocational Education & Training (Certificate in Vocational Education & Training for completion of certain subjects)	Dip VET	Degree/Diploma /Certificate In relevant professional/ vocational areas	Vocational Education Teachers in various training courses
2	Diploma in Technical Teaching	Dip Tech Tchg	Diploma in Vocational Education & Training	Government Technical College Teachers
3	Diploma in Engineering Education	Dip Engg Ed	Diploma in Technical Teaching	Technological University Teachers
4	Diploma in Engineering Education (Specialist Discipline)	Dip Engg Ed (Specialist Area)	Diploma in Engineering Education	Technological University Teachers with specialized teaching in specific area of study.

Training & Assessment System Overview

Level	Course	2 weeks workshop (Assessment based on participation in workshop sessions)	Teaching Experience Assessment +Teaching Portfolio Assessment (Individual Assessment- During/After two weeks workshop) (The candidates can submit their portfolios)	Self study & Assignment Assessment (Individual Assessment)
1	Diploma in Vocational Education & Training (Certificate in Vocational Education & Training for completion of certain subjects)	ED120-Part (2A) Basic Teaching Practicum Preparation ED121-Part (2B) Training & Assessment Practice (Day 1 to 6 Session 3 s)	ED 103 Teaching Practice ED 104 Lesson Planning ED 106 Interpreting Curriculums ED 107 Teaching & Learning ED 201 Class Room Management & Teaching	ED 101 Theory of Education ED 102 Education Technology

Level	Course	2 weeks workshop (Assessment based on participation in workshop sessions)	Teaching Experience Assessment +Teaching Portfolio Assessment (Individual Assessment- During/After two weeks workshop)	Self study & Assignment Assessment (Individual Assessment)
2	Diploma in Technical Teaching	ED 202 Curriculum & Design ED 405 Training Principle ED220-Part (2) Vocational Education & Training Practice (Diploma in Vocational Education & Training TAE50111) (All session 3s)	ED 206 Designing Instructions & Assessment	ED 401 Adult Learning Technology ED 205 Teaching & Measuring ED411-Engineering Education (1)
3	Diploma in Engineering Education	ED 301 Educational Policy (Myanmar Engineering Council Accreditation Requirements) ED309 Educational Communication ED311 Outcome based Education ED320-Part (2) Myanmar Engineering Council's Accreditation Compliance Practice (All Sessions 1/2/3)	ED301P- Curriculum design for accreditation compliance ED302P-Overall accreditation and compliance practice	ED 402 Educational Leadership ED 308 Change Management ED 407 Learning Environment ED412 Engineering Education (2)

Level	Course	2 weeks workshop (Assessment based on participation in workshop sessions)	Teaching Experience Assessment +Teaching Portfolio Assessment (Individual Assessment- During/After two weeks workshop)	Self study & Assignment Assessment (Individual Assessment)
4	Diploma in Engineering Education (Specialist Discipline)		ED 308 Computer Supported Learning & Distance Education ED310 Learning Technology I & II ED312 Technology in Classrooms	ED 304 Maths Teaching ED 305 Science Teaching ED 306 Technology Teaching ED 404 Educational Research (Part 2) ED413 Engineering Education (3)

Study Areas & Levels of Training

Level 1-Educational Theories , Teaching Pedagogies & Training and Assessment Practice

Part (1) Educational Theoretical Subjects

- ED 101 Theory of Education
- ED 102 Education Technology
- ED 103 Teaching Practice
- ED 104 Lesson Planning
- ED 105 Principle of Learning
- ED 106 Interpreting Curriculums
- ED 107 Teaching & Learning
- ED 201 Class Room Management & Teaching

ED120-Part (2A) Basic Teaching Practicum Preparation

ED101P-Teaching Support

ED102P- Application of Information Technology in School /Vocational Education

ED103P- Classroom Management

ED104P- Teaching Portfolio

ED105P- Inclusive Teaching

ED106P- Subject Area Knowledge

ED107P- Theory of Education, Educational Technology & Teaching Practice

ED107PA-Theory of Education

ED107PB-Education Technology

ED107PC-Teaching Practice

ED107PD-Lesson Planning

ED108P- Curriculum Study , Teaching & Learning

ED108PA-Principle of Learning

ED108PB-Interpreting Curriculums

ED108PC-Teaching & Learning

ED121-Part (2B) Training & Assessment Practice (Certificate IV in Training & Assessment TAE40110)

- ED111P Learning Program Design & Development Practice
(TAEDES401A Design and develop learning programs)
- ED112P Assessing the needs of trainees
(TAEDES402A Use training packages and accredited courses to meet client needs Delivery)
- ED113P Group based learning
(TAEDEL401A Plan, organise and deliver group-based learning)
- ED114P Workplace Assessment
(TAEDEL402A Plan, organise and facilitate learning in the workplace Assessment)
- ED115P Assessment Planning
(TAEASS401B Plan assessment activities and processes)
- ED116P Competency Assessment
(TAEASS402B Assess competence)
- ED117P Assessment Validation
(TAEASS403B Participate in assessment validation)
- ED118P Work skills Instruction
(TAEDEL301A Provide work skill instruction)
- ED119P Educational Presentation
(BSBCMM401A Make a presentation)(TAEASS301B Contribute to assessment

Level 2-Adult Vocational Education

Part (1) Adult Vocational Education Theoretical Subjects

- ED 401 Adult Learning Technology
- ED 202 Curriculum & Design
- ED 205 Teaching & Measuring
- ED 206 Designing Instructions & Assessment
- ED 405 Training Principle
- ED411-Engineering Education (1)

ED220-Part (2) Vocational Education & Training Practice (Diploma in Vocational Education & Training TAE50111)

- ED201P-Advanced Assessment Practice
(TAEASS501A: Provide advanced assessment practice)
- ED202P-Assessment Development
(TAEASS502B: Design and develop assessment tools)
- ED203P-Training Facilitation
(TAEDEL502A: Provide advanced facilitation practice)
- ED204P-Learning Strategies
(TAEDES501A: Design and develop learning strategies)
- ED205P- Language Literacy & Numeracy
(TAEELN401A: Address adult language, literacy and numeracy skills)
- ED206P-Continuing Professional Development
(TAEPPD501A: Maintain and enhance professional practice)
- ED207P Learning Resources Design & Development
(TAEDES502A: Design and develop learning resources)
- ED208P Organizational Training Needs Analysis
(TAETAS501B: Undertake organisational training needs analysis)
- ED 404 Educational Research (Part 1)
(TAERES501A: Apply research to training and assessment practice)
- ED209P- Training Program Evaluation
(TAEDES505A: Evaluate a training program)

Level 3-Training Authorities Accreditation Compliance

Part (1) Educational Leadership Subjects

- ED 402 Educational Leadership
- ED 301 Educational Policy (Myanmar Engineering Council Accreditation Requirements)
- ED 308 Change Management
- ED309 Educational Communication
- ED 407 Learning Environment
- ED311 Outcome based Education
- ED412 Engineering Education (2)

- ED301P- Curriculum design for accreditation compliance
- ED302P-Overall accreditation and compliance practice

Level 4-Specialized Teaching Areas

- ED 308 Computer Supported Learning & Distance Education
- ED 304 Maths Teaching
- ED 305 Science Teaching
- ED 306 Technology Teaching
- ED 404 Educational Research (Part 2)
- ED310 Learning Technology I & II
- ED312 Technology in Classrooms
- ED413 Engineering Education (3)

Diploma in Engineering Education

The following units can be added to Diploma in Technical Teaching to award Diploma in Engineering Education

ED411-Engineering Education Part 1

ED412-Engineering Education Part 2

ED413-Engineering Education Part 3

CURRICULUM

Level 1-Educational Theories , Teaching Pedagogies & Training and Assessment Practice

ED101 Theory of Education

Objective-

This unit provided the concept of education to enable the learners to understand the complex system of education by developing an understanding at different levels, inner workings of the individual learner, thinking processes and motivation & apply in practical teaching

Outcomes

- to understand all the different levels of education at the same time,
- to see personal learning and national legislation
- to build an understanding of education at all of these different levels.

Contents

Education theory, Modelling, Classroom Management, Equality of opportunity, Learning & Teaching, Quality Assurance, Theory into practice.

Instruction Reference Textbook-

Theory of Education.pdf by David A Turner + Lecture slides

Assessment

Assignments = 100% (4 assignments with 25% each)

ED 102 Education Technology

Objective-

This unit provide the knowledge to include reference to the use of technology for instruction, training, learning, or teaching. In practice, definitions serve to focus the interest of associations of individuals by emphasizing a particular scope of interest.

Outcomes

- To design, development, utilization, management, and evaluation
- To provide instructional technology,” “instructional systems design,” and “instructional media
- To do the design and development of instruction and instructional resources using education technologies

Contents

Active Learning, Alternative Assessment, Adult Learners, Analysis, Assistive Technology, Cognitive Apprenticeship, Computer-Assisted Instruction

Instruction Reference Textbook-

Education Technology - An Encyclopedia Edited by Ann Kovalchick and Kara Dawson+ Lecture slides
Assessment

Assignments = 100% (7 assignments)

ED 103 Teaching Practice

Objective-

To use developmental process for reflecting on and improving one's teaching; and as an evaluative product for personnel decisions such as tenure, promotion, or a teaching

Outcomes

- To provide different sources of evidence of teaching performance.
- To contribute important information about teaching performance
- To collect variety of sources of information related to teaching
- To reflect more of teaching's intellectual substance and complexity.
- To make teaching more visible through their demonstration of a variety of teaching-related activities.
- To place the initiative for reflecting on and evaluating teaching in the hands of faculty.
- To give the individual an opportunity to think about own teaching —
- To change priorities or teaching strategies as needed, and to reflect about future

Contents

Meaning of Teaching Portfolio, Why Prepare a Teaching Portfolio? ,How Does One Develop a Teaching Portfolio? ,Preparing Portfolio ,Shaping the Final Portfolio ,Keeping Your Portfolio Up to Date ,Assembling an Electronic Portfolio ,Portfolio evaluation.

Instruction Reference Textbook-

Lecture slides

Teaching-portfolio (University of South Australia)

Assessment

Assignments = 100% Portfolio Assessment

ED 104 Lesson Planning

Objective-

This unit provides the methods to apply thought-stimulating examples teaching & learning techniques to be applied in training design and delivery to apply the various techniques and strategies in training design and presentation, that will stick! Specific strategies.

Outcomes

- To create trainings that are fun and memorable.
- To write learner-based trainings that guarantee success for each learner performance.
- To develop learning activities that match the need, learning style, and level of understanding of the participants.
- To use learning strategies that encourage learners to build on their experiences.
- To plan ongoing training activities that evaluate learner mastery during the entire learning event.
- To design blended and accelerated learning strategies that strengthen learning transfer back on the job.
- To identify methods that accurately measure training results.

Contents

Introducing planning, Needs, aims and objectives ANALYSIS OF NEEDS ,THE RATIONALE OF OBJECTIVES ,WRITING YOUR LEARNING OBJECTIVES ,SETTING A VARIETY OF OBJECTIVES , Learning, SKILLS, TECHNIQUES AND METHODS ,JUDGEMENT AND DECISION-MAKING,THE PLACE OF EMOTIONAL EDUCATION,PLANNING FOR THEORETICAL LEARNING,PLANNING FOR LEARNING FROM THE CONCRETE,PLANNING FOR REFLECTIVE LEARNING,PLANNING FOR ACTIVE LEARNING,PLANNING PROGRESSION FROM PRIOR LEARNING,PLANNING FUTURE PROGRESSION,CROSS-CURRICULAR LINKS,DIFFERENTIATION,PLANNING LISTENING ACTIVITIES,PLANNING SPEAKING ACTIVITIES,PLANNING WHOLE CLASS DISCUSSION,PLANNING READING,PLANNING TO DEVELOP COMPREHENSION,TEACHING PUPILS TO LEARN FROM WHOLE BOOKS,PLANNING WRITING,TEACHING ABOUT SUBJECT DISCOURSE ,Pedagogy, TASK ANALYSIS ,A SUCCESSFUL LESSON STRUCTURE ,PLANNING PRACTICE SESSIONS

Instruction Reference Textbook-

Lecture slides

Instructional Design for Action Learning By GERI M C ARDLE

100 Ideas for Lesson Planning – By Anthony Haynes

Read the above textbooks and prepare three lesson plans

Assessment

Assignments = 100% (Assessment of three lesson plans)

ED 105 Principle of Learning

Objective-

To understand the memory concept & apply it in effective teaching and learning.

Outcomes

- To demonstrate the principle of learning
- To understand the principle of control memory
- To understand the principle of Inhibition
- To apply the Principle of Adaptive Specialization as It Applies to Learning and Memory

Contents

FORMATION OF MEMORIES, ORGANIZATION OF MEMORIES, CONSOLIDATION OF MEMORIES, CONTROL OF MEMORIES, ADAPTIVE SPECIALIZATION OF MEMORIES

Instruction Reference Textbook-

Lecture slides

Principle of learning & memory Edited by Rainer H. Kluwe, Gerd Liier and Frank Räsler

Assessment

Assignments = 100% (5 Assignments of 20% each)

ED 106 Interpreting Curriculums

Objective-

To interpret the curriculum & develop the detailed lesson plans in teaching process.

Outcomes

- To interpret the curriculum presented to teachers;
- To adopt the curriculum;

- To understand the curriculum assimilated by learners; and
- To evaluate curriculum.

Contents

KINDS OF CURRICULUM, ORIENTATIONS TO CURRICULUM, ORIENTATIONS TO CURRICULUM, TYPES OF CURRICULUM, Competency Curriculum, LEVELS OF CURRICULUM, STAGES OF THE PROCESS, CURRICULUM PLANNING, CURRICULUM DESIGN, CURRICULUM DEVELOPMENT- PHASES, CURRICULUM DEVELOPMENT. IMPLEMENTATION OF THE CURRICULUM, CURRICULUM EVALUATION, CURRICULAR CHANGES

Instruction Reference Textbook-

Lecture slides

CURRICULUM DESIGN AND DEVELOPMENT-1.pdf

THE CURRICULUM by Cecilia Braslavsky 1

Assessment

Assessment = 100% (Assess as part of Learning outcomes & curriculum development tasks in Residential Workshop session)

ED 107 Teaching & Learning

Objective-

This unit provides new and experienced faculty in all disciplines with practical, tested strategies for addressing all major aspects of college and university teaching, from planning a course through assigning final grades. Graduate student instructors and teaching assistants will also benefit from the foundational knowledge and research findings described in this unit.

Outcomes

- To addresses planning: designing a new course or revising an existing one, creating a syllabus, preparing for the class, and managing classroom conduct and decorum.
- To respond to a Changing Student Body,
- To do “ Discussion Strategies, ” provides ideas for leading a productive discussion, framing challenging questions, and encouraging student participation, both in class and online.
- To explore aspects of the lecture in the Large-Enrolment Course, ” method: preparing and delivering effective lectures, engaging students and providing for student participation, and maintaining instructional quality with limited resources.
- To find the Alternatives and Supplements to Lectures and Discussion,
- To Enhance Students ’ Learning and Motivation, ” provides research -based approaches to helping students become more confident, independent, and self - motivated learners. Informal ways to assess learning and the use of mobile

- To Strengthen Students ' Writing and Problem-Solving Skills, ”

Contents

RESPONDING TO A CHANGING STUDENT BODY ,DISCUSSION STRATEGIES ,THE LARGE-ENROLLMENT COURSE ,Maintaining Instructional Quality with Limited Resources ,ENHANCING STUDENTS' LEARNING AND MOTIVATION ,STRENGTHENING STUDENTS' WRITING AND,PROBLEM-SOLVING SKILLS ,TESTING AND GRADING,PRESENTATION TECHNOLOGIES ,EVALUATION TO IMPROVE TEACHING,TEACHING OUTSIDE THE CLASSROOM ,FINISHING UP

Instruction Reference Textbook-

Lecture slides

Tools for teaching by Barbara Gross Davis

Assessment

Experience Assessment = 100% (Assessed on Formal Teaching experience record for the teachers being employed by Government Technical Colleges & Technological Universities)

Separate assessment system is applied for pre-service teacher trainees.

ED 201 Class Room Management & Teaching

Objective-

To define classroom management, explain the relationship between classroom management and discipline, and describe the concept of “culturally responsive classroom management”

Outcomes

1. To describe the characteristics of an effective teacher
2. To explain why reflection on teaching is so important for teacher growth
3. To describe the reflective decision making model of teaching
4. To identify important factors that affect instructional decision making
- 5.To contrast the characteristics of authoritative, authoritarian, and permissive teachers
- 6.To identify the ongoing tasks involved in classroom management and to explain how each contributes to a well-functioning learning environment

Contents

Instruction Reference Textbook-

Lecture slides

Other Reference

Classroom Management by Deborah Diffily & Charlotte Sassman

Assessment

Experience Assessment = 100% (Assessed on Formal Teaching experience record for the teachers being employed by Government Technical Colleges & Technological Universities)

Separate assessment system is applied for pre-service teacher trainees.

Level 2-Adult Vocational Education

ED 401 Adult Learning Technology

Objective-

This unit provides and skills and the roles of training developers and instructional designers who are responsible for analysing training needs and designing training solutions and products to meet workplace capability requirements, and evaluating the effectiveness of adult training programs.

Outcomes

To provide the guidance and advice to trainers and assessors, promoting innovative practices, e.g. e-learning, and in researching and incorporating best practice in training and assessment into training programs and products.

Contents

- Learner-Centered Teaching and the Use of Technology
- Effective Teaching with Technology in Adult Education
- Adult Learners and Their Development in the Information Society
- Supporting Lifelong Learning and Flexicurity Policies
- Adult Learning Principles as the Foundation for Innovative Technology Applications in Business and Higher Education Venues
- The Role of Learning Styles and Technology
- Innovative Instructional Strategies with the Use of Technology for Adult Learners
- Integrating Adult Learning and Technology for Effective Education:
- Strategic Approaches
- Comparing the Principles of Adult Learning with Traditional Pedagogical Teaching in Relation to the Use of Technology:

- Provide Training through instruction and demonstration of work skills
- Facilitate work-based learning
- Group based delivery
- Design and develop learning programs
- Foster and promote an inclusive learning culture
- Ensure a safe and healthy learning environment
- Individual learning
- Language Literacy & Numeracy

Instruction Reference Textbook-

Lecture Slides

Adult Learning Technology by Victor C.X. Wang

Assessment

Participation in Educational Support Workshop sessions=100%

(Assess as part of Learning outcomes & curriculum development tasks in Residential Workshop session)

ED 202 Curriculum & Design

Objective-

To provide theoretical consideration for the twenty-first century curriculum, & technological and pedagogical innovations influencing curriculum renewal together with sustainable practice in technology-rich environments.

Outcomes

- To address theoretical foundations for the development of curricula.
- To explore the pedagogical options available to higher education instructors
- To explore new ways of accessing and connecting content to multimodal forms
- To examine how curriculum design needs to be influenced by the effective development of virtual collaborative learning environments
- To devise more adaptive, educationally focused teaching and learning

Contents

Curriculum Design for the Twenty-First Century, Online Collaboration: Coordinating Technology, Strategies for Collaborative Learning, Designing a Virtual Collaborative Learning Environment, Curriculum Design as Applied to Virtual Collaborative, Course Evaluation, Creating Curriculum Within the Context of an Enterprise, Teaching Instructional Design, Online education examples.

Instruction Reference Textbook-

Lecture Slides

Curriculum Models for the 21st Century Using Learning Technologies in Higher Education

Assessment

Participation in Educational Support Workshop sessions=100%

(Assess as part of Learning outcomes & curriculum development tasks in Residential Workshop session)

ED 205 Teaching & Measuring

Objective-

To apply adaptive expertise, creative thinking, metacognition, and teamwork in teaching and measuring task

Outcomes

To apply Adaptability, Adaptive expertise, Adaptive problem solving, Communication, Creative thinking , Decision making , Metacognition, Situation awareness & Teamwork

Contents

Cognitive Readiness, A Model for Instruction and Assessment of Cognitive Readiness, The Development and Assessment of Cognitive Readiness: Lessons Learned from K-12 Education, Cognitive Readiness for Solving Equations . Cognitive Readiness Applications, Creative Thinking Abilities: Measures for Various Domains, Using Analogies as a Basis for Teaching Cognitive Readiness . Simulation Assessment of Cognitive Readiness . Assessing Cognitive Readiness in a Simulation- Based Training Environment, Software Support for Teaching and Measuring Cognitive Readiness, Cognitive Readiness for Complex Team Performance, Impact of Individual Game-Based Training on Team Cognitive Readiness

Instruction Reference Textbook-

Teaching and Measuring Cognitive Readiness by Harold F. O'Neil • Ray S. Perez • Eva L. Baker

Assessment

Participation in Educational Support Workshop sessions=100%

(Assess as part of Learning outcomes & curriculum development tasks in Residential Workshop session)

ED 206 Designing Instructions & Assessment

Objective-

To deconstruct the broad-sweeping goals of the standards and transform them into unit plan objectives (more specific) and daily instructional objectives

Outcomes

To entails a logical progression from (1) content area standards to (2) modified standards to

(3) unit plan objectives to (4) daily instructional objectives in an understandable sequence of increasing specificity

Contents

Deconstructing the Standards ,Writing Unit and Daily Instructional Objectives , Writing True–False and Completion, Items and Matching Exercises ,Writing Multiple-Choice Items ,Writing Short-Answer and Essay Items .Performance-Based Assessment ,Portfolios

Instruction Reference Textbook-

Lecture Slides

Designing Elementary Instructions & Assessments

By John L. Badgett Edwin P . Christmann

Assessment

Participation in Educational Support Workshop sessions=100%

(Assess as part of Learning outcomes & curriculum development tasks in Residential Workshop session)

ED 405 Training Principle

Objective-

To provide numerous techniques, designs, case examples, and tips for designing and facilitating training that is participant centred, brain-friendly, and experiential

Outcomes

- To explore all aspects of training.
- To promote an active approach to training
- To provide a practical handbook of techniques

Contents

INTRODUCING ACTIVE TRAINING, DESIGNING AN ACTIVE TRAINING PROGRAM, Assessing Training Needs, Developing Active Training Objectives, Creating Opening Exercises, Preparing Brain-Friendly Lectures, Using

Experiential Learning Approach, Designing Active Training Activities, Sequencing Active Training Activities, Planning Active Training Programs, Blending Technology into Active Training, CONDUCTING AN ACTIVE TRAINING PROGRAM, Beginning an Active Training Program, Gaining Leadership of the Training Group, Giving Presentations and Leading Discussions, facilitating Structured Activities and Promoting Team Learning, Concluding an Active Training Program, EXTENDING THE VALUE OF AN ACTIVE TRAINING PROGRAM, Evaluating an Active Training Program

Instruction Reference Textbook-

Lecture Slides

Active Training by Mel Silberman

Assessment

Participation in Educational Support Workshop sessions=100%

(Assess as part of Learning outcomes & curriculum development tasks in Residential Workshop session)

ED411-Engineering Education (1)

Objective-

To design the engineering educational programs and teaching programs by applying multi disciplinary approaches by combining technological aspects

Outcomes

- To attain the strategies to promote the engineering education
- To apply technological concepts in engineering teaching support system
- To develop the quality work-based learning system
- To write Sociological Rationale of a design curriculum
- To find the strategies to improve the communication skills of engineers
- To design the computer server for engineering education program

Contents

- Pre-university Outreach: Encouraging Students to Consider Engineering Careers
- The ASTutE Tutorial Assistant: Efficient, Accessible and Interactive
- Learning at Work within the Ford Motor Company
- Using Rubrics to Assess the Development of CDIO
- Syllabus Personal and Professional Skills and Attributes at the 2.x.x Level*
- Quality Assurance Issues Relating to the Delivery of Work Based Learning Programmes*

- The Role of Work-Based Learning Methodologies in the 21 st Century
- Development of Life-Long Engineering Education in the 21 st Century
- Traits Analysis and Influences on High Performing Students in Mechanical Education
- The Construction of an Instructional Quality System for Industrial Technology Education
- Design Hegemony: an Exploration of Hegemony in the Curriculum and Instruction of Industrial Design Education
- The Engineering Mechanics Interactive Lecture Series: Oligomedia Resources for Computer-Based Learning
- The Sociological Rationale of the Industrial Design Curriculum
- Achieving Advances and New Developments in Engineering and Technological Education
- Important Considerations in Improving the Acquisition of Communication Skills by Engineers
- Client-Server and Gateway Systems for Remote Control in Engineering Education
- The Development of Online Conference Management Tools as a Student Project*
- Co-operation across Disciplines in Engineering Education Using Technical and Scientific Computing Environments

Instruction Reference Textbook-

Lecture Slides

ED411 folder, read the following files

- AndersonGilbride.pdf
- austin.pdf
- barlow.pdf
- BodenGrays.pdf
- Burns&Chisholm.pdf
- BurnsChisholm1.pdf
- ChaoHuang.pdf
- Chaos.pdf
- ChengHsiao.pdf
- chapman.pdf
- ChengLiao.pdf
- Chisholm1.pdf

- DaniloZJPs.pdf
- Dulevicius.pdf
- EwaldPage.pdf
- GolNafalskiNguynTran.pdf
- grunwald1.pdf

Assessment

Questions & answers

Level 3-Training Authorities Accreditation Compliance

ED 402 Educational Leadership

Objective-

This course provides the educators with skills to take an active and creative approach to their personal and professional development. While it may be of most interest to those in middle or senior education management, it is also designed to help teachers, governors and those in organizations allied with education.

Outcomes

To attain the competencies in

- Leading and managing
- Changing and learning
- Undertake Tasks and responsibilities

Instruction Reference Textbook-

**Educational leadership and learning Practice, policy and research
by Sue Law and Derek Glover**

Contents

- The context for educational leadership
- Developing leadership and management effectiveness
- Managing ourselves and leading others
- Motivating and managing others
- Leading effective teams
- Effective communication
- Organizational cultures

- Managing change and creating opportunities
- Educational improvement, inspection and effectiveness
- Leading and managing in learning organizations
- Managing staff and promoting quality
- Managing resources and finance
- Managing stakeholder relationships and partnerships
- Leading and managing for professional development

Assessment

Assignments = 100%

ED 301 Educational Policy (Myanmar Engineering Council Accreditation Requirements)

Objective-

This course provides the educators with Myanmar Engineering Council Laws, Rules, Regulations, Accreditation Requirements, Accreditation Practices, procedures related to accreditation of engineering courses and engineering professionals in Myanmar to enable them to design, develop and teach the engineering programs accredited by Myanmar Engineering Council.

Outcomes

- To understand Myanmar Engineering Council Accreditation Rules & Regulations related to accreditation of Government Technical Colleges & Technological Universities in Myanmar.
- Get the information & knowledge on Current issues related to international & Myanmar Engineering profession.
- Participate in hand on practice workshop focussing on curriculum development & collecting and preparing the materials for accreditation by Myanmar Engineering Council Engineering Accreditation Committee & taking part in mock accreditation sessions.

Contents

- Overview of Myanmar Engineering Council Law, Regulation, Accreditation Principles
- Examples of marine engineers competency assessment in Myanmar/ in line with International Certification standards & explore the way to apply the similar competency based training in other engineering areas
- Requirement of Myanmar Engineering Council & how to design the curriculum to address the learning outcomes
- Discussing the programme structure and course contents(MEng C)
- Discussing the programme delivery and assessment methods

- Assessment Validation Guide of Myanmar Engineering Council
- Educational Resources Development in line with Myanmar Engineering Council Requirements
- Curriculum design for accreditation compliance
- Overall accreditation and compliance practice
- Preparation for self accreditation report
- Engineering Accreditation Plan

Instruction Reference Textbook-

1. Accreditation Manual
2. Graduate Attributes & Terminology.pptx
3. SAR.pptx
4. EngineerCouncilRegulation
5. Policy - Qualifications Policy POL11 v4
6. Myanmar Engineering Council Law
7. Policies for Accreditation of Programs
8. Time line,EAC Code,Guidelines,Fees

Assessment

Assignments = Participation in workshop sessions

ED 308 Change Management

Objective-

The unit involves candidates in leading a complete cycle of the change process. This process falls into three phases that correspond broadly to the elements of competency.

- i. Preparing for change
- ii. Planning for change
- iii. Implementing and evaluating change

Outcomes

- To provide leadership and support to others within the organization
- To manage change more effectively
- To develop educational business skills
- To analyse work practice and context, and make improvements
- To contribute to innovation and capacity building in the organization.

Contents

- Leadership issues Raising achievement
- The Leadership of Change
- A shift from management to leadership
- How not to do change management
- Managing change and transition

Instruction Reference Textbook-

Lecture Slides

Leadership+ Change Management DVD

Assessment Assignment-100%

ED309 Educational Communication

Objective-

This program uses methods of the social sciences, encompassing both qualitative and quantitative approaches to the study of communication and education. It asks in particular how education and other social systems change under the impact of new media

Outcomes

- Reflect on the historical effects of media and on the cultural uses of developments such as face-to-face speech, writing, printing, photography, film, radio, television, computers, and networked multimedia;
- Use anthropological and linguistic methods to study how the diverse forms of communication, literacy, information processing, and cognition condition educational practice; and
- Explore positive and negative effects of media on social relations and develop strategies for using information and communication technologies to improve conditions of education and life.

Contents

- Creating a production that communicates your message
- Digital Design
- Great Looking Presentations
- Planning

- Technical Papers related to effectiveness of ICT in education
- Access and equity issues
- Educational Communication Portfolio Presentation

Instruction Reference Textbook-

Lecture Slides

ED309 Educational Communication Assignment Tasks-806A Modified (Worked Examples)

Assignment

Assignments = Portfolio Assessment- 100%

ED 407 Learning Environment

Objective-

The objective of this unit is to give the candidate an understanding of the conceptualisation, historical development, assessment, determinants and effects of classroom learning environments.

Outcomes

- To review classroom learning environment for effective educational setting
- To prepare effective educational setting for teaching and learning
- To understand the students' behaviour in the classroom and the cause of the behaviour
- To effectively use the teaching and learning strategies for keeping the good learning environment in the class
- To perform educational survey task on learning environment assessment.

Contents

- Background information about the fields of school and classroom environment
- Outcomes and environment; evaluation of educational innovations
- Quantitative and qualitative methods
- Teachers' use of classroom and school environment instruments in practical attempts to improve their own classrooms and schools.
- Current trends and future desirable directions in research on educational environments.

Instruction Reference Textbook-

Lecture Slides

Assessment

Assignments = 100%

Action Research Project

ED311 Outcome based Education

Objective-

At the end of this training, participants will be able to understand:

- ☐ Outcome-Based Education (OBE)
- ☐ Programme Education Objectives (PEO'S),

Outcomes

Programme Outcomes (PO's), Course Outcomes (CO) and Performance Indicators

- ☐ Bloom's Learning Taxonomy
- ☐ Assessment and Evaluation Methods
- ☐ Continual Quality Improvement Process

Contents

- ☐ The Origins of Outcome Based Education
- ☐ *Approaches to OBE*
- ☐ *OBE Process*
- ☐ Educational Process - Stakeholders
- ☐ Educational Process – Lecturers' Roles
- ☐ Educational Process - References
- ☐ OBE Model Hierarchy
- ☐ Characteristics of OBE curricula
- ☐ *Types of Teaching/Learning Delivery Activities*
- ☐ *OBE Delivery*
- ☐ Continual Quality Improvement (CQI)
- ☐ Essentials for OBE's success
- ☐ Essentials Components of OBE

- ☐ Different Levels of Outcomes
- ☐ Development of Programme Education Objectives
- ☐ CHARACTERISTICS OF GOOD OUTCOME STATEMENTS
- ☐ Course Development
- ☐ ENGINEERING EDUCATION
BLOOM'S TAXONOMY
- ☐ DOMAINS of LEARNING OUTCOMES
- ☐ Assessment in OBE
- ☐ Continual Quality Improvement (CQI)

Instruction Reference Textbook-

Lecture Slides

Final OBE Training at Myanmar July 2014. by **Ir. Professor Academician Dato' Dr. HT Chuah**
President of FEIAP

Assessment

Participation in workshop & presenting the portfolios

ED412 Engineering Education (2)

Objective-

To design the international standard engineering education program by applying total quality management

Outcomes

- To have the knowledge and skills in total quality management
- To foster the cross border co-operation
- To interface the school to engineering programs

Contents

- Secondary School-University Interface: Science and Engineering
- The Educational Process
- Quality Engineering Education: Student Skills and Experience
- The Web as a Tool for Supporting Student Learning
- Develop a Long-Term Plan to Overcome Skills Shortage
- Cross border engineering practice

- Cross-cultural Skills for engineers

Instruction Reference Textbook-

Lecture Slides

ED412 File

Assessment

Assignments = 100% (Two assignments of 50% each)

Level 4-Specialized Teaching Areas

ED 308 Computer Supported Learning & Distance Education

Objective-

This unit provides the skills related to contribute to the central questions of how students can learn collaboratively using the new technologies, the problems that can be expected, and the benefits that may ensue. The various ways to examine how computer supported group work differs from face-to-face group work, and the implications for both educators and students are provided.

Outcomes

- ☐ To offer assessment of e-learning with the hope of offering ideas in terms of practical guide and points of good practices, while addressing potential pitfalls to avoid.
- ☐ To be aware of what constitutes good and effective e-learning practices and how to design them for specific contexts and audiences in the global information
- ☐ Innovative uses of e-learning, Addressing various divides in e-learning, user centred focus in e-learning, special considerations in e-learning and development economy.

Contents

- ☐ Computer-Supported Collaborative Learning in Higher Education:
- ☐ An Introduction
- ☐ Online Group Projects: Preparing the Instructors to Prepare the Students
- ☐ Time, Place and Identity in Project Work on the Net
- ☐ The Collective Building of Knowledge in Collaborative Learning Environments
- ☐ Collaboration or Cooperation
- ☐ Analyzing Small Group
- ☐ Interactions in Educational Environments
- ☐ Mapping Perceived Socio-Emotive Quality of Small-Group Functioning
- ☐ A Constructivist Framework for Online Collaborative Learning:
- ☐ Adult Learning and Collaborative Learning Theory
- ☐ The Real Challenge of Computer-Supported Collaborative Learning
- ☐ Use and Mis-Use of Technology for Online, Asynchronous, Collaborative Learning
- ☐ The Personal and Professional Learning Portfolio
- ☐ An Online Environment for Mentoring, Collaboration, and Publication
- ☐ Problems and Opportunities of Learning Together in a Virtual Learning Environment
- ☐ Web-Based Learning by Tele-Collaborative Production in Engineering Education

- ☐ Relational Online Collaborative Learning Model
- ☐ Online, Offline and In-Between: Analyzing Mediated-Action

Instruction Reference Textbook-

Lecture Slides

Computer Supported Learning by Tim S. Roberts

Assessment

Assignments = 100%

ED 304 Maths Teaching

Objective-

This unit provides the skills to the teachers to act as mechanisms for communicating an approach to mathematics education that is eclectic and embracing, respectful and engaging, reflective and, ultimately, educational.

Outcomes

To provide the methods to the educators in class teaching to provide the students with conceptual understanding of mathematics content through modelling or interpretation of representations,

- computational fluency,
- problem solving through application of the content.

Contents

- Strategies for Vocabulary Development
- Strategies for Using Manipulatives
- Strategies for Teaching Procedures
- Strategies for Understanding Problem Solving
- Strategies for Using Mathematical Games
- Strategies for Assessing
- Mathematical Thinking

Instruction Reference Textbook-

Lecture Slides

- ☐ Multiple Perspectives on Mathematics Teaching and Learning Edited by Jo Boaler
- ☐ Strategies for Teaching Mathematics by *Deborah V. Mink*

Assessment

Assignments = 100%

ED 305 Science Teaching

Objective-

This unit provide the teaching pedagogy in science that effectively enable the teacher to transfer what they learn in our courses into their own classroom practices.

Outcomes

- To shine a spotlight on important work that science teacher educators are doing with teachers and youth
- To describe the professional purposes and benefits realized when they, as science teacher educators, arranged opportunities to teach children or adolescents.
- To utilize model teaching lessons in class room practice

Contents

- Pedagogical Content Knowledge
- Teaching & learning Through experience
- Teaching examples

Instruction Reference Textbook-

Lecture Slides

- Understanding and Developing Science Teachers' Pedagogical Content Knowledge
By John Loughran
- Science Teacher Educators as K-12 Teachers edited by Michael Dias • Charles J. Eick, Laurie Brantley-Dias

Assessment

Assignments = 100%

ED 306 Technology Teaching

Objective-

This unit provides the teaching idea for teaching students with unique opportunities to develop a range of process skills such as critical and creative thinking skills in addition to their practical skills, through undertaking authentic tasks of real purpose.

Outcomes

- To link philosophy and educational issues in my daily work
- To help teachers to improve the teaching by means of the insights that philosophy of technology offers.

Contents

- Philosophy of technology:
- Technological artifacts
- Technological knowledge
- Technological processes
- Technology and the nature of humans
- Ethics and aesthetics of technology
- Learners' philosophies of technology
- Reconceptualizing technology through education
- Practical issues in teaching about technology

Instruction Reference Textbook-

Lecture Slides

Teaching about Technology by MARC J. DE VRIES

Assessment

Assignments = 100%

ED 404 Educational Research

Objective-

This unit describes the performance outcomes, skills and knowledge required to undertake research into educational theory and apply this research to improve current training and assessment practice.

This unit typically applies to those who need to develop skills in research in order to apply educational theory to improve current and future training and assessment practice

Outcomes

- Prepare research brief relating to training and assessment practice
- Conduct research in training and assessment practice
- Investigate and apply educational theory to the research
- Report on application of educational theory to training and assessment practice
- Review entire process

Contents

Qualitative Research and Public Policy

- Multilevel Analysis in Higher Education Research: A Multidisciplinary Approach .
- Conducting Multi-paradigm Inquiry in the Study of Higher Education Organization and Governance: Transforming
- Research Perspectives on Colleges and Universities

- Examining Pathways to and Through the Community College for Youth and Adults
- Review of the Theories Developed to Describe the Process of College Persistence and Attainment

Instruction Reference Textbook-

Lecture Slides

Higher Education: Handbook of Theory and Research

Published under the Sponsorship of the Association for Institutional Research (AIR) and the Association for the Study of Higher Education (ASHE)

Assessment

Assignments = 100%

Prepare & submit one educational research paper.

ED310 Learning Technology I & II

Objective-

On completion of this unit you should be able to demonstrate your achievement of the following learning outcomes:

All participants will be competent, confident and professional users of e-Learning system in teaching

Outcomes

To use e-Learning tools to:

- improve their own professional productivity,
- improve their preparation for classes and teaching generally and
- improve their ability to use and integrate IT appropriately within the classroom

Contents

The Syllabus:

The unit consists of five inter-related modules:

- 1. Module 1: Getting Started and IT Empowerment and Teaching**
 - a. Unit Introduction
- 2. Module 2: IT and Education:**
 - a. The Hype and the Reality
 - b. Multimedia in Education

3. Module 3: Ghosts of Schooling Past, Present and Future

- a. Technology and the Whole Curriculum
- b. Technology as a Classroom Tool
- c. Creating an active learning Environment

4. Module 4: Making the World Wide Web Work for You

- a. The Tools of the Trade
- b. Using the internet for information

5. Module 5: Technology in Your Classroom

- a. Classroom Applications of the
- b. WWW
- c. Educational Software
- d. Ideas, Approaches, Tools and Tricks
- e. Integration
- f. Early Learning and Primary

Tuition Pattern:

This unit is provided as an online unit. All tuition is provided through the online course website. The length of the unit is one semester (12 weeks); however, some students will finish sooner, and some may require additional time to complete it. While the weekly time commitment will vary from student to student, most should allow approximately 10 hours per week total study time for the unit.

Instruction Reference Textbook-

Lecture Slides

The CD in the folder Day 7 Session 2/ 5.Learning Technology 1/ index.html

Recommended Texts and Principal References:

- Shelly G. Cashman T.J. Gunter R.E. Gunter G.A. (2002). Teachers discovering computers: A link to the future WWW. Course Technology, Cambridge.

All other materials are supplied on Course CD-ROMS and online.

Assessment

Two assignments= 100%

ED312 Technology in Classrooms

Objective-

To provide use of technology in educational context by combining with teaching and learning principle, educational leadership skills and educational leadership skills.

Outcomes

On completion of this unit you should be able to demonstrate your achievement of the following learning outcomes:

Upon completion, the participant;

1. Through the use of professional based portfolios will design, implement and evaluate the use of IT, multimedia and the Internet in their own classrooms
2. Using the skills and knowledge developed within the unit, conduct research of the use on learning technologies within the areas of;
 - a. Learning technologies and Developing Leadership Skills in Technology
 - b. Assessing and Changing IT Learning EnvironmentsTeaching and Learning Principles for Technology-Rich Classrooms

Contents The unit consists of 2 inter-related sections:

1. **Section 1**
 - a. Conduct independent research in one of the following
 - i. Developing Leadership Skills in Technology
 - ii. Assessing and Changing IT Learning Environments
 - iii. Teaching and Learning Principles for Technology-Rich Classrooms
2. **Section 2**
 - a. The development of two Portfolios
 - i. "Classroom" based portfolio that demonstrates the use and integration of educational technology in your classroom or workplace.
 - ii. "Personal" based portfolio that provides the student with the opportunity to demonstrate the use and educational practice in professional practice.

Instruction Reference Textbook-

Lecture Slides

Day 8 Session 1/ 7. Technology in classroom/ index.html

Assessment

Assignments = 100%

ED413 Engineering Education (3)

Objective-

This unit provides the engineering educators with engineering ethical issues, New pedagogy , Industrial co-operation & Lifelong learning and Strategic Planning skills in engineering education

Outcomes

Design the engineering programs by taking account on emphasizing in engineering ethics & by utilizing innovative new teaching pedagogies

Contents

- Engineering ethics
- Engineering teaching pedagogies
- New training and work-based approach
- Strategies planning in engineering education

Instruction Reference Textbook-

- ED413 Par1 Ethics
- ED413 Part2 New pedagogy , Industrial co-operation & Lifelong learning
- ED413 Part3 Strategic Planning in Engineering Education
- ED413 Part4 Training & Work-based Approach

Assessment

Assignments = Project 100%

RESOURCES

ASSESSMENT FOR THE SUBJECTS IN PART 1 OF THE LEVELS

The students will have to write 20 pages study report for each of the subjects outlined in the Part 1 of any level .

The report general needs to include

- Book review- Review on each chapter of the book highlighting the key concepts, points, key theory & practical application concepts
- Own idea on how to apply those concepts in real practical applications.
- Examples of curriculum designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book

The book references for the subjects can be downloaded from the following links by entering the given password. The detailed instruction will be given in subject study guides. Some of the units can be assessed in residential training workshops.

Password- to be given

ASSESSMENT FOR THE SUBJECTS IN PART 2 OF THE LEVELS

Follow the specific assessment instruction provided for the units in Part 2 of the levels

ED120-Part (2A) Basic Teaching Practicum Preparation

Study Areas & Levels of Training

Level 1-Educational Theories , Teaching Pedagogies & Training and Assessment Practice

Part (1) Educational Theoretical Subjects

- ED 101 Theory of Education

<http://www.filefactory.com/file/4fuby1dpqs9f/ED%20101%20Theory%20of%20Education.zip>

- ED 102 Education Technology

<http://www.filefactory.com/file/1ghlzng7e0n3/ED%20102%20Education%20Technology.zip>

- ED 103 Teaching Practice

<http://www.filefactory.com/file/1o732n0j46mf/ED%20103%20Teaching%20Practice.zip>

- ED 104 Lesson Planning

<http://www.filefactory.com/file/4m30ym0ez37r/ED%20104%20Lesson%20Planning.zip>

- ED 105 Principle of Learning

<http://www.filefactory.com/file/7660l6kjr8sx/ED%20105%20Principle%20of%20Learning.zip>

- ED 106 Interpreting Curriculums

<http://www.filefactory.com/file/1h141zxbov8z/ED%20106%20Interpreting%20Curriculums.zip>

- ED 107 Teaching & Learning

<http://www.filefactory.com/file/6u5o455lyqj7/ED%20107%20Teaching%20%26amp%3B%20Learning.zip>

- ED 201 Class Room Management & Teaching

<http://www.filefactory.com/file/48gvqykksgiz/ED%20201%20Class%20Room%20Mgt%20%26amp%3B%20Teaching.zip>

Part (2A) Basic Teaching Practicum Preparation

Follow the specific assessment instruction provided for the units in Part 2 of the levels

ED101P-Teaching Support

ED102P- Application of Information Technology in School /Vocational Education

ED103P- Classroom Management

ED104P- Teaching Portfolio

ED105P- Inclusive Teaching

ED106P- Subject Area Knowledge

[Certificate in Teaching Support+ Diploma in Teaching Practice+ Bachelor of Teaching+ Bachelor of Education \(School & Vocational\)](http://www.filefactory.com/file/4a5o50idxqvr/Diploma%20in%20Teaching%20Practice.pdf)

<http://www.filefactory.com/file/4a5o50idxqvr/Diploma%20in%20Teaching%20Practice.pdf>

ED107P- Theory of Education, Educational Technology & Teaching Practice

ED107PA-Theory of Education

ED107PB-Education Technology

ED107PC-Teaching Practice

ED107PD-Lesson Planning

ED108P- Curriculum Study , Teaching & Learning

ED108PA-Principle of Learning

ED108PB-Interpreting Curriculums

ED108PC-Teaching & Learning

ED 107 Lesson Slide 1 to 20 Mod.pdf (4.71MB)

http://www.filefactory.com/file/1w4faybri0p9/n/ED_107_Lesson_Slide_1_to_20_Mod.pdf

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ED107 Lesson Slide 21 to 40.pdf (3.06MB)

http://www.filefactory.com/file/1ae111n3e1gl/n/ED107_Lesson_Slide_21_to_40.pdf

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ED107 Lesson Slide 41 to 60.pdf (3.27MB)

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ED107 Lesson Slide 61 to 80.pdf (3.22MB)

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ED107 Lesson Slide 121 to 140.pdf (2.69MB)

http://www.filefactory.com/file/6h7bu8dsq7q7/n/ED107_Lesson_Slide_121_to_140.pdf

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ED107 Lesson Slide 141 to 160.pdf (2.57MB)

http://www.filefactory.com/file/6pxq45urnfyn/n/ED107_Lesson_Slide_141_to_160.pdf

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http://www.filefactory.com/file/10d9wna6jr4r/n/ED107_Lesson_Slide_181_to_200.pdf

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http://www.filefactory.com/file/3o4wea6j5uof/n/ED107_Lesson_Slide_201_to_220.pdf

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ED107 Lesson Slide 221 to 240.pdf (3.27MB)

http://www.filefactory.com/file/32bcquqzs1ll/n/ED107_Lesson_Slide_221_to_240.pdf

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ED107 Lesson Slide 241 to 260.pdf (2.83MB)

http://www.filefactory.com/file/p0y76lkvkjd/n/ED107_Lesson_Slide_241_to_260.pdf

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ED107 Lesson Slide 261 to 280.pdf (2.84MB)

http://www.filefactory.com/file/2kdx8ty4uj1d/n/ED107_Lesson_Slide_261_to_280.pdf

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ED107 Lesson Slide 281 to 304.pdf (3.78MB)

http://www.filefactory.com/file/1y06uzz0iaq1/n/ED107_Lesson_Slide_281_to_304.pdf

[Download now!](#)

ED 107 Exercises.pdf (2.3MB)

http://www.filefactory.com/file/1isf2cao4gxx/n/ED_107_Exercises.pdf

[Download now!](#)

ED 108 Curriculum Study , Teaching & Learning Lessons

ED108 Lesson Slide 1 to 20.pdf (2.37MB)

http://www.filefactory.com/file/6r5rg8bucgkx/n/ED108_Lesson_Slide_1_to_20.pdf

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ED108 Lesson Slide 21 to 40.pdf (2.69MB)

http://www.filefactory.com/file/1wxu981xeel/n/ED108_Lesson_Slide_21_to_40.pdf

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ED108 Lesson Slide 41 to 60.pdf (2.27MB)

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ED108 Lesson Slide 61 to 80.pdf (2.12MB)

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ED108 Lesson Slide 141 to 168.pdf (2.7MB)

http://www.filefactory.com/file/5foiol6m9rwx/n/ED108_Lesson_Slide_141_to_168.pdf

[Download now!](#)

ED 108 Exercises.pdf (1.22MB)

http://www.filefactory.com/file/5o110j6pg6dz/n/ED_108_Exercises.pdf

[Download now!](#)

Follow the specific assessment instruction provided for the units in Part 2 of the levels

- ED111P Learning Program Design & Development Practice
(TAEDES401A Design and develop learning programs)
- ED112P Assessing the needs of trainees
(TAEDES402A Use training packages and accredited courses to meet client needs Delivery)
- ED113P Group based learning
(TAEDEL401A Plan, organise and deliver group-based learning)
- ED114P Workplace Assessment
(TAEDEL402A Plan, organise and facilitate learning in the workplace Assessment)
- ED115P Assessment Planning
(TAEASS401B Plan assessment activities and processes)
- ED116P Competency Assessment
(TAEASS402B Assess competence)
- ED117P Assessment Validation
(TAEASS403B Participate in assessment validation)
- ED118P Work skills Instruction
(TAEDEL301A Provide work skill instruction)
- ED119P Educational Presentation
(BSBCMM401A Make a presentation)(TAEASS301B Contribute to assessment

RESOURCES FOR ABOVE UNITS

Working in Vocational Education & Assessment

http://www.filefactory.com/file/136bwooflstr/n/3_Assessment_Working_in_VET_zip

Preparing vocational teaching portfolios

http://www.filefactory.com/file/2l9iu8ptfk0t/n/8_Guides_for_preparing_VET_portfolios_zip

Learning , Facilitation & Teaching in Vocational Education and Training

http://www.filefactory.com/file/3b1d9kdudz515/n/4_Learning_Facilitation_Teaching_in_VET_zip

Work-based Learning & Assessment

http://www.filefactory.com/file/5pef2h8dhav9/n/10_Workbased_Learning_amp_Assessment_2_zip

Learning Environment

http://www.filefactory.com/file/5l12qji9s67j/n/12_Learning_Environment_zip

Level 2-Adult Vocational Education

ED220-Part (2) Vocational Education & Training Practice (Diploma in Vocational Education & Training TAE50111)

Part (1) Adult Vocational Education Theoretical Subjects

Password- to be given

- ED 401 Adult Learning Technology

<http://www.filefactory.com/file/68y4bd94ianb/ED%20401%20Adult%20Learning%20Technology.zip>

- ED 202 Curriculum & Design

<http://www.filefactory.com/file/1jotv5d428j1/ED%20202%20Curriculum%20%26amp%3B%20Design.zip>

- ED 205 Teaching & Measuring

<http://www.filefactory.com/file/4eu01ck2awl/ED%20205%20Teaching%20%26amp%3B%20Measuring.zip>

- ED 206 Designing Instructions & Assessment

<http://www.filefactory.com/file/4dnh3r8wsd9t/ED%20206%20Designing%20Instructions%20%26amp%3B%20Assessment.zip>

- ED 405 Training Principle

<http://www.filefactory.com/file/5qupttpxznn/ED%20405%20Training%20Principle.zip>

Part (2) Vocational Education & Training Practice (Diploma in Vocational Education & Training TAE50111)

Follow the specific assessment instruction provided for the units in Part 2 of the levels

- ED201P-Advanced Assessment Practice
(TAEASS501A: Provide advanced assessment practice)
- ED202P-Assessment Development
(TAEASS502B: Design and develop assessment tools)
- ED203P-Training Facilitation
(TAEDEL502A: Provide advanced facilitation practice)
- ED204P-Learning Strategies
(TAEDES501A: Design and develop learning strategies)

- ED205P- Language Literacy & Numeracy
(TAELLN401A: Address adult language, literacy and numeracy skills)
- ED206P-Continuing Professional Development
(TAEPDD501A: Maintain and enhance professional practice)
- ED207P Learning Resources Design & Development
(TAEDES502A: Design and develop learning resources)
- ED208P Organizational Training Needs Analysis
(TAETAS501B: Undertake organisational training needs analysis)
- ED 404 Educational Research (Part 1)
(TAERES501A: Apply research to training and assessment practice)
- ED209P- Training Program Evaluation
(TAEDES505A: Evaluate a training program)

Vocational Education & Training Practice (Diploma in Vocational Education & Training TAE50111) Portfolio Guide

<http://www.filefactory.com/file/rh0eb9n4sfm/TAE50111PortfolioGuide.pdf>

SAMPLE PORTFOLIOS

Please note that the reference & example documents contained in the link of the portfolio can not be downloaded from the internet, they can only be available in DVDs that can be sent upon request.

The document is password protected. Password is needed and can be given upon request.

http://www.filefactory.com/file/3i8k0ls9peup/TAE50110_Diploma%20RPL%20Submission%20U%20Kyaw%20Naing.pdf

Level 3-Training Authorities Accreditation Compliances

ED320-Part (2) Myanmar Engineering Council's Accreditation Compliance Practice

Part (1) Educational Leadership Subjects

- ED 402 Educational Leadership
<http://www.filefactory.com/file/68h2rewfq7jx/ED%20402%20Educational%20Leadership.zip>
- ED 301 Educational Policy (Myanmar Engineering Council Accreditation Requirements)

Registration Rules

<http://www.filefactory.com/file/yzxtm3a7z2b/06.%20Licensing%20%26amp%3B%20Registration%20Rules%20-%20Engineering%20-%20Myanmar%20-%20CCS%2068%20reduced.pdf>

Myanmar Assessment Statement

<http://www.filefactory.com/file/9adocfm4877/06.%20Myanmar%20Assessment%20Statement%20-%20%28ACPECC%2014%29.pdf>

Graduates Attributes

<http://www.filefactory.com/file/4r5z3i9uxw5p/1%20Graduate%20Attributes%20%26amp%3B%20Terminology.pptx>

Qualification Policy

<http://www.filefactory.com/file/69mj6zk64zj5/Policy%20%20Qualifications%20Policy%20POL11%20v4.PDF>

Regulations

<http://www.filefactory.com/file/65cxuftzoxmh/Regulations.pdf>

Engineers Australia References

www.highlightcomputer.com/engineersaustraliareferences.htm

- ED 308 Change Management

http://www.filefactory.com/file/4cxrjx86buot/n/9_Leadership_Change_Management_zip

- ED309 Educational Communication

http://www.filefactory.com/file/6tbjy1omi7kz/n/1_Educational_Communication_zip

- ED 407 Learning Environment

<http://www.filefactory.com/file/31o7fw99ux7l/ED%20407%20Learning%20Environment.zip>

- ED311 Outcome based Education

<http://www.filefactory.com/file/6sq2l3hmac3b/Final%20OBE%20Training%20at%20Myanmar%20July%202014.pptx>

Part (2) Myanmar Engineering Council's Accreditation Compliance Practice

- ED301P- Curriculum design for accreditation compliance

<http://www.filefactory.com/file/2vyvpy64k4w3/Accreditation%20Manual.pdf>

Example

www.highlightcomputer.com/OverallProgramGeneral.pdf

- ED302P-Overall accreditation and compliance practice

<http://www.filefactory.com/file/2vyvpy64k4w3/Accreditation%20Manual.pdf>

<http://www.highlightcomputer.com/Accreditation.htm>

Preparation for self accreditation report

<http://www.filefactory.com/file/43x0yutpx31v/2%20SAR.pptx>

Engineering Accreditation Plan

<http://www.filefactory.com/file/2ynzo3fydckb/2015%20YTU%20First%20Workshop.pptx>

ASSIGNMENT

Prepare the portfolios for your section/ department to comply with Myanmar Engineering Council's Accreditation Requirements.

Level 4-Specialized Teaching Areas

The students will have to write 20 pages study report for each of the subjects outlined in the Part 1 of any level .

The report needs to include

- Book review- Review on each chapter of the book highlighting the key concepts, points, key theory & practical application concepts
- Own idea on how to apply those concepts in real practical applications.
- Examples of curriculum designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book

The book references for the subjects can be downloaded from the following links by entering the given password.

Password- to be given

- ED 308 Computer Supported Learning & Distance Education
<http://www.filefactory.com/file/4mdzrx52kl45/ED%20308%20Computer%20Supported%20Learning%20%26amp%3B%20Distance%20Education.zip>
- ED 304 Maths Teaching
<http://www.filefactory.com/file/60ngdjnse60x/ED%20304%20Maths%20Teaching.zip>
- ED 305 Science Teaching
<http://www.filefactory.com/file/4hqlf7r16xyf/ED%20305%20Science%20Teaching.zip>
- ED 306 Technology Teaching
<http://www.filefactory.com/file/3crwj4pdyt7b/ED%20306%20Techology%20Teaching.zip>
- ED 404 Educational Research (Part 2)
<http://www.filefactory.com/file/42pl9c8013ab/ED%20404%20Educational%20Research.zip>

- ED310 Learning Technology I & II

http://www.filefactory.com/file/3bsfz0ehba7z/n/5_Learning_Technology_1.zip

http://www.filefactory.com/file/cvavvr9gonr/n/6_Learning_Technology_2.zip

- ED312 Technology in Classrooms

http://www.filefactory.com/file/7jcivu232opx/n/7_Technology_in_classroom.zip

IQY Technical College

of Highlight Computer Group

www.highlightcomputer.com

Affiliated to Singapore Institute of Engineering Technologists & St Clements
Technological University of British West Indies

Diploma in Engineering Education Training Program

www.highlightcomputer.com/dipengged1.htm

Diploma in Engineering Education Curriculum

Curriculum Click [HERE](#) to download

Study Guide Click [HERE](#) to download

Curriculum Click [HERE](#) to download

Study Guide Click [HERE](#) to download

Diploma in Technical Teaching Resources Click [HERE](#)

Two Weeks Training Course Resources

2 weeks training course program outline , Click [HERE](#)

2 weeks training course detailed program, Click [HERE](#)

2 weeks training course program outline , Click [HERE](#)

2 weeks training course detailed program, Click [HERE](#)

2 weeks training course Record Worksheets Click [HERE](#)

POWER POINTS

POWER POINT

Day1Session3.ppt (0.28MB)

<http://www.mongroupsyzdney1.com/Day1Session3.ppt>

<http://www.filefactory.com/file/3iplqaoqoa9/n/Day1Session3.ppt>

AUDIO

<http://yourlisten.com/Kyawnaing2524/day-1-session-3>

POWER POINT

Day2Session2.ppt (10.52MB)

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<http://www.filefactory.com/file/g1s8vs9ex71/n/Day2Session2.ppt>

AUDIO

<http://yourlisten.com/Kyaw.Naing/day-2-session-2>

POWER POINT

Day3Session1.ppt (3.26MB)

<http://www.mongroupsydney1.com/Day3Session1.ppt>

<http://www.filefactory.com/file/6wotz02sfoct/n/Day3Session1.ppt>

AUDIO

<http://yourlisten.com/Kyaw.Naing/day-3-session-1>

POWER POINT

Day 4 Session 2

<http://www.mongroupsydney1.com/Day4Session2.ppt>

<http://www.filefactory.com/file/20f4rg477rll/Day4Session2.ppt>

AUDIO

<http://yourlisten.com/Kyaw.Naing/day-4-session-2>

POWER POINT

Day5Session1.ppt (20.26MB)

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<http://www.filefactory.com/file/b7m0w90g5iv/n/Day5Session1.ppt>

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<http://yourlisten.com/Kyaw.Naing/day-5-session-1b>

POWER POINT

Day5Session2.ppt (2.54MB)

<http://www.mongroupsydney1.com/Day5Session2.ppt>

<http://www.filefactory.com/file/6ivsoirx2q53/Day5Session2.ppt>

AUDIO

<http://yourlisten.com/Kyaw.Naing/day-5-session-23>

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Day6Session1.ppt (6.34MB)

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AUDIO

<http://yourlisten.com/Kyaw.Naing/day-6-session-1>

POWER POINT

Day6Session2.ppt (0.56MB)

<http://www.filefactory.com/file/eeil5ys4ad5/n/Day6Session2.ppt>

AUDIO

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POWER POINT

Day6Session2+3.ppt (4.63MB)

<http://www.mongroupsydney1.com/Day6Session23.ppt>

<http://www.filefactory.com/file/43fpt0cwbm5d/n/Day6Session2+3.ppt>

AUDIO

<http://yourlisten.com/Kyaw.Naing/day-6-session-23>

POWER POINT

Day7Session2+3Mod.pdf (42.53MB)

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<http://www.filefactory.com/file/1ikpltc7rck9/n/Day7Session2+3Mod.pdf>

AUDIO

<http://yourlisten.com/Kyaw.Naing/day-7-session23>

POWER POINT

Day8Session1.ppt (1.15MB)

<http://www.mongroupsydney1.com/Day8Session1.ppt>

<http://www.filefactory.com/file/5fv0twznzs5cv/n/Day8Session1.ppt>

AUDIO

<http://yourlisten.com/Kyaw.Naing/day-8-session-1a>

POWER POINT

Day8Session2+3.pdf (17.25MB)

<http://www.mongroupsydney1.com/Day8Session2+3.pdf>

<http://www.filefactory.com/file/3r6chs9kqc9h/n/Day8Session2+3.pdf>

AUDIO

<http://yourlisten.com/Kyaw.Naing/day-8-session-23>

POWER POINT

Day9Session2+3.ppt (0.51MB)

<http://www.mongroupsydney1.com/Day9Session23.ppt>

<http://www.filefactory.com/file/6bn1bijhuz/n/Day9Session2+3.ppt>

AUDIO

<http://yourlisten.com/Kyaw.Naing/day-9-session-23>

POWER POINT

Day10Session1.ppt (11.78MB)

<http://www.mongroupsydney1.com/Day10Session1.ppt>

<http://www.filefactory.com/file/10mfxaxufq4r/Day10Session1.ppt>

AUDIO

<http://yourlisten.com/Kyaw.Naing/day-10-session-1>

POWER POINT

Day10Session2+3.ppt (0.57MB)

<http://www.mongroupsydney1.com/Day10Session23.ppt>

<http://www.filefactory.com/file/1ryzba7f66c7/Day10Session2+3.ppt>

AUDIO

<http://yourlisten.com/Kyaw.Naing/day-10-session-23>

POWER POINTS WITH AUDIO

Day 1 Session 3A.zip (41.59MB)

<http://www.filefactory.com/file/pfj082llzzf/Day1Session3PPTwithAudio.zip>

Day 2 Session 2A.zip (45.42MB)

<http://www.filefactory.com/file/4bc2I5a9h6f9/Day2Session2PPTwithAudio.zip>

Day 3 Session 1A.zip (54.45MB)

<http://www.filefactory.com/file/4wfmlyk2uq0z/Day3Session1PPTwithAudio.zip>

Day 4 Session 2A.zip (66.62MB)

http://www.filefactory.com/file/565rmb1n39op/n/Day_4_Session_2A.zip

Day 5 Session 1A.zip (77.86MB)

http://www.filefactory.com/file/75isx2vnk5dv/n/Day_5_Session_1A.zip

Day 5 Session 2A

http://www.filefactory.com/file/1a5vrach5ibt/Day_5_Session_2A.zip

Day 6 Session 1A.zip (91.42MB)

http://www.filefactory.com/file/4ofk5oigav1n/n/Day_6_Session_1A.zip

Day 6 Session 23A.zip (61.29MB)

<http://www.filefactory.com/file/54i7504ymx1x/Day6Session23PPTwithAudio.zip>

Day 7 Session 23A.zip (226.17MB)

http://www.filefactory.com/file/38t5wd7eancf/n/Day_7_Session_23A.zip

Day 8 Session 1A.zip (86.47MB)

http://www.filefactory.com/file/55q1g6ol05gv/n/Day_8_Session_1A.zip

Day 8 Session 23A

http://www.filefactory.com/file/7edyewtzfvd/Day_8_Session_23A.zip

Day 9 Session 23A.zip (32.47MB)

<http://www.filefactory.com/file/51l8euxvugox/Day9Session23PPTwithAudio.zip>

Day 9 Session 2+3.zip (42MB) with References Resources

<http://www.filefactory.com/file/67v7vr63gnj5/Day9Session23PPTwithAudio.zip>

Day 10 Session 1A

http://www.filefactory.com/file/1pub28vgql41/Day_10_Session_1A.zip

Day 10 Session 23A

http://www.filefactory.com/file/2au2d9n4837f/Day_10_Session_23A.zip

AUDIO DOWNLOAD (MP3)

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Day 2 Session 2 - Audio.zip (35.51MB)

http://www.filefactory.com/file/20t89q78dhah/n/Day_2_Session_2_-_Audio.zip

Day 3 Session 1 - Audio.zip (51.78MB)

http://www.filefactory.com/file/5fvmmgv49y07/n/Day_3_Session_1_-_Audio.zip

Day 4 Session 2 - Audio.zip (61.03MB)

http://www.filefactory.com/file/257aj7ips37/n/Day_4_Session_2_-_Audio.zip

Day 5 Session 1 - Audio.zip (58.49MB)

http://www.filefactory.com/file/1kiux5ccc873/n/Day_5_Session_1_-_Audio.zip

Day 6 Session 1 - Audio.zip (86.22MB)

http://www.filefactory.com/file/71o9ps6xe0z9/n/Day_6_Session_1_-_Audio.zip

Day 6 Session 23 - Audio.zip (54.8MB)

http://www.filefactory.com/file/6q9ypxgudxvf/n/Day_6_Session_23_-_Audio.zip

Day 5 Session 2 - Audio.zip (64.39MB)

http://www.filefactory.com/file/64h81tnu8air/n/Day_5_Session_2_-_Audio.zip

Day 7 Session 23 - Audio.zip (11.82MB)

http://www.filefactory.com/file/785qljbnsxzf/n/Day_7_Session_23_-_Audio.zip

Day 8 Session 1 - Audio.zip (85.75MB)

http://www.filefactory.com/file/261i358b6dpx/n/Day_8_Session_1_-_Audio.zip

Day 8 Session 23 - Audio.zip (4.3MB)

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Day 9 Session 23 - Audio.zip (32.22MB)

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Day 10 Session 1 - Audio.zip (65.79MB)

http://www.filefactory.com/file/2knsyw8gmt7/n/Day_10_Session_1_-_Audio.zip

Day 10 Session 23 - Audio.zip (50.39MB)

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Diploma in Engineering Education Resources

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Dip Engg Ed with subject instruction4.pdf (1.09MB)

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Preparation for Myanmar Engineering Council Accreditation CourseV3.pdf (0.5MB)

http://www.filefactory.com/file/4bgzbve8lxcf/n/Preparation_for_Myanmar_Engineering_Council_Accreditation_CourseV3.pdf

Vocational Education Teacher Education.pdf (0.23MB)

http://www.filefactory.com/file/1k4vfjy94e1t/n/Vocatinal_Education_Teacher_Education.pdf

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ED 102 Education Technology.zip (8.03MB)

http://www.filefactory.com/file/7cm2lmtfpxsf/n/ED_102_Education_Technology.zip

ED 103 Teaching Practice.zip (3.44MB)

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ED 104 Lesson Planning.zip (6.36MB)

http://www.filefactory.com/file/2504ph61mvy9/n/ED_104_Lesson_Planning.zip

ED 105 Principle of Learning.zip (22.71MB)

http://www.filefactory.com/file/57aec9659o7n/n/ED_105_Principle_of_Learning.zip

ED 106 Interpreting Curriculums.zip (2.15MB)

http://www.filefactory.com/file/6x2w86txfesp/n/ED_106_Interpreting_Curriculums.zip

ED 107 Teaching & Learning.zip (46.85MB)

http://www.filefactory.com/file/5c15a5k9sobb/n/ED_107_Teaching_&_Learning.zip

ED 201 Class Room Mgt & Teaching.zip (6.05MB)

http://www.filefactory.com/file/6jg5ixiodatp/n/ED_201_Class_Room_Mgt_&_Teaching.zip

ED 202 Curriculum & Design.zip (5.27MB)

http://www.filefactory.com/file/5je0086xv2g7/n/ED_202_Curriculum_&_Design.zip

ED 205 Teaching & Measuring.zip (3.78MB)

http://www.filefactory.com/file/i1cd1ba6dix/n/ED_205_Teaching_&_Measuring.zip

ED 206 Designing Instructions & Assessment.zip (21.23MB)

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ED 208 Inclusive Teaching.zip (5.38MB)

http://www.filefactory.com/file/1xr41whxmlcx/n/ED_208_Inclusive_Teaching.zip

ED 304 Maths Teaching.zip (10MB)

http://www.filefactory.com/file/2rbpfhn85193/n/ED_304_Maths_Teaching.zip

ED 305 Science Teaching.zip (14.88MB)

http://www.filefactory.com/file/6yvzh8hc5ge1/n/ED_305_Science_Teaching.zip

ED 306 Techology Teaching.zip (4.56MB)

http://www.filefactory.com/file/srx9d671hl9/n/ED_306_Techology_Teaching.zip

ED 308 Computer Supported Learning & Distance Education.zip (44.38MB)

http://www.filefactory.com/file/7hsrr19eogfv/n/ED_308_Computer_Supported_Learning_&_Distance_Education.zip

ED309 Educational Communication Assignment Tasks-806A Modified.zip (0.21MB)

http://www.filefactory.com/file/568eei7del9h/n/ED309_Educational_Communication_Assignment_Tasks-806A_Modified.zip

ED309 Educational Communication Assignment Tasks-806A.zip (1.18MB)

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ED 401 Adult Learning Technology.zip (36.88MB)

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ED 402 Educational Leadership.zip (14.42MB)

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ED 404 Educational Research.zip (10.56MB)

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ED 405 Training Principle.zip (2.73MB)

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ED 407 Learning Environment.zip (29.13MB)

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ED 408 Rules Regulations & Accreditation.zip (7.83MB)

http://www.filefactory.com/file/dwobfiin1pv/n/ED_408_Rules_Regulations_&_Accreditation.zip

ED 409 Outcome Based Education.zip (0.88MB)

http://www.filefactory.com/file/6kjqx94bp50d/n/ED_409_Outcome_Based_Education.zip

ED411.zip (2.39MB)

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ED412.zip (4.72MB)

<http://www.filefactory.com/file/25ybczqbip6f/n/ED412.zip>

ED413 Par1 Ethics.zip (1.98MB)

http://www.filefactory.com/file/681yypraxpcv/n/ED413_Par1_Ethics.zip

ED413 Part2 New pedagogy , Industrial co-operation & Lifelong learning.zip (7.32MB)

http://www.filefactory.com/file/4jbocnnuosh1/n/ED413_Part2_New_pedagogy_Industrial_co-operation_&_Lifelong_learning.zip

ED413 Part3 Strategic Planning in Engg Education.zip (2.37MB)

http://www.filefactory.com/file/2jeuyfg7l4pt/n/ED413_Part3_Strategic_Planning_in_Engg_Education.zip

ED411+412+413 General References.zip (28.39MB)

http://www.filefactory.com/file/4gbk3aciu755/n/ED411+412+413_General_References.zip

3.Assessment+Working in VET.zip (16.03MB)

http://www.filefactory.com/file/3jqc8c9tt0ut/n/3.Assessment+Working_in_VET.zip

4.Learning+Facilitation+Teaching in VET.zip (13.49MB)

http://www.filefactory.com/file/271eceluq4f/n/4.Learning+Facilitation+Teaching_in_VET.zip

7.Technology in classroom.zip (0.49MB)

http://www.filefactory.com/file/5rc4zjqhqzf5/n/7.Technology_in_classroom.zip

8.Guides for preparing VET portfolios.zip (0.28MB)

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10.Workbased Learning & Assessment (2).zip (22.95MB)

[http://www.filefactory.com/file/1s3rzm1dm1rv/n/10.Workbased_Learning_&_Assessment_\(2\).zip](http://www.filefactory.com/file/1s3rzm1dm1rv/n/10.Workbased_Learning_&_Assessment_(2).zip)

12. Learning Environment.zip (14.55MB)

http://www.filefactory.com/file/5icok9a01fhf/n/12._Learning_Environment.zip

Diploma+ Advanced Diploma in Management Study Guide.pdf (0.3MB)

http://www.filefactory.com/file/rwrnj8ar8cx/n/Diploma+Advanced_Diploma_in_Management_Study_Guide.pdf

Teaching Portfolio Preparation Resources

Theory of Education+ Educational Technology & Teaching Practice

Diploma in Teaching Practice

http://www.filefactory.com/file/65jbab8hy8nt/Diploma_in%20Teaching%20Practice.pdf

ED107 Lesson Slide 1 to 20.pdf (3.62MB)

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ED 107 Lesson Slide 1 to 20 Mod.pdf (4.71MB)

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ED107 Lesson Slide 21 to 40.pdf (3.06MB)

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ED107 Lesson Slide 41 to 60.pdf (3.27MB)

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ED107 Lesson Slide 61 to 80.pdf (3.22MB)

http://www.filefactory.com/file/4x6b1z68u26j/n/ED107_Lesson_Slide_61_to_80.pdf

ED107 Lesson Slide 81 to 100.pdf (2.97MB)

http://www.filefactory.com/file/5409jr1rd4dt/n/ED107_Lesson_Slide_81_to_100.pdf

ED107 Lesson Slide 101 to 120.pdf (3.07MB)

http://www.filefactory.com/file/3wsxm4x7ozgj/n/ED107_Lesson_Slide_101_to_120.pdf

ED107 Lesson Slide 121 to 140.pdf (2.69MB)

http://www.filefactory.com/file/5jvr2yubiw61/n/ED107_Lesson_Slide_121_to_140.pdf

ED107 Lesson Slide 141 to 160.pdf (2.57MB)

http://www.filefactory.com/file/5pwkqixzihbl/n/ED107_Lesson_Slide_141_to_160.pdf

ED107 Lesson Slide 161 to 180.pdf (2.99MB)

http://www.filefactory.com/file/3jyqk9qcd0z9/n/ED107_Lesson_Slide_161_to_180.pdf

ED107 Lesson Slide 181 to 200.pdf (2.76MB)

http://www.filefactory.com/file/6p7cfqqamsc7/n/ED107_Lesson_Slide_181_to_200.pdf

ED107 Lesson Slide 201 to 220.pdf (2.86MB)

http://www.filefactory.com/file/1g73b41rh0yf/n/ED107_Lesson_Slide_201_to_220.pdf

ED107 Lesson Slide 221 to 240.pdf (3.27MB)

http://www.filefactory.com/file/659n38dkjogp/n/ED107_Lesson_Slide_221_to_240.pdf

ED107 Lesson Slide 241 to 260.pdf (2.83MB)

http://www.filefactory.com/file/3922kd8wlp5v/n/ED107_Lesson_Slide_241_to_260.pdf

ED107 Lesson Slide 261 to 280.pdf (2.84MB)

http://www.filefactory.com/file/749hkwbbdps9/n/ED107_Lesson_Slide_261_to_280.pdf

ED107 Lesson Slide 281 to 304.pdf (3.78MB)

http://www.filefactory.com/file/2v3t2aurbbjv/n/ED107_Lesson_Slide_281_to_304.pdf

ED 107 Exercises.pdf (2.3MB)

http://www.filefactory.com/file/2m9ymal4pkkr/n/ED_107_Exercises.pdf

Curriculum Interpretation

ED108 Lesson Slide 1 to 20.pdf (2.37MB)

http://www.filefactory.com/file/5gexj68voz1t/n/ED108_Lesson_Slide_1_to_20.pdf

ED108 Lesson Slide 21 to 40.pdf (2.69MB)

http://www.filefactory.com/file/5mfjqosqmw6b/n/ED108_Lesson_Slide_21_to_40.pdf

ED108 Lesson Slide 41 to 60.pdf (2.27MB)

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ED108 Lesson Slide 61 to 80.pdf (2.12MB)

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ED108 Lesson Slide 81 to 100.pdf (2.22MB)

http://www.filefactory.com/file/38lndpf840b5/n/ED108_Lesson_Slide_81_to_100.pdf

ED108 Lesson Slide 101 to 120.pdf (2.57MB)

http://www.filefactory.com/file/1t6q4zvtdfcf/n/ED108_Lesson_Slide_101_to_120.pdf

ED108 Lesson Slide 121 to 140.pdf (2.32MB)

http://www.filefactory.com/file/4ctrdna2c3zv/n/ED108_Lesson_Slide_121_to_140.pdf

ED108 Lesson Slide 141 to 168.pdf (2.7MB)

http://www.filefactory.com/file/ozi06sdlkmt/n/ED108_Lesson_Slide_141_to_168.pdf

Ed108 English.ppt (11.04MB)

http://www.filefactory.com/file/2qhtrb6jqc0v/n/Ed108_English.ppt

ED 108 Exercises.pdf (1.22MB)

http://www.filefactory.com/file/6a73s45dcutt/n/ED_108_Exercises.pdf

Ed108.pdf (10.83MB)

<http://www.filefactory.com/file/6mx994obk6ah/n/Ed108.pdf>

Ed108.ppt (11.07MB)

<http://www.filefactory.com/file/6u1gtnz3hwj5/n/Ed108.ppt>

St Clements Technological University

Bachelor of Teaching (School & Vocational Education) Course Resources

B Teaching (School & Vocational).pdf (0.21MB)

[http://www.filefactory.com/file/n10lkp9za4n/n/B_Teaching_\(School_&_Vocational\).pdf](http://www.filefactory.com/file/n10lkp9za4n/n/B_Teaching_(School_&_Vocational).pdf)

BACHELOR OF TEACHING.pdf (0.24MB)

http://www.filefactory.com/file/42yeuz4u0xrx/n/BACHELOR_OF_TEACHING.pdf

Vocational_Education_Teacher_Education.pdf (0.23MB)

http://www.filefactory.com/file/4wfv9n3flst1/n/Vocatinal_Education_Teacher_Education.pdf

BACHELOR OF TEACHING.doc (0.04MB)

http://www.filefactory.com/file/5tab70ou3pjn/n/BACHELOR_OF_TEACHING.doc

ED101 Child Studies.zip (8.2 MB)

http://www.filefactory.com/file/7korkflzv8q7/ED_101S%20Child%20Teaching.zip

ED 102S Teaching & Learning Concepts.zip (1.32MB)

http://www.filefactory.com/file/1cr2kr8fs0ht/n/ED_102S_Teaching_&_Learning_Concepts.zip

ED 103S Middle School Teaching.zip (0.89MB)

http://www.filefactory.com/file/61hwczw1llsp/n/ED_103S_Middle_School_Teaching.zip

ED 104S High School Teaching.zip (2.9MB)

http://www.filefactory.com/file/4426yezka5w5/n/ED_104S_High_School_Teaching.zip

ED 105S Teaching Portfolios.zip (0.93MB)

http://www.filefactory.com/file/47w1ibhnh9v1/n/ED_105S_Teaching_Portfolios.zip

ED 106S Interpreting Curriculum.zip (2.15MB)

http://www.filefactory.com/file/2rdxksuozrxt/n/ED_106S_Interpreting_Curriculum.zip

ED 201S-VET Policy.zip (5.19MB)

http://www.filefactory.com/file/1q8oy93ztpur/n/ED_201S-VET_Policy.zip

ED 202S -Working in School Vocational Education.zip (2.84MB)

http://www.filefactory.com/file/2ufpth2ygy3j/n/ED_202S_-Working_in_School_Vocational_Education.zip

ED 203S -4.Learning+Facilitation+Teaching in VET.zip (13.47MB)

http://www.filefactory.com/file/1dpq4x20hpyb/n/ED_203S_-4.Learning+Facilitation+Teaching_in_VET.zip

ED 204S-Workbased Learning & Assessment Samples.zip (22.83MB)

http://www.filefactory.com/file/6tvk6bf7rhgb/n/ED_204S-Workbased_Learning_&_Assessment_Samples.zip

ED 205S-Guides for preparing teaching & training portfolios.zip (0.28MB)

http://www.filefactory.com/file/6wbht76ud0up/n/ED_205S-Guides_for_preparing_teaching_&_training_portfolios.zip

ED 206S-. Learning Environment.zip (14.53MB)

http://www.filefactory.com/file/7kf9ffq45met/n/ED_206S-. Learning_Environment.zip

TeachingandLearning(LeadershipTraining).pdf (0.12MB)

[http://www.filefactory.com/file/1nnceyou98dln/n/TeachingandLearning\(LeadershipTraining\).pdf](http://www.filefactory.com/file/1nnceyou98dln/n/TeachingandLearning(LeadershipTraining).pdf)

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Bachelor of Education (School& Vocational Education) Course Resources

BEd Syllabus.pdf (25.57MB)

http://www.filefactory.com/file/47ok3yh0ptdf/n/BEd_Syllabus.pdf

Vocatinal_Education_Teacher_Education.pdf (0.23MB)

http://www.filefactory.com/file/7dio96wj0fpn/n/Vocatinal_Education_Teacher_Education.pdf

ED 101M Theory of Education.zip (23.6MB)

http://www.filefactory.com/file/37wny3i62snh/n/ED_101M_Theory_of_Education.zip

ED 102M Education Technology.zip (8.05MB)

http://www.filefactory.com/file/4737kz2hd25v/n/ED_102M_Education_Technology.zip

ED 103M Teaching Practice.zip (3.43MB)

http://www.filefactory.com/file/7j6gqcne2vhx/n/ED_103M_Teaching_Practice.zip

ED 104M Lesson Planning.zip (6.36MB)

http://www.filefactory.com/file/1tflgnii2np/n/ED_104M_Lesson_Planning.zip

ED 105M Principle of Learning.zip (22.69MB)

http://www.filefactory.com/file/42ca0fk9237/n/ED_105M_Principle_of_Learning.zip

ED 106M Interpreting Curriculums.zip (2.15MB)

http://www.filefactory.com/file/3kh03prq42qx/n/ED_106M_Interpreting_Curriculums.zip

ED 106M Reading & Writing to Learn.zip (34.11MB)

http://www.filefactory.com/file/iz7lmx1wmq9/n/ED_106M_Reading_&_Writing_to_Learn.zip

ED 107M Teaching & Learning.zip (46.75MB)

http://www.filefactory.com/file/631987knookb/n/ED_107M_Teaching_&_Learning.zip

ED 108M Teaching Elementary.zip (12.08MB)

http://www.filefactory.com/file/5c6qccz7cucr/n/ED_108M_Teaching_Elementary.zip

ED 109M Reading & Writing to Learn.zip (34.11MB)

http://www.filefactory.com/file/4gj7suey229v/n/ED_109M_Reading_&_Writing_to_Learn.zip

ED 201M Class Room Mgt & Teaching.zip (6.07MB)

http://www.filefactory.com/file/kgrydg3ypwb/n/ED_201M_Class_Room_Mgt_&_Teaching.zip

ED 202M Curriculum & Design.zip (5.3MB)

http://www.filefactory.com/file/7cqhq7j9kwh/n/ED_202M_Curriculum_&_Design.zip

ED 203M K-12 Education.zip (3.17MB)

http://www.filefactory.com/file/4js0izomztn/n/ED_203M_K-12_Education.zip

ED 204M School & Vocational Education.zip (26.56MB)

http://www.filefactory.com/file/3qmrqi582r/n/ED_204M_School_&_Vocational_Education.zip

ED 205M Teaching & Measuring.zip (3.79MB)

http://www.filefactory.com/file/6kf3r9t4h77h/n/ED_205M_Teaching_&_Measuring.zip

ED 206M Designing Instructions & Assessment.zip (21.22MB)

http://www.filefactory.com/file/728astf67jp5/n/ED_206M_Designing_Instructions_&_Assessment.zip

ED 207M Teacher Education.zip (9.65MB)

http://www.filefactory.com/file/7i2ete7opoq1/n/ED_207M_Teacher_Education.zip

ED 208M Inclusive Teaching.zip (5.39MB)

http://www.filefactory.com/file/bn1hae6bi4l/n/ED_208M_Inclusive_Teaching.zip

ED 301M Educational Policy.zip (3.85MB)

http://www.filefactory.com/file/3sxa5wbss6t3/n/ED_301M_Educational_Policy.zip

ED 302M English Teaching.zip (2.53MB)

http://www.filefactory.com/file/2d8pfjz4qip/n/ED_302M_English_Teaching.zip

ED 303M Humanities Teaching.zip (3.11MB)

http://www.filefactory.com/file/3kg8izoj3rt9/n/ED_303M_Humanities_Teaching.zip

ED 304M Maths Teaching.zip (10.03MB)

http://www.filefactory.com/file/66veqfc8j3lz/n/ED_304M_Maths_Teaching.zip

ED 305M Science Teaching.zip (14.87MB)

http://www.filefactory.com/file/5fj9qd094r8l/n/ED_305M_Science_Teaching.zip

ED 306M Technology Teaching.zip (4.63MB)

http://www.filefactory.com/file/4s19f6qglmud/n/ED_306M_Technology_Teaching.zip

ED 307M Business Teaching.zip (12.84MB)

http://www.filefactory.com/file/1p17ptf0vnf9/n/ED_307M_Business_Teaching.zip

ED 308M Computer Supported Learning & Distance Education.zip (44.37MB)

http://www.filefactory.com/file/199w1e2bz4n/n/ED_308M_Computer_Supported_Learning_& Distance_Education.zip

ED 401M Adult Learning Technology.zip (37.55MB)

http://www.filefactory.com/file/7b0acvxskizv/n/ED_401M_Adult_Learning_Technology.zip

ED 402M Educational Leadership.zip (14.42MB)

http://www.filefactory.com/file/rsofrjay7zf/n/ED_402M_Educational_Leadership.zip

ED 403M School Culture.zip (14.7MB)

http://www.filefactory.com/file/crtcalwa6yx/n/ED_403M_School_Culture.zip

ED 404M Educational Research.zip (10.58MB)

http://www.filefactory.com/file/18hsluxzajyf/n/ED_404M_Educational_Research.zip

ED 405M Training Principle.zip (2.73MB)

http://www.filefactory.com/file/l89e26ckyup/n/ED_405M_Training_Principle.zip

ED 406M Educational Policy.zip (9.04MB)

http://www.filefactory.com/file/3xbww7cqc4z9/n/ED_406M_Educational_Policy.zip

ED 407M Learning Environment.zip (29.11MB)

http://www.filefactory.com/file/3t0xpd7mkrl/n/ED_407M_Learning_Environment.zip

ED 408M Middle & High School Teaching.zip (3.66MB)

http://www.filefactory.com/file/efhe9b3ae4p/n/ED_408M_Middle_& High_School_Teaching.zip

Preparation for Teaching Practice & TVET Teacher Training (Introductory 2 weeks course)

Course Outline

This two weeks course is designed as Technical Teacher Education Professional Development course for teachers working at Government Schools, Private Schools, TVET Centres, Voluntary Schools as well as Government Technological Universities and Technical Colleges to effectively design, teach and assess the quality learning programs at upper secondary, TVET and tertiary technical education sectors..

Aim of the course

To provide the training to the technical education teachers to understand and apply the principles of secondary and adult & vocational education outcome based education, competency based training. compliance with Qualification & Training Authority-such as Ministry of Education/TVET Council etc , Educational Regulations and Standards by taking part in intensive workshop focussing on curriculum development and assessment documents portfolio preparations for meeting the relevant educational standards.

Outcome of the course

After completion of this course, the participant will be able to

- Understand the objective of National Education Strategic Plan 2016 to 2021 of Myanmar.
- Understand and utilize the principle & features of Outcome based education & critical thinking
- Understand the Technical & Vocational Education, Work based Learning and Competency based training & assessments tasks.
- Acquire the knowledge on Competency based education and training and training packages being used in industrialized countries (Examples of Australian Standard Competency based vocational education & training system.
- Get the information & knowledge on Current issues related to international & Myanmar TVET .
- Participate in hand on practice workshop focussing on curriculum development & collecting and preparing the materials for educational quality control tasks.

- Explore the School , Technical ,Adult & Vocational Educational Literatures, Textbooks, References & Resources, e-Learning, Learning Technology & Technology in classroom resources knowledge sharing.
- Certificate/Diploma of Teaching Practice & Certificate/Diploma of Vocational Education & Training will be issued.

Target Group

- TVET Teachers, Voluntary School Teachers, Government & Private Vocational / Engineering Education Teachers.

Arrangement of attendances

- It will be teacher professional development course for various Government & Non Government Schools and Colleges. The attenders should seek the appropriate permission from their employments.

Place of the course

- Appropriate training venue arranged by Myanmar Vocational Training Collaboration and its partnered organization: Welfare Evolvment & Development Organization

Course Duration

12 days (Mondays to Saturdays) (December 2017)(The exact date will be provided)

Requirements

The participants will need to bring the documents related to teaching plan, curriculum, course materials or reference notes that they are using in teaching. Access to laptop/computer will be required for the participants. Teaching aids such as white board , computer & Overhead Projector will be required to show the slides. It will be better to access Internet.

Sessions , trainers and facilitators

Day	Session 1 9 to 10:30AM	Tea break	Session 2 11 to 12:30 Noon	Lunch break 12:30 to 1:30 PM	Session 3 1:30 to 3:30PM (The extended time up to 5PM can be taken up to the duration of workshop & group works)
1	<p>Welcome speech by</p> <ul style="list-style-type: none"> Chairman of Welfare Evolvement & Development Organization Introduction to trainers & facilitators Outline of the program Participants ' self introduction General information and arrangement <p>(detailed time schedule needs to be arranged)</p>	Morning tea and networking	<p>Overview of National Education Strategic Plan</p> <p>Role of TVET</p> <p>For TU/GTC Teachers</p> <p>Overview of Myanmar Engineering Council Law, Regulation, Accreditation Principles</p>	Lunch	<p>Theory of Education+ Curriculum</p> <p>ED107 Theory of Education, Educational Technology & Teaching Practice (15 Credits)</p> <p>ED107A-Theory of Education (ED101) (Slide 1 to 60 Principle of Learning)</p> <p>ED107B-Education Technology (ED102) (Slide 61 to 100)</p> <p>Supporting slides</p> <p>Teacher Training/ Support Lesson Slides/</p> <ul style="list-style-type: none"> ED101-Teaching Support-Fundamental of Education.ppt <p>For TU/GTC Teachers</p> <p>Highlighting 9.2.1 General Information (MEng C)</p> <p>9.2.2 Programme Objectives</p> <p>& writing the objectives of the course by Dr Kyaw Naing</p> <p>Reference Reading (Education theory)</p> <p>ED 106 Interpreting Curriculums</p> <p>E6%20Interpreting%20Curriculums.zip</p> <p>Practical Information</p> <p>Provide the examples of how to set up the program</p>

					<p>Stage 1 Competencies of PEng, Eng Technologists & Eng Associates</p> <p>Engineering job competencies http://www.highlightcomputer.com/EngineeringJobCompetencies.pdf</p> <p>Participants' tasks</p> <p>Write the Lesson objectives of one lesson in teaching/ engineering programs that they are teaching, discussion</p>
2	<p>Teaching Practice</p> <p>ED107C-Teaching Practice (ED103 Classroom Management) (Slide 101 to 140)</p> <p>Supporting slides</p> <ul style="list-style-type: none"> ED103 Classroom Management- bestpracticesinteaching.ppt 	<p>Morning tea and networking</p>	<p>Outcome based Education + Competency based education & training & how the competency based training is important to reach the desired outcome</p> <p>By Dr Kyaw Naing</p> <p>References</p> <p><i>Characteristics of Learning Outcomes</i></p> <p>In Certificate I to Vocational Diploma http://www.filefactory.com/file/32hy8l1za8wz/TAE10_R3.4.doc m Page 36 to 41</p>	<p>Lunch</p>	<p>Critical Thinking</p> <p>National Strategic Plan 2016-2021 Myanmar/ Grad Cert HEd/ ED431-434MP4/ ED431CriticalThinking 24 Slides.pptx</p>

			<p>Provide the level of performances of the students tasks in the curriculums & activities</p> <p>Sample Curriculums</p> <p>Certificate to Advanced Diploma http://www.highlightcomputer.com/detailedcontent.htm</p> <p>Bachelor degrees equivalent level http://highlightcomputer.com/B%20E+B%20App%20Sc(IT)+B%20Bus%20Course%20Detailed%20Contents.htm</p>		
3	<p>Lesson Planning ED107D-Lesson Planning (ED104 Teaching Portfolio)(Slide 241 to 300) ED107E-Teaching& Learning (Slide 141 to 160+ Slide 200 to 240)</p> <p>Supporting slides</p> <ul style="list-style-type: none"> • ED104 lesson planning.ppt <p>TU GTC Teachers 9.2.3 Learning Outcomes Requirement of Myanmar Engineering Council</p>	<p>Morning tea and networking</p>	<p>Career Flow Diagram & Vocational Training/ Resources MyanmarVocationalTraining Certificate TVET Lessons MVTCLLevelTraining Mvtccourseresources</p> <p>TU GTC Teachers Engineering Fundamental</p>	<p>Lunch</p>	<p>Curriculum Study Ed108 Supporting slides ED106-Interpreting Curriculum.ppt</p>

	<p>ED 202 Curriculum & Design http://www.filefactory.com/file/1jotv5d428j1/ED%20202%20Curriculum%20%26amp%3B%20Design.Zip</p> <p>Practical Example</p> <p>www.highlightcomputer.com/OverallProgramGeneral.pdf Page 13 to 21</p>				<p><u>Education Theory Reference</u></p> <p>ED 106 Interpreting Curriculums</p> <p>http://www.filefactory.com/file/1h141zxbv8z/ED%20106%20Interpreting%20Curriculums.zip</p>
4	<p><u>School Education</u> Overview of Year 9 to 12 Subjects http://www.highlightcomputer.com/nldschoo.htm http://www.highlightcomputer.com/y712.htm http://www.highlightcomputer.com/y712lessons.htm http://www.highlightcomputer.com/y910.htm</p> <p>TU GTC Teachers</p> <p><u>9.2.4 Academic Curriculum</u> <u>Discuss the programme structure and course contents(MEng C)</u></p>	<p>Morning tea and networking</p>	<p><u>General Knowledge related to overseas programs/ Vocational Training Packages</u> By Dr Kyaw Naing <u>Vocational Education Teacher Education</u> http://www.filefactory.com/file/4yb11lp1x9b/n/Vocatinal_Education_Teacher_Education_pdf</p> <p><u>Sample Training Packages</u> Electrotechnology/ Electronics/ /Communication UEE11_R1.5.docm (13.37MB) http://www.filefactory.com/file/1n283tjamw2p/n/UEE11_R1.5.doc</p>	<p>Lunch</p>	<p><u>Curriculum Development / Individual Teaching Needs Workshop</u></p> <p>Group work on selecting the Contents of curriculums & training packages into teaching curriculums of participants' institutions. Group discussion, feedback</p> <p>Facilitator</p> <p>Dr Kyaw Naing & Other trainers</p> <p><u>Examples</u> www.highlightcomputer.com/OverallProgramGeneral.pdf Page 22 to 43</p>

			<p>Electricity Supply UET12_R2.1.docm (7.86MB) http://www.filefactory.com/file/56saqflqmh41/n/UET12_R2.1.docm</p> <p>Electrical Power Generation UEP12_R2.1.docm (7.79MB) http://www.filefactory.com/file/52pe03hs2xq1/n/UEP12_R2.1.docm</p> <p>Automotive AUR12_R2.1.docm (13.37MB) http://www.filefactory.com/file/4qtgr5i39dzt/n/AUR12_R2.1.docm</p> <p>Manufacturing & Engineering (Mechanical) MEM05_R11.1.docm (9.8MB) http://www.filefactory.com/file/29evfecw9yk9/n/MEM05_R11.1.docm</p> <p>Marine MAR_R2.0.docm (1.78MB) http://www.filefactory.com/file/6sodu2z259j3/n/MAR_R2.0.docm</p>		<p>Samples http://www.highlightcomputer.com/BECurriculum.htm</p> <p>http://www.highlightcomputer.com/DiplomaAdvancedDiplomaCivilEngineeringCurriculum.htm</p> <p>http://www.highlightcomputer.com/DiplomaAdvancedDiplomaElectricalEngineeringCurriculum.htm</p> <p>http://www.highlightcomputer.com/DiplomaAdvancedDiplomaMechanicalEngineeringCurriculum.htm</p> <p>Examples Page 77 to 86 of www.highlightcomputer.com/OverallProgramGeneral.pdf</p>
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			<p>Textile</p> <p>LMT07_R4.1.docm (8.28MB) http://www.filefactory.com/file/6gea7ztqqsq3/n/LMT07_R4.1.docm</p> <p>Construction</p> <p>CPC08_R9.0.docm (9.59MB) http://www.filefactory.com/file/3j1y315nbze7/n/CPC08_R9.0.docm</p> <p>Information Technology</p> <p>ICA11_R2.0.docm (5.27MB) http://www.filefactory.com/file/4e3ioubld73n/n/ICA11_R2.0.docm</p> <p>Chemical</p> <p>PMA02_2.pdf (1.92MB) http://www.filefactory.com/file/2t53b3xj0slr/n/PMA02_2.pdf</p> <p>PMA02_1.pdf (1.65MB) http://www.filefactory.com/file/33ikm94dl8jb/n/PMA02_1.pdf</p> <p>Manufacturing</p> <p>MSA07_R8.4.docm (4.93MB) http://www.filefactory.com/file/4tcjlsetp0rd/n/MSA07_R8.4.docm</p>		
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			<p>TAE10_R3.4.docm (1.87MB) http://www.filefactory.com/file/566jfcvasu5/n/TAE10_R3.4.docm</p> <p>Gas</p> <p>UEG11_R2.0.docm (5.44MB) http://www.filefactory.com/file/6shho87gm1nh/n/UEG11_R2.0.docm</p> <p>Mining</p> <p>MNM05_3.pdf (2.28MB) http://www.filefactory.com/file/78fk485ew98v/n/MNM05_3.pdf</p> <p>MNM05_2.pdf (2.29MB) http://www.filefactory.com/file/72yjazer7njj/n/MNM05_2.pdf</p> <p>MNM05_1.pdf (1.77MB) http://www.filefactory.com/file/6ahwwdwosk8j/n/MNM05_1.pdf</p>		
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<p>5</p>	<p><u>Approach to various learning modes in VET</u></p> <p>By- Dr Kyaw Naing & the speakers from various technological universities</p> <p>Topics & References</p> <p><u>Practical focus</u></p> <p>Group Base learning.pdf (3.25MB) http://www.filefactory.com/file/266najok91o3/n/16.taadel401a_Plan_and_Organize_Group_Base_learning.pdf</p> <p>Facilitate Group based learning.pdf (2.81MB) http://www.filefactory.com/file/1tvk73q17j43/n/18.taadel402a_Facilitate_Group_based_learning.pdf</p> <p>Work based learning.pdf (4.15MB) http://www.filefactory.com/file/24apg5s5n0fx/n/22.taadel404a_Facilitate_work_based_learning.pdf</p> <p>individual learning.pdf (1.94MB) http://www.filefactory.com/file/4nmwy8ldewh1/n/20.taadel403a_Facilitate_individual_learning.pdf</p> <p>Distance based learning (2.56MB) http://www.filefactory.com/file/3w2b2mdy</p>	<p>Morning tea and networking</p>	<p><u>Preparing teaching portfolios</u></p> <p>By Dr Kyaw Naing</p> <p>Teacher Training/ED101106.pdf</p> <p>References Worksheets</p> <p>Teacher Training/ED101106.pdf</p> <p>Provide Training through instruction and demonstration of work skills</p> <p>TAADEL301A.doc (0.03MB) http://www.filefactory.com/file/2ppyhdlqhlsh/n/TAADEL301A.doc</p> <p>Facilitate work-based learning</p> <p>TAADEL404A.doc (0.03MB) http://www.filefactory.com/file/60ojucglvyu3/n/TAADEL404A.doc</p> <p>Group based delivery</p> <p>TAADEL401A.doc (0.03MB) http://www.filefactory.com/file/3i5scp12gkdn/n/TAADEL401A.doc</p> <p>Use Training Packages to meet client needs TAADES401A.doc (0.03MB)</p>	<p>Lunch</p>	<p>Best Teaching Practice</p> <p>Support Lesson Slides ED103/ ED105 Inclusive Teaching</p> <p>TU GTC Teachers</p> <p>Develop teaching and learning strategies in the curriculum for the courses that are taught by the participants</p> <p>Group work, group discussions</p> <p><u>Example</u></p> <p>Page 44 to 49 of www.highlightcomputer.com/OverallProgramGeneral.pdf</p> <p><u>Facilitator</u> Dr Kyaw Naing & Other trainers</p> <p>Contents Research http://www.filefactory.com/file/eovzqp6gd1/assessment%20strategies.pdf</p> <p>http://www.filefactory.com/file/7jfakka1vpfx/G015BWor%20performance%20report.doc</p>
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	<p>cbx1/n/24.taadel405a_Coordinate_7_facilitate_distance_based_learnin.pdf</p> <p>Educational Theory Resources</p> <p>ED 103 Teaching Practice</p> <p>http://www.filefactory.com/file/1o732n0j46mf/ED%20103%20Teaching%20Practice.zip</p> <p>ED 105 Principle of Learning</p> <p>http://www.filefactory.com/file/7660l6kjr8sx/ED%20105%20Principle%20of%20Learning.zip</p> <p>ED 107 Teaching & Learning</p> <p>http://www.filefactory.com/file/6u5o455lyqj7/ED%20107%20Teaching%20%26amp%3B%20Learning.zip</p> <p>Myanmar Engineering Council References</p> <ul style="list-style-type: none"> the choice of the teaching-learning (delivery) methods. 		<p>TAADES402A.doc (0.03MB) http://www.filefactory.com/file/4nhro84kl2nx/n/TAADES402A.doc</p> <p>Work effectively in vocational education and training</p> <p>TAAENV401A.doc (0.03MB) http://www.filefactory.com/file/45zeif6cy5zx/n/TAAENV401A.doc</p> <p>Foster and promote an inclusive learning culture</p> <p>TAAENV402A.doc (0.03MB) http://www.filefactory.com/file/3zoufgaty89n/n/TAAENV402A.doc</p> <p>Ensure a safe and healthy learning environment</p> <p>TAAENV403A.doc (0.03MB) http://www.filefactory.com/file/6ireaw7s5jg9/n/TAAENV403A.doc</p> <p>Individual learning</p> <p>TAADEL403A.doc (0.03MB) http://www.filefactory.com/file/7g3h9iwpodfr/n/TAADEL403A.doc</p> <p>Language Literacy & Numeracy</p>		<p>DELIVERY & ASSESSMENT PLAN SAMPLES http://www.filefactory.com/file/1c03t5k3fp8p/SAMPLE%20ASSESSMENT%20ITEMS.htm</p>
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	<ul style="list-style-type: none"> • A balanced curriculum • The curriculum shall integrate theory with practice through adequate exposure to laboratory work and professional engineering(MEng C) • Time allocation • Credit points <p>ED 401 Adult Learning Technology</p> <p>http://www.filefactory.com/file/68y4bd94ianb/ED%20401%20Adult%20Learning%20Technology.zip</p>		<p>1397606218-taelln411_sample.pdf (0.34MB)</p> <p>http://www.filefactory.com/file/5fh2bd8z3k0r/n/1397606218-taelln411_sample.pdf</p> <p>Report.pdf (0.41MB)</p> <p>http://www.filefactory.com/file/655u3qypqyj3/n/Report.pdf</p> <p>Section 4 Model for core skills analysis.pdf (0.69MB)</p> <p>http://www.filefactory.com/file/6p480mpcelft/n/Section_4_Model_for_core_skills_analysis.pdf</p> <p>ACSF_Document.pdf (1.03MB)</p> <p>http://www.filefactory.com/file/54s5xbe3esdn/n/ACSF_Document.pdf</p> <p>LLN Preparation of students.docx (0.02MB)</p> <p>http://www.filefactory.com/file/77ps5dxgbhpi/n/LLN_Preparation_of_students.docx</p> <p>Australian Core Skills Framework for LLN Level determination.docx (0.02MB)</p> <p>http://www.filefactory.com/file/4q</p>	
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			t7gx24cd9l/n/Australian_Core_Skills_Framework_for_LLN_Level_determination.docx LLN Preparation of students.docx (0.02MB) http://www.filefactory.com/file/1rvd487gxw0j/n/LLN_Preparation_of_students.docx		
6	<p><u>Developing the assessment strategies in VET</u></p> <p>By Dr Kyaw Naing</p> <p>TU GTC Teachers</p> <p><u>Assessment Validation Guide of Myanmar Engineering Council</u></p> <ul style="list-style-type: none"> assessment & evaluation methods for the attainment achievement of the Learning Outcome <p><u>Practical Application Resources</u></p> <p>Participate in assessment validation TAAASS404A.doc (0.03MB) http://www.filefactory.com/file/5zv1ke</p>	Morning tea and networking	<p>Develop teaching and learning strategies in the curriculum for the courses that are taught by the participants</p> <p>By the educators from various technological universities / schools& skills training organizations</p>	Lunch	<p><u>Prepare the sample assessment activities for the courses that the participants are teaching</u></p> <p>Group work, group discussions</p> <p><u>Facilitator</u> Dr Kyaw Naing & Other trainers</p> <p>Page 49 to 76 of www.highlightcomputer.com/OverallProgramGeneral.pdf</p> <p>Sample Assessment validation matrices http://www.filefactory.com/file/617mgi9ir63x/UEENEEEO46B.zip</p> <p>http://www.filefactory.com/file/333wtizbok0n/UEENEEEO02.zip</p>

	<p>TAAASS403A.doc (0.03MB) http://www.filefactory.com/file/5rxw2igqk7rx/n/TAAASS403A.doc</p> <p>Plan and organise assessment</p> <p>TAAASS401A.doc (0.03MB) http://www.filefactory.com/file/1tpnwpwxgxgv/n/TAAASS401A.doc</p> <p>Assess competence</p> <p>TAAASS402A.doc (0.03MB) http://www.filefactory.com/file/48yye4zmmxt7/n/TAAASS402A.doc</p> <p>Reference Textbooks (Theory aspect)</p> <p>ED 205 Teaching & Measuring http://www.filefactory.com/file/4eu01ck2awl/ED%20205%20Teaching%20%26amp%3B%20Measuring.zip</p> <p>ED 206 Designing Instructions & Assessment http://www.filefactory.com/file/4dnh3r8wsd9t/ED%20206%20Designing%20Instructions%20%26amp%3B%20Assessment.zip</p>				<p>Sample delivery & assessment schedules http://www.filefactory.com/file/5k19ps1z6xj9/20222%20Sequence%20%28V1%29%20%28001%200861%29%2020120726.pdf</p> <p>Self assessment journal/ Reflection http://www.filefactory.com/file/1c0jfwumb27p/Self%20Assessment%20Journal%20Reflection.doc</p> <p>Sample-Student Assessment Guide.doc (0.09MB) http://www.filefactory.com/file/10m1ja7dnha3/n/UEENEEE101A_Student_Assessment_Guide.doc</p> <p>Sample- RPL Tool Validation Record.pdf (0.08MB) http://www.filefactory.com/file/34muh9bkgpk9/n/UEENEE101A_RPL_Tool_Validation_Record.pdf</p> <p>Sample- Assessment Cover sheet.doc (0.08MB) http://www.filefactory.com/file/n6s0sk8izqj/n/UEENEEE101A_Assessment_Cover_sheet.doc</p> <p>Sample-Assessment Feedback Sheet.docx (0.05MB) http://www.filefactory.com/file/3soxroqt927j/n/UEENEEE101A_Assessment_Feedback_Sheet.docx</p> <p>Evaluation check list http://www.filefactory.com/file/6jslcpuborkx/Evaluation%20Check%20List%20General%2BOnline%20Survey.docx</p> <p>http://www.filefactory.com/file/4crkqpqke02z/Evaluation.docx</p>
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	ED 405 Training Principle http://www.filefactory.com/file/5qupttpxznn/ED%20405%20Training%20Principle.zip				Recognition of Prior Learning Tools-Sample http://www.filefactory.com/file/2gtq6nqjag03/20278%20RPL form WVl 2014 V1 multi.xlsm http://www.filefactory.com/file/4phu09gmmy89/20281%20RPL form WVl 2014 V1 multi.xlsm http://www.filefactory.com/file/6qtg6w4uh3fh/20282%20RPL form WVl 2014 V1 multi.xlsm
7	<u>Educational Resources Development</u> <u>9.2.7 Facilities</u> By- Myanmar Engineering Council Engineering Accreditation Committee <u>Overviews of Professional Development Programs provided by Myanmar Engineering Society</u> By- Myanmar Engineering Society	Morning tea and networking	<u>Integration of Learning Technology in Teaching & Learning Part 1</u> Support Lesson Slides/ ED102 Computer Application in Teaching-techclass By Dr Kyaw Naing <u>Resources</u> http://www.filefactory.com/file/3bsfz0ehba7z/n/5_Learning_Technology_1_zip http://www.filefactory.com/file/cvavvr9gonr/n/6_Learning_Technology_2_zip Due to the big file size, the	Lunch	<u>On line & offline e-Learning systems Part 1</u> By Dr Kyaw Naing <u>Samples</u> Learning Platform example http://www.highlightcomputer.com/onlineteaching1.htm Using multimedia & videos in teaching & Learning http://www.highlightcomputer.com/videos1.htm Using Youtube in teaching & learning http://www.highlightcomputer.com/videos2.htm Practice Use of DVD recorder, Digital note takers to record the lessons and prepare the multimedia power point lectures, PDF-JPG format conversion softwares

8	<p><u>Technology in Classroom</u> By Dr Kyaw Naing</p> <p>Resources ED312 Technology in Classrooms http://www.filefactory.com/file/7jciyu232opx/n/7_Technology_in_classroom_zip</p> <p>D 308 Computer Supported Learning & Distance Education http://www.filefactory.com/file/4mdzrx52kl45/ED%20308%20Computer%20Supported%20Learning%20%26amp%3B%20Distance%20Education.zip</p>		<p><u>Integration of Learning Technology in Teaching & Learning Part 2</u> By Dr Kyaw Naing</p> <p>Sharing the e-Learning work experience utilized in TAFE-NSW Australian Classroom</p> <ul style="list-style-type: none"> • Resources development • Computer assisted test • Use of online test/online survey • Online simulated practicals <p>www.easytestmaker.com http://www.emailmeform.com/</p>		<p><u>On line & offline e-Learning systems Part 2</u></p> <p><u>Development of e-Learning Resources Practice workshop</u> Development of learning support website & contents placement Sample www.electricaldiploma2013.zoomshare.com Use of online documents sharing sites</p> <p>www.filefactory.com www.uploading.com www.zoomshare.com www.webs.com</p>
9	<p>8.5.2 Programme Quality Management and Planning 8.5.4 Quality Assurance 9.2.8 Quality Management System</p> <p>Preparation of self accreditation report Requirements of Myanmar Engineering Council By -Myanmar Engineering Council</p>	Morning tea and networking	<p><u>Preparing the documents to comply with Educational Quality Control Authorities</u></p> <p>TU GTC Teachers</p> <p><u>Myanmar Engineering Council Requirement</u></p>	Lunch	<p><u>Quality Assurance Compliance Documentation preparation workshop</u></p> <p>The participants to prepare the quality assurance documents for the courses that they are teaching to comply with the requirements of Educational Quality Control Authorities</p> <p>TU GTC Teachers Myanmar Engineering Council</p>

	References Curriculum design for accreditation compliance http://www.filefactory.com/file/2vvy64k4w3/Accreditation%20Manual.pdf Overall accreditation and compliance practice http://www.filefactory.com/file/2vvy64k4w3/Accreditation%20Manual.pdf Preparation for self accreditation report http://www.filefactory.com/file/43x0yutpx31v/2%20SAR.pptx Engineering Accreditation Plan http://www.filefactory.com/file/2ynzo3fydckb/2015%20YTU%20First%20Workshop.pptx		Quality Assurance http://www.highlightcomputer.com/QualityAssurance.htm		Reference Page 92 to 96 of www.highlightcomputer.com/OverallProgramGeneral.pdf
10	Learning Environment By- Dr Kyaw Naing Reference ED 407 Learning Environment http://www.filefactory.com/file/31o	Morning tea and networking	Change Management By- Daw Hla Myat Mon References University of Technology Master of Business Change Management References	Lunch	Educational Leadership work experience knowledge By- Daw Hla Myat Mon Textbook ED 308 Change Management http://www.filefactory.com/file/4cxrjx86buot/n/9_Leade

	7fw99ux7l/ED%20407%20Learning%20Environment.zip		& experience in University of Technology Sydney		rship_Change_Management.zip ED309 Educational Communication http://www.filefactory.com/file/6tbjy1omi7kz/n/1_Educational_Communication.zip ED 402 Educational Leadership http://www.filefactory.com/file/68h2rewfq7jx/ED%20402%20Educational%20Leadership.zip
11	Practice Teaching	Morning tea and networking	Practice Teaching	Lunch	<u>Performance Evaluation</u>
12	National Strategic Plan 2016-2021 Myanmar/ Grad Cert HEd/ ED435 Governance of University.pptx	Morning tea and networking	General Discussion		Conclusion of the training.

Diploma in Intermediate Science (Australian Year 12 Equivalent)

Course 107777

Entry Qualifications

Year 10 Pass, Year 10 Not Passed, THS Pass, ITC

Study System

- Online self study
- Self arrangement with home tuition teacher
- IQY Technical College can connect the students to home tutors
- Examination in every December. Examination fees Ks10,000

Outcome

Diploma in Intermediate Science will be issued by Australian Registered IQY Technical College if the examination is passed. (Pass Mark 50)

Then IQY Professional Diploma in Technological Science/ Bachelor of Science (Technology) of STC Technological University

Or

Can use Diploma in Intermediate Science (issued by Australian Registered IQY Technical College) to attend the other foreign universities

Note

Myanmar Year 10 Pass can not attend the foreign universities. High School to be re-attended.. This is why we design the Diploma in Intermediate Science (Year 12 Equivalent)

အလယ်အလတ်သိပ္ပံဒီပလိုမာ (သြစတြေးလျ ၁၂ တန်းအဆင့်)

ဝင်ခွင့်အရည်အချင်းများ

Year 10 Pass, Year 10 မ Pass၊ THS Pass, ITC

လေ့လာမှုစနစ်

•အွန်လိုင်းကိုယ်ပိုင်လေ့လာမှု

•အိမ်မှာကျူရှင်ဆရာဆရာမနှင့်သင်ခြင်း

• IQY နည်းပညာကောလိပ်သည်ကျောင်းသားများကိုအိမ်ကျူရှင်ဆရာဆရာမနှင့်များနှင့်ဆက်သွယ်

ပေးမည် ။

•ဒီဇင်ဘာလတိုင်းတွင်စာမေးပွဲ။ စာမေးပွဲကြေး ကျပ်၁၀,၀၀၀

ရလဒ်

အလယ်အလတ်သိပ္ပံဒီပလိုမာကိုစာမေးပွဲအောင်ပြီးပါကဩစတြေးလျ မှတ်ပုံတင် IQY နည်းပညာကောလိပ်မှ အလယ်အလတ်သိပ္ပံဒီပလိုမာ (ဩစတြေးလျ ၁၂ တန်းအဆင့်)

ထုတ်ပေးလိမ့်မည်။(အောင်မှတ်၅၀) ထို့နောက် IQY နည်းပညာသိပ္ပံဘွဲ့ဒီဂရီ / STC နည်းပညာတက္ကသိုလ်မှသိပ္ပံဘွဲ့ (နည်းပညာ) တက်နိုင်သည်။

သို့မဟုတ် အခြားနိုင်ငံခြားတက္ကသိုလ်များသို့တက်ရောက်ရန် ၁၂ တန်းအဆင့် ဒီပလိုမာကို (ဩစတြေးလျမှတ်ပုံတင်ထားသော IQY နည်းပညာကောလိပ်မှထုတ်ပေးမည်။

မှတ်စု

မြန်မာဘဝတန်းအောင်လက်မှတ်နှင့်နိုင်ငံခြားတက္ကသိုလ်များသို့မတက်နိုင်ပါ။
အထက်တန်းကျောင်းပြန်လည်တက်ရောက်နိုင်ရမည်။

ထို့ကြောင့်ကျွန်ုပ်တို့သည်ဒီပလိုမာကိုအလယ်အလတ်သိပ္ပံပညာ ၁၂ တန်းအဆင့် ဒီပလိုမာကို စီစဉ်သည်။

Subjects

- Y1112A-MATHEMATICS
- Y1112B-PHYSICS
- Y1112C-CHEMISTRY
- Y1112D-SCIENCE
- Y1112E-DESIGN & TECHNOLOGY
- Y1112F-SOFTWARE DESIGN
- Y1112G-ENGLISH
-

Learning Support site, Notes, Videos Free access

Form253 Diploma in Intermediate Science (Dip ISc)

www.iqytechnicalcollege.com/Form253dipisc.htm

Exam Centres

Yangon ,Mandalay ,Pyay ,Shan State

St Clements University Certificate/ Diploma / Advanced Diploma in Electrical Engineering

Course + Credit Outlines

YEAR 1 Certificate in Electrical Engineering 15 credits

	<u>SEMESTER (1)</u>	<u>Credits</u>
EE101	DC Circuit Problems	1
EE102	Basic Electrical Fitting & Wiring	1
EE103	Basic Electrical Drafting	1
EE104	Electrical Equipments Safety Protection	2
EE105	Electrical Installation Design	1
EE106	Advanced Electrical Wiring	1
EE107	Electrical Equipments	1
EE108	Electrical Fault Finding	1
EE109	Electrical Control Circuits	1
EE110	Computer Applications	1
EE111	Electromagnetism & Basic Electrical Machines	2
EE112	Alternating Current Principle	2
		15 Credits
	Diploma in Electrical Engineering 30 credits	<u>Credits</u>
	<u>SEMESTER (2)</u>	
EE113	Electrical Fundamental	2
EE114	Electrical Power Principle	1
EE115	Basic Analogue & Digital Electronics	2
EE116	Process Control System	3
EE117	Solar Electrical System	1
EE118	Electrical Energy Supply System	3
EE119	Electrical Risk Assessment	1
EE120	Electrical Contracting & Specification	1
EE121	Electronics Power Control Device	1
		30 Credits

	Advanced Diploma in Electrical Engineering 60 credits	<u>Credits</u>
	<u>SEMESTER (1)</u>	
EE201	Engineering Mathematics	1
EE202	Electrical Circuits	1
EE203	Three Phase Power Circuits	1
EE204	Engineering Physics	1
EE205	Electrical Power System	2
EE206	AC Machines	2
EE207	DC Machine	1
EE208	Operational Amplifiers	2
EE209	Analogue Electronics	1

	<u>SEMESTER (2)</u>	
EE301	Advanced Electrical Drafting	1
EE302	Advanced Engineering Mathematics	2
EE303	Transmission Line	2
EE304	Power System Protection	2
EE305	Power Transformer	2
EE306	Electro-mechanical Control	2
EE307	Energy Efficient Building Design	2
EE308	Sustainability	1
EE309	Project Management	2
EE310	Engineering Officer Competency Report	2
		30 Credits

(Stage 1) DIPLOMA IN CIVIL ENGINEERING (Each 2.5 Credits) (30 Pt)

Certificate in Construction Studies

[CE 106A Detailed Construction & Building Construction Materials](#)

[CE 104 A Building Drawing](#)

[CE 101 Mathematics \(EE201\)](#)

[CE 102 Physics \(EE204\)](#)

[CE 108 Electrical Principle](#)

DIPLOMA IN CIVIL ENGINEERING

[CE 104 Fluid Dynamics](#)

[CE 105 Hydraulic](#)

[CE 106 Hydrology](#)

[CE 107 Sanitation-and-Water-supply](#)

[CE 109 Energy Efficient Building Design \(EE309\)](#)

[CE 110 Building Construction](#)

[EE102 Basic Electrical Fitting & Wiring](#)

Stage (2) Advanced Diploma in Civil Engineering Program(30 pt) (Each 5 pt)

YEAR (2)

[CE103-Surveying](#)

[CE111A-Road+Bridges](#)

[CE113 Structure 1](#)

[CE114 Structure 2](#)

[CE115 Estimating & Specification](#)

[CE 112 Engineering Mechanics+ ME 301 Applied Mathematics](#)

YEAR (2) ADDITIONAL COURSES

[EE104 Electrical Equipments Safety Protection](#)

[EE105 Electrical Installation Design](#)

[ME 102 Engineering Thermodynamics](#)

[ME 334 Airconditioning and Refrigeration](#)

[EE106 Advanced Electrical Wiring](#)

[CE 112 Engineering Mechanics+ ME 301 Applied Mathematics](#)

[EE308 Sustainability](#)

http://www.highlightcomputer.com/Diploma_in_Civil_Engineering.pdf

Diploma in Information Technology Course outline

ICT101	Information Technology Fundamentals	3	GC	ICAICT501A	Research and review hardware technology options for organisations	
ICT 102	Computer Applications and Operations	2	GC GC	ICASAS509A ICASAS503A	Provide client IT support services Perform systems tests	
ICT 103	Applied Programming	5	BAE601	GB	ICAPRG523A	Apply advanced programming skills in another language
ICT 104	Program Project	5	BAE601	GB GC GD GG	ICAPRG502A ICAICT510A ICAWEB507A CAPMG501A	Manage a project using software management tools Determine appropriate IT strategies and solutions Customise a complex IT content management system Manage IT projects
ICT 105	Systems Analysis and Programs	5	BAE603	Core GC	ICAICT509A ICAICT502A	Gather data to identify business requirements Develop detailed component specifications from project specifications
Core		ICAICT511A		Match IT needs with the strategic direction of the enterprise		
ICT 106	Software Engineering	5	BAE603	GB	ICAPRG502A	Manage a project using software management tools
GB		ICAPRG510A		Maintain custom software		
GB		ICAPRG512A		Prepare for the build phase of an IT system		
ICT 107	Business Information Systems	5	GA	ICANWK501A	Plan, implement and test enterprise communication solutions	

WORK PERFORMANCE

Task 1	Provide the OHS Procedure in workplace	Core	BSBOHS509A	Ensure a safe workplace
Task 2	Provide the procedure to maintain the IT equipments in	Core	BSBSUS501A	Develop workplace policy and procedures for sustainability

	workplace			
Task 3	Take the record of sound & picture from an event	GE	ICAGAM504A	Manage interactive media production
Task 4	Take the digital video by using digital camera & edit/ convert to other formats by provided software	GF	CADMT501A	Incorporate and edit digital video

Diploma in Information Technology Course outline

ICT101	Information Technology Fundamentals	3	GC	ICAICT501A	Research and review hardware technology options for organisations	
ICT 102	Computer Applications and Operations	2	GC GC	ICASAS509A ICASAS503A	Provide client IT support services Perform systems tests	
ICT 103	Applied Programming	5	BAE601	GB	ICAPRG523A	Apply advanced programming skills in another language
ICT 104	Program Project	5	BAE601	GB GC GD GG	ICAPRG502A ICAICT510A ICAWEB507A CAPMG501A	Manage a project using software management tools Determine appropriate IT strategies and solutions Customise a complex IT content management system Manage IT projects
ICT 105	Systems Analysis and Programs	5	BAE603	Core GC	ICAICT509A ICAICT502A	Gather data to identify business requirements Develop detailed component specifications from project specifications
Core		ICAICT511A		Match IT needs with the strategic direction of the enterprise		
ICT 106	Software Engineering	5	BAE603	GB	ICAPRG502A	Manage a project using software management tools
GB		ICAPRG510A		Maintain custom software		
GB		ICAPRG512A		Prepare for the build phase of an IT system		
ICT 107	Business Information Systems	5	GA	ICANWK501A	Plan, implement and test enterprise communication solutions	

WORK PERFORMANCE

Task 1	Provide the OHS Procedure in workplace	Core	BSBOHS509A	Ensure a safe workplace
Task 2	Provide the procedure to maintain the IT equipments in	Core	BSBSUS501A	Develop workplace policy and procedures for sustainability

	workplace			
Task 3	Take the record of sound & picture from an event	GE	ICAGAM504A	Manage interactive media production
Task 4	Take the digital video by using digital camera & edit/ convert to other formats by provided software	GF	CADMT501A	Incorporate and edit digital video

Diploma in Mechanical Engineering (Each 1.5 Credits) (30 Pt)

Maths 101 Engineering Mathematics

ME 101 Applied Mathematics

ME 102 Engineering Thermodynamics

ME 103 Engineering Mechanics

ME 104 Machine Principle

ME 105 Electrical Principle

ME 106 Electrical Circuits

ME 107 Heat Transfer

ME 108 Principle of Engines

ME 201 Introduction to Fluid Mechanics

ME 202 Introduction to Aero Dynamics

ME 203 Control Engineering

ME 204 Engineering Fluid Mechanics

ME 205 Manufacturing Processes-and-Materials

ME 206 Introduction to Turbo Machinery

ME 207 Chemical Thermodynamics

ME 208 Hydrocarbons

ME 209 Introduction-to-polymer-science-and-technology

ME 234 Wind Turbines

Mgt 501 Basic Management

Study sequence

From top to down

Advanced Diploma in Mechanical Engineering (Each 1.5 Credits) (30 Pt)

Mathematics

Maths 403 Engineering-Mathematics

Maths 301 Introductory Finite Difference Methods-for-pdes

Maths 302 Elementary-Linear-Algebra

Maths 303 Introductory Finite Volume Methods-for-pdes

Maths 501 Linear Algebra-c-1

Study sequence

From top to down

Mechanical Engineering

ME 301 Fluid Dynamics

ME 302 Automation-and-Robotics

ME 303 Computer Aided Design and Manufacturing

ME 304 Introduction to Nonlinearity-in-control-systems

ME 305 Corrosion Prevention

ME 306 Theory-of-waves-in-materials

ME 334 Airconditioning and Refrigeration

ME 434 Mechtronics-Robotics

ME 534 Numerical Control Part 1

ME 634 Pneumatics

EE 617 Building Electrical and Mechanical System Part 1

EE 624 Process Control

Mgt 503 Production & Operation Management

Mgt 505 Quality Management and Manufacturing Engineering

Study sequence

From top to down

Certificate in Teaching Support/ Diploma in Teaching Practice Program for Voluntary School Staff and Teachers (St Clements Technological University)

စေတနာ့ဝန်ထမ်းကျောင်းဆရာထောက်ကူပြုသူများအတွက်လက်မှတ်ဒီပလိုမာဘွဲ့ အစီအစဉ် (စိန့်.ကလီးမင့်နည်းပညာတက္ကသိုလ်)

Teachers of the voluntary schools and school supports can get the following qualifications awarded by St Clements Technological University Scholarship Program by presenting their experiences.

စေတနာ့ဝန်ထမ်းကျောင်းဆရာထောက်ကူပြုသူများသည်အတွေ့အကြုံများကိုတင်ပြပြီး စိန့်.ကလီးမင့်နည်းပညာတက္ကသိုလ်၏ပညာသင်ဆုအစီအစဉ်ဖြင့်လက်မှတ်ဒီပလိုမာဘွဲ့များရယူနိုင်သည်။

YEAR (1)

Certificate in Teaching Support

- Ed101 Teaching Support
- Ed102 Application of Information Technology in School Education

Diploma in Teaching Practice

The students can complete the following units to complete Diploma in Teaching Practice

အောက်ပါတို့ကိုဆက်လက်ပြီးပါက Diploma in Teaching Practice ရရှိမည်။

- Ed103 Classroom Management
- Ed104 Teaching Portfolio
- Ed105 Inclusive Teaching
- Ed106 Subject Area Knowledge
- Ed107 Theory of Education, Educational Technology & Teaching Practice
 - Ed107A-Theory of Education
 - Ed107B-Education Technology
 - Ed107C-Teaching Practice
 - Ed107D-Lesson Planning
- Ed108 Curriculum Study , Teaching & Learning
 - Ed108A-Principle of Learning
 - Ed108B-Interpreting Curriculums
 - Ed108C-Teaching & Learning

Process (နည်းလမ်းစဉ်)

Fill the scholarship application form & submit it to the university through kyawnaing225@yahoo.com ပညာသင်ဆုအစီအစဉ်လျှောက်လွှာကိုဖြည့်ပြီး kyawnaing225@yahoo.com မှတစ်ဆင့်စိန့်.ကလီးမင့်နည်းပညာတက္ကသိုလ်သို့ ပို့ရန်။

Submit the evidences/ do the study to complete the units

အတွေ့အကြုံများကိုတင်ပြရန်၊ ဘာသာရပ်များလေ့လာရန်။

Ed101-Teaching Support

The students need to provide the following information to complete Ed 101 Teaching Support in English or in Myanmar.

Ed101 ပြီးစီးရန်အောက်ပါတို့ကိုတင်ပြရမည်။ (အင်္ဂလိပ် သို့မဟုတ် မြန်မာ ဘာသာဖြင့်တင်ပြနိုင်သည်)

(၁)ကျောင်းသားအမည်-

Name of student

(၂)လုပ်အားပေးခဲ့သောကျောင်း

Name of the school where you have volunteered.

(၃)ထမ်းဆောင်ခဲ့သောတာဝန်များကိုအောက်ပါအတိုင်းဖြည့်သွင်းရန်-

Records of the duties performed are to be written in the following aspects.

၁။ ကျောင်းခေါ်ချိန်မည်သို့မှတ်သနည်း။

How do you record the students' attendances?

၂။ ကျောင်းစည်းကမ်းထိန်းသိမ်းရေးကိုမည်သို့ဆောင်ရွက်သနည်း။

How do you maintain the school disciplines?

၃။ ဆရာများစာသင်ကြားရေးအဆင်ပြေစေရန်သင်မည်သို့ဆောင်ရွက်သနည်း။

How do you support the teachers in their teaching?

၄။ စာသင်ကြားရေးထောက်ကူပြုပစ္စည်းများကိုမည်သို့စီစဉ်ဆောင်ရွက်သနည်း။

How do you arrange the teaching support materials?

၅။ ကျောင်းမှတ်တမ်းများကိုမည်သို့ ထိန်းသိမ်းသနည်း။

How do you maintain the school records?

၆။ စာသင်ကြားရေးထောက်ကူပြုပစ္စည်းများတိုးပွားရေးကိုမည်သို့ဆောင်ရွက်သနည်း။

What do you perform in development of teaching resources?

၇။ ကျောင်းသားများကိစ္စနှင့်ပတ်သက်၍မိဘများ၊ ရပ်ကွက်လူထုများနှင့်မည်သို့ဆက်

သွယ်ဆောင်ရွက်သနည်း။

How do you communicate with the parents and community regarding the students matters?

Ed102 Application of Information Technology in School Education

Ed102 ပြီးစီးရန်အောက်ပါတို့ကိုတင်ပြရမည်။ (အင်္ဂလိပ် သို့မဟုတ် မြန်မာ ဘာသာဖြင့်တင်ပြနိုင်သည်)

The followings must be completed to complete Ed 102 in English or in Myanmar.

အခြေခံကွန်ပျူတာအသုံးပြုခြင်း

Basic Computer Applications

- Word
- Excel
- Internet
- E-mail

The students who have completed Ed101 and Ed102 will be awarded Certificate in Teaching Support by St Clements Technological University.

Ed101, Ed102 ပြီးစီးပါက St Clements Technological University (စိန့်.ကလီးမင်းနည်းပညာတက္ကသိုလ်)မှ Certificate in Teaching Support လက်မှတ်အပ်နှင်းမည်။

Diploma in Teaching Practice

The students can complete the following units to complete Diploma in Teaching Practice

အောက်ပါတို့ကိုဆက်လက်ပြီးစီးပါက Diploma in Teaching Practice ရရှိမည်။

- Ed103 Classroom Management
- Ed104 Teaching Portfolio
- Ed105 Inclusive Teaching
- Ed106 Subject Area Knowledge
- Ed107 Theory of Education, Educational Technology & Teaching Practice
 - Ed107A-Theory of Education
 - Ed107B-Education Technology
 - Ed107C-Teaching Practice
 - Ed107D-Lesson Planning
- Ed108 Curriculum Study , Teaching & Learning
 - Ed108A-Principle of Learning
 - Ed108B-Interpreting Curriculums
 - Ed108C-Teaching & Learning
 - Ed108D-Teaching Elementary

အောက်ပါတို့ကိုဆက်လက်ပြီးအင်္ဂလိပ်ဘာသာဖြင့်သင်ယူနိုင်သည်။

Bachelor of Teaching (Year 2) & Bachelor of Education (Year 3+4) can be studied in English.

Diploma in Teaching Practice

Ed103 Classroom Management

The students need to provide the following information to complete Ed103 Classroom Management in English or in Myanmar.

Ed103 ပြီးစီးရန်အောက်ပါတို့ကိုတင်ပြရမည်။ (အင်္ဂလိပ် သို့မဟုတ် မြန်မာ ဘာသာဖြင့်တင်ပြနိုင်သည်)

- စာသင်ကြားရေးအချိန်ဇယားရေးဆွဲခြင်း။
Timetabling
- ကျောင်းသားအုပ်စုခွဲခြင်း။
Grouping the students
- စာသင်ကြားရေးထောက်ပံ့ပစ္စည်းများပြုလုပ်ခြင်း။
Making the teaching & learning support resources
- စာမေးပွဲစစ်ဆေးခြင်း။
Arranging the examinations
- ကျောင်းဖွဲ့စည်းမှုတွင်ပါဝင်ခြင်း။
Participation in organizing of the school
- ကျောင်းကော်မတီအစည်းအဝေးများတက်ရောက်ခြင်း။
Attending & participating in school committee meetings.

Ed104 Teaching Portfolio

The students need to provide the following information to complete Ed104 Teaching Portfolio in English or in Myanmar.

Ed104 ပြီးစီးရန်အောက်ပါတို့ကိုတင်ပြရမည်။ (အင်္ဂလိပ် သို့မဟုတ် မြန်မာ ဘာသာဖြင့်တင်ပြနိုင်သည်)

- သင်ခန်းစာများကိုမသင်ကြားခင်ကြိုတင်စီစဉ်သောအထောက်အထား
Evidences of lesson planning
- သင်ခန်းစာခေါင်းစဉ်
Title of lesson
- သင်ခန်းစာနိဒါန်း
Lesson introduction
- သင်ခန်းစာအစအဆုံးပို့ချချက်
Lesson delivery from the beginning to the end.
- သင်ခန်းစာနိဂုံး
Conclusion of lesson

- လေ့ကျင့်ခန်းများ
Exercises
- စစ်ဆေးမည့်အစီအစဉ်
Plan to assess the exercises
- ကျောင်းသားများတင်ပြသော လေ့ကျင့်ခန်းများပြီးစီးမှုနမူနာ
Students' work samples

Ed105 Inclusive Teaching

The students need to provide the following information to complete Ed105 Inclusive Teaching in English or in Myanmar.

Ed105 ပြီးစီးရန်အောက်ပါတို့ကိုတင်ပြရမည်။ (အင်္ဂလိပ် သို့မဟုတ် မြန်မာ ဘာသာဖြင့်တင်ပြနိုင်သည်)

- ကျောင်းသားတိုင်းသင်ကြားမှုရရှိရန်စီစဉ်ပုံ။
How do you plan to enable every student to learn the lessons?
- တတ်သိမှုနှေးသော ကျောင်းသားတိုင်းသင်ကြားမှုရရှိရန်စီစဉ်ပုံ။
How do you plan to enable slow learning student to learn the lessons?
- ချို့တဲ့နွမ်းပါးသော ကျောင်းသားတိုင်းသင်ကြားမှုရရှိရန်စီစဉ်ပုံ။
How do you plan to enable every student from poor economic background to learn the lessons?
- မသန်စွမ်းသော ကျောင်းသားတိုင်းသင်ကြားမှုရရှိရန်စီစဉ်ပုံ။
How do you plan to enable students with disability to learn the lessons?
- ကျား/မ အသက်အရွယ်မခွဲခြားဘဲ ကျောင်းသားတိုင်းသင်ကြားမှုရရှိရန်စီစဉ်ပုံ။
How do you plan to enable students regardless of gender, marital status and ages to learn the lessons?

Ed106 Subject Area Knowledge

- ပြီးစီးခဲ့သောဘွဲ့လက်မှတ်များတင်ပြရန်။
Submit the degree/ diploma/ certificate that you have obtained previously
- E-Learning သင်ခန်းစာများ တင်ပြရန်။
Submit the E-Learning lessons.

Ed107 Theory of Education, Educational Technology & Teaching Practice

Ed108 Curriculum Studies , Teaching & Learning

အောက်ပါအင်္ဂလိပ် + မြန်မာ ဘာသာဖြင့်သင်ကြားသော ပါဝါပွိုင့်သင်ခန်းစာများကိုအီလက်ထရောနစ်စာသင်စနစ်ဖြင့်လေ့လာသင်ကြားပြီးလေ့ကျင့်ခန်းများကိုတင်ပြရန်၊သင်ခန်းစာများကိုသီးသန့်ပေးမည်။

The following English +Myanmar Powerpoint lessons are to be studied by E-Learning and exercises are to be submitted.

The lessons will be given separately.

- Ed107 Teaching Theory & Practice
 - Ed107A-Theory of Education
 - Ed107B-Education Technology
 - Ed107C-Teaching Practice
 - Ed107D-Lesson Planning
- Ed108 Curriculum Studies , Teaching & Learning
 - Ed108A-Principle of Learning
 - Ed108B-Interpreting Curriculums
 - Ed108C-Teaching & Learning

ဗြိတိန် St Clements Technological University (စိန် .ကလီးမင်းနည်းပညာတက္ကသိုလ်)မှ Diploma in Teaching Practice ရရှိမည်။

When all units are completed, Diploma in Teaching Practice will be awarded by St Clements Technological University.

YEAR 2+3

Bachelor of Teaching course outline (Only study in English medium of instruction will be available)

ED 201 Class Room Management & Teaching
 ED 202 Curriculum & Design
 ED 203 K-12 Education
 ED 204 School & Vocational Education
 ED 205 Teaching & Measuring
 ED 206 Designing Instructions & Assessment
 ED 207 Teacher Education
 ED 208 Inclusive Education
 ED 301 Educational Policy

+

Any two units from the ED 302 to ED 307

ED 302 English Teaching
 ED 303 Humanities Teaching
 ED 304 Mathematics Teaching
 ED 305 Science Teaching
 ED 306 Technology Teaching
 ED 307 Business Teaching

+

ED 308 Computer Supported Learning & Distance Education

Total 120 points= 5 credit points x 12 units= 60 points+ 60 points for completion of Diploma in Teaching Practice

YEAR 4

Bachelor of Education (School & Vocational Education) course outline
(Only study in English medium of instruction will be available)

ED 401 Adult Learning Technology

ED 402 Educational Leadership

ED 403 School Culture

ED 404 Educational Research

ED 405 Training Principle

ED 406 Educational Policy

ED 407 Learning Environment

ED 408 Middle & High School Teaching

Each unit 5 points x 8 units = 40 points

Total credit points for Bed = 160 points

Diploma in Engineering (Drafting & Design) (30 Credit Points)

Unit No	Unit Name	Credit point
EE201G	Mathematics	2
EE204G	Physics	2
ME 207G	Chemistry	2
EE101	DC Circuit Problems	1
EE102	Basic Electrical Fitting & Wiring	1
EE103	Basic Electrical Drafting	1
EE105	Electrical Installation Design	1
EE110	Computer Applications	1
CE 106A	Detailed Construction & Building Construction Materials	2
CE 104 A	Building Drawing	2
CE 110	Building Construction	2
CE 107	Sanitation-and-Water-supply	2
EE107	Electrical Equipments	1
ME103	Engineering Mechanics	1
ME 108	Principles of Engines	1
EE113	Electrical Fundamental	1
EE106	Advanced Electrical Wiring	2
EE104	Electrical Equipments Safety Protection	1
EE120	Electrical Contracting & Specification—Business Aspect	2
EE109	Electrical Control Circuits	2
	Total Points	30

Career

Advanced Diploma/ Professional Diploma in

- Engineering Design
- Electrical Engineering (OR)
- Civil Engineering (OR)
- Mechanical Engineering (OR)
- Renewable Energy Engineering (OR)
- Other engineering disciplines.

BTech+BE courses are divided into the parts. The student who need to pay three equal instalments. Arrangement of teachers/ fees need to be arranged on Part 1/ 2/ 3 basics. Each part will take 4 months.

If the student pays the fees for part 1, he or she can attend part 1 and upon completion, the Statement/ Transcript will be issued for completion of part 1. Proceed to Part 2 will depend on fees payment. Copying lessons into Students USB/ Hard drive will depend on payment of fees. Only copy for the part that was paid for.

Manager will need to check students progress and fees payment and work with teacher to request me to issue the progress transcript.

No dividing of fees and part in Diploma and Advanced Diploma courses.

Please refer <http://www.highlightcomputer.com/iqyadministration.htm>

Form 7A -Student' s work and progress transcript submission

Form 7B -Student' s payment record

Form 7C Final Qualification issued check list

And prepare the checking system documents.

BTech Part 1/ BE Yr 3

- 1 BAE 401 Advanced Engineering Mathematics
- 2 BAE 402 Calculus
- 3 BAE 403 Engineering Mechanics
- 4 BAE 404 Engineering Materials & Thermodynamics

BTech Part 2/ BE Yr 3

- 10 RE010-Engineering Materials
- 11 RE012a-Electrical Engineering Part 1
- 12RE016/ BAE508-Design & Project Management

BTech Part 3 Online/ BE Yr 3

- 5 RE001- Foundation Studies in Renewable Energy and Sustainability
 - 6.RE003- Solar and Thermal Energy Systems
 - 7.RE004- Energy Storage Systems
 - 8 RE005- Renewable Energy Resource Analysis
 - 9.RE006- Wind Energy Conversion Systems
-

BE Electrical Part 1/ BE Yr 4

4 RE012b-Electrical Engineering Part 2

6 RE013-Electrical Machines

9 BAE 501 Advanced Power Systems & Power Transmission Networks

10 BAE 506 Power System Stability & Protection

BE Electrical Part 2/ BE Yr 4

1 BAE 601 Computer Programming

2 BAE 602 Computer Network

3 BAE 603 Software Engineering

11 BAE 604 Telecommunication Engineering

BE Electrical Part 3/ BE Yr 4

5 RE002- Grid Connected Photovoltaic Power Systems

12.RE007- Energy System Efficiency

7 RE014-Electronics Control

8 RE015-Electrical Project/ Practice

Final Part

13 BAE 608 Professional Engineer Engineering Competency Demonstration

Report & BAE 605 Engineering Management (Completion Certification with no

BE Civil Part 1/ BE Yr 4

1 RE011a-Civil & Mechanical Engineering Part 1

2 RE011b-Civil & Mechanical Engineering Part 2a

6 BAE423 Fluid Mechanics

8 BAE522 Rock Mechanics

BE Civil Part 2/ BE Yr 4

4BAE421 Building Construction Engineering

10BAE621 Structural Engineering

7 BAE424 Reinforced Concrete

5 BAE422 Estimating

BE Civil Part 3/ BE Yr 4

3 BAE 606 Building Service Electrical & Mechanical Engineering

9 BAE 523A Environmental Engineering

11BAE623 Surveying & Traffic Engineering

12BAE624 Water Supply , Sanitation & Finishing

Final Part

13 BAE 608 Professional Engineer Engineering Competency Demonstration Report & BAE 605 Engineering Management (Completion Certification with no credit points)

BE Mechanical Part 1/ BE Yr 4

1 RE011a-Civil & Mechanical Engineering Part 1

2 RE011b-Civil & Mechanical Engineering Part 2a

6 BAE315 Materials Engineering

10 BAE614 Machine Design

BE Mechanical Part 2/ BE Yr 4

4 BAE311 Plant Engineering
5 BAE314 Mechanical Power Generation
9 BAE613 Mechanical Instrumentation Process
12 BAE 601 Computer Programming

BE Mechanical Part 3/ BE Yr 4

3BAE 606 Building Service Electrical & Mechanical Engineering
7 BAE511 Air-conditioning & Refrigeration
8 BAE512 Building Service Water Supply System
10 BAE614 Machine Design
11.RE007- Energy System Efficiency

Final Part

13 BAE 608 Professional Engineer Engineering Competency Demonstration Report & BAE 605 Engineering Management (Completion Certification with no credit points)

Double Degrees

www.highlightcomputer.com/doubleddegrees.htm

Bachelor of Engineering+ Bachelor of Management (Course 67111/67112/67113)

www.highlightcomputer.com/BAppSCBMgt.pdf

Bachelor of Engineering+ Bachelor of Applied Science (Information Technology)
(67211/67212/67213)

www.highlightcomputer.com/BEBAppScIT.pdf

Bachelor of Management+ Bachelor of Applied Science (Information Technology)(67214)

www.highlightcomputer.com/BEBMgt.pdf

Diploma in Telecommunication Engineering

Theory to be assessed	Self study advanced practical
BAE607 Radio Wave Propagation & Micro Wave Technique	DTE306 Wireless Communication DTE307 Satellite Communication
EE625 Advanced Radio Wave Propagation	DTE302 Photonics DTE306 Wireless Communication
EE626 Advanced Microwave Technique	DTE305 Optical Communication
BAE604 Telecommunication Engineering	DTE303 Telecommunication Engineering DTE310 Customer Premise Installations
EE525 Data Communication	DTE301 Network Management DTE304 TCP/IP
EE603 Electronic Communication Principle	DTE308 Mobile Communication DTE309 VOIP DTE311 OFDM/CDMA DET312 SDH/SONET

Diploma in Telecommunication Engineering

Theory to be assessed	Self study advanced practical
BAE607 Radio Wave Propagation & Micro Wave Technique	DTE306 Wireless Communication DTE307 Satellite Communication
EE625 Advanced Radio Wave Propagation	DTE302 Photonics DTE306 Wireless Communication
EE626 Advanced Microwave Technique	DTE305 Optical Communication
BAE604 Telecommunication Engineering	DTE303 Telecommunication Engineering DTE310 Customer Premise Installations
EE525 Data Communication	DTE301 Network Management DTE304 TCP/IP
EE603 Electronic Communication Principle	DTE308 Mobile Communication DTE309 VOIP DTE311 OFDM/CDMA DET312 SDH/SONET

IQY Technical College သည်အင်ဂျင်နီယာသင်တန်းများသာမကအသက်မွေးဝမ်းကျောင်း ပညာမျိုးစုံကိုလည်းလက်မှတ် (Certificate) မှဒီပလိုမာ၊ Bachelors ဒီဂရီဘွဲ့အထိ၁၀၀ရာနှုန်း မြန်မာဘာသာဖြင့်အွန်လိုင်းဖြင့်၂၀၂၀ဇန်နဝါရီမှစတင်၍သင်ပေးမည်။

သင်မည့်သင်တန်းများ၊ဘာသာများမှာအောက်ပါအတိုင်းဖြစ်သည်။

ဘာသာအားလုံးအတွက်မြန်မာဘာသာ e-Book အီလက်ထရောနစ်စာအုပ်များပေးမည်။

1/Sewing Garment အထည်ချုပ်အတတ်ပညာ

2/Cookingအချက်အပြုတ်၊ စားဖိုမှုပညာ

3/Childcare ကလေးထိန်းပညာ

4/Aged Care/Nursingသက်ကြီးရွယ်အိုပြုစုရေးပညာသူနာပြုပညာ

5/Waiter/ Reception / Tourismဧည့်ကြိုပညာ

6/Securityလုံခြုံရေးအစောင့်ဝန်ထမ်းပညာ

7/Logistics သယ်ယူပို့ဆောင်ရေးပညာ

8/Agriculture စိုက်ပျိုးရေးပညာ

9/ Animal Handling & Live Stockမွေးမြူရေးပညာ

10/Shop Attendant & Marketingဈေးဆိုင်ပညာ

11/Handyman and Asset Maintenanceပြုပြင်ထိန်းသိမ်းပညာ

12/Dancerမြန်မာရိုးရာကနည်းပညာ+Zumba

13/Laundry အဝတ်လျှော်လုပ်ငန်းပညာ

14/Hair Dressing ဆံပင်ညှပ်ပညာ

15/Water Operation ရေပေးရေးပညာ

16/Storeသိုလှောင်ရုံလုပ်ငန်းပညာ

17/ Cleaner သန့်ရှင်းရေးပညာ

18/Factory စက်ရုံလုပ်သားပညာ/

19/ Maintenance ပြင်ရေးလုပ်သားပညာ

20/Printing ပုံနှိပ်လုပ်သားပညာ

21/Postal Worker/Library စာပို့လုပ်ငန်းပညာ စာကြည့်တိုက်လုပ်ငန်းပညာ

22/ Teachers Aidesပညာရေးအကူလုပ်သားပညာ

23/Production and Industry ကုန်ထုတ်လုပ်သားပညာ

24/Visual Arts and Crafts လက်မှုအနုပညာ

25/Screen Media သတင်းနှင့်ရုပ်သံပညာ

အသက်မွေးဝမ်းကျောင်း ပညာမျိုးစုံကိုBachelors ဒီဂရီဘွဲ့အထိစီစဉ်ပြီးအဆင့်မြင့်တင်ခြင်းကို

Australia, USA, UK နိုင်ငံများအတိုင်းမြန်မာနိုင်ငံတွင်စတင်ကာမြန်မာလိုသင်မည်။

Australia ၏ TAFE (Technical and Further Education) စံနစ်ကိုမြန်မာနိုင်ငံတွင် IQY

Technical College က၂၀၂၀ဇန်နဝါရီမှမြန်မာဘာသာအွန်လိုင်းဖြင့်စတင်ပြုပြင်မည်။

စာရင်းသွင်းရန်လင့်

<https://www.emailmeform.com/builder/form/PXcY6O9gHaafufMf52exs>

Diploma Advanced Diploma and Bachelor of Work Studies -Garment

အထည်ချုပ်အတတ်ပညာ

WS101	Vocational Studies
WS102	Safety Training
WS103	English
ADMEC 203	Design and Technology
WS2001A	Sewing
WS2001B	Garment
WS2001C	Weaving Technology
WS3001A	Management Theory
WS3001B	Project
WS3001C	Work Experience

Diploma Advanced Diploma and Bachelor of Work Studies -Food Services

အချက်အပြုတ်၊ စားဖို့မှူးပညာ

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC205	CERTIFICATE IN COMMUNITY SERVICE
WS2002A	Cooking 1
WS2002B	Cooking 2
WS2002C	Chef
WS3001A	Management Theory
WS3001B	Project
WS3001C	Work Experience

Diploma Advanced Diploma and Bachelor of Work Studies -Children Services

ကလေးထိန်းပညာ

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC205	CERTIFICATE IN COMMUNITY SERVICE
WS2003A	Child studies Unit 1+2
WS2003B	Child studies Unit 3+4
WS2003C	Child studies Unit 5+6
WS3001A	Management Theory
WS3002A	Child Studies Unit 7+8
WS3002B	Child Studies Unit 9+10
WS3002C	Child Studies Unit 11+12
WS3002D	Child Studies Unit 13

**Diploma Advanced Diploma and Bachelor of Work Studies -Aged Care
Services and Nurse assisting**

သက်ကြီးရွယ်အိုပြုစုရေးပညာသူနာပြုပညာ

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC205	CERTIFICATE IN COMMUNITY SERVICE
WS2004A	Aged Care
WS2004B	Caring Protection Support Training
WS2004C	Citizenship Duty and Responsibility
WS2004D	Community Approach for Disaster Protection
WS2004E	Community Work
WS2004F	Democratic Service
WS3004A	Health Care of Displaced People
WS3004B	Home Care Domestic Assistant Support
WS3004C	Mental Health
WS3004D	Nursing Law
WS3004E	Welfare Tasks
WS3004F	Standardized Health Messages

**Diploma Advanced Diploma and Bachelor of Work Studies -Customer
Services, guest House Waiter and Tourism**

ဧည့်ကြိုပညာ

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC205	CERTIFICATE IN COMMUNITY SERVICE
WS2005A	Reception and Guest House Operation
WS2005B	Tourism and Tour Guide
WS3001A	Management Theory
WS3001B	Project
WS3001C	Work Experience

Diploma Advanced Diploma and Bachelor of Work Studies-Public Safety

လိုခြံရေးအစောင့်ဝန်ထမ်းပညာ

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC208	CERTIFICATE IN PUBLIC SAFETY
WS2006A	Civil servant codes
WS2006B	Community Security
WS2006C	Ethics
WS2006D	Freedom of Judges and Lawyers
WS2006E	Human Trafficking Protection
WS2006F	Humanity Works Protection of Violence
WS3006A	Legal Defence
WS3006B	Police Task
WS3006C	Safety in Education Establishment
WS3006D	Safety Protection Training
WS3006E	School Security
WS3006F	Urban Safety
WS3006G	Working at Company

Diploma Advanced Diploma and Bachelor of Work Studies-Transport and Logistics

သယ်ယူပို့ဆောင်ရေးပညာ

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC209	CERTIFICATE IN LOGISTICS
WS2007A	Driver Hand Book and Rules
WS2007B	Driving Laws
WS2007C	Truck Driving System
WS3001A	Management Theory
WS3001B	Project (Planning Cargo Movement)
WS3001C	Work Experience

Diploma Advanced Diploma and Bachelor of Work Studies—Agri Foods Production and Bachelor of Agriculture

စိုက်ပျိုးရေးပညာစာအုပ်

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC201	CERTIFICATE IN AGRICULTURE FOOD PRODUCTION
Y1112SC	Science (Optional)
Y1112Ch	Chemistry (Optional)
WS2008A	Agricultural Law
WS2008B	Agricultural Technology
WS2008C	Coffee and Seasonal Crops
WS2008D	Cotton Production
WS2008E	Crops
WS2008F	Garden Plantation
WS3008A	Long term Crops
WS3008B	Pest Protection
WS3008C	Properties of Crops
WS3008D	Rice Production
WS3008E	Seeds Storage and Usage
WS3001A	Management Theory
WS3001B	Project
WS3001C	Work Experience

Diploma Advanced Diploma and Bachelor of Work Studies-Animal Handling and Live Stock

မွေးမြူရေးပညာ

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC202	CERTIFICATE IN ANIMALS HANDLING
Y1112SC	Science (Optional)
Y1112Ch	Chemistry (Optional)
WS2009A	Animal Diseases
WS2009B	Animal Foods
WS2009C	Community Cooperation
WS2009D	Fish Farming
WS2009E	Live Stock Techniques
WS3009A	Scientific-Terminology
WS3009B	Township Disaster Management
WS3009C	Live Stock Knowledge
WS3001A	Management Theory
WS3001B	Project

Diploma Advanced Diploma and Bachelor of Work Studies-Sales and Marketing

ဈေးဆိုင်ပညာ

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC203	CERTIFICATE IN BUSINESS
WS2010A	Anti Corruption Studies
WS2010B	Company Business Ethics
WS2010C	Employing Person with Disability
WS3010A	Money Management for shopkeepers
WS3010B	Anti Human-Trafficking in Small Businesses
WS3010C	Right and Responsibility in Business Operation

WS3001A	Management Theory
WS3001C	Work Experience

Diploma Advanced Diploma and Bachelor of Work Studies-Handyman Properties Services

ပြုပြင်ထိန်းသိမ်းပညာ

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC206	CERTIFICATE IN PROPERTIES SERVICES
Y1112Sc	Science
Y1112Ph	Physics
Y1112Ch	Chemistry
Y1112M	Mathematics
WS2010A	Concrete Structure
WS2010B	Safety Control
WS2010C	Bridge Maintenance
WS3011A	Bitumen
WS3011B	Cement
WS3011C	Deformed Bars
WS3001B	Project
WS3001C	Work Experience

Diploma Advanced Diploma and Bachelor of Work Studies-Performing

ကနည်းပညာ

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC207	CERTIFICATE IN PERFORMING
WS2012A	Dancing
WS2012B	Zumba
WS2012C	Multilingual Education
WS3001A	Management Theory
WS3001B	Project

WS3001C	Work Experience
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**Diploma Advanced Diploma and Bachelor of Work Studies-Rural
Development and Water Operations**

ရေပေးရေးပညာ

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC204	CERTIFICATE IN LABORATORY WATER OPERATIONS
Y1112Sc	Science
Y1112Ph	Physics
Y1112Ch	Chemistry
Y1112M	Mathematics
WS2013A	Mine Environmental safety
WS2013B	Water Sanitation
WS2013C	Rural Development
WS3001A	Management Theory
WS3001B	Project
WS3013C	Land Management

**Diploma Advanced Diploma and Bachelor of Work Studies-Laundry
Operations and Textile Care**

အဝတ်လျှော်လုပ်ငန်းပညာ

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC206	CERTIFICATE IN PROPERTIES SERVICES
Y1112Sc	Science
Y1112Ch	Chemistry
WS2014A	Laundry Work
WS2014B	Heat Illness

WS2014C	Human Rights and Tourism
WS3001A	Management Theory
WS3014B	Project (Establishing New Laundry)
WS3014C	Work Experience-Laundry

Diploma Advanced Diploma and Bachelor of Work Studies-Hair Dressing and Personal Services

ဆံပင်ညှပ်ပညာ

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC205	CERTIFICATE IN COMMUNITY SERVICE
WS2015A	Hair Dressing Theory at IQY
WS2015B	Hair Dressing Experience
WS2015C	Hair Dressing Training at Workplace
WS3001A	Management Theory
WS3015A	Project (Establishing hair Dressing Business)
WS3015B	Work Experience (Managing Hair dressing Business)

Diploma Advanced Diploma and Bachelor of Work Studies-Store Materials Handling and Assessment Management

သိုလှောင်ရုံလုပ်ငန်းပညာ

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC206	CERTIFICATE IN PROPERTIES SERVICES
WS2016A	Farm Storage
WS2016B	Chemical Storage Law
WS2016C	Fishing Storage
WS3001A	Management Theory
WS3016A	Store Operation
WS3015B	Agricultural Reform and Supply Chain System

Diploma Advanced Diploma and Bachelor of Work Studies-Cleaning Properties Maintenance and Community Health

သန့်ရှင်းရေးပညာ

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC206	CERTIFICATE IN PROPERTIES SERVICES
WS2017A	Cleaning
WS2017B	Community Health
WS2017C	Protection-mainstreaming
WS2017D	Nutrition
WS2017E	Gender-Responsive Programming
WS3001A	Management Theory
WS3017A	National Investment Plan for_ Rural Water Supply Sanitation Hygiene
WS3015B	National Strategy for Rural Water Supply Sanitation Hygiene

Diploma Advanced Diploma and Bachelor of Work Studies-Manufacturing and Industry

စက်ရုံလုပ်သားပညာ

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC211	CERTIFICATE IN ENGINEERING PRODUCTION & MANUFACTURING THEORY
Y1112Sc	Science
Y1112Ph	Physics
Y1112Ch	Chemistry
Y1112M	Mathematics
WS2018A	Amended-Law-for-Leave-and-Holiday-Law
WS2018B	Employment Contract
WS2018C	Equal Employment Right
WS2018D	Factory Work
WS2018E	Factory-Act Amended
WS2018F	Code of Conduct

WS2018G	Human Right
WS3001A	Management Theory
WS3018A	Environmental Assessment
WS3018B	Payment Laws
WS3018BC	Second-Dispute-Settlement-Law
WS3018D	Worker Compensation
WS3018E	Shop and Office Place Law
WS3018F	Social Security Rule

Diploma Advanced Diploma and Bachelor of Work Studies-Clerk of Work

ပြုပြင်ရေးလုပ်သားပညာ

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC211	CERTIFICATE IN ENGINEERING PRODUCTION & MANUFACTURING THEORY OR
MVTC206	CERTIFICATE IN PROPERTIES SERVICES
Y1112Sc	Science
Y1112Ph	Physics
Y1112Ch	Chemistry
Y1112M	Mathematics
WS2018A	Amended-Law-for-Leave-and-Holiday-Law
WS2018B	Employment Contract
WS2018C	Equal Employment Right
WS2018D	Factory Work
WS2018E	Factory-Act Amended
WS2018F	Code of Conduct
WS2018G	Human Right
WS3001A	Management Theory
WS3018A	Environmental Assessment

WS3018B	Payment Laws
WS3018BC	Second-Dispute-Settlement-Law
WS3018D	Worker Compensation
WS3018E	Shop and Office Place Law
WS3018F	Social Security Rule

Diploma Advanced Diploma and Bachelor of Work Studies- Printing and Manufacturing

ပုံနှိပ်လုပ်သားပညာ

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC210	CERTIFICATE IN INFORMATION TECHNOLOGY
ADMEC203	Design and Technology
Y1112Sc	Science
Y1112Ph	Physics
Y1112Ch	Chemistry
Y1112M	Mathematics
WS2018A	Amended-Law-for-Leave-and-Holiday-Law
WS2018B	Employment Contract
WS2018C	Equal Employment Right
WS2018D	Factory Work
WS2018E	Factory-Act Amended
WS2018F	Code of Conduct
WS2018G	Human Right
WS3001A	Management Theory
WS3018A	Environmental Assessment
WS3018B	Payment Laws
WS3018BC	Second-Dispute-Settlement-Law
WS3018D	Worker Compensation

WS3018E	Shop and Office Place Law
WS3018F	Social Security Rule

Diploma Advanced Diploma and Bachelor of Work Studies-Postal and Library Services

စာပို့လုပ်ငန်းပညာ စာကြည့်တိုက်လုပ်ငန်းပညာ

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC203	CERTIFICATE IN BUSINESS
MVTC210	CERTIFICATE IN INFORMATION TECHNOLOGY
WS2021A	Ancient and Modern libraries in Myanmar
WS2021B	Postal and Library Service
WS2021C	Postal Service
WS3001A	Management Theory
WS3001B	Project
WS3001C	Work Experience
WS3021A	Procedural Safeguard

Diploma Advanced Diploma and Bachelor of Work Studies-Teacher Aides and Education Support

ပညာရေးအကူလုပ်သားပညာ

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC203	CERTIFICATE IN BUSINESS
MVTC210	CERTIFICATE IN INFORMATION TECHNOLOGY
WS2022A	Procedural-Safeguard
WS2022B	Continuing Education
WS2022C	Minimum Standard
WS2022D	Teacher Aides School Health Development

WS2022E	Rural Development
WS3022A	Teacher Aides School Safety
WS3022B	Teacher Aides School Students Support
WS3022C	Water Sanitation
WS3022AD	Minimum standard Part 2
WS3001A	Management Theory

Diploma Advanced Diploma and Bachelor of Work Studies-Production and Industry

ကုန်ထုတ်လုပ်သားပညာ

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC211	CERTIFICATE IN ENGINEERING PRODUCTION & MANUFACTURING THEORY OR
MVTC206	CERTIFICATE IN PROPERTIES SERVICES
Y1112Sc	Science
Y1112Ph	Physics
Y1112Ch	Chemistry
Y1112M	Mathematics
WS2018A	Amended-Law-for-Leave-and-Holiday-Law
WS2018B	Employment Contract
WS2018C	Equal Employment Right
WS2018D	Factory Work
WS2018E	Factory-Act Amended
WS2018F	Code of Conduct
WS2018G	Human Right
WS3001A	Management Theory
WS3018A	Environmental Assessment

WS3018B	Payment Laws
WS3018BC	Second-Dispute-Settlement-Law
WS3018D	Worker Compensation
WS3018E	Shop and Office Place Law
WS3018F	Social Security Rule

Diploma Advanced Diploma and Bachelor of Work Studies-Visual Arts and Crafts

လက်မှုအနုပညာ

WS101	Vocational Studies
WS102	Safety Training
WS103	English
ADMEC203	Design and Technology
WS2024A	Works of Painters
WS2024B	Photography
WS2024C	Kinds of Crafts
WS3001A	Management Theory
WS3001B	Project
WS3001C	Work Experience

Diploma Advanced Diploma and Bachelor of Work Studies -Screen Media

သတင်းနှင့်ရုပ်သံပညာ

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC205	CERTIFICATE IN COMMUNITY SERVICE
WS2025A	News Paper , Film and Video Part 1
WS2025B	Film and video Part 2

WS2025C	Organizing Technique and Radio Broadcasting
WS3001A	Management Theory
WS3001B	Project
WS3001C	Work Experience
WS3025A	Right and Responsibility
WS3025B	Responsibility of Media in Civil Defence

ENGINEERING FUNDAMENTAL EXAMINATION SUPPORT SITE

www.highlightcomputer.com/ef.htm

PROFESSIONAL ENGINEER EXAMINATION SUPPORT SITE

www.highlightcomputer.com/pesupport.htm

Fundamental of Engineering Overseas Test System General Information

Fundamental of Engineering Study Areas (Reference to Professional Engineers Board of Singapore)

Fundamental of Engineering Study Resources

(Reference to Professional Engineers Board of Singapore) (Civil)

Electrical

Mechanical

Marine Engineers & Naval Architect Professional Engineers Test References

Engineering Calculations

(Electrical+ Civil+ Structural+ Architectural+ Mechanical + Building Services+ Chemical+ Environmental)

Chemical Engineers Reference

Petroleum Engineers Reference

Materials, Metallurgy & Mining Engineers Reference

Part 1

No password is set

Fundamental of Engineering Overseas Test System General Information

SYSTEMS ENGINEERING FUNDAMENTALS

sefguide_01_01.pdf (1.23MB)

http://www.filefactory.com/file/5mp9qwrksw01/n/sefguide_01_01.pdf

Using Engineering Economics to Pass the FE Exam.ppt (0.07MB)

http://www.filefactory.com/file/69ylwwm73ozb/n/Using_Engineering_Economics_to_Pass_the_FE_Exam.ppt

Engineering Fundamental

public fe reference handbook.pdf (4.4MB)

http://www.filefactory.com/file/2bh104fbcbg1/n/public_fe_reference_handbook.pdf

PS-Ref-Web.v3.pdf (4.21MB)

<http://www.filefactory.com/file/4y2wbk4rp8i1/n/PS-Ref-Web.v3.pdf>

Presentation1.pdf (0.66MB)

<http://www.filefactory.com/file/3o1cjzwrsgyp/n/Presentation1.pdf>

mathematics probability review notes.pdf (1.37MB)

http://www.filefactory.com/file/1afbisi9eqf5/n/mathematics_probability_review_notes.pdf

PE SPEC Exam.pdf (0.04MB)

http://www.filefactory.com/file/dvelf38kr2r/n/PE_SPEC_Exam.pdf

introduction-to-matlab.pdf (0.31MB)

<http://www.filefactory.com/file/355n7sf4flel/n/introduction-to-matlab.pdf>

HOW-TO-PASS.doc (0.05MB)

<http://www.filefactory.com/file/6me7vvtugsfh/n/HOW-TO-PASS.doc>

ieeep1.ppt (0.06MB)

<http://www.filefactory.com/file/582ocia160o1/n/ieeep1.ppt>

FE-Ref-9.0 Web.v2.pdf (11.67MB)

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Fundamental of Engineering-Civil (FEC)

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FEC 102 (☐ CE 102 Structural Mechanics)

FEC 103 (☐ CE 103 Structural Analysis)

FEC 104 (☐ CE 104 Soil Mechanics)

FEC 105 (☐ CE 105 Fluid Mechanics)

FEC 201 (CE 201 Reinforced and Prestressed Concrete Structures)

FEC 202 (☐ CE 202 Steel and Composite Structures)

FEC 203 (☐ CE 203 Geotechnical Engineering)

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FEM 103 (☐ ME 103 Fluid Mechanics)

FEM 104 (☐ ME 104 Mechanics and Materials)

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FEM 106 (☐ ME 106 Thermodynamics and Heat Transfer)

FEM 201 (☐ ME 201 Control and Instrumentations)

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FEM 203 (☐ ME 203 Fluid Mechanics)

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A New CMOS Ternary Logic Design for Low-power Low-voltage Circuits

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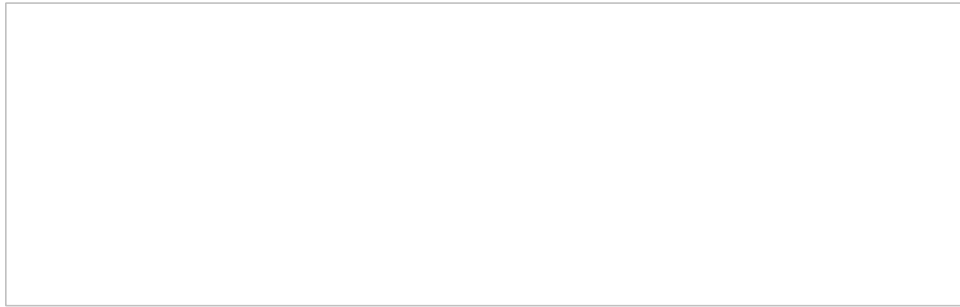
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134/Intro_Predictive_Maintenance_2E.pdf (3MB)
135/HVAC_handbook.pdf (224.28MB)
136/Industrial Engineering Handbook.pdf (5.22MB)
137/Hvac-Systems-Design-Handbook-2.pdf (6.7MB)
138/HVAC-Pump-Handbook.pdf (12.51MB)
139/HVAC-Handbook-Commissioning-Guideline.pdf (0.87MB)
140/HVAC-Handbook-AC-and-Ventilation-Controls.pdf (6.42MB)
141/HVAC-Engineering-Cookbook.pdf (0.5MB)
142/HVAC AJ HandBook.pdf (64.69MB)
143/Handbook of Technical Diagnostics.pdf (53.33MB)
144/Handbook of Sustainable Engineering.pdf (24.71MB)
145/Handbook of Pumps and Pumping.pdf (14.14MB)
146/Building Tech Plumbing.pdf (118.99MB)
147/Handbook of diesel engines.pdf (26.79MB)
148/Gas Turbine Engg handbook.pdf (19.34MB)
149/Energy Management Handbook.pdf (19.55MB)
150/Control of HVAC.pdf (1.5MB)
151/Compressor Handbook.pdf (13.28MB)
152/Calculations of Machine Design.pdf (5.95MB)
153/Automotive Mechatronics.pdf (33.36MB)

154/Building Services Engineering Spreadsheets.pdf (26.28MB)

155/Automotive Electrical Handbook.pdf (16.58MB)

156/Assembly Automation & Product Design.pdf (10.9MB)

157/Applied Welding Engineering.pdf (5.03MB)

158/AirCondition Design Reference CAREER.pdf (56.11MB)

159/AirConDesign UAungKyawThar.pdf (58.84MB)

160/Air Pollution Control Technology Handbook.pdf (13.38MB)

161ElectricalEnggHandbook.pdf (545.15MB)

<http://www.filefactory.com/file/3kzwweycxk0v/n/ElectricalEnggHandbook.pdf>

Project

162/Mcgraw Hill - Project Management.pdf (3.4MB)

Master of Engineering (Civil) High Rise Building Construction

(240 Credits) (Course 8011121)

Masters of Engineering (Civil- High Rise Building Construction) program is for recent graduates who have completed their BE degrees.

It will include the following 12 subjects of 10 credits each.

This program will be delivered entirely in English .

Graduate Diploma in Engineering (180 credits)

Completion of the compulsory 6 subjects will earn Graduate Diploma in Engineering (60 credits at Masters level +120 Credits for Bachelors degree level total 180credits. Completion of two or more units can earn Graduate Certificate in Engineering.

List of Subjects (Compulsory)

- (1)BAE6011 High Rise Building Construction Project
- (2) BAE6012 High Rise Building Construction Method
- (3) BAE6013 Design of High Rise Building
- (4)BAE6014 High Rise Building Structure
- (5)BAE6015 Scheduling Building Construction
- (6)BAE6016 Fire Safety in High Rise Building

List of Subjective (Civil Engineering Subjects)

- (7) BAE650 Steel Design
- (8) BAE 643-Earthquake Resistant Structure
- (9) BAE 634-Building Construction
- (10) BAE 637-Composite Structure of Steel& Concrete
- (11) BAE 636-Building Technology Electrical Mechanical System
- (12) BAE 644-Estimating

Assessment

The candidates will need to submit the study report

Read the e Book , view the lecture videos and write 20 pages study report for each of the subjects outlined below.

- The report needs to include
- Book review- Review on each chapter of the book highlighting the key concepts, key formula, key theory & practical application concepts
- Own idea on how to apply those concepts in real practical applications.
- Examples of engineering designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book

ADVANCED DIPLOMA AND BACHELOR OF WORK STUDIES (VOCATIONAL STUDIES)
Course 456678/556678

456678A/556678A

Advanced Diploma/ Bachelor of Work Studies(Chemical Laboratory & water Operations)

456678B/556678B

Advanced Diploma/ Bachelor of Work Studies (Performance)

456678C/556678C

Advanced Diploma/ Bachelor of Work Studies (Construction)

456678D/556678D

Advanced Diploma/ Bachelor of Work Studies (Properties Services)

456678E/556678E

**Advanced Diploma/ Bachelor of Work Studies
(Public Safety ,Personal Services, Hospatality)**

456678F/556678F

Advanced Diploma/ Bachelor of Work Studies (Screen Media)

456678G/556678G

Advanced Diploma/ Bachelor of Work Studies(Security Service)

456678G/556678G

Advanced Diploma/ Bachelor of Work Studies (Transport)

456678H/556678H

Advanced Diploma/ Bachelor of Work Studies (Agriculture)

456678I/55667I

Advanced Diploma/ Bachelor of Work Studies(AgriFood Resources)

456678J/556678J

Advanced Diploma/ Bachelor of Work Studies (Animal Studies)

456678K/55668K

Advanced Diploma/ Bachelor of Work Studies (Business)

456678L/55668L

Advanced Diploma/ Bachelor of Work Studies (Community Services)

456678M/55668M

Advanced Diploma/ Bachelor of Work Studies (Transport)

456678N/55668N

Advanced Diploma/ Bachelor of Work Studies (Food Service)

456678O/55668O

Advanced Diploma/ Bachelor of Work Studies (Health Service)

456678P/55668P

Advanced Diploma/ Bachelor of Work Studies (Library Service)

456678Q/55668Q

Advanced Diploma/ Bachelor of Work Studies (Manufacturing)

456678R/55668R

Advanced Diploma/ Bachelor of Work Studies (Marine Studies)

456678S/55668S

Advanced Diploma/ Bachelor of Work Studies (Marketing)

456678A/556678EN

**Advanced Diploma/ Bachelor of Work Studies(Engineering-
Electrical/Civil/Mechanical/Others)**

- 6 Subjects-Advanced Diploma
- 12 Subjects Bachelor of Work studies

Curriculum

The same discipline subjects—Specialized discipline will on award
Mixture of discipline subjects—General Engineering on award

- GE1 Electrical Wiring (EE)
- GE2 Electrical Machine (EE)
- GE3 Electrical Distribution (EE)

- GE4 Power System Operation (EE)
 - GE5 Power System Protection
 - GE6 Occupational Health & Safety
 - GE7 Project Management (EE/CE/ME)
 - GE8 Electronics (EE)
 - GE9 Process Control (EE/ME)
 - GE10 Industrial Electronics (EE)
 - GE11 Programmable Logic Controller (EE/ME)
 - GE12 Photovoltaic Solar Electrical System
 - GE13 Principle of Engine(ME)
 - GE14 Fitting & Machining (ME)
 - GE15 Building Construction (CE)
 - GE16 Engineering Drawing I (EE/CE/ME)
 - GE17 Pipe Fitting (CE/ME)
 - GE18 Air-conditioning & Refrigeration (ME)
 - GE19 Computer Programming (EE/CE/ME)
 - GE20 Computer Networking (EE)
 - GE21 Welding (ME)
 - GE22 Painting & Decoration (CE)
 - GE23 Pneumatics (CE/ME)
 - GE24 Manufacturing Management (ME)
 - GE25 Surveying (CE)
 - GE26 Energy Efficient Building Design
 - GE27 Machine Principle(ME)
 - GE28 Hydraulic (CE/ME)
-
- GE29 Materials & Corrosion Prevention (CE/ME)
 - GE30 Bricklaying (CE)
 - GE31 Sprouting & Guttering (CE)
 - GE32 Electronic Security Installation

- GE33 Explosion Protection
 - GE34 Engineering Business Management
 - -----
 - BTech/BE Conversion
-
- IE1 Engineering Mathematics
 - IE2 Engineering Physics
 - IE3 Material Science
 - IE4 Advanced Engineering Mathematics
 - IE5 Mechanical Science
 - IE6 Principle of Electricity
 - IE7 Electrical Circuit I (EE)
 - IE8 Electrical Circuit II (EE)
 - IE9 Advanced Building Construction (CE)
 - IE10 Transmission Line (EE)
 - IE11 Electrical & Mechanical Engineering Work Experience
 - IE12 Civil Engineering Work Experience
 - IE13 Advanced Workshop
 - IE15 Advanced Engineering Design & Project Work
 - IE16 Power System Analysis-Fault Calculation
 - IE17 Power Line Design
 - IE18 Building services
 - IE19 PCB Design
 - IE20 Maths References
 - IE21 Electrical Principle
-
- IE22 Co-generation
 - IE23 Industrial Computer System
 - IE24 Microprocessor
 - IE25 Power System Fundamental

- IE26 Electrical Communication Fundamental
- IE27 Control Concept
- IE28 Electronic Signal & System
- IE29 Electrical Estimating
- IE30 Electronic Workbench
- IE31 Introduction to Renewable Energy Technology
- IE32 Telecommunication Cabling & Installation
- IE33 Hybrid Energy System
- IE34 Electricity Supply Industrial Skills

656678A

Bachelor of Science (Technology)

- Bachelor of Work Studies(Engineering)+ Software Studies Part 1

656678B

Bachelor of Science (Engineering)

- Bachelor of Work Studies(Engineering)+ Software Studies Part 2

Graduate Diploma in Geographic Information Systems (Grad Dip GIS)(6886650)

Course Feature

This course introduces students to the 'building blocks' of GIS systems, including data structures, relational databases, spatial queries and analysis. The focus then moves on to sources of spatial data including Global Positioning System (GPS), operational systems such as smartcard ticketing and transaction data along with web-based sources highlighting both the potential and challenges associated with integrating each data source within a GIS environment. The unit is hands-on involving learning how to use the latest GIS software to analyse several problems of interest using real 'big data' sources and to communicate the results in a powerful and effective way. These include identifying potential demand for new services or infrastructure, creating a delivery and scheduling plan for a delivery firm or examining the behaviour of travellers or consumers over time and locations

Pre-requisite

Any Bachelors degree

Mode of Learning

Online/ English/ Video Lessons/ Readers/ Submission of study report

Subjects (Total 80 credits) (Each 8 credits)

- GIS601-PrinciplesGIS
- GIS602-Principle of GPS
- GIS603-Relational databases
- GIS604-Smartcard-Ticketing-
- GIS605 Spatial data system
- GIS606 Spatial queries and analysis
- GIS607 SpatialDecisionMaking0
- GIS608 Building Block of GIS
- GIS609 integrating data source within a GIS environment
- GIS610 Large spatial datasets analysis
- GIS Software

Graduate Diploma of Engineering Practice (Civil)

STAGE (3) ADVANCED GENERAL CIVIL ENGINEERING (18 Pt)

BAE421 Building Construction Engineering (4 pt)

BAE422 Estimating (2 pt)

BAE423 Fluid Mechanics (2 pt)

BAE424 Reinforced Concrete (2 pt)

BAE425 Timber Engineering (2 pt)

BAE521 Road & Bridge (2 pt)

BAE522 Rock Mechanics (2 pt)

BAE523 Soil Mechanics (2 pt)

STAGE (4 A) ADVANCED SPECIALIZED CIVIL ENGINEERING STUDY (6Pt)

BAE621 Structural Engineering (3 pt)

BAE622 Architecture (3 pt)

STAGE (4B) ADVANCED SPECIALIZED CIVIL ENGINEERING STUDY (4Pt)

BAE623 Surveying & Traffic Engineering (2 pt)

BAE624 Water Supply , Sanitation & Finishing (2 pt)

Graduate Diploma of Engineering Practice (Civil)

STAGE (3) ADVANCED GENERAL CIVIL ENGINEERING (18 Pt)

BAE421 Building Construction Engineering (4 pt)

BAE422 Estimating (2 pt)

BAE423 Fluid Mechanics (2 pt)

BAE424 Reinforced Concrete (2 pt)

BAE425 Timber Engineering (2 pt)

BAE521 Road & Bridge (2 pt)

BAE522 Rock Mechanics (2 pt)

BAE523 Soil Mechanics (2 pt)

STAGE (4 A) ADVANCED SPECIALIZED CIVIL ENGINEERING STUDY (6Pt)

BAE621 Structural Engineering (3 pt)

BAE622 Architecture (3 pt)

STAGE (4B) ADVANCED SPECIALIZED CIVIL ENGINEERING STUDY (4Pt)

BAE623 Surveying & Traffic Engineering (2 pt)

BAE624 Water Supply , Sanitation & Finishing (2 pt)

Graduate Diploma of Engineering Practice (Civil)

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BAE421 Building Construction Engineering (4 pt)

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BAE425 Timber Engineering (2 pt)

BAE521 Road & Bridge (2 pt)

BAE522 Rock Mechanics (2 pt)

BAE523 Soil Mechanics (2 pt)

STAGE (4 A) ADVANCED SPECIALIZED CIVIL ENGINEERING STUDY (6Pt)

BAE621 Structural Engineering (3 pt)

BAE622 Architecture (3 pt)

STAGE (4B) ADVANCED SPECIALIZED CIVIL ENGINEERING STUDY (4Pt)

BAE623 Surveying & Traffic Engineering (2 pt)

BAE624 Water Supply , Sanitation & Finishing (2 pt)

Graduate Diploma of Engineering Practice (Computer Control Engineering)

This one year course with 30 credit points trains the BSc & BCTech graduates and final year students to work as computer control system technicians and engineers in various industries. It consists of electrical engineering units, electronic engineering units, analogue and digital principles, process control system, programmable control, computer aided control and instrumentation, linear system and modern control system units.

Pre-requisites

BSc or BC Tech , Final years

Contents

Group (1)	Group (2)
EE101 DC Circuit Problems EE103 Basic Electrical Drafting EE107 Electrical Equipments EE109 Electrical Control Circuits EE112 Alternating Current Principle EE113 Electrical Fundamental EE206 AC Machines EE207 DC Machines EE202 Electrical Circuits	EE115 Basic Analogue and Digital Electronics EE121 Electronic Power Control Devices EE208 Operational Amplifier EE209 Analogue Electronics EE301 Advanced Electrical Drafting EE117 Solar Electrical System
The students study the power points containing the explanations in English + Myanmar Languages, do & submit theoretical & simulated practicals. Tutoring support by electronics teachers.	The students study the power points containing the explanations in English + Myanmar Languages, do & submit theoretical & simulated practicals. Tutoring support by electronics teachers.

The students who successfully complete Group 1 & 2 will receive Graduate Certificate in Engineering Practice (Electrical & Electronic)

Group (3)	Group (4) University post graduate level
ME203 Control Engineering ME534 Numerical Control ME434 Mechatronics and Robotics EE624 Process Control ME302 Automation & Robotics	BAE408 Analogue and Digital Electronics BAE502 Linear System BAE503 Control System
The students study the power points containing the explanations in English + Myanmar Languages, Study the text books in Myanmar language & enrich the knowledge by reading the references in English Do & submit theoretical & simulated practicals. Tutoring support by electronics teachers.	The students study the power points containing the explanations in English + Myanmar Languages, do & submit theoretical & simulated practicals. Tutoring support by electronics teachers.

The students who successfully complete Group 3& 4 will receive Graduate Diploma of Engineering Practice (Computer Control Engineering)

GRADUATE DIPLOMA OF ENGINEERING PRACTICE (MECHANICAL)

STUDY GUIDE

BAE311 Plant Engineering (2 pt)

BAE312 Design Engineering (2 pt)

BAE313 Environmental Control (2 pt)

BAE314 Mechanical Power Generation (2 pt)

BAE315 Materials Engineering (2 pt) Part 1 Part 2

BAE511 Air-conditioning & Refrigeration	3	ME511 Air-conditioning & Refrigeration
BAE512 Building Service Water Supply System	3	ME512 Building Service Water Supply System
BAE513 Production Technology	3	ME513 Production Technology
BAE611 Maintenance Engineering	3	ME 611 Maintenance Engineering
BAE612 Engineering Metallurgy	1	ME 612 Metallurgy
BAE613 Mechanical Instrumentation Process	3	ME 613 Mechanical Instrumentation & Process
BAE614 Machine Design	2	ME 614 Machine Design Part 1 Part 2 Part 3

GRADUATE DIPLOMA OF ENGINEERING PRACTICE (MECHANICAL)

STUDY GUIDE

BAE311 Plant Engineering (2 pt)

BAE312 Design Engineering (2 pt)

BAE313 Environmental Control (2 pt)

BAE314 Mechanical Power Generation (2 pt)

BAE315 Materials Engineering (2 pt) Part 1 Part 2

BAE511 Air-conditioning & Refrigeration	3	ME511 Air-conditioning & Refrigeration
BAE512 Building Service Water Supply System	3	ME512 Building Service Water Supply System
BAE513 Production Technology	3	ME513 Production Technology
BAE611 Maintenance Engineering	3	ME 611 Maintenance Engineering
BAE612 Engineering Metallurgy	1	ME 612 Metallurgy
BAE613 Mechanical Instrumentation Process	3	ME 613 Mechanical Instrumentation & Process
BAE614 Machine Design	2	ME 614 Machine Design Part 1 Part 2 Part 3

GRADUATE DIPLOMA OF ENGINEERING PRACTICE (MECHANICAL)

STUDY GUIDE

BAE311 Plant Engineering (2 pt)

BAE312 Design Engineering (2 pt)

BAE313 Environmental Control (2 pt)

BAE314 Mechanical Power Generation (2 pt)

BAE315 Materials Engineering (2 pt) Part 1 Part 2

BAE511 Air-conditioning & Refrigeration	3	ME511 Air-conditioning & Refrigeration
BAE512 Building Service Water Supply System	3	ME512 Building Service Water Supply System
BAE513 Production Technology	3	ME513 Production Technology
BAE611 Maintenance Engineering	3	ME 611 Maintenance Engineering
BAE612 Engineering Metallurgy	1	ME 612 Metallurgy
BAE613 Mechanical Instrumentation Process	3	ME 613 Mechanical Instrumentation & Process
BAE614 Machine Design	2	ME 614 Machine Design Part 1 Part 2 Part 3

[IQY Technical College/ St Clements University Humanities Study Programs](#)

www.highlightcomputer.com/HumanitiesCoursesOutline.pdf

The objective of Humanities Studies program is to provide formal academic study and recognition for community workers, social service workers and volunteers who are performing the humanitarian works.

Entry Requirement

No formal requirement but working in humanitarian service is needed. But those without university entrance qualifications may need to attend our basic education studies.

Course Structure

- Diploma in Humanities Studies (Dip HS) (30 Credit Points) (IQY Course 37001)
- Advanced Diploma in Humanities Studies (Adv Dip HS) (60 Credit Points) (IQY Course 47001)
- Professional Diploma in Humanities Studies (Prof Dip HS) (120 Credit Points) (IQY Course 67001) which can be convertible to St Clements University's Bachelor of Humanities Studies (BHS)
- Master of Humanities Studies (MHS) (St Clements University) (240 Credits)
- Professional Doctorate of Humanities Studies (DHS) (St Clements University) (360 Credits)

[Diploma in Humanities Studies \(Dip HS\) \(30 Credit Points\)](#)

Outcome-

On completion of this course, the candidates will be able to effectively provide humanities services needed by the community.

Course Structure

It consists of compulsory work-based unit and elective units

Compulsory

HS101- Humanitarian Work Record (15Points)

Presenting own diary of humanities work for minimum of three months or work reference

ELECTIVES

The following streams can be selected to complete Diploma in Humanities Studies

[STREAM \(1\) -PEOPLE SERVICE STREAM \(Select any one\)](#)

[CERTIFICATE IN COMMUNITY SERVICE \(MVTC205\)](#)

[\(FOODS SERVICE/HEALTH SERVICES/LIBRARY SERVICES/AGE CARE/CHILD CARE\)](#)
(15 points)

CERTIFICATE IN PUBLIC SAFETY (MVTC208) (15 points)

CERTIFICATE IN AGRICULTURE FOOD PRODUCTION (MVTC201) (15 points)

STREAM (2)-COMMUNITY CONSTRUCTION STREAM

Select any one (15 points)

PC 1-Certificate in Bricklaying & Masonry

PC 2-Certificate in Plumbing

PC 3-Certificate in Building Construction

PC 4-Certificate in Gutter Construction

PC 5-Certificate in Fitting & Machining

PC 6-Certificate in Welding

PC 7-Certificate in Engine Operation & Basic Servicing

PC 8-Certificate in Air-conditioning & Refrigeration Basic Servicing

PC 9-Certificate in Electrical Wiring

PC 10-Certificate in Electrical Machine Winding

STREAM (3)- VOLUNTARY TEACHING STREAM

ED107 Theory of Education, Educational Technology & Teaching Practice

(15 Credits)

Advanced Diploma in Humanities Studies (Dip HS) (60 Credit Points)

Outcome

On completion of this course, the candidates will be able to effectively organize and manage the humanities services needed by the community.

Course Structure

It consists of credit transfer from Diploma in Humanities Studies, compulsory work-based unit and compulsory theory studies units.

Credit Transfer

Completion of Diploma in Humanities Studies (30 Credit Points)

Compulsory Work-based Unit

HS201-Humanitarian Organizing Work Record (5 points)

Presenting own diary of organizing humanities work or work reference in additional to minimum of 3 months humanitarian work experience.

Compulsory theory studies units.

The following management units need to be studied

Mgt 101 Management (5 points)

Mgt 201 Customer Service Management (Humanitarian Customer Service) (5 points)

Mgt 203 Inventory & Budget Management (Humanitarian Service Organization Budget Control) (5 points)

Mgt 208 Safety Management in Humanitarian Works-(5 Points)

Mgt 211 Leadership in Humanitarian Works (5 Points)

Professional Diploma in Humanities Studies (Dip HS) (120 Credit Points)

Outcome

On completion of this course, the candidates will be able to effectively set up the strategic tasks and judge the nature of humanities services needed by the community.

Course Structure

It consists of credit transfer from Advanced Diploma in Humanities Studies, compulsory self study unit compulsory theory studies units and a humanities project

Credit transfer

Completion of Diploma in Humanities Studies (60 Credit Points)

Compulsory self study unit

HS301-Professional Studies of Humanities (20 Credits)

It is an open unit. The student will need to study the literatures in Human Right, Democracy. History, Political Science, Philosophy, . They can read the books, online publications , attend the public talk, take part in online discussions etc and prepare a report on what they read, believe, accept on humanitarian issues.

They can freely present their views , comments and judgement.

The assessment will not be based on same or different views between student and assessor. It will only be based on how the student can do the study, what is accepted and believed and how well the arguments can be presented.

The report needs to include references sources as well and it can be written in any language. (For Myanmar, it can be written in Myanmar or English)

Compulsory theory studies

ED431-Critical Thinking (10 Credits)

Mgt 305 Quantitative Methods for Managers (10 Credits)

Mgt 306 Human Resources Management (10 Credits)

HS302- Humanities Work Project (10 Credits)

Humanities Project is to be written

The candidate needs to investigate the needs of the community and prepare the work plan to do the humanities project work such as building a school, digging the water well, disaster relief work.

They need to answer the questions regarding

- Why this task is important for the community
- Who will get the benefit
- What kinds of tasks need to be provided
- Who will do the job
- What materials , resources will be required
- How to provide the safety
- Time plan to complete the task
- Materials requirement and budgetary issues and how to raise the funding
- How to collaborate with local and other people / organizations
- How to assess the project completion
- How to determine the effectiveness and quality of the project outcome
- What lesson that you learnt from the project and conclusion

The project report needs to answer the above questions, record of project works, data, photos and references will need to be attached.

It should be 5 to 10 pages . Without community project but presentation of intensive portfolio 57001 Professional Diploma in Humanities Studies can be issued but to proceed to Masters , such project must be submitted for qualifying.

Bachelor of Humanities Studies (BHS) (St Clements University)

(Credit Transfer)

The graduates of Professional Diploma in Humanities Studies can pay degree registration fees and present the Professional Diploma in Humanities Studies to St Clements University's academic board to issue Bachelor of Humanities Studies (BHS)

Master of Humanities Studies (MHS) (St Clements University) (240 Credits)

Professional Doctorate of Humanities Studies (DHS) (St Clements University)
(360 Credits)

The graduates of Bachelor of Humanities Studies (BHS) can continue the studies on research method and prepare a thesis to complete Master of Humanities Studies (MHS)

St Clements University will also guide the additional studies as required.

They can contribute the literatures in St Clements University's Academic Journal, present the seminars, write the dissertation, defend the dissertation to complete Professional Doctorate of Humanities Studies

Final Thesis for Master and Dissertation for Doctorate

HUM 601 Research Method

HUM 602 Thesis

HUM 601 Research Method

This course guides the student, step by step, through the research process, from problem selection through writing up results. It provides all of the basics necessary to complete a research project in any discipline.

Outline. The following aspects are reflected in this course:

What is research?

Tools of research

The problem: the heart of the research process

Review of the related literature

Planning your research design

Writing the research proposal

Qualitative research

Historical research

Descriptive research

Experimental and causal - comparative designs

Statistical techniques for analyzing quantitative data

Technical details: style, format, and organization of the research report

Masters Research Proposal

Synopsis: Research students are expected to present a written research proposal within three months after commencement. The proposal is handed in to the study leader.

Assessors of this proposal are selected by the faculty for their understanding of the field and the research involved. The purpose of a research is to set out a plan for conducting the research and writing the dissertation within the available time. It should take account of the availability and guidance of the study leader.

The starting point for a research proposal is the topic, which is the field of interest in which the research is to be carried out. In introducing the topic, the proposal should clarify the field that it falls into and the specific part of that field which the research will explore.

It should clarify why the topic is of interest and importance, and how the proposed research will contribute to the field of knowledge or profession. The proposal should clarify the research questions, ensuring that these are specific and answerable.

It is important to show how these questions relate to the topic, and how they will advance the student's contribution. The proposal should detail the research to be carried out, and clarify the research methods, the timeframe and the reasons for selecting particular methods.

Where a period of literature review or research should precede any empirical research, this should be factored in as part of the research. It is important to estimate any periods of field research and to flag their duration and cost in your research proposal.

HUM 602 Thesis

Humanities Studies Thesis for Masters and Dissertation for Doctorate

Candidates need to complete a 60000-words dissertation (in Myanmar or English) and a 3000-words executive portfolio (in English).

This program requires the candidates to complete a thesis as part of the assessment for the Master of Humanities Studies degree and a dissertation for Doctor of Humanities Studies.

Doing a thesis / dissertation means that instead of knowledge and information being presented and following a prescribed route for answering questions, candidates are thrust into an active role of managing an investigation into a topic area. This means researching and discovering things for themselves.

They will have to set their own targets and parameters, pose their own central research questions and decide on the appropriate sources of information to support the research. It therefore requires the use of the higher-level cognitive skills of analysis, synthesis and evaluation. Candidates may choose an area of particular interest to them within the scope of course title.

Doctoral dissertation

A dissertation is an individual effort and the candidate, academic tutor and the course professor will work together on constructing an approved topic (research question) and methodologies.

Humanities Dissertation Defence for doctorate

It is expected of Doctoral candidates to defend their thesis by means of a colloquium (academic discussion). The purpose of the meeting is for the candidates to convince a panel of experts in the

field of the dissertation how well they have done in the conducting of their research study and the preparation of their dissertation

Candidates need to complete all course assessments with the results of Grade B+ or above.

မြန်မာနိုင်ငံပညာရှင်အင်ဂျင်နီယာအဖွဲ့ ချုပ်

The Institution of Professional Engineers Myanmar (IPEM)

Member of International Federation of Engineering
Education Societies (IFEES)

AGTI to BE Conversion Program

AGTI အောင်မြင်ကာအင်ဂျင်နီယာလုပ်ငန်းအတွေ့ အကြုံ (၇)နှစ်ရှိပြီး BE နှင့်အဆင့်တူအင်ဂျင်နီယာပညာကိုသင်တန်းတက်၍ဖြစ်စေ၊ကိုယ်တိုင်လေ့လာမှု၊ လုပ်ငန်းခွင်လက်တွေ့ လုပ်ဆောင်မှုအထောက်အထားတို့ ကိုစိစစ်ကာ BE ဘွဲ့ နှင့်တူ ညီသော ပညာအဆင့်ရှိသည်ဟုသတ်မှတ်ကာ မြန်မာနိုင်ငံအင်ဂျင်နီယာအဖွဲ့ ချုပ်နှင့်ပူးပေါင်းဆောင်ရွက်နေသောတက္ကသိုလ်များ၏ BE ဘွဲ့ ပေါင်းကူးအစီအစဉ်များပြုလုပ်မည့်အစီအစဉ်ကို မြန်မာနိုင်ငံပညာရှင်အင်ဂျင်နီယာအဖွဲ့ ချုပ်ကပြုလုပ်ပါမည်။

AGTI ကို ဂုဏ်တက်ရောက်ပြီးစီးသူများသည် ဘွဲ့ အဆင့်ညီ Singapore Institute of Engineering Technologists အသိအမှတ်ပြု Professional Diploma in Engineering ကို IQY Technical College တွင်ကိုယ်တိုင်သို့ မဟုတ် Online မှတက်ရောက်ပြီးစီးကာ STC Technological University (International Engineering) သို့ မဟုတ် St Clements University သို့ မဟုတ် အဆိုပါတက္ကသိုလ် ၂ခုနှင့် IQY Technical College ပူးပေါင်းအစီအစဉ်မှ BE ဘွဲ့ ကိုရယူရမည်ဖြစ်သည်။

AGTI ကို ဂုဏ်တက်ရောက်ပြီးစီးသူများသည် ယခင်ခေတ် AGTI ကို Columbo Plan Curriculum ဖြင့်သင်ကြားပြီးစီးခဲ့ပြီး ယခင် AGTI အင်ဂျင်နီယာများသည် စာတွေ့ လက်တွေ့ ဌာနမြန်မာနိုင်ငံတွင်သာ မကနိုင်ငံတကာတွင်အင်ဂျင်နီယာလုပ်ငန်းတို့ ကိုတာဝန်ယူလုပ်ဆောင်နေသည့်အပြင်အင်ဂျင်နီယာပညာကိုလက်တွေ့ အသုံးပြုမှုတွင်နောင်လာနောက်သား BE အင်ဂျင်နီယာတို့ ကိုသင်ကြားနိုင်သောကြောင့်ထိုသူတို့ ၏ပညာအတွေ့ အကြုံနှင့်ကျွမ်းကျင်မှုတို့ ကိုစံနှစ်ထကျမှတ်တမ်းပြု Academic Credit ပေးကာ BE အဆင့်ပညာကို Seminar Workshop များစီစဉ်ပို့ ချပြီး Online Resources များ Lesson Video များကိုဖြန့်ဝေကာ BE အဆင့်ညီ Singapore Institute of Engineering Technologists အသိအမှတ်ပြု Professional Diploma in Engineering ကို IQY Technical College

မှပေးပြီး STC Technological University (International Engineering) သို့ မဟုတ် St Clements University သို့ မဟုတ် အဆိုပါတက္ကသိုလ်၂ခုနှင့် IQY Technical College ပူးပေါင်းအစီအစဉ်မှ BE ဘွဲ့ ကိုရယူရမည်ဖြစ်သည်။

အစီအစဉ်တွင်ပါဝင်သောဘာသာများ

BE ဘွဲ့ အတွက်လိုအပ်သော(၁၂၀) Credit Point အတွက်အောက်ပါအတိုင်းစီစဉ်မည်။

ENG601- Engineering Studies

AGTI Certificate (60 Credits)

AGTI လက်မှတ် (ပုံပါအတိုင်းကိုတင်ပြရန်) Notary Certified Copy

ENG602-Engineering Applications

Work Experience Curriculum Vitae (10 Credits)

ကိုယ်ရေးရာဇဝင်တင်ပြရန်

ENG603-Engineering Practicals

Engineering Practice Report or Experience Portfolio (10 Credits)

အောက်ပါအတိုင်းအင်ဂျင်နီယာကျွမ်းကျင်မှုအစီရင်ခံစာရေးသားတင်ပြရန်

(သို့ မဟုတ်)

RSE အတွက်ရေးထားသောအစီရင်ခံစာတင်ရန်

(သို့ မဟုတ်)

RSE လက်မှတ် (Current or Expired) တင်ပြရန်

(သို့ မဟုတ်)

စည်ပင်သာယာမှုထုတ်ပေးခဲ့သောလိုင်စင်များ(မည်သည့်တိုင်းဒေသမှမဆို) (Current or Expired)

တင်ပြရန်

(သို့ မဟုတ်)

မိမိလုပ်ခဲ့သောအလုပ်များမှ Project တစ်ခုအတွက် Drawing/ Estimate/ Quantity/ Survey/Workplan/ Photo တို့ ကိုတင်ပြရန်။

BAE705 Engineering Competency Development (10 Credits)

အခြားဘွဲ့ များအပါအဝင်ပြည်တွင်း(သို့မဟုတ်)ပြည်ပတွင်တက်ခဲ့သောအင်ဂျင်နီ

ယာသင်တန်းလက်မှတ်များတင်ပြရန် (သို့မဟုတ်) မိမိဖတ်ရှုခဲ့သောအင်ဂျင်နီယာစာအုပ်များ၏

လေ့လာမှုမှတ်တမ်းတင်ပြရန်(သို့မဟုတ်) ပြည်တွင်း(သို့မဟုတ်)ပြည်ပတွင်တက်ခဲ့သောအင်ဂျင်နီယာသင်တန်းစာရင်းတင်ပြရန်။

Degree Level Study -Engineering Mathematics+Materials+Mechanic Seminars (4 days)

အောက်ပါဘာသာရပ်များပါဝင်သောလေးရက် **Seminar/Workshop** တက်ရန် Online

Resources များLesson Video များကိုရယူရန်။

- BAE401 Engineering Mathematics
- BAE402 Calculus
- RE010 Engineering Materials
- BAE403 Engineering Mechanics (10 Credits)

Degree Level Study -Engineering Management Seminars (2 days)

အောက်ပါဘာသာရပ်များပါဝင်သောလေးရက် **Seminar/Workshop** တက်ရန် Online

Resources များLesson Video များကိုရယူရန်။

- BAE508 Management
- BAE605 Engineering Management (10 Credits)

Degree Level Study -Engineering Subjects Seminars (4 days)

အောက်ပါဘာသာရပ်များပါဝင်သောလေးရက် **Seminar/Workshop** တက်ရန် Online

Resources များLesson Video များကိုရယူရန်။

3 or 4 subjects at BE Final Level (10 Credits)

Electrical Power

BAE 501 Advanced Power Systems & Power Transmission Networks

BAE 506 Power System Stability & Protection

RE013-Electrical Machines

Electronics

RE014-Electronics Control

BAE 604 Telecommunication Engineering

BAE 601 Computer Programming

Or other subjects by discussing with trainer

Civil

BAE621 Structural Engineering

BAE421 Building Construction Engineering

BAE623 Surveying & Traffic Engineering

Or other subjects by discussing with trainer

Mechanical

BAE613 Mechanical Instrumentation Process

BAE311 Plant Engineering

BAE614 Machine Design

Or other subjects by discussing with trainer

ICT

ICT 403 Professional Programming

ICT 405 Professional Practice (1) Network

BAE408 Analog & Digital Electronics

Or other subjects by discussing with trainer

အားလုံးပြီးစီးပါက **120 Credit Points** ရရှိကာ Professional Diploma/ BE ပြီးစီးမည်။

သင်တန်းကြေး

သင်တန်းကြေးကို IPEM/ IQY/GGO Group တို့ ကတိုင်ပင်သတ်မှတ်မည်။

သင်တန်းနေရာ

IPEM ဌာနချုပ်-

IQY Technical College အမှတ်၃၀၇(ခ)သူရ(၂)လမ်း၊ ငြိမ်းကွက်၊ တောင်ဥက္ကလာပမြို့ နယ်၊ ရန်ကုန်မြို့ ။

IPEMအဖွဲ့ ဝင်များ၌နဲ့-

GGO Group Training အမှတ်၇၆(က)၄လွှာ၊ သြဘာလမ်း၊ သီတာလမ်းမှတ်တိုင်၊ ကျောက်မြောင်းတောမွေမြို့ နယ်၊ ရန်ကုန်မြို့ ။

စုံစမ်းစာရင်းသွင်းရန်

Training Officer (Academic)-Dr Thwin Thu Lynn (IQY)- Ph-09785048872

Training Officer (Industrial Practice)- U Khin Nyo (GGO)-Ph- 095053934

Membership Officer- Daw Myat Thiri Htun-(GGO Training Group)

Ph (09) 953212652 / (09) 448000359/(09) 794297704/(09) 264038762

EC Member- U Myint Kyaw 095004627

AGTI

3 Years Attendance

ENG601- Engineering Studies

AGTI Certificate (60 Credits)

ENG602-Engineering Applications

Work Experience Curriculum Vitae (10 Credits)

ENG603-Engineering Practicals

Engineering Practice Report or Experience Portfolio (10 Credits)

BAE705 Engineering Competency Development

Other degree OR Appropriate Self Study Record

Continuing Professional Development

(10 Credits)

Degree Level Study -Engineering Mathematics+Materials+Mechanic Seminars (4 days)

BAE401 Engineering Mathematics

BAE402 Calculus

RE010 Engineering Materials

BAE403 Engineering Mechanics (10 Credits)

Degree Level Study -Engineering Management Seminars (2 days)

BAE508 Management

BAE605 Engineering Management (10 Credits)

Degree Level Study -Engineering Subjects Seminars (4 days)

3 or 4 subjects at BE Final Level (10 Credits)

Total 120 Credits

Degree Level Study -Engineering Subjects Seminars (4 days)

Electrical Power

BAE 501 Advanced Power Systems & Power Transmission Networks

BAE 506 Power System Stability & Protection

RE013-Electrical Machines

Electronics

RE014-Electronics Control

BAE 604 Telecommunication Engineering

BAE 601 Computer Programming

Or other subjects by discussing with trainer

Civil

BAE621 Structural Engineering

BAE421 Building Construction Engineering

BAE623 Surveying & Traffic Engineering

Or other subjects by discussing with trainer

Mechanical

BAE613 Mechanical Instrumentation Process

BAE311 Plant Engineering

BAE614 Machine Design

Or other subjects by discussing with trainer

ICT

ICT 403 Professional Programming

ICT 405 Professional Practice (1) Network

BAE408 Analog & Digital Electronics

Or other subjects by discussing with trainer

Contact

Secretary + Training Officer (Academic)-Dr Thwin Thu Lynn (IQY)- Ph-09785048872

2 Years Attendance

Enrol IQY Professional Diploma in Engineering
Final Stage

<http://www.iqytechnicalcollege.com/enrolment.htm>

THS/GTI-Equivalent /BE Bridging Program Enrolment

IQY Technical College

International Engineering

Professional Diploma in Structural Engineering/ MSc (Structure)

Course Code 67553/7776654)

Recognised by Singapore Institute of Engineering Technologists/ The Society of Professional Engineers (UK and International) St Clements University/ STC Technological University/

The Institution of Professional Engineers Myanmar, a Member of International Federation of Engineering Education Societies –IFEES-USA)

Total Training Fees

To be advised

Training Period – 6 Months

Main Office

No 704 Myitta Street, 12 Ward , South Okkalapa, Yangon

Phone – Australia 61-424533344

Myanmar 09795579609 , 09420208590, 09893974117

Email – iqytechnicalcollege@gmail.com

Subjects

CE113+CE114 Theory of Structure

BAE404 Engineering Materials& Strength of Materials

BAE 403 Engineering Mechanics

RE010-Engineering Materials

BAE621A Structural Engineering

BAE621SB Structural Engineering (Civil) (Part 2-Structural Analysis)

BAE424 Reinforced Concrete

How to apply?

Call us – **09795579609 , 09420208590, 09893974117**

IQY Technical College

International Engineering

Professional Diploma in Civil Engineering with Quantity Surveying

(67110A/Q)

Recognised by Singapore Institute of Engineering Technologists/ The Society of Professional Engineers (UK and International) St Clements University/ STC Technological University/

The Institution of Professional Engineers Myanmar, a Member of International Federation of Engineering Education Societies –IFEES-USA)

Total Training Fees

To be advised

Training Period – 6 Months

Main Office

No 704 Myitta Street, 12 Ward , South Okkalapa, Yangon

Phone – Australia 61-424533344

Myanmar 09795579609 , 09420208590, 09893974117

Email – iqytechnicalcollege@gmail.com

Subjects

BAE422 Estimating

CE115 Construction Estimating

ADEMC202-Engineering Practice

BAE644 Advanced Estimating

BAE 690 Mechanical Estimating

How to apply?

Call us – **09795579609 , 09420208590, 09893974117**

IQY Technical College

International Engineering

Professional Diploma in Engineering and Management/ Bachelor of Engineering Management (66213)

Recognised by Singapore Institute of Engineering Technologists/ The Society of Professional Engineers (UK and International) St Clements University/ STC Technological University/

The Institution of Professional Engineers Myanmar, a Member of International Federation of Engineering Education Societies –IFEES-USA)

<http://www.iqytechnicalcollege.com/ProfDipMechEnggMgtOutline.pdf>

Total Training Fees

To be advised

Training Period – 6 Months

Main Office

No 704 Myitta Street, 12 Ward , South Okkalapa, Yangon

Phone – Australia 61-424533344

Myanmar 09795579609 , 09420208590, 09893974117

Email – iqytechnicalcollege@gmail.com

Subjects

BAE421 Building Construction Engineering

BAE422 Estimating

BAE424 Reinforced Concrete

BAE522 Rock Mechanics

BAE621 Structural Engineering

BAE624 Water Supply , Sanitation & Finishin

Mgt 101 Management

Mgt 102 Performance Management

Mgt 103 Operation Management +Mgt 107 Industrial Risk Assessment

ICT 104 Mgt 104 Program Project +BAE 508 Project Management

Mgt 208 Safety Management

Mgt 209 Risk Management

The following study link is to be added

www.iqytechnicalcollege.com/safety.htm

How to apply?

Call us – **09795579609 , 09420208590, 09893974117**

IQY Technical College Masters Degree Programs

Myanmar Version _____ English Version List of EE/CE/ME/RE/ICT Subjects

IQY Technical College သည် STC Technological University/ St Clements University/ IPTEM Technological University များ၏ Masters Degree များကို Engineering, Information Technology, Management, Humanities, Education လေ့လာမှုများအတွက်လည်းသင်ပါသည်။

Masters Degree in Engineering ကိုအောက်ပါအစီအစဉ်၌ခွဲထားပါသည်။

1. Master of Engineering Practice
2. Master of Engineering Science
3. Master of Engineering

Master of Engineering Practice သည်အလုပ်အတွေ့ အကြုံရှိအင်ဂျင်နီယာများအတွက်ဖြစ်သည်။

IQY Year 4 Professional Diploma/BE ပြီးသူများအတွက်ဘွဲ့ ရအင်ဂျင်နီယာလေ့ကျင့်ရေး (Year 5/6

Graduate Engineer Training) တွင်ပါဝင်သောဘာသာများကိုလည်းထဲသွင်းထားသည်။

Electrical/Civil/Mechanical /Renewable Energy သာမကအခြားလိုင်းများအတွက်လည်းသင်သည်။

Course Work 8 Subjects (Graduate Diploma in Engineering Practice) + Project (BAE709) (For Master of Engineering Practice) ပြီးရန်လိုသည်။

Self study online program ဖြစ်ပြီး Assignment/ Project /Study Report/ Analysis/ Experience Presentation/ Design Works /Job Record Presentation စသည်တို့ ကိုအဓိကထားသည်။

Master of Engineering Practice ပြီးသူတို့သည် 5 Years Experience ရှိပါက The Society of Professional Engineers (UK and International) ၏ Member (MSPE-UK & International) နှင့်

Professional Engineer (UK and International) (PEng(UK and International)) လျှောက်နိုင်သည်။

Master of Engineering Practice is for experienced engineers . It will include the following subjects of 10 credits each

- BAE 701 Engineering Fundamental
- BAE 702 Engineering Management
- BAE 703 Leadership & Human Resources Management
- BAE 704 Risk Management & Industrial Safety

- BAE 705 Engineering Competency Development
- BAE 706 Engineering Report Writing
- BAE 707 Engineering Ethics
- BAE 708 Engineering Knowledge

Completion of the above subjects will earn Graduate Diploma in Engineering Practice (80 credits at Masters level +120 Credits for Bachelors degree level total 200 credits. Completion of two or more units can earn Graduate Certificate in Engineering.

The candidate will need to do BAE 709 Engineering Design Project of 40 credits to complete Master of Engineering Practice of 240 credits.

Master of Engineering Science/Master of Engineering

သည် ကျောင်းဆင်းစ BE များ၊အလုပ်အတွေ့ အကြုံမရှိသေးသောအင်ဂျင်နီယာများ အတွက် ဖြစ်သည်။ Electrical, Civil. Mechanical အတွက် 24 Subjects အခြားလိုင်းများအတွက်သင် ရိုးပါအတိုင်းပြီးစီးက Master of Engineering Science ရမည်။ထို့ နောက် Thesis (BAE709A) ပြီးစီးက Master of Engineering ရမည်။

Self study online program ဖြစ်ပြီးပျမ်းမျှတစ်လလျှင်တစ်ဘာသာနန်းဖြင့် 20 pages လေ့လာမှု၊ အစီရင်ခံစာကိုဘာသာတိုင်းအတွက်ရေးသားတင်ပြရမည်။

လေ့လာမှုအစီရင်ခံစာတွင်အောက်ပါတို့ ပါဝင်ရမည်။

- နေ့စွဲ၊လေ့လာသောအခန်းများ၊
- အဓိကအချက်များ၊အခြေခံသဘောတရား၊ဆက်စပ်မှုများ၊ညီမျှခြင်း၊ဖော်မြူလာ၊ပုံများ၊
- လက်တွေ့ သုံးခြင်းများ၊
- Powerpoint ပုံစံတင်ပြသောအနှစ်ချုပ်မှတ်စုများ။
- ကိုယ်ပိုင်ထင်မြင်ယူဆသုံးသပ်ချက်များ။

There are 24 units in Masters Program, the candidate will need to complete one unit per month so that the whole program will be completed within 24 months. (120 credits at Masters level and 120 Credits for Bachelors degree total 240 credits) to complete Master of Engineering Science, then submit the thesis to complete Master of Engineering.

Completion of the 12 subjects will earn Graduate Diploma in Engineering Practice (60 credits at Masters level +120 Credits for Bachelors degree level total 180 credits. Completion of two or more units can earn Graduate Certificate in Engineering.

ELECTRICAL

Part 1 Course Work

Any 24 subjects can be selected .

- (1) BAE 658-Real-time Systems
- (2) BAE 665-Fabrication Engineering at the Micro and Nanoscale
- (3) BAE 655-Wireless Communications.
- (3A) BAE 671-Satellite Communications and Navigation Systems
- (4) BAE 665-Embedded Digital Signal Processing Systems
- (5)BAE 657-Advanced Electromagnetics Applications
- (6)BAE 676-Failure Analysis
- (7)BAE 673-Frequency Stability
- (8) MEE11-High Speed A-D Converters
- (9) MEE2-Advanced Electric Power Engineering

- MEE9-Handbook of Power System Engineering-.pdf (11.57MB)
- (10)MEE12-Iterative Learning Control

- (11) BAE 664-Distributed Generation in Power System
- (12) BAE 675-Nanoelectronics
- (13) MEE1-Electric Distribution Systems
- (14) BAE 674-Intelligent Systems
- (15) MEE13-Non linear control

- (16) BAE 656-Advanced Digital Signal Processing and Noise Reduction**
- (17) BAE 677-Photovoltaic Systems**
- (18) BAE 660-Control Engineering**
- (19) BAE 659-Computer-aided Control Systems**
- (20) MEE7-EMI Filter Design**
- (21) BAE 661-Design of Electrical Services for Buildings**
- (22) BAE 670-Power System Engineering**
- (23) MEE10-High Performance Control of AC Drives**
- (24) BAE 667-Industrial Control System**
- (25) MEE14-System Engineering Concepts**
- (26) MEE6-Electronics+Power Electronics+Opto Electronics+Microwave+Radar**
- (27) BAE 666-Generating Electricity in a Carbon Constrained World**
- (28) BAE 669-Power Electronics and Instrumentation Engineering**
- (29) BAE 663-Advanced Digital Electronics**
- (30) MEE8-Flexible Power Transmission**
- (31) BAE 668-Photonics**
- (32) MEE3-Electric Power Transmission System Engineering**
- (33) BAE 672-Industrial& System Engineering**
- (34) MEE5-Electro Optics**
- (35) MEE4-Electricity Power Generation**
- (36) BAE 662-Design of Rotating Electrical Machines**

Part 2 Thesis

BAE709A Master of Engineering Thesis

CIVIL

Part 1 Course Work

All 24 subjects must be completed.

- (1) BAE 654-Theory & Design of Bridges
- (2)BAE 653-Surveying
- (3) BAE 652-Structural Analysis
- (4) BAE 649-Soil & Rock Mechanic
- (5)BAE 651-Strom & Waste Water
- (6) BAE 650-Steel Design.pdf
- (7) BAE 648-Railways Bridges
- (8)BAE 646 Highway Engineering
- (9) BAE 647-Piling Engineering
- (10) BAE 645-Geotechnics
- (11) BAE 642-Design of Reinforce Concrete
- (12) BAE 644-Estimating
- (13) BAE 643-Earthquake Resistant Structure
- (14) BAE 638-Construction Drawing
- (15)BAE 641-Construction Site Planning
- (16) BAE 640-Construction Mathematics.
- (17) BAE 639-Construction Materials
- (18) BAE 634-Building Construction
- (19) BAE 637-Composite Structure of Steel & Concrete
- (20) BAE 636-Building Technology Electrical Mechanical System
- (21) BAE 635-Building Survey
- (22) BAE 633-Bridge Construction
- (23) BAE 632-Architectural Design
- (24) BAE 631-Advanced Concrete Technology

Part 2 Thesis

BAE709A Master of Engineering Thesis

MECHANICAL

Part 1 Course Work

Any 24 subjects to be completed.

- (1) BAE 694-Control Engineering
- (2) BAE 682-Assembly Automation & Product Design
- (3) BAE 688-Manufacturing & Management.
- (4) BAE 692-Metallurgy
- (5) BAE 689A-Mechanical Design
- (6) BAE 686-Electro-Mechanical Manufacturing Process
- (7) BAE 683-Material engineering
- (8) BAE 693-Piping System
- (9) BAE 689B-Mechanical Design
- (10) BAE 625- Structural Engineering Mechanics
- (11) BAE 696-Specification Development
- (12) BAE 698-Thermal Engineering
- (13) BAE 699-Rotating Machinery Vibration
- (14) BAE 678A-Machine Design
- (15) BAE 684-Computerised Engine Control
- (16) BAE 678B-Machine Design
- (17) BAE 685-Electric Vehicle Technology
- (18) BAE 695-Random Vibration
- (19) BAE 691-Mechatronics
- (20) BAE 680-Quality Control
- (21) BAE 690-Mechanical Estimating
- (22) BAE 679- Materials Science
- (23) BAE 681- Welding Engineering.
- (24) BAE 679-Composite Materials & Joining Technology
- (25) BAE 687-Lasers in Manufacturing
- (26) BAE 697-Structural Foundation Design

Part 2 Thesis

BAE709A Master of Engineering Thesis

RENEWABLE ENERGY

Part 1 Course Work

The following 10 subjects to be completed.

Each 10 credits and total 100 credits to get Graduate Diploma

(1) RE511- Sustaining Earth Energy resources

(2) RE510- Water Conservation

(3) RE509- Applied Photovoltaics

(4) RE508- Solar Hydrogen Energy System

(5) RE507- Offshore Wind Turbines Part 1

RE507- Offshore Wind Turbines Part 2

(6) RE505- Green Building Design

(7) RE504- Engineering Solution for Sustainability

(8) RE503- Energy Management in Industrial and Commercial Facilities

(9) RE502- Biomass Gasification

(10) RE 501-Control of Solar Energy System

INFORMATION TECHNOLOGY

Part 1 Course Work

The following 8 subjects to be completed

Each 10 credits, total 80 credits to complete Graduate Diploma

(1) Programming (ICT 601)

(2) E-Commerce (ICT 602)

(3) Multimedia Systems (ICT 604)

(4) Database Systems (ICT 502)

(5) Applied Computing I (ICT 505)

(6) Applied Computing (ICT 506)

(7) Software Engineering (ICT 603).zip (90.71MB)

The following two Electrical (Computer) subjects must be completed

Each 5 credits. Two combined units 10 credits

(8) BAE658 Real Time Systems + BAE 674 Intelligent Systems

BAE 658-Real-time Systems

BAE 674-Intelligent Systems

Part 2 Thesis

BAE709B Master of Applied Science (Information Technology) Thesis

ENGLISH VERSION

(1) Master of Engineering Practice (240 credits, 120 credits for BE degree)

Master of Engineering Practice is for experienced engineers . It will include the following subjects of 10 credits each

- BAE 701 Engineering Fundamental
- BAE 702 Engineering Management
- BAE 703 Leadership & Human Resources Management
- BAE 704 Risk Management & Industrial Safety
- BAE 705 Engineering Competency Development
- BAE 706 Engineering Report Writing
- BAE 707 Engineering Ethics
- BAE 708 Engineering Knowledge

Completion of the above subjects will earn Graduate Diploma in Engineering Practice (80 credits at Masters level +120 Credits for Bachelors degree level total 200 credits. Completion of two or more units can earn Graduate Certificate in Engineering.

The candidate will need to do Engineering Design Project of 40 credits to complete Master of Engineering Practice of 240 credits

(2) Master of Engineering (240 credits, 120 credits for BE degree)

Masters of Engineering program is for recent graduates who have completed their BE degrees.

It will include the following 24 subjects of 5 credits each

The students will have to write 20 pages study progress report for each of the subjects outlined below.

The report needs to include

- Date and chapters that the candidate reads (The student will need to read the book
- at least 4 days per week)

- Highlight the key concepts, key formula, key theory & practical application concepts .
- Notes of the topic that you read.
- Key diagrams, formula, problem solutions
- Powerpoint slides to express the key topics

There are 24 units in Masters Program, the candidate will need to complete one unit per month so that the whole program will be completed within 24 months. (120 credits at Masters level and 120 Credits for Bachelors degree total 240 credits) to complete Master of Engineering Science, then submit the thesis to complete Master of Engineering.

Completion of the 12 subjects will earn Graduate Diploma in Engineering Practice (60 credits at Masters level +120 Credits for Bachelors degree level total 180 credits. Completion of two or more units can earn Graduate Certificate in Engineering.

LIST OF SUBJECTS

Please see above

Diploma in Doctorate Studies (DDS)

IQY Diploma in Doctorate Studies is an academic award consisting of Research Studies and Writing Thesis Dissertation at 360 Credit points in which 240 Credit points are allocated for Masters Degree level academic qualifications and / or comparable professional experiences.

The candidates who have completed MAE 601 Research Method (30 Points) and their thesis proposal are accepted will be awarded IQY Master Diploma in Research Studies (270 Credit Points).

The candidates who have completed MAE602 Thesis (30 Points) but have not submitted it to St Clements University will be awarded IQY Diploma in Doctorate Studies (300 Credit Points)

Only St Clements University will confer the Doctoral Degree while IQY Technical College will provide the facilitation and successful candidates will be issued with BAE801 Thesis Dissertation Assessment and Defence (60 Points) when the success is notified by St Clements University. In the case of failure to meet the quality of dissertation, St Clements University's Diploma in Doctorate Studies or other relevant award can be issued and Doctorate degree award fees will not be charged.

IQY Technical College will issue Letter of Congratulation for having been successful in PhD.

Doctoral Research Studies

IQY Master Diploma in Research Studies

<http://www.highlightcomputer.com/iQYDDS.pdf>

Dissertation for Doctorate

MAE 601 Research Method (30 Points)

MAE602 Thesis (30 Points)

[http://www.filefactory.com/file/111r1k0ftawt/n/11.Research+Thesis_\(ICT_605\).zip](http://www.filefactory.com/file/111r1k0ftawt/n/11.Research+Thesis_(ICT_605).zip)

BAE801 Thesis Dissertation Assessment and Defence (60 Points)

MAE601 Research Method

This course guides the student, step by step, through the research process, from problem selection through writing up results. It provides all of the basics necessary to complete a research project in any discipline.

Outline. The following aspects are reflected in this course:

What is research?

Tools of research

The problem: the heart of the research process

Review of the related literature

Planning your research design

Writing the research proposal

Qualitative research

Historical research

Descriptive research

Experimental and causal - comparative designs

Statistical techniques for analyzing quantitative data

Technical details: style, format, and organization of the research report

Doctoral Research Proposal

Synopsis: Research students are expected to present a written research proposal within three months after commencement. The proposal is handed in to the study leader.

Assessors of this proposal are selected by the faculty for their understanding of the field and the research involved. The purpose of a research is to set out a plan for conducting the research and writing the dissertation within the available time. It should take account of the availability and guidance of the study leader.

The starting point for a research proposal is the topic, which is the field of interest in which the research is to be carried out. In introducing the topic, the proposal should clarify the field that it falls into and the specific part that field which the research will explore.

It should clarify why the topic is of interest and importance, and how the proposed research will contribute to the field of knowledge or profession. The proposal should clarify the research questions, ensuring that these are specific and answerable.

It is important to show how these questions relate to the topic are, and how they will advance the student's contribution. The proposal should detail the research to be carried out, and clarify the research methods, the timeframe and the reasons for selecting particular methods.

Where a period of literature review or research should precede any empirical research, this should be factored in as part of the research. It is important to estimate any periods of field research and to flag their duration and cost in your research proposal.

MAE 602 Thesis

Thesis Dissertation for Doctorate

Candidates need to complete a 60000-words dissertation (in Myanmar or English) and a 3000-words executive portfolio (in English).

This program requires the candidates to complete a thesis as part of the assessment for the Doctorate

Doing a thesis / dissertation means that instead of knowledge and information being presented and following a prescribed route for answering questions, candidates are thrust into an active role of managing an investigation into a topic area. This means researching and

discovering things for themselves.

They will have to set their own targets and parameters, pose their own central research questions and decide on the appropriate sources of information to support the research. It therefore requires the use of the higher-level cognitive skills of analysis, synthesis and evaluation. Candidates may choose an area of particular interest to them within the scope of course title.

BAE801 Thesis Dissertation Assessment and Defence (60 Points)

Doctoral dissertation

A dissertation is an individual effort and the candidate, academic tutor and the course professor will work together on constructing an approved topic (research question) and methodologies.

Dissertation Defence for doctorate

It is expected of Doctoral candidates to defend their thesis by means of a colloquium (academic discussion). The purpose of the meeting is for the candidates to convince a panel of experts in the field of the dissertation how well they have done in the conducting of their research study and the preparation of their dissertation

Candidates need to complete all course assessments with the results of Grade B+ or above.

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အင်ဂျင်နီယာအဆင့်- Electrical/ Civil/ Construction/ Mechanical/ Telecommunication

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www.highlightcomputer.com/iqydownloadcentre.htm

To download the resources

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[Master of Science \(Information Technology\)](#)

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[Associate Degree in Applied Engineering \(Renewable Energy\)](#)

[Bachelor of Engineering \(Mechanical/ Civil\)/ Graduate Diploma in Engineering Practice \(Mechanical/ Civil\) E-Learning Lectures](#)

[Master of Science \(Renewable Energy Engineering\)](#)

[Master of Management](#)

[PART \(1\) Course Work in Graduate Diploma Level](#)

[Graduate Diploma in Management \(8 units\)](#)

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Mgt 502 Strategic Plans Development & Implementation

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Mgt 503 Leadership in Organization

http://www.filefactory.com/file/4nom2gy4log1/Leadership_BSBMGT605B.zip

Mgt 504 Innovation & Continuous Improvement

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Mgt 505 Risk Management

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Mgt 506 Knowledge & Information Management

http://www.filefactory.com/file/7w56nwtcbvd/Knowledge_InformationBSBINM601A.zip

Mgt 507 Human Resources Management & Strategic Planning

http://www.filefactory.com/file/6cto7fpu8gzt/HRM_Strategic_Plan_BSBHRM602B.zip

Mgt 508 Employee Relations Management

http://www.filefactory.com/file/6ac2hny11b2h/Employee_Relations_BSBHRM604A.zip

Master Of Management (5 units)

All Graduate Diploma Subjects PLUS

PART (2) Project/ Thesis at Masters Level

Mgt 601 Logistics Management

<http://www.filefactory.com/file/2rymlmdo1rhv/n/LogiHand.pdf>

Mgt 602 Project Management

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Mgt 603 Financial Management

<http://www.filefactory.com/file/4tnxja4w7t7t/Financial%20Mgt.zip>

PLUS

Res 601 Research Methods

<http://www.filefactory.com/file/6lg3tnznw3ev/Educational%20Research.pdf>

PLUS

Mgt 604 Thesis

<http://www.filefactory.com/file/54ncuqwqm2iv/Final%20Thesis.rtf>

Master of Management Assignment Guide.pdf

http://www.filefactory.com/file/1ns7i1aymg65/n/Master_of_Management_Assignment_Guide.pdf

Master of Science (Information) Technology

PART (1) Course Work in Graduate Diploma Level

ICT501 Programming in Visual C++

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ICT 502 Database Systems

[http://www.filefactory.com/file/4cbqp0dk6lkd/n/2. Database Systems \(ICT 502\).zip](http://www.filefactory.com/file/4cbqp0dk6lkd/n/2. Database Systems (ICT 502).zip)

ICT 503 Business System Development

[http://www.filefactory.com/file/2iq1u5a2p8j/n/3. Business System Development \(ICT 503\).zip](http://www.filefactory.com/file/2iq1u5a2p8j/n/3. Business System Development (ICT 503).zip)

ICT 504 Business Data Communications

[http://www.filefactory.com/file/7k167ouqwfdf/n/4. Business Data Communications \(ICT 504\).zip](http://www.filefactory.com/file/7k167ouqwfdf/n/4. Business Data Communications (ICT 504).zip)

ICT 505 Applied Computing I

[http://www.filefactory.com/file/1hy38ryuzys5/n/5. Applied Computing I \(ICT 505\).zip](http://www.filefactory.com/file/1hy38ryuzys5/n/5. Applied Computing I (ICT 505).zip)

ICT 506 Applied Computing II

[http://www.filefactory.com/file/4w1jov4ls63x/n/6. Applied Computing II \(ICT 506\).zip](http://www.filefactory.com/file/4w1jov4ls63x/n/6. Applied Computing II (ICT 506).zip)

ICT 601 Programming in Java

[http://www.filefactory.com/file/3xuhrwe6w8nl/n/7. Programming in Java \(ICT 601\).zip](http://www.filefactory.com/file/3xuhrwe6w8nl/n/7. Programming in Java (ICT 601).zip)

ICT 602 E-Commerce

[http://www.filefactory.com/file/dgwcfnfy2j6t/n/8. E-Commerce \(ICT 602\).zip](http://www.filefactory.com/file/dgwcfnfy2j6t/n/8. E-Commerce (ICT 602).zip)

ICT 603 Software Engineering

[http://www.filefactory.com/file/48qbad01jiin/n/9. Software Engineering \(ICT 603\).zip](http://www.filefactory.com/file/48qbad01jiin/n/9. Software Engineering (ICT 603).zip)

ICT 604 Multimedia Systems

[http://www.filefactory.com/file/5l929o1uoeyx/n/10. Multimedia Systems \(ICT 604\).zip](http://www.filefactory.com/file/5l929o1uoeyx/n/10. Multimedia Systems (ICT 604).zip)

PART (2) Project/ Thesis at Masters Level

Res 601 Research Methods

<http://www.filefactory.com/file/6lg3tnznw3ev/Educational%20Research.pdf>

PART (2) Project/ Thesis at Masters Level

ICT 605 Research +Thesis

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Master of Engineering (Electrical/Mechanical/Civil)

PART (1) Course Work in Graduate Diploma Level

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Graduate Diploma in Engineering Practice (Mechanical)

<http://www.filefactory.com/file/10sew438ulfz/Graduate%20Diploma%20of%20Engineering%20Practice%20%28Mechanical%29.pdf>

Graduate Diploma in Engineering Practice (Electrical)

<http://www.filefactory.com/file/3jvd4aq2c3df/PE%20%28Electrical-Building%20Services%29%20Study%20Guide%20%20Webpage.htm>

Graduate Diploma in Engineering Practice (Electronics)

<http://www.filefactory.com/file/2tcyg2vfkmpx/PE%20%28Electronics%29%20Study%20Guide.pdf>

PLUS

MAE 601 Professional Engineering Practice

- Submit the work experience portfolio

PART (2) Project/ Thesis at Masters Level

Res 601 Research Methods

<http://www.filefactory.com/file/6lg3tnznw3ev/Educational%20Research.pdf>

PLUS

MAE602 Thesis

<http://www.filefactory.com/file/54ncuqwqm2iv/Final%20Thesis.rtf>

Associate Degree in Applied Engineering (Renewable Energy)

Associate Degree Learning Materials

<http://www.filefactory.com/file/t5l9omuhhtx/Associate%20Degree%20in%20Applied%20Engineering%20%28Renewable%20Energy%29%20Learning%20Support%20Website%20Version%201.pdf>

Bachelor Degree Learning Materials

[Bachelor of Applied Engineering \(Renewable Energy Engineering\) + Associate Degree of Applied Engineering \(Renewable Energy Engineering\) Syllabus](#)

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MASTER OF SCIENCE (RENEWABLE ENERGY) LEARNING SUPPORT WEBSITE

Part (1) Preliminary Course

ENERGY101A FOUNDATION STUDIES IN RENEWABLE ENERGY AND SUSTAINABILITY

Course Outline

In this subject you will learn about the areas of renewable energy technologies and sustainability. You will develop foundation knowledge relating to:

- Defining sustainability and renewable energy
- Non-technical issues in sustainability and renewable energy
- Energy basics efficiency and calculations
- Solar energy systems
- Wind energy systems
- Hydro energy systems
- Biomass energy systems
- Ocean energy systems
- Principles of sustainable living
- Moving to a sustainable economy.

Prescribed Texts:

Mackay, D.J.C. 2008, *Sustainable Energy without the Hot Air*, UIT, Cambridge, England

Study Guide

WEEK NO:	TOPICS AND ACTIVITIES
Orientation Week	Orientation activities Review of syllabus and assessment activities.
Week 1	<ul style="list-style-type: none"> • Introduction to the Subject. • The cause of Climate Change. • Global and Australian Figures. • Climate Change - The Impacts and the imperative for change. Reading List: <ul style="list-style-type: none"> • <i>Sustainable Energy Without the Hot air</i>, pp. 5-18 • <i>ZCA Stationary Energy Plan</i>, pp. 2-3
Week 2	<ul style="list-style-type: none"> • Energy use in Australia. • Energy conversion and efficiency. • Primary, Secondary and End Use energy. Reading List: <ul style="list-style-type: none"> • Dept. of Energy Resources and Tourism, <i>Energy in Australia 2012</i>, pp. 15-28
Week 3	<ul style="list-style-type: none"> • Coal, Oil, Gas and Nuclear Energy Systems. Reading List: <ul style="list-style-type: none"> • Course notes
Week 4	<ul style="list-style-type: none"> • Solar Energy Systems – The Solar Resource – Photovoltaics. Reading List: <ul style="list-style-type: none"> • <i>Sustainable Energy Without the Hot air</i>, pp. 38-49
Week 5	Field Trip <ul style="list-style-type: none"> • Solar Energy Systems - Solar Hot Water, Solar Air conditioning and Solar Thermal Electricity. Reading List: <ul style="list-style-type: none"> • <i>Sustainable Energy Without the Hot air</i>, pp. 38-49 • <i>ZCA Solar Thermal Power Basics and Solar Thermal Power fact sheets</i>
Week 6	<ul style="list-style-type: none"> • Wind Energy Systems – size of the resource, principles of operation, World and Australian wind energy. Reading List: <ul style="list-style-type: none"> • <i>Sustainable Energy Without the Hot air</i>, pp. 32-34, 186-189 • <i>Clean Energy Council Fact sheet on Wind Energy</i> Assessment 1 due: Individual written report - 10%
Week 7	
Week 8	<ul style="list-style-type: none"> • Hydro Energy Systems – size of the resource, principles of operation, World and Australian Hydro energy. Reading List:

WEEK NO:	TOPICS AND ACTIVITIES
	<ul style="list-style-type: none"> • <i>Sustainable Energy Without the Hot air</i>, pp. 55-56 and pp. 190-194 • <i>Clean Energy Council Fact sheet on Hydro Electricity</i> <p>Assessment 2 due: Written report on field trip - 5%</p>
Week 9	<ul style="list-style-type: none"> • Biomass • Geothermal <p>Reading List</p> <ul style="list-style-type: none"> • <i>Clean Energy Council Fact sheet on Geothermal Energy</i> • <i>Clean Energy Council Fact sheet on Bio Energy</i> • <i>Sustainable Energy Without the Hot air</i>, pp. 96-99
Week 10	<ul style="list-style-type: none"> • Ocean Energy – Wave and tidal <p>Reading List:</p> <ul style="list-style-type: none"> • <i>Sustainable Energy Without the Hot air</i>, pp. 73-75; pp. 81-87; pp. 307-321 • <i>Clean Energy Council Fact sheet on Marine Energy</i>
Week 11	<ul style="list-style-type: none"> • The imperative for Sustainability • Moving to Renewable Energy <p>Reading List:</p> <ul style="list-style-type: none"> • <i>Less is More</i>, pp. 205-235
Week 12	<ul style="list-style-type: none"> • Sustainable Building Design • Sustainable Food and Farming <p>Reading List:</p> <ul style="list-style-type: none"> • <i>Sustainable Energy Without the Hot air</i>, pp. 76-80 • www.yourhome.gov.au <i>Technical Manual</i>, pp. 69-127
Week 13	<ul style="list-style-type: none"> • Sustainable Transport • Sustainable Mining and Manufacturing <p>Reading List:</p> <ul style="list-style-type: none"> • <i>Sustainable Energy Without the Hot air</i>, pp. 29-31; 35-37; 118-139; 88-95 and 322-326 • <i>ZCA Stationary Energy Plan</i>, pp. 16-19 <p>Assessment 3 due: Collaborative written report – 30%</p> <p>Assessment 4: Presentation based on collaborative written report – 10%</p>
Week 14	Study Week
Week 15	<p>Examination Week B:</p> <p>Assessment 5: Written examination - 45%</p>

Lesson Power Points

<http://www.filefactory.com/file/29b5cjd28f4p/RE001%2BENERGY%20101A.pdf>

Password- Joe2013

Textbook

Prescribed Texts:

Mackay, D.J.C. 2008, *Sustainable Energy without the Hot Air*, UIT, Cambridge, England

http://www.filefactory.com/file/1ptdekissa69/Sustainable_energy_without_hot_air_pdf

Password- Joe2013

Tutorial Exercises

Further Readings

[K131](#)

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http://www.filefactory.com/file/1mr75xfm92ux/n/K032_zip

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AEEGY 101A Grid Connected Photovoltaics Power System

Course

Outline

In this subject you will learn the basics about photovoltaics and grid design. You will develop knowledge and applied skills relating to:

- Solar geometry
- Solar radiation terms and measurements
- Photovoltaic cell and module characteristics
- Manufacture of photovoltaic modules
- Photovoltaic array design and characteristics
- Effects of tilt, orientation, temperature and shading
- Workplace health and safety standards, Australian and industry standards
- Inverter principles and requirements for grid-connected inverters in Australia
- Inverter and Array matching
- Wiring, Protection and Earthing
- Metering and Tariff arrangements
- Installation and Commissioning
- Maintenance.

Study Guide

Lesson Power Points

<http://www.filefactory.com/file/5u2urjc3d0hx/AEEGY101A%20Grid%20Connected%20Inverter-RE001%20Part%201.pdf>

Password- Joe2013

Textbook

Prescribed Texts:

Stapleton G & Neill S 2012, *Grid-Connected Solar Electric Systems*, Earthscan, Abingdon, Oxon

http://www.filefactory.com/file/14nwysld3g7t/Grid_Connected_Electrical_System_Textbook_pdf

http://www.filefactory.com/file/4lmp1tse2xmp1/Applied_Photovoltaics_pdf

http://www.filefactory.com/file/55cxpfou1kwt/Control_of_Power_Inverters_in_Renewable_Energy_and_Smart_Grid_Integration_pdf

Password- Joe2013

Tutorial Exercises

http://www.filefactory.com/file/59rpcqog18ux/n/K035_Answer_sheet_doc

http://www.filefactory.com/file/6uye10nst3ad/n/K035_Test_pdf

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Further Readings

K035Inverter K035PV_Inverter

Stage 4 Part 17.zip

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Video Lessons

[K035 Lesson 1-Inverter principle.zip](#)

http://www.filefactory.com/file/c0b6a01/n/K035_Lesson_1-Inverter_principle.zip

[K035 Lesson 2-Modified sine wave inverter.zip](#)

http://www.filefactory.com/file/c0b6a26/n/K035_Lesson_2-Modified_sine_wave_inverter.zip

[K035 Lesson 3-Pulse width modulation.zip](#)

http://www.filefactory.com/file/c0b6a33/n/K035_Lesson_3-Pulse_width_modulation.zip

[K035 Lesson 4-PV Inverter.zip](#)

http://www.filefactory.com/file/c0b6a6c/n/K035_Lesson_4-PV_Inverter.zip

[K035 Lesson-5 MOSFET Driver.zip](#)

http://www.filefactory.com/file/c0b5978/n/K035_Lesson-5_MOSFET_Driver.zip

[K035 Lesson-6 PWM Inverter.zip](#)

http://www.filefactory.com/file/c0b6ac2/n/K035_Lesson-6_PWM_Inverter.zip

[K035 Lesson-7 Grid Connected Inverter.zip](#)

http://www.filefactory.com/file/c108253/n/K035_Lesson-7_Grid_Connected_Inverter.zip

[K035 Lesson-8 Inverter Power Flow Model.zip](#)

http://www.filefactory.com/file/c0b6aff/n/K035_Lesson-8_Inverter_Power_Flow_Model.zip

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Online Practicals

Practicals Work performance and practical instruction

Click [HERE](#) to download practicals

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OTHER RESOURCES

K025 Resources

[Stage 2 Part 5.zip](#)

http://www.filefactory.com/file/c0cc187/n/Stage_2_Part_5.zip

Protection_1

Protection_2

PV_System_installation_Overview_-_PV_Power_Systems

PVSoftware

Regulatory_Requirement

SPS_Components

[Stage 2 Part 2A.zip](#)

http://www.filefactory.com/file/c0cca4a/n/Stage_2_Part_2A.zip

Electrical_safe_working

Electrical_trade_review_questions_and_answers

ELV_Accessories_-_SPS_Components

ELV_Cable_termination

[Stage 3 Part 1B.zip](#)

http://www.filefactory.com/file/c0ccc42/n/Stage_3_Part_1B.zip

Cable_CktProt_E_Accessories

Cable_Conduit_E_Accessories

AEEGY 102A Solar and Thermal Energy Systems

Course Outline

In this subject you will learn about solar and thermal energy systems. You will develop specialised knowledge and applied skills relating to:

- Solar energy utilisation - introduction and overview
- Heating load calculations
- Thermal environment – solar radiation, shading and energy conservation
- Solar collectors
- Collector requirements for some specific applications
- Thermal energy storage
- Solar cooling
- Mechanical Power generation
- Sizing of heating, cooling and mechanical power generation components
- Ancillary equipment
- Equipment specification and installation
- Performance analysis.

Study Guide

Lesson Power Points

Part 1

<http://www.filefactory.com/file/c9acnzqhs13/AEEGY102A%2BRE003%20Part%202-ME108.pdf>

Part 2

http://www.filefactory.com/file/2i3h1v6qqkuv/AEEGY102A%2BRE003%20Part%203-Fact_sheet_-_Geothermal_Energy.pdf

Part 3

<http://www.filefactory.com/file/57k90jem46f/AEEGY102A-Solar%20%26amp%3B%20Thermal%20Energy%20System-RE003%20Part%201.pdf>

Password- Joe2013

Textbook

Prescribed Texts

The German Solar Energy Society, 2009 *Planning and Installing Solar Thermal Systems*, Earthscan (UK) All Chapters

http://www.filefactory.com/file/39q0d0rb9t7h/185936187-Planning-and-Installing-Solar-Thermal-Systems_pdf

Password- Joe2013

Tutorial Exercises

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Further Readings

K025_Note_1

K025_Note_2

Stage 2 Part 4.zip

http://www.filefactory.com/file/c0ccb53/n/Stage_2_Part_4.zip

K025 Resources

ELV_Accessories_-_SPS_Components

ELV_Cable_termination

Stage 2 Part 2A.zip

http://www.filefactory.com/file/c0cca4a/n/Stage_2_Part_2A.zip

PV_System_installation_Overview_-_PV_Power_Systems

SPS_Components

PVSoftware

Stage 2 Part 5.zip

http://www.filefactory.com/file/c0cc187/n/Stage_2_Part_5.zip

System_Installation_Examples_-_NUER02_version

Stage 2 Part 6.zip

http://www.filefactory.com/file/c0cccc0/n/Stage_2_Part_6.zip

[Renewable Energy-K025+K035.zip](#)

http://www.filefactory.com/file/c0b7c5e/n/Renewable_Energy-K025_K035.zip

Lesson 1 Lesson 2 Lesson 3 Lesson 4 Lesson 5 Lesson 6

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Online Practicals

Practicals Work performance and practical instruction

Click [HERE](#) to download practicals

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AEEGY 201A Energy Storage System

Course Outline

In this subject you will learn about energy storage systems. You will develop specialised knowledge and skills relating to:

- The need for and benefits of energy storage technologies
 - Current energy storage technologies and their application
 - Environmental impacts and benefits of energy storage systems
 - Designing an energy storage system for specific engineering applications
 - Costing and payback of energy storage systems
 - Designing and building a small scale energy storage system.
-

Study Guide

Lesson Power Points

Part 1

<http://www.filefactory.com/file/68whdsdbwtfh/AEEGY201A-RE004%20Part%201.pdf>

Part 2

<http://www.filefactory.com/file/gh1dls7edlp/AEEGY201A-RE004%20Part%202.pdf>

Part 3

<http://www.filefactory.com/file/48jt93opz4b5/AEEGY201A-RE004%20Part%203.pdf>

Password- Joe2013

Textbook

Prescribed Texts:

Brunet, Y, 2010, *Energy Storage*, John Wiley & Sons UK.

<http://www.filefactory.com/file/56ymtb4pptz1/Energy%20Storage.pdf>

Other Related book

http://www.filefactory.com/file/2wpc2idmobv9/Energy_Stroage_pdf

http://www.filefactory.com/file/3poecuxu7yxb/energy-in-australia-2012_pdf

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Tutorial Exercises

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Further Readings

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Online Practicals

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AEEGY202A Renewable Energy Resources Analysis

Course Outline

In this subject you will learn about renewable energy resource analysis. You will develop specialised knowledge and skills relating to:

- National and international trends in renewable energy resource analysis
- Energy history
- Australian Renewable Energy reserves
- Energy and power conversion
- Behavioural trends and misconceptions
- Power Cycles
- Oil, coal and natural gas
- Solar photovoltaics
- Solar thermal
- Wind Energy
- Hydro-power
- Bio-mass
- Geo-thermal
- Ocean energy
- Hydrogen Economy
- Limitations in existing infrastructure.

Study Guide

Lesson Power Points

Part 1

<http://www.filefactory.com/file/2248bo0gcbor/AEEGY202A%2BRE005%20Part%201.pdf>

Part 2

<http://www.filefactory.com/file/5us491ooh1cl/AEEGY202A%2BRE005%20Part%201.pdf>

Part 3

<http://www.filefactory.com/file/5e3gt7cv1rid/AEEGY202A%2BRE005%20Part%202.pdf>

Part 4

<http://www.filefactory.com/file/5ld0bqgs3049/AEEGY202A%2BRE005%20Part%202.pdf>

Part 5

<http://www.filefactory.com/file/47m4fhje9k73/AEEGY202A%2BRE005%20Part%203.pdf>

Part 6

<http://www.filefactory.com/file/5mfsxsln72ll/AEEGY202A%2BRE005%20Part%203.pdf>

Part 7

<http://www.filefactory.com/file/26efv2p36hpf/AEEGY202A%2BRE005%20Part%204.pdf>

Part 8

<http://www.filefactory.com/file/4szjlkhva34t/AEEGY202A%2BRE005%20Part%204.pdf>

Part 9

<http://www.filefactory.com/file/5n4ixwsih1vb/AEEGY202A%2BRE005%20Part%205.pdf>

Part 10

<http://www.filefactory.com/file/7jb0atgu4xst/AEEGY202A%2BRE005%20Part%205.pdf>

Part 11

<http://www.filefactory.com/file/3vix5oofhjex/AEEGY202A%2BRE005%20Part%205a.pdf>

Part 12

<http://www.filefactory.com/file/4jt03kopqyhp/AEEGY202A%2BRE005%20Part%205a.pdf>

Part 13

<http://www.filefactory.com/file/23v9r0ymiy8n/AEEGY202A%2BRE005%20Part%206.pdf>

Part 14

<http://www.filefactory.com/file/2yyceyvo1knh/AEEGY202A%2BRE005%20Part%206.pdf>

Part 15

<http://www.filefactory.com/file/2qiuhz8imqjf/AEEGY202A%2BRE005%20Part%207.pdf>

Part 16

<http://www.filefactory.com/file/33va2juvew5b/AEEGY202A%2BRE005%20Part%207.pdf>

Password- Joe2013

Textbook

Prescribed Text:

Boyle, G 2004, *Renewable Energy: Power for a sustainable future* 2nd or latest edition Oxford University Press

<http://www.filefactory.com/file/11jwo86pxn0j/Renewable%20Energy-Power%20for%20sustainable%20Future.pdf>

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Tutorial Exercises

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Further Readings

[K131](#) + EE 308

http://www.filefactory.com/file/7hvv22gtz2lx/n/K131_zip

[Additional 3.zip](#)

http://www.filefactory.com/file/c0cb6a8/n/Additional_3.zip

[Additional 1.zip](#)

http://www.filefactory.com/file/c0cc0f7/n/Additional_1.zip

http://www.filefactory.com/file/1mr75xfm92ux/n/K032_zip

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Online Practicals

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AEEGY 203A Wind Energy Conversion System

Course Outline

In this subject you will learn about wind energy conversion systems. You will develop specialised knowledge and skills relating to:

- Introduction to wind as a natural resource
- Energy, power and wind
- Wind characteristics
- Data acquisition methods
- Site characteristics
- Correlation, wind and site
- Predicting energy output
- Turbines, types and construction
- Wind Energy Conversion Systems (WECS) sizing
- Retrospective performance.

Study Guide

Lesson Power Points

<http://www.filefactory.com/file/3hyoby6eqe3p/AEEGY%20203A%20%20Wind%20Energy-RE006.pdf>

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Textbook

Prescribed Texts:

Boyle, G, 2004, *Renewable Energy: Power for a sustainable future*. 2nd edition, Oxford University Press

<http://www.filefactory.com/file/11jwo86pxn0j/Renewable%20Energy-Power%20for%20sustainable%20Future.pdf>

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Tutorial Exercises

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Further Readings

ME 202 Introduction to Aero Dynamics

http://www.filefactory.com/file/401s96o982uf/n/ME_202_Introduction_to_Aero_Dynamics_.pdf

ME 234 Wind Turbines

http://www.filefactory.com/file/30w0u2u36a19/n/ME_234_wind-turbines_.pdf

[Aerodynamics Part 1](#)

http://www.filefactory.com/file/7axzc9j37g91/n/ME202_Part_1_zip

[Aerodynamics Part 2](#)

http://www.filefactory.com/file/2tlei8t6e4xn/n/ME202_Part_2_zip

[Aerodynamics Part 3](#)

http://www.filefactory.com/file/6mt5m5wi6dfn/n/ME202_Part_3_zip

[Wind Turbine Part 1](#)

http://www.filefactory.com/file/1f2dio8ik4zd/n/ME_234_Part_1_zip

[Wind Turbine Part 2](#)

http://www.filefactory.com/file/olr2lwjdpc5/n/ME_234_Part_2_zip

[Wind Turbine Part 3](#)

http://www.filefactory.com/file/117k3a3shh4f/n/ME_234_Part_3_zip

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[Online Practicals](#)

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AEEGY 204 A Energy Efficiency

[Course Outline](#)

In this subject you will learn about the efficiency of energy systems. You will develop specific knowledge and skills relating to:

- Energy conversion efficiencies of conventional and renewable energy systems
- Energy auditing
- Economic and environmental benefits of energy efficiency
- Energy efficiency of various energy loads
- Cogeneration (CHP)
- Pros and cons of distributed generation in terms of energy efficiency
- Ways to improve energy efficiency at the generation point and in the distribution system
- Ways to improve energy efficiency at the load points.

Study Guide

Lesson Power Points

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Textbook

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Tutorial Exercises

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Further Readings

1	Building Design+Material Science-K041+E047.zip http://www.filefactory.com/file/c0b645d/n/Building_Design_Material_Science-K041_E047.zip
2	Stage 3 Part 7.zip http://www.filefactory.com/file/c0ccfc7/n/Stage_3_Part_7.zip HazardLightingPanel K041 Building Design 1 K041 Building Design 2 K041Airconditioning K041Energy Management Textbook Stage 3 Part 3.zip http://www.filefactory.com/file/c0ccd44/n/Stage_3_Part_3.zip E047 Mech
3	As 1

4	As 2
5	<p><u>Renewable Energy+ Energy Efficiency</u></p> <p><u>K041 Lesson 1-Solar Design.zip</u></p> <p>http://www.filefactory.com/file/c0b6a9f/n/K041_Lesson_1-Solar_Design.zip</p> <p><u>K041 Lesson 2-Basic psychrometric chart.zip</u></p> <p>http://www.filefactory.com/file/c0b6bc9/n/K041_Lesson_2-Basic_psychrometric_chart.zip</p> <p><u>K041 Lesson 3-Total heat resistance.zip</u></p> <p>http://www.filefactory.com/file/c0b6b18/n/K041_Lesson_3-Total_heat_resistance.zip</p> <p><u>K041 Lesson 4-U value Heat conductance calculation.zip</u></p> <p>http://www.filefactory.com/file/c0b6b57/n/K041_Lesson_4-U_value_Heat_conductance_calculation.zip</p> <p><u>K041 Lesson 5-Glazing+Net Heat gain heat loss.zip</u></p> <p>http://www.filefactory.com/file/c0b6cc2/n/K041_Lesson_5-Glazing_Net_Heat_gain_heat_loss.zip</p> <p><u>K041 Lesson 6-Shading.zip</u></p> <p>http://www.filefactory.com/file/c0b6cd7/n/K041_Lesson_6-Shading.zip</p> <p><u>K041 Lesson 7-Insulation+ Thermal mass.zip</u></p> <p>http://www.filefactory.com/file/c0b6c06/n/K041_Lesson_7-Insulation_Thermal_mass.zip</p>

[K041 Lesson 8-Thermal mass insulation.zip](#)

http://www.filefactory.com/file/c0b6c30/n/K041_Lesson_8-Thermal_mass_insulation.zip

[K041 Lesson 9-Airconditioning load calculation.zip](#)

http://www.filefactory.com/file/c0b6dc8/n/K041_Lesson_9-Airconditioning_load_calculation.zip

[K041 Lesson 10-Heat gain per day.zip](#)

http://www.filefactory.com/file/c0b6dfe/n/K041_Lesson_10-Heat_gain_per_day.zip

[K041 Lesson 11-Ventilation.zip](#)

http://www.filefactory.com/file/c0b6d13/n/K041_Lesson_11-Ventilation.zip

[K041 Lesson 12-Building heating load](#)

http://www.filefactory.com/file/c0b6d47/n/K041_Lesson_12-Building_heating_load_calculation.zip

[K041 Lesson 14-Design for Australian climate.zip](#)

http://www.filefactory.com/file/c0b6d76/n/K041_Lesson_14-Design_for_Australian_climate.zip

[K041 Lesson 15-Domestic solar hot water system.zip](#)

http://www.filefactory.com/file/c0b6eaf/n/K041_Lesson_15-Domestic_solar_hot_water_system.zip

[K041 Lesson 16-Energy efficiency+Lighting.zip](#)

http://www.filefactory.com/file/c0b6e0f/n/K041_Lesson_16-Energy_efficiency_Lighting.zip

[K041 Lesson 17-Illumination+Smoke alarm.zip](#)

http://www.filefactory.com/file/c0b6fc5/n/K041_Lesson_17-Illumination_Smoke_alarm.zip

[K041 Lesson 18-Water supply.zip](#)

http://www.filefactory.com/file/c0b61ec/n/K041_Lesson_18-Water_supply.zip

[K041 Lesson 19-Ventilation+Lighting control.zip](#)

http://www.filefactory.com/file/c0b6058/n/K041_Lesson_19-Ventilation+Lighting_control.zip

[K041 Lesson 20-Electrical system design.zip](#)

http://www.filefactory.com/file/c0b6085/n/K041_Lesson_20-Electrical_system_design.zip

[K041 Lesson 21-Building materials.zip](#)

http://www.filefactory.com/file/c0b61b8/n/K041_Lesson_21-Building_materials.zip

6 Click [HERE](#) to download other Exercises

7 **EE07 & EE011 units mapping for Theory study & Exercises**

	UEENEEK041B_E047B_Tutorials Energy_survey_assignment in Stage 3 Part 8.zip http://www.filefactory.com/file/c0ccf09/n/Stage_3_Part_8.zip
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf
9	E07 & EE011 units mapping for Theory study & Exercises Assignment + Project work
10	K041 Text book http://www.filefactory.com/file/61dmv976e7tl/n/K041Textbook1_zip http://www.filefactory.com/file/4lsx0pk00guj/n/K041Textbook2_zip http://www.filefactory.com/file/2kwcxkrnasyf/n/K041Textbook3_zip

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Online Practicals

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Part (2) Qualified (1) Course

ENMAT 101A Engineering Materials & Processes

Course Outline

In this subject you will learn about the structure, properties and usage of a variety of materials used in engineering applications. You will develop specialised knowledge relating to:

- Material structure and properties
- Mechanical properties
- Metals - ferrous and non-ferrous
- Polymers
- Ceramics
- Composites, concrete, other
- Basic destructive testing
- Steel – FeC (Iron/Carbon), heat treatment
- Casting - perm/non-perm
- Forming - hot, cold
- Processes - PowderM, welding, Rapid Proto
- Polymer processes - IM, BM, extrus, thermoset, composites
- Joining - fasteners, weld, non-fusion
- Corrosion
- Surface treatments - plating, coatings, peening, anodising
- Non-destructive testing
- Quality assurance and control, certified testing, safety, materials safety data sheets (MSDS)
- Economic and environmental issues - production/recycling.

Study Guide

WEEK	LECTURES / EXAMINATIONS	LABORATORY	QUIZ
Orientation Week	Orientation activities Review of syllabus and assessment activities. Laboratory orientation. Academic Foundations: Note taking; study skills; introduction to conducting research.		
Week 1	Lecture (2 hrs): Readings: Ch 1: Engineering materials; Ch 2: Properties of materials.	Laboratory 1 (2 hrs): Hardness test	
Week 2	Lecture (2 hrs): Readings: Ch 3: Mechanical testing; Ch 4: The crystal structure of metals.	Laboratory 2 (2 hrs): Tensile Test	
Week 3	Lecture (2 hrs): Readings: Ch 5: Casting process; Ch 6: Mechanical deformation of metals; Ch 7: The mechanical shaping of metals.	Laboratory 3 (2 hrs): Metal Casting	10101
Week 4	Lecture (2 hrs): Readings: Ch 8: Alloys; Ch 9: Equilibrium diagrams; Ch 10: Practical microscopy	Laboratory 4 (2 hrs): Microscopy, Weld samples	10102
Week 5	Lecture (2hrs): Readings: Ch 11: Iron and steel; Ch 12: The heat-treatment of plain-carbon steels	Laboratory 5 (2 hrs): Torsion, Bending Tests	10103
Week 6	Lecture (2hrs): Readings: Ch 13: Alloy steels; Ch 14: The surface hardening of steels; Ch 15: Cast iron.	Laboratory 6 (2 hrs): Heat Treatment	
Week 7	Examination Week A: Assessment 2: Short answer test on content from weeks 1 to 5 (Ch 1 to Ch 15) 15%	Assessment 3 due: Portfolio of Laboratory Reports 1, 2, 3 & 4 - 15%	
Week 8	Lecture (2hrs): Readings: Ch 16: Copper and its alloys; Ch 17: Aluminium and its alloys; Ch 18: Other non-ferrous metals and their alloys.	Laboratory 7 (2 hrs): Polymer tensile test,	10105

WEEK	LECTURES / EXAMINATIONS	LABORATORY	QUIZ
Week 9	Lecture (2hrs): Readings: Ch 19: Plastics materials and rubbers; Ch 20: Properties of plastics.	Site Visit: e.g. Rolling Mill, Materials process/testing	
Week 10	Lecture (2hrs): Readings: Ch 21: Ceramics; Ch 22: Glasses; Ch 23: Composite materials.	Demo: Epoxy FRC, thermoforming	10106
Week 11	Lecture (2hrs): Readings: Ch 24: Fibre-reinforced composite materials; Ch 25: Methods of joining materials.	Laboratory 8 (2 hrs): Dye, Mag, Ultrasound	10104
Week 12	Lecture (2hrs): Readings: Ch 26: Causes of failure; NDT; Material Standards.	Laboratory 9 (2 hrs): Product Study	10107
Week 13	Lecture (2 hrs): Readings: Ch 27 Choice of Materials and Processes; Design. Economic, Environmental, Social Issues.	Assessment 4 due: Collaborative Report (Product Study) 15%	10108
Week 14	Study Week		
Week 15	Examination Week B: Assessment 5: Written examination: 30%	Assessment 3 due: Portfolio of Laboratory Reports 5, 6, 7, 8 & 9 - 15%	

Lesson Power Points

E081 Material Science

http://www.filefactory.com/file/pq2r36bvgnv/n/E081_Material_Science1_pdf

Non Metallic Materials

http://www.filefactory.com/file/2czhyovkn32x/n/Materials_ppt

Password- Joe2013

Textbook

Prescribed Text:

Higgins, R. & Bolton, W., 2010, *Materials for Engineers and Technicians*, 5th Edition, Butterworth Heinemann, Oxford UK. ISBN 9781856177696.

http://www.filefactory.com/file/724kx95f2ayf/27767685-Materials-Engineers-Technicians_pdf

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Tutorial Exercises

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Further Readings

Engineering Mechanics

http://www.filefactory.com/file/63sqtnrqf55/n/ME_103_Engineering_Mechanics_zip

Chemical Thermodynamics

http://www.filefactory.com/file/5ussq0pnpi4t/n/ME_207_Chemical_thermodynamics_pdf

Introduction-to-polymer-science-and-technology

http://www.filefactory.com/file/6epib0ijvbjt/n/ME_209_Introduction-to-polymer-science-and-technology_pdf

http://www.filefactory.com/file/7dhamrs5c3z7/n/ME207_zip

[ME 305+ ME 209](#)

http://www.filefactory.com/file/76fbf48z2h7j/n/ME305_ME209_zip

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Online Practicals

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ENELE 101A Principle of Electrical Engineering

Course Outline

In this subject you will learn about basic principles of electrical engineering. You will develop a range of foundation knowledge and skills relating to:

- Notation and units
- Circuit topologies

Direct current (DC) circuit principles:

- Voltage, current, power, resistance, conductance
- Ohm's Law; Kirchhoff voltage and current laws
- Series and parallel configurations
- Linearity and Superposition
- Thévenin and Norton equivalent circuits (simple cases)
- Nodal and mesh analysis (simple cases)
- Maximum power transfer
- Capacitors
- Passive and switched resistor-capacitor (RC) circuits
- Inductors
- Passive and switched resistor-inductor (RL) circuits
- Diodes

Alternating current (AC) circuit principles:

- Amplitude, frequency and phase
- Voltage
- Current and power in resistors, inductors & capacitors
- Time domain analysis of ac circuits
- Review of complex numbers
- Phasors and phasor notation
- Complex impedance and admittance
- Thévenin and Norton equivalents (simple cases)
- AC power (real, reactive, complex)
- Root-mean-square (RMS) values
- Maximum power transfer.

Study Guide

WEEK NO:	TOPICS AND ACTIVITIES
Orientation Week	Orientation activities Review of syllabus and assessment activities.
Week 1	Introduction to DC Circuits Reading List: Chapter 1 Sections: 1.1 – 1.5 Chapter 2 Sections: 2.1 – 2.6 & 2.9 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 2	Kirchhoff Voltage & Current Laws Reading List: Chapter 3 Sections: 3.1 – 3.6 & 3.10 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 3	Node & Mesh Analysis Reading List: Chapter 4 Sections: 4.1 – 4.3, 4.5, 4.6, 4.8, 4.13 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 4	Superposition Principle & Source Transformation Thévenin & Norton Equivalent DC Circuits Reading List: Chapter 5 Sections: 5.1 – 5.6 & 5.11 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 5	Capacitors & Inductors Reading List: Chapter 7 Sections: 7.1 – 7.8 & 7.13 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 6	Passive & Switched RL & RC Circuits Reading List: Chapter 8 Sections: 8.1 – 8.4, 8.6 & 8.12 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 7	Examination Week A: Assessment 1: Written examination - 25%

WEEK NO:	TOPICS AND ACTIVITIES
Week 8	Diodes in DC Circuits Introduction to AC Circuits Reading List: Chapter 10 Sections: 10.1 & 10.2 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 9	AC Steady-State Analysis Reading List: Chapter 10 Sections: 10.3 & 10.4 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 10	Complex Numbers & Phasor Notation Reading List: Chapter 10 Sections: 10.5 – 10.6 & 10.11 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 11	Impedance & Admittance Thevenin & Norton Equivalent AC Circuits Reading List: Chapter 10 Section: 10.7 & 10.10 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ. Assessment 2 Due: Portfolio and/or written report on practicum work and experiments (Laboratory Workbook) – 25%
Week 12	AC Power Reading List: Chapter 11 Sections: 11.1 – 11.6 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 13	Power Superposition & Maximum Power Reading List: Chapter 11 Sections: 11.7 – 11.8 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 14	Study Week
Week 15	Examination Week B: Assessment 3: Written examination – 50%

[Lesson Power Points](#)

[Week 1 Lesson](#)

[Week 2 Lesson](#)

[Week 3 Lesson](#)

Week 3A Lesson

Video- <http://www.filefactory.com/file/cf8739b/n/E003+E004.zip>

Circuit Analysis

Advanced Circuit Analysis

Electro-magnetics+Electronics

Advanced Circuits+Electromagnetics+Electronics

Electrical Circuits 1

Engineering Circuit Analysis

Electrical Measurement

Folder				Electrical Circuit
				<u>Instruction</u> Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	27	to	52	Circuit theorem
	54	to	71	Sinusoids & phasors
	73	to	81	Frequency response

Folder				Engineering Circuit Analysis
				<u>Instruction</u> Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
2/ 3				Basic circuits Examples 2.2, 2.3, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9, 3.10, 3.11, 3.12
4				Basic Nodal and Mesh analysis Example 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 4.9, 4.10, 4.11, 4.12
5				Linear and Superposition/ Source Transformation Example 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7, 5.8, 5.9, 5.10, 5.11
8				RL/ RC Circuits

				Example 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, 8.8, 8.9, 8.10, 8.11
9				RLC Circuits Example 9.1, 9.2, 9.3, 9.4, 9.5, 9.6, 9.7, 9.8, 9.9
10				Sinusoidal steady state analysis Example 10.1, 10.2, 10.3, 10.4, 10.5, 10.6, 10.7, 10.8
11				AC Power Circuit Analysis Example 11.1, 11.2, 11.3, 11.4, 11.5
12				Polyphase Circuits Example 12.1, 12.2, 12.3, 12.4, 12.5, 12.6
13				Magnetically coupled circuits Example 13.1, 13.2, 13.3, 13.4, 13.5, 13.6, 13.7, 13.8
14				Complex Frequency / Laplace Transform Example 14.1, 14.2, 14.3, 14.4, 14.5, 14.6, 14.7, 14.8, 14.11
				Laplace Transform Table 14.1, 14.2
15				Circuit analysis in “ S “ domain Example 15.1, 15.2, 15.3, 15.4, 15.5, 15.6, 15.7 Pole/ Zero constellation Example 15.12, 15.13
16				Frequency Response Example 16.1, 16.2
17				Two ports network Example 17.1, 17.2, 17.3, 17.4, 17.5
18				Fourier Circuit Analysis Example 18.1 Use of symmetry theory Table 18.1 Example 18.2, 18.3
Exercise	Q328	to	Q367	of Assignment Number (23)

Folder				EE404 Electrical Measurement
				<u>Instruction</u> Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
6	197			Measurement of inductance and capacitance
7	270			Measurement of resistance
9	352			Magnetic measurement
11	437			High voltage measurement and tesating
12	480			Location of cable fault
20	730			Measurement of power
21	771			Measurement of energy

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Textbook

Prescribed Text:

Dorf, R & Svoboda, J 2010, *Introduction to Electric Circuits*, 8th or latest edition, John Wiley & Sons, Hoboken, NJ.

http://www.filefactory.com/file/626gk4lkg37z/Introduction_to_Electric_Circuits_8th_Edition_by_Richard_C_Dorf_amp_James_A_Svoboda_pdf

http://www.filefactory.com/file/7kaiz26cy6vf/LabView_pdf

http://www.filefactory.com/file/2rrdma1udpkv/Principles_and_Applications_of_Electrical_Engineering_pdf

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Tutorial Exercises

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Further Readings

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Online Practicals

Practicals [Work performance and practical instruction](#)

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ENELE201A Advanced Electrical Engineering

Course Outline

In this subject you will build on basic engineering knowledge gained in previous sub and develop further knowledge and skills relating to electrical engineering:

Circuit analysis:

- DC and AC Network theorems (Kirchhoff's, Superposition)
- Resonance
- Magnetically coupled circuits

Communications and signalling processing and applications:

- Analogue and digital communications principles
- Filters
- Amplifiers and attenuators
- Communication protocols

Analogue and digital communication systems and control circuits:

- Telemetry and monitoring systems
- Control systems and applications.

Study Guide

Lesson Power Points

Electromagnetics

Electromagnetics 1

http://www.filefactory.com/file/f8hx3kz5gd1/n/BAE407_Wk_1_zip

Electromagnetics 2

http://www.filefactory.com/file/40r0fd3sta2p/n/BAE407_Wk_2_zip

Electromagnetics 3

http://www.filefactory.com/file/snre8qvw3j5/n/BAE407_Wk_3_zip

Circuits

Circuit 1

http://www.filefactory.com/file/65j9pisrtg0j/n/BAE405_Wk_1_zip

Circuit 2

http://www.filefactory.com/file/1o71eepje7up/n/BAE405_Wk_2_zip

Circuit 3

http://www.filefactory.com/file/1mm2f82zqhix/n/BAE405_Wk_3_zip

http://www.filefactory.com/file/3spcgz270krb/BAE405_Wk_3a.zip

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Textbook

Prescribed Texts:

Rizzoni, G & Hartley, T 2007, *Principles and Applications of Electrical Engineering*, 5th or latest edition, McGraw-Hill Companies Inc. USA

Recommended Readings:

Nahvi, M (Ed) & Edminister, J (Ed) 2011, *Schaum's Outline of Electric Circuits*, McGraw-Hill Companies Inc. USA

All About Circuits 2012, viewed 8 May 2012, <http://www.allaboutcircuits.com/>

http://www.filefactory.com/file/70zpg419d9mf/_Rizzoni_G_Principles_and_Applications_of_Electr_Bookos_org_pdf

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Tutorial Exercises

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Further Readings

Stage 2 Part 3.zip

http://www.filefactory.com/file/c0ccb1f/n/Stage_2_Part_3.zip

E025_Circuits_1 E025_Circuits_2

Stage 3 Part 2.zip

http://www.filefactory.com/file/c0ccdbc/n/Stage_3_Part_2.zip

E025_Tutorial

Stage 2 Part 2A.zip

http://www.filefactory.com/file/c0cca4a/n/Stage_2_Part_2A.zip

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Online Practicals

Practicals [Work performance and practical instruction](#)

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ENELE202A Principle of Electrical Machines

Course Outline

In this subject you will learn basic principles of electrical machinery. You will develop specialised knowledge and skills relating to:

Transformers:

- Transformer Principles and Construction
- Efficiency
- Impedance
- Equivalent circuit
- Polarity
- Vector groups
- Parallel operations
- Special Transformers (Auto and Instrument etc)

Induction Motors:

- Principle of Induction Motor
- Construction and operation of Squirrel Cage Induction Motors (SCIM) and Wound Rotor Induction Motors (WRIM)
- Operation and characteristics
- Induction Generator
- Single Phase Induction Motor

Synchronous Machines:

- Principles of operation
- Characteristics
- Motors
- Alternators

DC Machines:

- Principles of operation
- Shunt Series Compound Machines
- Characteristics

Single Phase and Special Motors:

- Split Phase motor
- Capacitor Start/Run motor

- Shaded Pole motor
- Universal motor
- Hysteresis motor
- Stepper motors
- Brushless DC motors
- Permanent magnet motors
- Variable reluctance motors
- Stepper motors
- Brushless DC motors

Electronic Control of Motors

- DC Motors
- AC Motors.

Study Guide

Lesson Power Points

AC MACHINES

[Elect Machine-G043+G044+G045.zip](#)

http://www.filefactory.com/file/c0b6668/n/Elect_Machine-G043_G044_G045.zip

[G043 G045 7762AF Notes](#)

[G043 G045 Part 1 7762AF Notes](#)

Induction and synchronous machines & control

[G043+G045 Lesson 1 AC Machine Introduction.zip](#)

http://www.filefactory.com/file/c0bf660/n/G043_G045_Lesson_1_AC_Machine_Introduction.zip

[G043+G045 Lesson 2 Slip+Equivalent Ckt.zip](#)

http://www.filefactory.com/file/c0bf7b9/n/G043_G045_Lesson_2_Slip_Equivalent_Ckt.zip

[G043+G045 Lesson 3 Power Transfer.zip](#)

http://www.filefactory.com/file/c0bf773/n/G043_G045_Lesson_3_Power_Transfer.zip

[G043+G045 Lesson 4 Test for equivalent ckt.zip](#)

http://www.filefactory.com/file/c0b03f9/n/G043_G045_Lesson_4_Test_for_equivalent_ckt.zip

[G043+G045 Lesson 5 Equivalent Ckt Problems.zip](#)

http://www.filefactory.com/file/c0bf842/n/G043_G045_Lesson_5_Equivalent_Ckt_Problems.zip

[G043+G045 Lesson 6 Motor starting and control.zip](#)

http://www.filefactory.com/file/c0bf90e/n/G043_G045_Lesson_6_Motor_starting_and_control.zip

[G043+G045 Lesson 7 Synchronous machine introduction.zip](#)

http://www.filefactory.com/file/c0bf92d/n/G043_G045_Lesson_7_Synchronous_machine_introduction.zip

[G043+G045 Lesson 8 Synchronous machine ckt problems.zip](#)

http://www.filefactory.com/file/c0bf955/n/G043_G045_Lesson_8_Synchronous_machine_ckt_problems.zip

[G043+G045 Lesson 9 Synchronous machine starting.zip](#)

http://www.filefactory.com/file/c0b0342/n/G043_G045_Lesson_9_Synchronous_machine_starting.zip

[G043+G045 Lesson 10 Single phase motor.zip](#)

http://www.filefactory.com/file/c0b0362/n/G043_G045_Lesson_10_Single_phase_motor.zip

[G043+G045 Lesson 11 Factors affecting motor operation.zip](#)

http://www.filefactory.com/file/c0b037b/n/G043_G045_Lesson_11_Factors_affecting_motor_operation.zip

[Induction and synchronous machines & control](#)

DC MACHINES

1 [Elect Fundamental E029+G012+G001+G002+G060.zip](#)

http://www.filefactory.com/file/c0b6601/n/Elect_Fundamental_E029_G012_G001_G002_G060.zip

[Elect Machine-G043+G044+G045.zip](#)

	http://www.filefactory.com/file/c0b6668/n/Elect_Machine-G043_G044_G045.zip
2	E029 Motor Control 1 E029 Motor Control 2 E047Mech G044 7762AC1 G044 7762AC2

TRANSFORMERS

Power Transformer+Line-G040.zip http://www.filefactory.com/file/c0b7bd2/n/Power_Transformer_Line-G040.zip	
G040 7762AD Notes	
<u>As 1</u>	
<u>As 2</u>	
G040 Lesson 1 Power transformer rating 1.zip http://www.filefactory.com/file/c0bcff1/n/G040_Lesson_1_Power_transformer_rating_1.zip G040 Lesson 1 Power transformer rating 2.zip http://www.filefactory.com/file/c0bcf9b/n/G040_Lesson_1_Power_transformer_rating_2.zip G040 Lesson 2 Open circuit short circuit test.zip http://www.filefactory.com/file/c0bc0b9/n/G040_Lesson_2_Open_circuit_short_circuit_test.zip G040 Lesson 3 Transformer regulation.zip http://www.filefactory.com/file/c0bc0d1/n/G040_Lesson_3_Transformer_regulation.zip G040 Lesson 4 Power transformer connection.zip http://www.filefactory.com/file/c0bc09a/n/G040_Lesson_4_Power_transformer_connection.zip G040 Lesson 5 Maximum efficiency.zip http://www.filefactory.com/file/c0bc1db/n/G040_Lesson_5_Maximum_efficiency.zip G040 Lesson 6 Transformer parallel operation.zip http://www.filefactory.com/file/c0bc164/n/G040_Lesson_6_Transformer_parallel_operation.zip G040 Lesson 7 Harmonic in transformer.zip http://www.filefactory.com/file/c0bc2ab/n/G040_Lesson_7_Harmonic_in_transformer.zip G040 Lesson 8 Transformer problem + auto transformer.zip http://www.filefactory.com/file/c0bc2cb/n/G040_Lesson_8_Transformer_problem_auto_transformer.zip	

[G040 Lesson 9 Transformer rating cooling connection tap changing.zip](#)

http://www.filefactory.com/file/c0bc294/n/G040_Lesson_9_Transformer_rating_cooling_connection_tap_changing.zip

[G040 Lesson 10 Phase shift transformer.zip](#)

http://www.filefactory.com/file/c0bc2f5/n/G040_Lesson_10_Phase_shift_transformer.zip

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Textbook

Prescribed Texts:

Wildi, T 2006, *Electrical Machines, Drives and Power Systems* 6th or latest edition. Pearson Prentice Hall, Australia

http://www.filefactory.com/file/7hcvfk7cai6b/Electrical_Machines_drive_power_system.pdf

http://www.filefactory.com/file/2ua3qpynkv43/ENELE202A-Principle_of_Elect_Machine.pdf

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Tutorial Exercises

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Further Readings

Subjects	Points	Competency Units
Advanced Electro-magnetics Field & Materials		Electromagnetism

[Advanced Electro-magnetics Field & Materials](#)

Readings

[Electro-magnetics Field](#)

[Electromagnetism](#)

[Electro-magnetism Examples](#)

Electro-mechanics (2 pt)

Part (1) Overview Knowledge of the subject

Folder					Advanced Engineering Mathematics
					Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
File name	Chapter			Page	Topics
					Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
Theory					
chap01_emd.pdf				All	Electro-mechanic -1.0.1 Scope of application <ul style="list-style-type: none"> Electro-magnetic theory 1.1.1a Magnetic field system, Table 1.1 1.1.1.b Electric field system Table 1.2
chap02_emd.pdf				All	Lumped electro-mechanical elements
chap03_sec_emd.pdf				All	Lumped parameter-electro-mechanic
chap04_sec_emd.pdf				All	Rotating machines
chap05_sec_emd.pdf				All	Lumped parameter-electro mechanical dynamics
Problems					
chap02_prb_emd.pdf				All	Example problems
chap03_prb_emd.pdf				All	Example problems
chap04_prb_emd.pdf				All	Example problems
chap05_prb_emd.pdf				All	Example problems
emdsoln_01.pdf				All	Solutions for all example problems

Electrical Machines Machine Principle

Folder				Electrical Machines
File				Electrical Machines
				Instruction Study the notes, calculate the example problems

				then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	45			DC Generator, Example problems
	58			DC Motors, Example problems
	121			Efficiency & heating of electrical machines, Example problems
	131			Three phase transformer, Example problems
	142			Three phase induction motors, Example problems
	177			Synchronous generators, Example problems
	194			Synchronous motors, Example problems
	229			Basic of industrial motor control, Example problems

Machine Principle

Folder				Machine Principle
				<u>Instruction</u> Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
2	114			Rotating machines
3	116			Machinery mounting
4	118			Balancing
6	124			Bearing
7	139			Power transmission

Advanced Electro-magnetics Field & Materials

Folder					Advanced Electro-magnetic Field & Materials
File					
					<u>Instruction</u> Study the notes, calculate the example problems then do the exercises numbers as indicated
File name	Chapter			Page	Topics
					Note- PDF File page number and the page number of the scanned

				document may be different. The student need to check both as necessary
Pre-readings				
em01.pdf	1		All	Electric field
em02.pdf	2		All	Electrostatic potential
em03.pdf	3		All	Dipole and quadrature pole movements
em04.pdf	4		All	Batteries, resistors, ohm laws
em05.pdf	5		All	Capacitors
em06.pdf	6		All	Magnetic effect of an electric current
em07.pdf	7		All	Force on current in a magnetic field
em08.pdf	8		All	Electro-dynamics of moving bodies
em09.pdf	9		All	Magnetic potential
em10.pdf	10		All	Electro-magnetic Induction
em11.pdf	11		All	Dimensions
em12.pdf	12		All	Properties of magnetic materials
em13.pdf	13		All	Alternating current
em14.pdf	14		All	Laplace transform
em15.pdf	15		All	Maxwell Equation
em16.pdf	16		All	CGS Electricity & Magnetism
em17.pdf	17		All	Magnetic dipole movement
Highlight Points				
Lecture1.pdf			All	Outlines
Lecture 2.pdf			All	Electric field
Lecture 3.pdf			All	Electrostatic Energy
Lecture 4.pdf			All	Laplace's equation (1)
Lecture 5.pdf			All	Laplace's equation (2)
Lecture 6.pdf			All	Remarks on units
Lecture 7.pdf			All	Green's functions
Lecture 8.pdf			All	Multipole expansion
Lecture 9.pdf			All	Electro-static in matter
Lecture 10.pdf			All	Boundary condition
Lecture 11.pdf			All	Magneto statics (1)
Lecture 12.pdf			All	Magneto statics (2)
Lecture 13.pdf			All	Macroscopic magneto statics
Lecture 14.pdf			All	Maxwell's equation
Lecture 15.pdf			All	DISC movement
Lecture 16.pdf			All	Electro-magnetic plane

				waves
Lecture 17.pdf		All		Reflection & refraction
Lecture 18.pdf		All		Casual relation between D & E
Lecture 19.pdf		All		Wave guides and load cavities
Lecture 20.pdf		All		Electromagnetic radiation and scattering (1)
Lecture 21.pdf		All		Electromagnetic radiation and scattering (2)
Lecture 22.pdf		All		Scattering by small di-electric sphere
Lecture 27.pdf		All		Electro-magnetism
Lecture 28.pdf		All		Electro magnetic fields and moving charges
Formulas				
CW950212_1.pdf		All		Multipole expansion
CW950320_1.pdf		All		Magnetic constants and materials
CW950329_1.pdf		All		Ampere law
CW950128_3.pdf		All		Brief history of electro magnetism
CW950219_2.pdf		All		Gauss's law
CW950313_2.pdf		All		Numerical solutions to Laplace's equation
CW960430_2.pdf		All		Small current loop
CW970129_3.pdf		All		Curvilinear co-ordinate system
CW970210_1.pdf		All		Problems
CW970303_1.pdf		All		Dielectric tensors and constants
CW970317_2.pdf		All		Analytic solution to Laplace equation
CW970606_1.pdf		All		Magnetostatic boundary condition
CW970606_1.pdf		All		Electrostatic boundary condition
Symbols				
CW970606_3.pdf		All		Electromagnetic field
CW980205_2.pdf		All		The gradient vector
Di-electric.pdf		All		Maxwell's equation
Propagation.pdf		All		Electro-magnetic wave propagation

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Online Practicals

Practicals [Work performance and practical instruction](#)

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ENELE 203A Electronics and Power Control

Course Outline

In this subject you will learn about electronics and power control. You will develop specialised knowledge and skills relating to:

Semiconductors, diodes, transistors and integrated circuits:

- Semiconductor materials and junctions
- Diode construction, operation, ratings and applications
- Transistor construction, operation, ratings and applications
- Integrated circuit construction, operation, ratings and applications especially as related to operational amplifiers

Linear regulated dc power supplies:

- Basic power supplies (ac to dc and dc to dc), circuits and applications
- Regulation requirements and applications

Switching power control circuits:

- Basic types, operation
- Critical issues, solutions and applications

Digital electronics

- Digital logic, circuits and power control applications

Power Inverters (DC to AC):

- Basic types, operation
 - Critical issues, solutions and applications.
-

Study Guide

Lesson Power Points

POWER ELECTRONICS

[Power Electronics -H025+H026.zip](#)

http://www.filefactory.com/file/c0b6857/n/Power_Electronics_-H025_H026.zip

H025_Operational_Amplifier
H026_3_Ph_Power_Control_Electronics_1
H026_3_Ph_Power_Control_Electronics_2
H026_3_Ph_Power_Control_Electronics_3
H026_3_Ph_Power_Control_Electronics_4
In

[Stage 3 Part 6.zip](#)

http://www.filefactory.com/file/c0cce63/n/Stage_3_Part_6.zip

[Operational amplifier+ single phase power control equipments](#)

[H025 Lesson 1-Differential Amplifier.zip](#)

http://www.filefactory.com/file/c20fef9/n/H025_Lesson_1-Differential_Amplifier.zip

[H025 Lesson 2-Comparator.zip](#)

http://www.filefactory.com/file/c0b072e/n/H025_Lesson_2-Comparator.zip

[H025 Lesson 3-Timer IC.zip](#)

http://www.filefactory.com/file/c0b077e/n/H025_Lesson_3-Timer_IC.zip

[H025 Lesson 4-Op Amp Circuit 1 & 2.zip](#)

http://www.filefactory.com/file/c0b08c8/n/H025_Lesson_4-Op_Amp_Circuit_1_2.zip

[H025 Lesson 5-Op amp characteristics+Band widthe compensation.zip](#)

http://www.filefactory.com/file/c0b09da/n/H025_Lesson_5-Op_amp_characteristics_Band_widthe_compensation.zip

[H025 Lesson 6-Op amp diode characteristics.zip](#)

http://www.filefactory.com/file/c0b09e1/n/H025_Lesson_6-Op_amp_diode_characteristics.zip

[H025 Lesson 7-Sine & square wave oscillators.zip](#)

http://www.filefactory.com/file/c0b090a/n/H025_Lesson_7-Sine_square_wave_oscillators.zip

[H025 Lesson 8-Op amp ckt-Integrator+Differentiator.zip](#)

http://www.filefactory.com/file/c0b0909/n/H025_Lesson_8-Op_amp_ckt-Integrator_Differentiator.zip

[H025 Lesson 9-Active filter.zip](#)

http://www.filefactory.com/file/c0b0916/n/H025_Lesson_9-Active_filter.zip

[H025 Lesson 10-Multistage Op amp ckt.zip](#)

http://www.filefactory.com/file/c0b0948/n/H025_Lesson_10-Multistage_Op_amp_ckt.zip

[H025 Lesson 11-Transducers.zip](#)

http://www.filefactory.com/file/c0b0978/n/H025_Lesson_11-Transducers.zip

[H025 Lesson 12-Introduction to control.zip](#)

http://www.filefactory.com/file/c0b0986/n/H025_Lesson_12-Introduction_to_control.zip

[Operational amplifier+ single phase power control equipments](#)

[**Power Electronics -H025+H026.zip**](#)

[**http://www.filefactory.com/file/c0b6857/n/Power_Electronics_-H025_H026.zip**](http://www.filefactory.com/file/c0b6857/n/Power_Electronics_-H025_H026.zip)

[**Three phase power control equipments**](#)

[**H026 Lesson 1-Single &Three phase power control.zip**](#)

[**http://www.filefactory.com/file/c0b1ac9/n/H026_Lesson_1-Single_Three_phase_power_control.zip**](http://www.filefactory.com/file/c0b1ac9/n/H026_Lesson_1-Single_Three_phase_power_control.zip)

[H026 Lesson 2-Solid state switching devices.zip](#)

http://www.filefactory.com/file/c0b1af2/n/H026_Lesson_2-Solid_state_switching_devices.zip

[H026 Lesson 3-Inverter Converter.zip](#)

http://www.filefactory.com/file/c0b1a59/n/H026_Lesson_3-Inverter_Converter.zip

[H026 Lesson 4-Power Diodes.zip](#)

http://www.filefactory.com/file/c0b1a8f/n/H026_Lesson_4-Power_Diodes.zip

[H026 Lesson 5-AC Motor speed control.zip](#)

http://www.filefactory.com/file/c0b1ba7/n/H026_Lesson_5-AC_Motor_speed_control.zip

[H026 Lesson 6-Current fed inverter.zip](#)

http://www.filefactory.com/file/c0b1b0d/n/H026_Lesson_6-Current_fed_inverter.zip

[Three phase power control equipments](#)

ANALOG ELECTRONICS

[H045 Lesson 1 Op-amp.zip](#)

http://www.filefactory.com/file/c0b1b3a/n/H045_Lesson_1_Op-amp.zip

[H045 Lesson 1 Op-amp](#)

[H045 Lesson 2 DC Non idealities.zip](#)

http://www.filefactory.com/file/c0b1b5b/n/H045_Lesson_2_DC_Non_idealities.zip

[H045 Lesson 3 Bias compensation.zip](#)

http://www.filefactory.com/file/c0b1b86/n/H045_Lesson_3_Bias_compensation.zip

[H045 Lesson 4 Slew rate.zip](#)

http://www.filefactory.com/file/c0b1ca0/n/H045_Lesson_4_Slew_rate.zip

[H045 Lesson 5 AC Noise.zip](#)

http://www.filefactory.com/file/c0b1cb2/n/H045_Lesson_5_AC_Noise.zip

[H045 Lesson 5 AC Noise](#)

<http://uploading.com/files/6dmm1ccf/H045%2BLesson%2B5%2BAC%2BNoise.zip/>

[H045 Lesson 6 Source noise resistance.zip](#)

http://www.filefactory.com/file/c268af2/n/H045_Lesson_6_Source_noise_resistance.zip

[H045 Lesson 7 Signal to noise ratio.zip](#)

http://www.filefactory.com/file/c0b1cff/n/H045_Lesson_7_Signal_to_noise_ratio.zip

[H045 Lesson 8 Frequency compensation.zip](#)

http://www.filefactory.com/file/c0b1c0e/n/H045_Lesson_8_Frequency_compensation.zip

[H045 Lesson 9 Stability analysis.zip](#)

http://www.filefactory.com/file/c0b1c95/n/H045_Lesson_9_Stability_analysis.zip

[H045 Lesson 10 Feedforward compensation.zip](#)

http://www.filefactory.com/file/c0b1c56/n/H045_Lesson_10_Feedforward_compensation.zip

[Analogue Electronics](#)

[H045 Lesson 1 Op-amp.zip](#)

http://www.filefactory.com/file/c0b1b3a/n/H045_Lesson_1_Op-amp.zip

[H045 Lesson 2 DC Non idealities.zip](#)

http://www.filefactory.com/file/c0b1b5b/n/H045_Lesson_2_DC_Non_idealities.zip

[H045 Lesson 3 Bias compensation.zip](#)

http://www.filefactory.com/file/c0b1b86/n/H045_Lesson_3_Bias_compensation.zip

[H045 Lesson 4 Slew rate.zip](#)

http://www.filefactory.com/file/c0b1ca0/n/H045_Lesson_4_Slew_rate.zip

[H045 Lesson 5 AC Noise.zip](#)

http://www.filefactory.com/file/c0b1cb2/n/H045_Lesson_5_AC_Noise.zip

[H045 Lesson 6 Source noise resistance.zip](#)

http://www.filefactory.com/file/c268af2/n/H045_Lesson_6_Source_noise_resistance.zip

[H045 Lesson 7 Signal to noise ratio.zip](#)

http://www.filefactory.com/file/c0b1cff/n/H045_Lesson_7_Signal_to_noise_ratio.zip

[H045 Lesson 8 Frequency compensation.zip](#)

http://www.filefactory.com/file/c0b1c0e/n/H045_Lesson_8_Frequency_compensation.zip

[H045 Lesson 9 Stability analysis.zip](#)

http://www.filefactory.com/file/c0b1c95/n/H045_Lesson_9_Stability_analysis.zip

[H045 Lesson 10 Feedforward compensation.zip](#)

http://www.filefactory.com/file/c0b1c56/n/H045_Lesson_10_Feedforward_compensation.zip

AMPLIFIER

http://www.filefactory.com/file/c0cb6a8/n/Additional_3.zip

DC Power Supply

<http://www.filefactory.com/file/4f92zgjjzg7j/DC%20Power%20Supply.pdf>

Password- Joe2013

Textbook

Prescribed Texts:

Meade, R, Diffenderfer, R 2006, *Foundations of Electronics: Circuits and Devices* (Conventional Flow), 5th or latest edition, Delmar Cengage Learning, USA

<http://www.filefactory.com/file/2yu0qvkoqppn/Electronic%20Devices.pdf>

Password- Joe2013

Tutorial Exercises

Password- joe2013

Further Readings

Analog & Digital Electronics 1

<http://www.filefactory.com/file/27alnx6skg2x/BAE408Wk1.zip>

Analog & Digital Electronics 2

http://www.filefactory.com/file/3vpyub43h53p/n/BAE408Wk2_zip

Analog & Digital Electronics 3

http://www.filefactory.com/file/4c6snjh05cel/n/BAE408Wk3_zip

Control 1

http://www.filefactory.com/file/4lahmzh0qf3b/n/BAE502_Wk_1_zip

Control 2

http://www.filefactory.com/file/46t9zbh859rl/BAE502_Wk_2.zip

Control 3

http://www.filefactory.com/file/15qea45hhvxx/n/BAE502_Wk_3_zip

Control 4

http://www.filefactory.com/file/22cy88iyi78f/n/BAE503Wk1PPT_zip

Control 5

http://www.filefactory.com/file/2d82bvgvzgx3/n/BAE503Wk2PPT_zip

Control 6

http://www.filefactory.com/file/3v7x6hmksvnf/n/BAE503Wk3PPT_zip

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Online Practicals

Practicals [Work performance and practical instruction](#)

Click [HERE](#) to download practicals

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ENPRA101A Engineering Practice

Course Outline

In this subject you will learn about the practices of an engineering professional within a multidisciplinary framework. You will develop basic knowledge and skills relating to electrical and other engineering specialisations, including:

Introduction to the Regulatory System:

- Electricity Act
- Electricity Regulation Australian
- Standards State Regulators
- Workplace Health and Safety
- Engineers Code of Ethics

Drawings And Specifications:

- Drawing Interpretation
- Overview of Computer Aided Design (CAD)
- Writing a Specification

Generation and Distribution:

- Generating Plant
- Transmission Grid
- Substations

Fasteners and Fastening Methods:

- Methods of securing electrical equipment to various surfaces

Wiring Systems:

- Load Calculations
- Max. Demand
- Cables and Systems
- AS3008

Control and Protection:

- Earthing
- Protection for safety
- Faults and overloads
- Protective devices and methods

Illumination:

Study Guide

Lesson Power Points

AUSTRALIAN ELECTRICIAN TRAINING

[G106 Cable Termination](#)

[G106+G033 Practical](#)

[G063 Wk 7+8](#)

http://www.filefactory.com/file/423vowj4o34b/G063_Wk_7_8_zip

[G033+G063+G107 Week 10 to 15](#)

Study Guide EE07 & EE011

What to study		Which exercises to do			What practical to do	Resources
Main study	Additional study	Main exercise		Additional exercises		
EE07 Unit	EE011 Unit	For EE07+EE011 +Video	Study Option (1) EE-07	Study Option (2) EE-07	for EE011	
UEENEE005B Fix and secure equipment	UEENEE0105A Fix and secure electrotechnology equipment	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below
Study Option 1	Study Option 1					
See 1 below	See 3 below		EE011	=	EE07 +	Additional
Study Option 2	Study Option 2					
See 2 below	See 4 below					

1	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiri
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	ng_E001_2_3_4_5_7_8_33_G003_4_7.zip
2	
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
4	
5	<p>Video-- Electrical workshop Lesson 1 OHS.zip http://www.filefactory.com/file/c0adbfa/n/Electrical_workshop_Lesson_1_OHS.zip Electrical workshop Lesson 2 Workplace hazard+Fix & secure equipment.zip http://www.filefactory.com/file/c0adca2/n/Electrical_workshop_Lesson_2_Workplace_hazard_Fix_secure_equipment.zip Electrical workshop Lesson 3 Mechanical fixing.zip http://www.filefactory.com/file/c0adc1d/n/Electrical_workshop_Lesson_3_Mechanical_fixing.zip Electrical workshop Lesson 4 Basic electrical wiring.zip http://www.filefactory.com/file/c0add65/n/Electrical_workshop_Lesson_4_Basic_electrical_wiring.zip Electrical workshop Lesson 5 Wiring circuits.zip http://www.filefactory.com/file/c0ade9b/n/Electrical_workshop_Lesson_5_Wiring_circuits.zip Electrical workshop Lesson 6 Electrical safety testing.zip http://www.filefactory.com/file/c0adf90/n/Electrical_workshop_Lesson_6_Electrical_safety_testing.zip Electrical workshop Lesson 7 Testing insulation and polarity.zip http://www.filefactory.com/file/c0ad031/n/Electrical_workshop_Lesson_7_Testing_insulation_and_polarity.zip Electrical workshop Lesson 8 Testing lighting polarity.zip http://www.filefactory.com/file/c0ad1d8/n/Electrical_workshop_Lesson_8_Testing_lighting_polarity.zip</p>
6	(2) Click HERE to download other Exercises
7	EE07 & EE011 units mapping for Theory study & Exercises
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011.pdf
9	Stage_1_Electrical_workshop_practicals.pdf Wiring_Equipments_to_purchase IN THE LINK INDICATED IN ROLL 11
10	Fixing Equipments E002_E005.zip IN THE LINK INDICATED IN ROLL 11
11	<p>BACK UP FOR 9 & 10 Stage 1 Part 1.zip http://www.filefactory.com/file/c0cb8ab/n/Stage_1_Part_1.zip Stage 1 Part 5.zip</p>

Study Guide EE07 & EE011

What to study			Which exercises to do		What practical to do	Resources	
Main study		Additional study	Main exercise		Additional exercises		
EE07 Unit	EE011 Unit	For EE07+EE011 +Video	Study Option (1) EE-07	Study Option (2) EE-07	for EE011		
UEENEE007B Use drawings, diagrams, schedules and manuals	UEENEE107A <div>Use drawings, diagrams, schedules, standards, codes and specifications</div>	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1						
See 1 below	See 3 below		EE011	=	EE07 +	Additional	
Study Option 2	Study Option 2						
See 2 below	See 4 below						

2	<p>ElectricalDrawing1</p> <p>ElectricalDrawing2</p> <p>ElectricalDrawing3</p> <p>Stage 1 Part 3.zip http://www.filefactory.com/file/c0cb8f5/n/Stage_1_Part_3.zip GeneralDrawing1</p> <p>GeneralDrawing2</p> <p>Stage 1 Part 4.zip http://www.filefactory.com/file/c0cc1cd/n/Stage_1_Part_4.zip</p>
3	<p>http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip</p>
4	<p>ElectricalDrawing1</p> <p>ElectricalDrawing2</p> <p>ElectricalDrawing3</p> <p>Stage 1 Part 3.zip http://www.filefactory.com/file/c0cb8f5/n/Stage_1_Part_3.zip GeneralDrawing1</p> <p>GeneralDrawing2</p> <p>Stage 1 Part 4.zip http://www.filefactory.com/file/c0cc1cd/n/Stage_1_Part_4.zip</p>
5	<p>Video-- Electrical workshop Lesson 1 OHS.zip http://www.filefactory.com/file/c0adbfa/n/Electrical_workshop_Lesson_1_OHS.zip Electrical workshop Lesson 2 Workplace hazard+Fix & secure equipment.zip http://www.filefactory.com/file/c0adca2/n/Electrical_workshop_Lesson_2_Workplace_hazard_Fix_secure_equipment.zip Electrical workshop Lesson 3 Mechanical fixing.zip http://www.filefactory.com/file/c0adc1d/n/Electrical_workshop_Lesson_3_Mechanical_fixing.zip Electrical workshop Lesson 4 Basic electrical wiring.zip http://www.filefactory.com/file/c0add65/n/Electrical_workshop_Lesson_4_Basic_electrical_wiring.zip Electrical workshop Lesson 5 Wiring circuits.zip http://www.filefactory.com/file/c0ade9b/n/Electrical_workshop_Lesson_5_Wiring_circuits.zip Electrical workshop Lesson 6 Electrical safety testing.zip</p>

	http://www.filefactory.com/file/c0adf90/n/Electrical_workshop_Lesson_6_Electrical_safety_testing.zip Electrical workshop Lesson 7 Testing insulation and polarity.zip http://www.filefactory.com/file/c0ad031/n/Electrical_workshop_Lesson_7_Testing_insulation_and_polarity.zip Electrical workshop Lesson 8 Testing lighting polarity.zip http://www.filefactory.com/file/c0ad1d8/n/Electrical_workshop_Lesson_8_Testing_lighting_polarity.zip
6	(2) Click HERE to download other Exercises
7	Stage 1 Electrical workshop practicals.pdf
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011.pdf
9	EE07 & EE011 units mapping for Theory study & Exercises Attend the face to face session Stage_1_Electrical_workshop_practicals.pdf Wiring_Equipments_to_purchase in Stage 1 Part 3.zip http://www.filefactory.com/file/c0cb8f5/n/Stage_1_Part_3.zip
10	ElectricalDrawing1 ElectricalDrawing2 ElectricalDrawing3 Stage 1 Part 3.zip http://www.filefactory.com/file/c0cb8f5/n/Stage_1_Part_3.zip GeneralDrawing1 GeneralDrawing2 Stage 1 Part 4.zip http://www.filefactory.com/file/c0cc1cd/n/Stage_1_Part_4.zip
11	BACK UP FOR 9 & 10 Stage 1 Part 3.zip http://www.filefactory.com/file/c0cb8f5/n/Stage_1_Part_3.zip

Study Guide EE07 & EE011

What to study		Which exercises to do		What practical to do	Resources
Main study	Additional	Main		Additio	

		l study	exerc ise		nal exercise s		
EE07 Unit	EE011 Unit	For EE07+EE 011 +Video	Study Optio n (1) EE- 07	Study Optio n (2) EE-07	for EE011		
UEENEE008B Lay wiring/cabl ing and terminate accessorie s for extra- low voltage circuits	UEENEE008A Lay wiring/cabl ing and terminate accessorie s for extra- low voltage (ELV) circuits	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1						
See 1 below	See 3 below		EE01 1	=	EE07 +	Additio nal	
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
2	
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
4	
5	<p>Video-- Electrical workshop Lesson 1 OHS.zip</p> <p>http://www.filefactory.com/file/c0adbfa/n/Electrical_workshop_Lesson_1_OHS.zip Electrical workshop Lesson 2 Workplace hazard+Fix & secure equipment.zip</p> <p>http://www.filefactory.com/file/c0adca2/n/Electrical_workshop_Lesson_2_Workplace_hazard_Fix_secure_equipment.zip</p> <p>Electrical workshop Lesson 3 Mechanical fixing.zip</p> <p>http://www.filefactory.com/file/c0adc1d/n/Electrical_workshop_Lesson_3_Mechanical_fixing.zip</p> <p>Electrical workshop Lesson 4 Basic electrical wiring.zip</p> <p>http://www.filefactory.com/file/c0add65/n/Electrical_workshop_Lesson_4_Basic_electrical_wiring.zip</p> <p>Electrical workshop Lesson 5 Wiring circuits.zip</p>

	http://www.filefactory.com/file/c0ade9b/n/Electrical_workshop_Lesson_5_Wiring_circuits.zip Electrical workshop Lesson 6 Electrical safety testing.zip http://www.filefactory.com/file/c0adf90/n/Electrical_workshop_Lesson_6_Electrical_safety_testing.zip Electrical workshop Lesson 7 Testing insulation and polarity.zip http://www.filefactory.com/file/c0ad031/n/Electrical_workshop_Lesson_7_Testing_insulation_and_polarity.zip Electrical workshop Lesson 8 Testing lighting polarity.zip http://www.filefactory.com/file/c0ad1d8/n/Electrical_workshop_Lesson_8_Testing_lighting_polarity.zip
6	2) Click HERE to download other Exercises
7	EE07 & EE011 units mapping for Theory study & Exercises
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf
9	EE07 & EE011 units mapping for Theory study & Exercises Attend the face to face session Stage_1_Electrical_workshop_practicals.pdf Wiring_Equipments_to_purchase IN THE LINK INDICATED IN ROLL 11
10	Wiring_Notes_1. Wiring_Notes_2 Switchboard_Wiring 1Wiring_E033_E008 2Wiring_E033_E008 IN THE LINK INDICATED IN ROLL 11
11	<u>BACK UP for 9 & 10</u> Stage 1 Part 5.zip http://www.filefactory.com/file/c0cb9b3/n/Stage_1_Part_5.zip Stage 1 Part 1.zip http://www.filefactory.com/file/c0cb8ab/n/Stage_1_Part_1.zip

Study Guide EE07 & EE011

What to study			Which exercises to do		What practical to do	Resources	
Main study	Additional study	Main exercise		Additional exercises			
EE07 Unit	EE011 Unit	For EE07+EE011 +Video	Study Option (1) EE-07	Study Option (2) EE-07 for EE011			
UEENEEE033B Document occupation	UEENEEE137A Document and apply	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below

al hazards and risks in electrical work	measures to control OHS risks associated with electrotechnology work						
Study Option 1	Study Option 1						
See 1 below	See 3 below		EE01 1	=	EE07 +	Additi onal	
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
2	
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
4	
5	<p>Video-- Electrical workshop Lesson 1 OHS.zip http://www.filefactory.com/file/c0adbfa/n/Electrical_workshop_Lesson_1_OHS.zip Electrical workshop Lesson 2 Workplace hazard+Fix & secure equipment.zip http://www.filefactory.com/file/c0adca2/n/Electrical_workshop_Lesson_2_Workplace_hazard_Fix_secure_equipment.zip Electrical workshop Lesson 3 Mechanical fixing.zip http://www.filefactory.com/file/c0adc1d/n/Electrical_workshop_Lesson_3_Mechanical_fixing.zip Electrical workshop Lesson 4 Basic electrical wiring.zip http://www.filefactory.com/file/c0add65/n/Electrical_workshop_Lesson_4_Basic_electrical_wiring.zip Electrical workshop Lesson 5 Wiring circuits.zip http://www.filefactory.com/file/c0ade9b/n/Electrical_workshop_Lesson_5_Wiring_circuits.zip Electrical workshop Lesson 6 Electrical safety testing.zip http://www.filefactory.com/file/c0adf90/n/Electrical_workshop_Lesson_6_Electrical_safety_testing.zip Electrical workshop Lesson 7 Testing insulation and polarity.zip http://www.filefactory.com/file/c0ad031/n/Electrical_workshop_Lesson_7_Testing_insulation_and_polarity.zip</p>

	on_7_Testing_insulation_and_polarity.zip Electrical workshop Lesson 8 Testing lighting polarity.zip http://www.filefactory.com/file/c0ad1d8/n/Electrical_workshop_Lesson_8_Testing_lighting_polarity.zip
6	2) Click HERE to download other Exercises
7	EE07 & EE011 units mapping for Theory study & Exercises
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf
9	EE07 & EE011 units mapping for Theory study & Exercises Attend the face to face session Stage_1_Electrical_workshop_practicals.pdf Wiring_Equipments_to_purchase IN THE LINK INDICATED IN ROLL 11
10	Electrical_safe_working.zip NREL_Disconnect_Reconnect.zip IN THE LINK INDICATED IN ROLL 11
11	BACK UP for 9 & 10 Stage 1 Part 5.zip http://www.filefactory.com/file/c0cb9b3/n/Stage_1_Part_5.zip Stage 1 Part 1.zip http://www.filefactory.com/file/c0cb8ab/n/Stage_1_Part_1.zip

Study Guide EE07 & EE011

What to	study		Which	exercises to do		What practical to do	Resources
Main	study	Additional study	Main exercise		Additional exercises		
EE07 Unit	EE011 Unit	For EE07+EE011 +Video	Study Option (1) EE-07	Study Option (2) EE-07	for EE011		
	UEENEEG106A Terminate cables, cords and accessories for low voltage circuits	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1						
See 1 below	See 3 below		EE011	=	EE07 +	Additional	

Study Option 2	Study Option 2						
See 2 below	See 4 below						

4	<p>ELV_Cable_termination</p> <p>in Stage 2 Part 2A.zip</p> <p>http://www.filefactory.com/file/c0cca4a/n/Stage_2_Part_2A.zip</p>
5	<p>Video-- Electrical workshop Lesson 1 OHS.zip http://www.filefactory.com/file/c0adbfa/n/Electrical_workshop_Lesson_1_OHS.zip Electrical workshop Lesson 2 Workplace hazard+Fix & secure equipment.zip http://www.filefactory.com/file/c0adca2/n/Electrical_workshop_Lesson_2_Workplace_hazard_Fix_secure_equipment.zip Electrical workshop Lesson 3 Mechanical fixing.zip http://www.filefactory.com/file/c0adc1d/n/Electrical_workshop_Lesson_3_Mechanical_fixing.zip Electrical workshop Lesson 4 Basic electrical wiring.zip http://www.filefactory.com/file/c0add65/n/Electrical_workshop_Lesson_4_Basic_electrical_wiring.zip Electrical workshop Lesson 5 Wiring circuits.zip http://www.filefactory.com/file/c0ade9b/n/Electrical_workshop_Lesson_5_Wiring_circuits.zip Electrical workshop Lesson 6 Electrical safety testing.zip http://www.filefactory.com/file/c0adf90/n/Electrical_workshop_Lesson_6_Electrical_safety_testing.zip Electrical workshop Lesson 7 Testing insulation and polarity.zip http://www.filefactory.com/file/c0ad031/n/Electrical_workshop_Lesson_7_Testing_insulation_and_polarity.zip Electrical workshop Lesson 8 Testing lighting polarity.zip http://www.filefactory.com/file/c0ad1d8/n/Electrical_workshop_Lesson_8_Testing_lighting_polarity.zip</p>
6	
7	Only practical assessment in class

8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf
9	Attend face to face class http://www.filefactory.com/file/2f8e3fph9trr/n/G106_G033_Practical_zip
10	ELV_Cable_termination Wiring_Notes_1. Wiring_Notes_2 Switchboard_Wiring 1Wiring_E033_E008 2Wiring_E033_E008 ElectricalDrawing1.zip ElectricalDrawing2.zip ElectricalDrawing3.pdf IN THE LINK INDICATED IN ROLL 11
11	BACK UP Stage 2 Part 2A.zip http://www.filefactory.com/file/c0cca4a/n/Stage_2_Part_2A.zip

Study Guide EE07 & EE011

What to	study		Which	exercis es to do		What practica l to do	Resourc es
Main	study	Additional study	Main exerci se		Addition al exercises		
EE07 Unit	EE011 Unit	For EE07+EE0 11 +Video	Study Optio n (1) EE-07	Study Option (2) EE- 07	for EE011		
	UEENEEG06 3A Arrange circuits, control and protection for general electrical installations	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Optio n 1	Study Option 1						
See 1 belo w	See 3 below		EE011	=	EE07 +	Addition al	
Study Optio n 2	Study Option 2						
See 2 belo w	See 4 below						

1	
2	
3	
4	
5	<p><u>Electrical wiring + Electrical Installation requirement</u></p> <p><u>G003+G004+G007 Lesson 1 Electrical installation protection.zip</u></p> <p>http://www.filefactory.com/file/c35d2f2/n/G003_G004_G007_Lesson_1_Electrical_installation_protection.zip</p> <p><u>G003+G004+G007 Lesson 2 Electrical system safety.zip</u></p> <p>http://www.filefactory.com/file/cf937ac/n/G003_G004_G007_Lesson_2_Electrical_system_safety.zip</p> <p><u>G003+G004+G007 Lesson 3 Heating+Cable</u> ckt protection exercise.zip</p> <p>http://www.filefactory.com/file/c0abfe8/n/G003_G004_G007_Lesson_3_Heating_Cable_ckt_protection_exercise.zip</p> <p><u>G003+G004+G007 Lesson 4 Wiring system.zip</u></p> <p>http://www.filefactory.com/file/cf939f0/n/G003_G004_G007_Lesson_4_Wiring_system.zip</p> <p><u>G003+G004+G007 Lesson 5 Hazardous area electrical system.zip</u></p> <p>http://www.filefactory.com/file/cf94af8/n/G003_G004_G007_Lesson_5_Hazardous_area_electrical_system.zip</p> <p><u>G003+G004+G007 Lesson 6 Overload protection RCD.zip</u></p> <p>http://www.filefactory.com/file/cf94bcf/n/G003_G004_G007_Lesson_6_Overload_protection_RCD.zip</p>

	<p>G003+G004+G007 Lesson 7 RCD + Metering.zip</p> <p>http://www.filefactory.com/file/cf94cae/n/G003_G004_G007_Lesson_7_RCD_Metering.zip</p> <p>G003+G004+G007 Lesson 8 Switch board installation.zip</p> <p>http://www.filefactory.com/file/cf94c40/n/G003_G004_G007_Lesson_8_Switch_board_installation.zip</p> <p>G003+G004+G007 Lesson 9 Cable selection+Maximum demand.zip</p> <p>http://www.filefactory.com/file/cf94dbb/n/G003_G004_G007_Lesson_9_Cable_selection_Maximum_demand.zip</p> <p>G003+G004+G007 Lesson 10 Electrical installation safety testing.zip</p> <p>http://www.filefactory.com/file/cf94123/n/G003_G004_G007_Lesson_10_Electrical_installation_safety_testing.zip</p>
6	
7	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p>Only face to face class assessment</p>
8	Only face to face class assessment
9	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p>Attend face to face class</p> <p>PRACTICAL</p> <p>Workshop 2+3</p> <p>WorkShop_Part_2_Practical_1_to_6_.zip</p> <p>WorkShop_Part_2_Practical_7_to_12_.zip</p> <p>WorkShop_Part_2_Practical_13_to_17_.zip</p> <p>WorkShop_Part_2_Practical_18_to_21_.zip</p> <p>ElectricalWorkshopPart3_G008_Group1Machine_.zip</p> <p>ElectricalWorkshopPart3_G008_Group2LineProtection_.zip</p> <p>ElectricalWorkshopPart3_G008_Group3InstrumentsDevices_.zip</p> <p>OTHER PRACTICALS</p> <p>ELECTRICAL_WORKSHOP_PART_2_G003_G004_G009_.zip</p> <p>Electrical_Workshop_Part_2_Practical_1_to_18.zip</p>

	Electrical_Workshop_Part_2_Practical_19_to_21.zip G003_G004_G009Practicals.pdf IN THE LINK INDICATED IN ROLL 11
1 0	Construction ElectricalSafety.zip InserviceTesting.zip Wiring_Notes_1. Wiring_Notes_2 Switchboard_Wiring 1Wiring_E033_E008 2Wiring_E033_E008 IN THE LINK INDICATED IN ROLL 11
1 1	<u>BACK UP FOR 9 & 10</u> Stage 2 Part 1B.zip http://www.filefactory.com/file/c0ccac0/n/Stage_2_Part_1B.zip Stage 2 Part 3.zip http://www.filefactory.com/file/c0ccb1f/n/Stage_2_Part_3.zip Stage 2 Part 6.zip http://www.filefactory.com/file/c0cccc0/n/Stage_2_Part_6.zip Stage 3 Part 3.zip http://www.filefactory.com/file/c0ccd44/n/Stage_3_Part_3.zip Stage 3 Part 4.zip http://www.filefactory.com/file/c0ccd9a/n/Stage_3_Part_4.zip Stage 4 Part 8.zip http://www.filefactory.com/file/c0cc5a1/n/Stage_4_Part_8.zip Stage 4 Part 9.zip http://www.filefactory.com/file/c0cc5db/n/Stage_4_Part_9.zip Stage 4 Part 10.zip http://www.filefactory.com/file/c0cc5f8/n/Stage_4_Part_10.zip Stage 3 Part 5.zip http://www.filefactory.com/file/c0ccefd/n/Stage_3_Part_5.zip Stage 3 Part 8.zip http://www.filefactory.com/file/c0ccf09/n/Stage_3_Part_8.zip Stage 3 Part 9.zip http://www.filefactory.com/file/c0ccf48/n/Stage_3_Part_9.zip

Study Guide EE07 & EE011

What to study		Which exercises to do		What practical to do	Resources
Main study	Additional study	Main exercise		Additional exercises	
EE07 Unit	EE011 Unit	For EE07+EE011 +Video	Study Option (1) EE-07	Study Option (2) EE-07	for EE011

UEENEEG007A Select wiring systems and cables for low voltage general electrical installations	UEENEEG107A Select wiring systems and cables for low voltage general electrical installations	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1						
See 1 below	See 3 below		EE011	=	EE07 +	Additio nal	
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
2	AS3000-2007Overview.zip AS3000_AS3008TablesExtract.zip WiringRules.zip Part (1) Study the following notes Installation_Requirement_1-A.zip Installation_Requirement_1-B.zip Installation_Requirement_2-A.zip Installation_Requirement_2-B.zip Stage_2_Wiring.zip In Stage 2 Part 3.zip http://www.filefactory.com/file/c0ccb1f/n/Stage_2_Part_3.zip Stage 2 Part 6.zip http://www.filefactory.com/file/c0cccc0/n/Stage_2_Part_6.zip Stage 3 Part 1B.zip http://www.filefactory.com/file/c0ccc42/n/Stage_3_Part_1B.zip Stage 3 Part 3.zip http://www.filefactory.com/file/c0ccd44/n/Stage_3_Part_3.zip Stage 3 Part 4.zip http://www.filefactory.com/file/c0ccd9a/n/Stage_3_Part_4.zip

	Stage 3 Part 5.zip Stage 3 Part 6.zip Stage 3 Part 9.zip Stage 4 Part 7.zip Stage 4 Part 8.zip Stage 4 Part 9.zip Stage 4 Part 14.zip
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
4	AS3000-2007Overview.zip AS3000_AS3008TablesExtract.zip WiringRules.zip Part (1) Study the following notes Installation_Requirement_1-A.zip Installation_Requirement_1-B.zip Installation_Requirement_2-A.zip Installation_Requirement_2-B.zip Stage_2_Wiring.zip in www.electricaldiploma2013.zoomshare.com AUSTRALIAN ELECTRICIAN TRAINING
5	<u>G007</u> G007 Lesson 1 AS3000 Wiring rule overview.zip http://www.filefactory.com/file/cf94220/n/G007_Lesson_1_AS3000_Wiring_rule_overview.zip G007 Lesson 2 Maximum Demand calculation.zip

	<p>http://www.filefactory.com/file/cf9456f/n/G007_Lesson_2_Maximum_Demand_calculation.zip</p> <p>G007 Lesson 3 Cable selection.zip</p> <p>http://www.filefactory.com/file/cf9465c/n/G007_Lesson_3_Cable_selection.zip</p> <p>G007 Lesson 4 Cable voltage drop calculation.zip</p> <p>http://www.filefactory.com/file/cf9479e/n/G007_Lesson_4_Cable_voltage_drop_calculation.zip</p> <p>G007 Lesson 5 Derating of cable part 1.zip</p> <p>http://www.filefactory.com/file/cf95acb/n/G007_Lesson_5_Derating_of_cable_part_1.zip</p> <p>G007 Lesson 6 Derating of cable part 2.zip</p> <p>http://www.filefactory.com/file/cf95a6b/n/G007_Lesson_6_Derating_of_cable_part_2.zip</p> <p>G007 Lesson 7 Derating of cable for HRC fuse protection.zip</p> <p>http://www.filefactory.com/file/cf95cd7/n/G007_Lesson_7_Derating_of_cable_for_HRC_fuse_protection.zip</p> <p>G007 Lesson 8 Final subcircuit fault loop impedance.zip</p> <p>http://www.filefactory.com/file/cf95dd1/n/G007_Lesson_8_Final_subcircuit_fault_loop_impedance.zip</p> <p>Electrical Installation requirement</p>
6	Click HERE to download the other exercises
7	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p>Do the assignments from the following book & submit the assignment (1) Cable Installation.zip</p> <p>Do the assignments from the following book & submit the assignment (2) Regulatory Requirement.zip</p>
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011.pdf
9	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p>PRACTICAL</p> <p>Workshop 2+3</p> <p>WorkShop_Part_2_Practical_1_to_6_.zip</p> <p>WorkShop_Part_2_Practical_7_to_12_.zip</p> <p>WorkShop_Part_2_Practical_13_to_17_.zip</p>

	<p>WorkShop_Part_2_Practical_18_to_21_.zip</p> <p>ElectricalWorkshopPart3_G008_Group1Machine_.zip</p> <p>ElectricalWorkshopPart3_G008_Group2LineProtection_.zip</p> <p>ElectricalWorkshopPart3_G008_Group3InstrumentsDevices_.zip</p> <p>OTHER PRACTICALS</p> <p>ELECTRICAL_WORKSHOP_PART_2_G003_G004_G009_.zip</p> <p>Electrical_Workshop_Part_2_Practical_1_to_18.zip</p> <p>Electrical_Workshop_Part_2_Practical_19_to_21.zip</p> <p>G003_G004_G009Practicals.pdf</p> <p>In</p> <p>www.electricaldiploma2013.zoomshare.com</p> <p>AUSTRALIAN ELECTRICIAN TRAINING</p>
1 0	
1 1	<p><u>BACK UP FOR 9 & 10</u></p> <p>Stage 2 Part 1B.zip http://www.filefactory.com/file/c0ccac0/n/Stage_2_Part_1B.zip</p> <p>Stage 2 Part 3.zip http://www.filefactory.com/file/c0ccb1f/n/Stage_2_Part_3.zip</p> <p>Stage 2 Part 6.zip http://www.filefactory.com/file/c0cccc0/n/Stage_2_Part_6.zip</p> <p>Stage 3 Part 3.zip http://www.filefactory.com/file/c0ccd44/n/Stage_3_Part_3.zip</p> <p>Stage 3 Part 4.zip http://www.filefactory.com/file/c0ccd9a/n/Stage_3_Part_4.zip</p> <p>Stage 3 Part 5.ziphttp://www.filefactory.com/file/c0ccefd/n/Stage_3_Part_5.zip</p> <p>Stage 3 Part 8.zip http://www.filefactory.com/file/c0ccf09/n/Stage_3_Part_8.zip</p> <p>Stage 3 Part 9.zip http://www.filefactory.com/file/c0ccf48/n/Stage_3_Part_9.zip</p> <p>Stage 4 Part 7.ziphttp://www.filefactory.com/file/c0cc479/n/Stage_4_Part_7.zip</p> <p>Stage 4 Part 8.zip http://www.filefactory.com/file/c0cc5a1/n/Stage_4_Part_8.zip</p> <p>Stage 4 Part 9.zip http://www.filefactory.com/file/c0cc5db/n/Stage_4_Part_9.zip</p> <p>Stage 4 Part 10.zip http://www.filefactory.com/file/c0cc5f8/n/Stage_4_Part_10.zip</p>

Study Guide EE07 & EE011

What to study	study		Which exercises to do		What practical to do	Resources
Main	study	Additional study	Main exercise		Additional exercises	
EE07 Unit	EE011 Unit	For EE07+EE011 +Video	Study Option (1) EE-07	Study Option (2) EE-07	for EE011	
UEENEEG03A Install low voltage wiring and accessories	UEENEEG103A Install low voltage wiring and accessories	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below
Study Option 1	Study Option 1					
See 1 below	See 3 below		EE011	=	EE07 +	Additional
Study Option 2	Study Option 2					
See 2 below	See 4 below					

1	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
2	
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip <u>G103+104 Notes+Lessons</u> http://www.filefactory.com/file/2bg8qift6nzh/n/G103_G104_zip
4	Wiring_Notes_1. Wiring_Notes_2 Switchboard_Wiring 1Wiring_E033_E008 2Wiring_E033_E008 Fixing Equipments

	<p> E002_E005.zip Lighting.zip E_trade_1.zip E_trade_2.zip E_trade_3.zip E_trade_4.zip G008_General_Notes_1.zip G008_General_Notes_2.zip Hazard_Identification.zip G003_G004_Wiring_2_Part_1.zip G003_G004_Wiring_2_Part_2.zip Cable_CktProt_E_Accessories.zip Cable_Conduit_E_Accessories.zip Elect_Installation_Protection_Method_Devices.zip Elect_Installation_Requirement_1.zip Elect_Installation_Requirement_1.zip Elect_Installation_Requirement_2.zip ElectricInstallationDesign.zip ElectSystSafety1.zip ElectSystSafety2.zip FireProtHeatingTestingEarthing.zip GeneralWiring.zip HazardLightingPanel.zip PanelRCDWireSpecial_Installation.zip ProtectionMethods.zip in www.electricaldiploma2013.zoomshare.com AUSTRALIAN ELECTRICIAN TRAINING </p>
5	<p> <u>Electrical wiring + Electrical Installation requirement</u> <u>G003+G004+G007 Lesson 1 Electrical installation protection.zip</u> http://www.filefactory.com/file/c35d2f2/n/G003_G004_G007_Lesson_1_Electrical_installation_protection.zip <u>G003+G004+G007 Lesson 2 Electrical system safety.zip</u> http://www.filefactory.com/file/cf937ac/n/G003_G004_G007_Lesson_2_Electrical_system_safety.zip <u>G003+G004+G007 Lesson 3 Heating+Cable</u> ckt protection exercise.zip http://www.filefactory.com/file/c0abfe8/n/G003_G004_G007_Lesson_3_Heating_Cable_ckt_protection_exercise.zip </p>

	<p>G003+G004+G007 Lesson 4 Wiring system.zip http://www.filefactory.com/file/cf939f0/n/G003_G004_G007_Lesson_4_Wiring_system.zip</p> <p>G003+G004+G007 Lesson 5 Hazardous area electrical system.zip http://www.filefactory.com/file/cf94af8/n/G003_G004_G007_Lesson_5_Hazardous_area_electrical_system.zip</p> <p>G003+G004+G007 Lesson 6 Overload protection RCD.zip http://www.filefactory.com/file/cf94bcf/n/G003_G004_G007_Lesson_6_Overload_protection_RCD.zip</p> <p>G003+G004+G007 Lesson 7 RCD + Metering.zip http://www.filefactory.com/file/cf94cae/n/G003_G004_G007_Lesson_7_RCD_Metering.zip</p> <p>G003+G004+G007 Lesson 8 Switch board installation.zip http://www.filefactory.com/file/cf94c40/n/G003_G004_G007_Lesson_8_Switch_board_installation.zip</p> <p>G003+G004+G007 Lesson 9 Cable selection+Maximum demand.zip http://www.filefactory.com/file/cf94dbb/n/G003_G004_G007_Lesson_9_Cable_selection_Maximum_demand.zip</p> <p>G003+G004+G007 Lesson 10 Electrical installation safety testing.zip http://www.filefactory.com/file/cf94123/n/G003_G004_G007_Lesson_10_Electrical_installation_safety_testing.zip</p>
6	<p>Click HERE to download the other exercises</p>
7	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p>Assessment Read the above notes files and do the assignments for the following tutorial file.</p> <p>WiringPracticals.zip G003G004Tutorial.zip in www.electricaldiploma2013.zoomshare.com AUSTRALIAN ELECTRICIAN TRAINING</p>
8	<p>http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf</p>
9	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p>Attend the face to face class</p> <p>PRACTICAL</p> <p>http://www.filefactory.com/file/54l4d5rif1z3/n/Advanced_Wiring_Part_1_zip</p> <p>Advanced Wiring Part 1+2—G103</p> <p>http://www.filefactory.com/file/1xb18xg1gaz1/n/Advanced_Wiring_Part_1_and_2_zip</p> <p>Electrical Installation Safety Testing</p> <p>http://www.filefactory.com/file/5mv9s6dx174h/n/Electrical_Installation_Safety_Testing_zip</p> <p>Workshop 2+3 WorkShop_Part_2_Practical_1_to_6_.zip</p>

	WorkShop_Part_2_Practical_7_to_12_.zip WorkShop_Part_2_Practical_13_to_17_.zip WorkShop_Part_2_Practical_18_to_21_.zip ElectricalWorkshopPart3_G008_Group1Machine_.zip ElectricalWorkshopPart3_G008_Group2LineProtection_.zip ElectricalWorkshopPart3_G008_Group3InstrumentsDevices_.zip OTHER PRACTICALS ELECTRICAL_WORKSHOP_PART_2_G003_G004_G009_.zip Electrical_Workshop_Part_2_Practical_1_to_18.zip Electrical_Workshop_Part_2_Practical_19_to_21.zip G003_G004_G009Practicals.pdf
10	Stage 3 Part 8.zip http://www.filefactory.com/file/c0ccf09/n/Stage_3_Part_8.zip Power Distribution Trade Power_Distribution_Trade.zip Metering Metering.zip
11	<u>BACK UP FOR 9 & 10</u> Stage 2 Part 1B.zip http://www.filefactory.com/file/c0ccac0/n/Stage_2_Part_1B.zip Stage 2 Part 3.zip http://www.filefactory.com/file/c0ccb1f/n/Stage_2_Part_3.zip Stage 2 Part 6.zip http://www.filefactory.com/file/c0cccc0/n/Stage_2_Part_6.zip Stage 3 Part 3.zip http://www.filefactory.com/file/c0ccd44/n/Stage_3_Part_3.zip Stage 3 Part 4.zip http://www.filefactory.com/file/c0ccd9a/n/Stage_3_Part_4.zip Stage 3 Part 5.zip http://www.filefactory.com/file/c0ccefd/n/Stage_3_Part_5.zip Stage 3 Part 8.zip http://www.filefactory.com/file/c0ccf09/n/Stage_3_Part_8.zip Stage 3 Part 9.zip http://www.filefactory.com/file/c0ccf48/n/Stage_3_Part_9.zip Stage 4 Part 7.zip http://www.filefactory.com/file/c0cc479/n/Stage_4_Part_7.zip Stage 4 Part 8.zip http://www.filefactory.com/file/c0cc5a1/n/Stage_4_Part_8.zip Stage 4 Part 9.zip http://www.filefactory.com/file/c0cc5db/n/Stage_4_Part_9.zip Stage 4 Part 10.zip http://www.filefactory.com/file/c0cc5f8/n/Stage_4_Part_10.zip

Study Guide EE07 & EE011

What to	study		Which	exercis es to do		What practica l to do	Resourc es
Main	study	Additional study	Main exerci se		Addition al exercises		
EE07	EE011 Unit	For	Study	Study	for		

Unit		EE07+EE011 +Video	Option (1) EE-07	Option (2) EE-07	EE011		
	UEENEEG033A Solve problems in single and three phase low voltage electrical apparatus and circuits	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1						
See 1 below	See 3 below		EE011	=	EE07 +	Additional	
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1		
2		
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip <u>G033</u> http://www.filefactory.com/file/1b2utxydvcx7/n/G033_zip	
4	Wiring_Notes_1. Wiring_Notes_2 Switchboard_Wiring 1Wiring_E033_E008 2Wiring_E033_E008 Fixing Equipments E002_E005.zip Lighting.zip E_trade_1.zip E_trade_2.zip E_trade_3.zip E_trade_4.zip G008_General_Notes_1.zip G008_General_Notes_2.zip Hazard_Identification.zip	

	<p> G003_G004_Wiring_2_Part_1.zip G003_G004_Wiring_2_Part_2.zip Cable_CktProt_E_Accessories.zip Cable_Conduit_E_Accessories.zip Elect_Installation_Protection_Method_Devices.zip Elect_Installation_Requirement_1.zip Elect_Installation_Requirement_1.zip Elect_Installation_Requirement_2.zip ElectricInstallationDesign.zip ElectSystSafety1.zip ElectSystSafety2.zip FireProtHeatingTestingEarthing.zip GeneralWiring.zip HazardLightingPanel.zip PanelRCDWireSpecial_Installation.zip ProtectionMethods.zip In www.electricaldiploma2013.zoomshare.com AUSTRALIAN ELECTRICIAN TRAINING </p>
5	<p> <u>Electrical wiring + Electrical Installation requirement</u> </p> <p> <u>G003+G004+G007 Lesson 1 Electrical installation protection.zip</u> </p> <p> http://www.filefactory.com/file/c35d2f2/n/G003_G004_G007_Lesson_1_Electrical_installation_protection.zip </p> <p> <u>G003+G004+G007 Lesson 2 Electrical system safety.zip</u> </p> <p> http://www.filefactory.com/file/cf937ac/n/G003_G004_G007_Lesson_2_Electrical_system_safety.zip </p> <p> <u>G003+G004+G007 Lesson 3 Heating+Cable</u> ckt protection exercise.zip </p> <p> http://www.filefactory.com/file/c0abfe8/n/G003_G004_G007_Lesson_3_Heating_Cable_ckt_protection_exercise.zip </p> <p> <u>G003+G004+G007 Lesson 4 Wiring system.zip</u> </p> <p> http://www.filefactory.com/file/cf939f0/n/G003_G004_G007_Lesson_4_Wiring_system.zip </p>

	<p>G003+G004+G007 Lesson 5 Hazardous area electrical system.zip http://www.filefactory.com/file/cf94af8/n/G003_G004_G007_Lesson_5_Hazardous_area_electrical_system.zip</p> <p>G003+G004+G007 Lesson 6 Overload protection RCD.zip http://www.filefactory.com/file/cf94bcf/n/G003_G004_G007_Lesson_6_Overload_protection_RCD.zip</p> <p>G003+G004+G007 Lesson 7 RCD + Metering.zip http://www.filefactory.com/file/cf94cae/n/G003_G004_G007_Lesson_7_RCD_Metering.zip</p> <p>G003+G004+G007 Lesson 8 Switch board installation.zip http://www.filefactory.com/file/cf94c40/n/G003_G004_G007_Lesson_8_Switch_board_installation.zip</p> <p>G003+G004+G007 Lesson 9 Cable selection+Maximum demand.zip http://www.filefactory.com/file/cf94dbb/n/G003_G004_G007_Lesson_9_Cable_selection_Maximum_demand.zip</p> <p>G003+G004+G007 Lesson 10 Electrical installation safety testing.zip http://www.filefactory.com/file/cf94123/n/G003_G004_G007_Lesson_10_Electrical_installation_safety_testing.zip</p> <p>Electrical wiring + Electrical Installation requirement</p>	
6	Click HERE to download the other exercises	
7	<p>EE07 & EE011 units mapping for Theory study & Exercises Assessment</p> <p>Read the above notes files and do the assignments for the following tutorial file.</p> <p>WiringPracticals.zip</p> <p>G003G004Tutorial.zip</p> <p>www.electricaldiploma2013.zoomshare.com</p> <p>AUSTRALIAN ELECTRICIAN TRAINING</p>	
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf	
9	<p>Attend the face to face class</p> <p>http://www.filefactory.com/file/2f8e3fph9trr/n/G106_G033_Practical_zip</p>	

1 0	<p>Power Distribution Trade Power_Distribution_Trade.zip</p> <p>Metering Metering.zip</p> <p>PRACTICAL</p> <p>Workshop 2+3</p> <p>WorkShop_Part_2_Practical_1_to_6_.zip</p> <p>WorkShop_Part_2_Practical_7_to_12_.zip</p> <p>WorkShop_Part_2_Practical_13_to_17_.zip</p> <p>WorkShop_Part_2_Practical_18_to_21_.zip</p> <p>ElectricalWorkshopPart3_G008_Group1Machine_.zip</p> <p>ElectricalWorkshopPart3_G008_Group2LineProtection_.zip</p> <p>ElectricalWorkshopPart3_G008_Group3InstrumentsDevices_.zip</p> <p>OTHER PRACTICALS</p> <p>ELECTRICAL_WORKSHOP_PART_2_G003_G004_G009_.zip</p> <p>Electrical_Workshop_Part_2_Practical_1_to_18.zip</p> <p>Electrical_Workshop_Part_2_Practical_19_to_21.zip</p> <p>G003_G004_G009Practicals.pdf</p> <p>In</p> <p>www.electricaldiploma2013.zoomshare.com</p> <p>AUSTRALIAN ELECTRICIAN TRAINING</p>	
1 1	<p><u>BACK UP FOR 9 & 10</u></p> <p>Stage 2 Part 1B.zip http://www.filefactory.com/file/c0ccac0/n/Stage_2_Part_1B.zip</p> <p>Stage 2 Part 3.zip http://www.filefactory.com/file/c0ccb1f/n/Stage_2_Part_3.zip</p> <p>Stage 2 Part 6.zip http://www.filefactory.com/file/c0cccc0/n/Stage_2_Part_6.zip</p> <p>Stage 3 Part 3.zip http://www.filefactory.com/file/c0ccd44/n/Stage_3_Part_3.zip</p> <p>Stage 3 Part 4.zip http://www.filefactory.com/file/c0ccd9a/n/Stage_3_Part_4.zip</p> <p>Stage 3 Part 5.zip http://www.filefactory.com/file/c0ccefd/n/Stage_3_Part_5.zip</p> <p>Stage 3 Part 8.zip http://www.filefactory.com/file/c0ccf09/n/Stage_3_Part_8.zip</p> <p>Stage 3 Part 9.zip http://www.filefactory.com/file/c0ccf48/n/Stage_3_Part_9.zip</p> <p>Stage 4 Part 7.zip http://www.filefactory.com/file/c0cc479/n/Stage_4_Part_7.zip</p> <p>Stage 4 Part 8.zip http://www.filefactory.com/file/c0cc5a1/n/Stage_4_Part_8.zip</p> <p>Stage 4 Part 9.zip http://www.filefactory.com/file/c0cc5db/n/Stage_4_Part_9.zip</p> <p>Stage 4 Part 10.zip http://www.filefactory.com/file/c0cc5f8/n/Stage_4_Part_10.zip</p>	

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Password- Joe2013

Textbook

Prescribed Texts:

TAFE NSW Higher Education 2012, *Engineering Practices (ENPRA101A) Lecture Notes and Workbook*, lecture notes distributed in Engineering Practices

Recommended Readings:

Hampson, J 2006, *Electrical Trade Principles*, Pearson Education Australia (Chapter 6)

Pethebridge, K & Neeson I 2009, *Electrical Wiring Practice Vol 1*, 7th or latest edition, McGraw Hill, Australia (Chapters 1, 4 and 7)

Pethebridge, K & Neeson I 2002, *Electrical Wiring Practice Vol 2*, 6th or latest edition, McGraw Hill, Australia (Section 22.6)

Standards Australia AS/NZS 3000: *Electrical installations (Wiring Rules)*

Standards Australia AS/NZS 3008 *Electrical installations—Selection of cables*

Password- Joe2013

Tutorial Exercises

Password- joe2013

Further Readings

Password- joe2013

Online Practicals

Password- joe2013

Text Books for

ENEMP101A Introduction to Engineering Mathematics and Physics

ENEMP102A Foundation Engineering Mathematics and Physics

ENEMP201A Intermediate Engineering Mathematics and Physics

ENEMP202A Advanced Engineering Mathematics and Physics

Giancoli, DC, 2000, *Physics For Scientists And Engineers*, 4th or latest edition, Volumes 1,2,3, ISBN: 9780132273596.

http://www.filefactory.com/file/7c514m4yw0ov/Giancoli_-_Physics_6th_Solutions_pdf

http://www.filefactory.com/file/1588szswdljx/Giancoli_-_Physics_6th_pdf

Bird, J, 2007, Engineering Mathematics, 4th or latest edition, Newnes Publishing, ISBN: 0-7506-5776-6,

http://www.filefactory.com/file/2z1jzorebdwx/2-john-bird-higher-engineering-mathematics_pdf

http://www.filefactory.com/file/2z1jzorebdwx/2-john-bird-higher-engineering-mathematics_pdf

http://www.filefactory.com/file/6oh03k3msqv1/Basics_of_MATLAB_and_Beyond_pdf

http://www.filefactory.com/file/28cbwzhk6ral/Engineering_Mathematics_4E_pdf

http://www.filefactory.com/file/6uizsgnh2snp/Essentials_of_MATLAB_Programming_pdf

http://www.filefactory.com/file/2z1jzorebdwx/2-john-bird-higher-engineering-mathematics_pdf

http://www.filefactory.com/file/4ljoibd9h6dv/Learning_MATLAB_pdf

http://www.filefactory.com/file/45ftpkh77jsf/MATLAB_Programming_For_Engineers_pdf

http://www.filefactory.com/file/729l3my8kcsp/matlab_quickref_pdf

http://www.filefactory.com/file/2179ehdpx9g5/MatlabNotes_pdf

Text Books for

ENMCC 101A Foundation Mechanical & Civil Engineering Principle
ENMCC 201A Advanced Mechanical & Civil Engineering Principle

http://www.filefactory.com/file/724kx95f2ayf/27767685-Materials-Engineers-Technicians_pdf

http://www.filefactory.com/file/7analtqujo7z/59446893-A-Textbook-of-Engineering-Mechanics-by-R-K-Bansal_pdf

http://www.filefactory.com/file/4k7yvsvt47jr/123974244-strength-of-material-by-r-k-bansal_pdf

http://www.filefactory.com/file/3h4q2snf4kgd/Fluid_Mechanics_and_Thermodynamics_of_Turbomachinery_4E_pdf

<http://www.filefactory.com/file/4can70505quj/RE001%20BENERGY%20101A.pdf>

<http://www.filefactory.com/file/4f92zgjzgj/DC%20Power%20Supply.pdf>

Part (3) Qualified (2) Course

RE 501-Control of Solar Energy System
RE502- Biomass Gasification
RE503- Energy Management in Industrial and Commercial Facilities
RE504- Engineering Solution for Sustainability
RE505- Green Building Design
RE506- Low Emission Power Generation Technologies
RE507- Offshore Wind Turbines
RE508- Solar Hydrogen Energy System
RE509- Applied Photovoltaics
RE510- Water Conservation
RE511- Sustaining Earth Energy resources

A written report between 10,000 – 12,000 words that covers both theory & practical knowledges of the above units.

RE 501-Control of Solar Energy System.pdf (13.93MB)

http://www.filefactory.com/file/16zy6ploevjp/n/RE_501-Control_of_Solar_Energy_System.pdf

[Download now!](#)

RE507- Offshore Wind Turbines.pdf (9.4MB)

[http://www.filefactory.com/file/2mtdemeyzub/n/RE507- Offshore Wind Turbines.pdf](http://www.filefactory.com/file/2mtdemeyzub/n/RE507-Offshore_Wind_Turbines.pdf)

[Download now!](#)

RE511- Sustaining Earth Energy resources.pdf (8.43MB)

[http://www.filefactory.com/file/38jctruglh59/n/RE511- Sustaining Earth Energy resources.pdf](http://www.filefactory.com/file/38jctruglh59/n/RE511-Sustaining_Earth_Energy_resources.pdf)

[Download now!](#)

RE503- Energy Management in Industrial and Commercial Facilities.pdf (2.89MB)

[http://www.filefactory.com/file/3elg8jedxa4l/n/RE503-
_Energy_Management_in_Industrial_and_Commercial_Facilities.pdf](http://www.filefactory.com/file/3elg8jedxa4l/n/RE503-Energy_Management_in_Industrial_and_Commercial_Facilities.pdf)

[Download now!](#)

RE502- Biomass Gasification.pdf (9.76MB)

[http://www.filefactory.com/file/4jvkf83l8qpl/n/RE502- Biomass Gasification.pdf](http://www.filefactory.com/file/4jvkf83l8qpl/n/RE502-Biomass_Gasification.pdf)

[Download now!](#)

RE510- Water Conservation.pdf (10.19MB)

[http://www.filefactory.com/file/4xhmdkdc9y1x/n/RE510- Water Conservation.pdf](http://www.filefactory.com/file/4xhmdkdc9y1x/n/RE510-Water_Conservation.pdf)

[Download now!](#)

RE505- Green Building Design.pdf (13.06MB)

[http://www.filefactory.com/file/5e245s2iqyu3/n/RE505- Green Building Design.pdf](http://www.filefactory.com/file/5e245s2iqyu3/n/RE505-Green_Building_Design.pdf)

[Download now!](#)

RE509- Applied Photovoltaics.pdf (5.06MB)

http://www.filefactory.com/file/5gksowteu2ul/n/RE509-_Applied_Photovoltaics.pdf

[Download now!](#)

RE504- Engineering Solution for Sustainability.pdf (4.72MB)

http://www.filefactory.com/file/5ifk2mm5tz1r/n/RE504-_Engineering_Solution_for_Sustainability.pdf

[Download now!](#)

RE508- Solar Hydrogen Energy System.pdf (1.85MB)

http://www.filefactory.com/file/6d3qf2lc2zu1/n/RE508-_Solar_Hydrogen_Energy_System.pdf

[Download now!](#)

RE506- Low Emission Power Generation Technologies.pdf (22.75MB)

http://www.filefactory.com/file/6o1sfltodgc7/n/RE506-_Low_Emission_Power_Generation_Technologies.pdf

[Download now!](#)

Part (4) Final Thesis

Res 601 Research Method

MAE 602 Thesis

[http://www.filefactory.com/file/1l1r1k0ftawt/n/11.Research+Thesis_\(ICT_605\).zip](http://www.filefactory.com/file/1l1r1k0ftawt/n/11.Research+Thesis_(ICT_605).zip)

This course guides the student, step by step, through the research process, from problem selection through writing up results. It provides all of the basics necessary to complete a research project in any discipline.

Outline. The following aspects are reflected in this course:

- What is research?

- Tools of research

- The problem: the heart of the research process

- Review of the related literature

- Planning your research design

- Writing the research proposal

- Qualitative research

- Historical research

- Descriptive research

- Experimental and causal - comparative designs

- Statistical techniques for analyzing quantitative data

- Technical details: style, format, and organization of the research report

Masters Research Proposal

Synopsis: Research students are expected to present a written research proposal within three months after commencement. The proposal is handed in to the study leader. Assessors of this proposal are selected by the faculty for their understanding of the field and the research involved. The purpose of a research is to set out a plan for conducting the research and writing the dissertation within the available time. It should take account of the availability and guidance of the study leader. The starting point for a research proposal is the topic, which is the field of interest in which the research is to be carried out. In introducing the topic, the proposal should clarify the field that it falls into and the specific part that field which the research will explore. It should clarify why the topic is of interest and importance, and how the proposed research will contribute to the field of knowledge or profession. The proposal should clarify the research questions, ensuring that these are specific and answerable. It is important to show how these questions relate to the topic are, and how they will advance the student's contribution. The proposal should detail the research to be carried out, and clarify the research methods, the timeframe and the reasons for selecting particular methods. Where a period of literature review or research should precede any empirical research, this should be factored in as part of the research. It is important to estimate any periods of field research and to flag their duration and cost in your research proposal.

MAE 601 Professional Engineering Practice

MENG6003 Selective I: management subject (45 hrs) 3 credits

MENG6004 Selective II: management subject (45 hrs) 3 credits

Res 601 Research Method

MENG6005 Quantitative Methods and Statistics (45 hrs) 3 credits

MAE 602 Thesis

Engineering Project/Thesis 24 credits

Candidates need to complete a 6000-words engineering dissertation (in Myanmar or English) and a 3000-words executive portfolio (in English).

This program requires the candidates to complete a dissertation as part of the assessment for the MSc (RE) degree. Doing a thesis means that instead of knowledge and information being presented and following a prescribed route for answering questions, candidates are thrust into an active role of managing an investigation into a topic area. This means researching and discovering things for themselves. They will have to set their own targets and parameters, pose their own central research questions and decide on the appropriate sources of information to support the research. It therefore requires the use of the higher-level cognitive skills of analysis, synthesis and evaluation. Candidates may choose an area of particular interest to them within the scope of course title. A dissertation is an individual effort and the candidate, academic tutor and the course professor will work together on constructing an approved topic (research question) and methodologies.

Engineering Dissertation Defense 9 credits

It is expected of Master's candidates to defend their thesis by means of a colloquium doctum (academic discussion). The purpose of the meeting is for the candidates to convince a panel of experts in the field of the dissertation how well they have done in the conducting of their research study and the preparation of their dissertation

Program Total Credits 48 credits

Candidates need to complete all course assessments with the results of Grade B+ or above.

IQY Master Diploma in Engineering Study Program

(240 credits including 120 Credits for Professional Diploma/ BE degree/ City & Guild Level 6 Diploma)

(St Clements University -Master of Applied Engineering)

PART (A) IQY Master Diploma in Engineering Part 1- 80 credits

(St Clements University's Graduate Diploma in Applied Engineering)

(STC Technological University Graduate Diploma in Engineering)

<http://www.highlightcomputer.com/GraduateDiplomaEngineeringPractice.htm>

BAE 701 Engineering Fundamental 10 Credits

The candidates need to down load the textbooks from given link

For every topic, you need to write the short note on what you understand, formula, summary, outlines and at least 2 problems solution (Please note, each problem is solved in short form, you need to clearly reproduce them by step by step)

After having done all above tasks, BAE 701 Engineering Fundamental will be completed.

BAE 702 Engineering Management 10 Credits

See the given site

View the videos, down load the lessons, study and then do the exercises.

BAE 703 Leadership & Human Resources Management 10 Credits

See the given site

View the videos, down load the lessons, study and then do the exercises,

BAE 704 Risk Management & Industrial Safety 10 Credits

See the given site

View the videos, down load the lessons, study and then do the exercises,

BAE 705 Engineering Competency Development 10 Credits

See the given site

View the videos, down load the lessons, study and then do the exercises,

Assignment

During your study

- List the subjects that you have learnt in your study at college/ university
- List the subjects that you have achieved the good mark and explain why and how you got it
- List the subjects that you just marginally passed and explain why it happened
- List the practical tasks that you have done at college/ university
- List any reference books, tuition classes, practical books that you have read at college/ university

After Graduation

- If you are working, provide your CV that shows the detailed of your employment
- If you have not worked, list any training, engineering books , online websites, online videos etc that you study

Your future plan

- Provide an outline what you want to be, what training you will attend, what practical tasks you will do. If you have already attended the trainings and courses, provide the certificates

BAE705 will be completed when you have done the above tasks

BAE 706 Engineering Report Writing 10 Credits

Study the given report format.

You need to read one news paper article or web information or if you can , visit a practical work site and then write a report by following steps

- Title
- Brief description of topics
- Contents
- Detailed information
- Reference data, photos, tables, diagrams to be inserted
- Conclusion
- Reference list

BAE706 will be completed when you have done the above tasks

BAE 707 Engineering Ethics 10 Credits

Society of Professional Engineers-UK

<http://www.professionalengineers-uk.org/index.php/the-society/code-of-professional-conduct>

Code of Professional Conduct

All individuals registered as Professional Engineers and those aspiring to become registered Professional Engineers shall deliver services in accordance with the Society's Code of Professional Conduct and shall:

1. Competence

a) only undertake professional tasks for which they are competent and will at all times exercise all reasonable professional skill and care to prevent avoidable danger to health or safety and the creation of adverse impacts on the environment.

b) maintain and broaden their knowledge, experience and competence and encourage others to do so.

2. Integrity

a) treat all persons fairly with respect and without bias

b) avoid where possible real or perceived conflict of interest and advise affected parties should such conflicts arise.

c) observe the proper duties of confidentiality owed to appropriate parties.

d) discharge their professional duties with integrity, impartiality and objectivity and have no involvement with any form of bribery.

3. Responsibility

a) accept appropriate responsibility for work carried out under their supervision.

b) assess relevant risks and liability and, if appropriate, have in force appropriate liability insurances.

c) notify the Society within 28 days:

- if convicted of a criminal offence other than parking fines or convictions for exceeding the speed limit:
- upon becoming bankrupt or disqualified as a Company Director:
- if they are removed from the membership of another professional body as the result of a matter relating to conduct.

d) notify the Society of any significant violation of the Code of Conduct by any Professional Engineer on the register or any aspiring member seeking to gain access to the register.

4. Information

a) co-operate with the Society and provide such information as may be requested to facilitate any investigation into the conduct of any Professional Engineer on the register or any aspiring member seeking to gain access to the register.

5. Relationships

a) have due regard to their duty of care to clients and not take advantage of any client or potential client for whatever cause or reason in obtaining and carrying out instructions.

b) put all terms of engagement in writing and state the fees to be charged; whenever practicable, these should be issued to the client before a project is begun.

c) inform his/her client immediately if it appears that his/her estimate as to the total fees to be charged is likely to be or will be exceeded.

d) take care not to mislead a client as to the range of services that a quoted fee is intended to cover and the amount of future fees which may be involved.

Note in respect of relationships: Any Professional Engineer on the register or any aspiring member seeking to gain access to the register shall not:

- accept a professional assignment if he/she is aware or has reasonable cause to suspect that another member is acting for the client in respect of the same assignment, until either the first contract has been determined by the client, or the other member has consented to him acting.
- induce a client to agree to pay sums of money which are not justified by reference to the work which the member has carried out or has been instructed to carry out.
- offer or give any fee, commission, discount or other inducement (financial or otherwise) to a third party in return for the introduction of clients or particular professional assignments unless, before entering into a legally binding agreement

with that client he/she makes full disclosure to the relevant client of the nature or amount of such fee, commission, discount or inducement and the name of the person or persons to whom such fee, commission, discount or inducement was offered or given.

6. Practice

a) Ensure that in respect of any firm in which he/she is or is held out to be a sole proprietor, partner or a director or through which he/she practises or conducts business:

- the composition (list of partners or directors) is clearly stated on all appropriate documentation and that where there has been a material alteration to the composition, all clients of the firm or company are notified of the change promptly;
- the style or title does not adversely reflect upon his/her professional status as a Professional Engineer and the dignity and reputation of the engineering profession;
- the name is not misleading or liable to cause confusion with the public, nor does it imply any partnership arrangement with or endorsement of services by the Society.

b) Titles associated with the registration of Professional Engineers such as "PEng" and "PEng(UK)" and membership of the Society such as "Fellow of the Society of Professional Engineers", "Member of the Society of Professional Engineers", and all others relating to membership of the Society of Professional Engineers, and the designations FSPE, MSPE, Hon.FSPE, Hon.MSPE shall only be used or authorised to be used in connection with a partnership or company

- in the name of any partnership in which such member practises provided all the member's partners are similarly entitled to use the Title and designatory letters
- to describe the name of any company provided only that all the shareholders and/or members of such company and all the directors of such company are similarly entitled to use the Title.
- to describe the name of a firm or business which is not a partnership or company in which he/she practises provided such use of the Title does not give the impression that any other person or persons with whom such member is carrying on business or whom such member employs or with whom such member is associated in any way is entitled to use the same Relevant Title or, if the impression referred to is given, such other person or persons is or are similarly entitled to use the Title.

7. Managerial responsibility

a) In addition to the responsibilities referred to in the Rules of Professional Conduct, but subject to the following, any Professional Engineer on the register or any aspiring member seeking to gain access to the register shall be prima facie

responsible, as a matter of professional conduct, for the acts or omissions including, in particular, breach of any of the provisions of the Articles and Bye-Laws of the Society or these Rules of Professional Conduct of:

- any firm in which the member is, or holds him/herself out to be, or allows him/herself to be held out as a partner, or any firm which the member allows to use his/her name and/or style and title or designatory letters in any of its advertisements, publicity material or notepaper; and
- any company of which he/she is a director or any co-director of that company or any company which the member allows to use his/her name and/or style and title or designatory letters in any of its advertisements, publicity material or notepaper.

b) If any Professional Engineer on the register or any aspiring member seeking to gain access to the register is able to show that, without default on his/her part, he/she was not aware, and there was no reason for him to be aware at the time of any breach of these provisions by any firm or company referred to above and he/she had, prior to the breach, taken all reasonable steps to ensure that such a breach would not occur, then he/she shall not be in breach of this Rule.

8 Publicity and Advertising

a) Any Professional Engineer on the register or any aspiring member seeking to gain access to the register may publicise his/her services or permit another person to do so, but in doing so the member must have due regard to the standards set by the Advertising Standards Authority and any standards set by any other regulatory or governmental authority in relation to advertising and ensure that any publicity for which he/she is in any way responsible is neither inaccurate nor misleading.

b) In all advertising, publicity material or public statements for which any Professional Engineer on the register or any aspiring member seeking to gain access to the register is in any way responsible, he/she shall avoid all claims of superiority over, or critical comparisons of, the services provided by other engineers and shall avoid any direct comparison of fees and charges levied by other engineers.

c) Any Professional Engineer on the register or any aspiring member seeking to gain access to the register may only refer to the name of a client in any advertising, publicity material or public statement if the prior written consent of that client is first obtained.

d) Advertisements or other publicity material issued by any Professional Engineer on the register or any aspiring member seeking to gain access to the register or

by a firm in which they are held out to be a partner or director or a company through which they practise or conducts their business may state (subject to compliance with any other relevant regulations or legal requirements) either expressly or implied that they, the firm or the company (as the case may be) offers expertise or specialist advice in relation to a particular field of engineering provided only that this is the case.

ASSIGNMENT

From newspaper, journal, internet, online chatting groups, show one event that signify the breach of engineering ethics such as use of substandard materials, breach of safety law, breach of fair practice, attempt to monopolizing , use of law and authority for safeguarding own benefits or personal associates , depressing others and highlight how engineering ethics are breached.

BAE 708 Engineering Knowledge 10 Credits

See the given site

From the list of the subject, select two subjects, ask me to send the e-Book. Then you have to do the followings

The students will have to write 20 pages study report for each of the subjects outlined below.

The report needs to include

☐ Book review- Review on each chapter of the book highlighting the key concepts, key formula, key theory & practical application concepts

☐ Own idea on how to apply those concepts in real practical applications.

☐ Examples of engineering designs that use the concepts & knowledge expressed in those books (If any)

☐ Your comment on each book

BAE708 will be completed when you have done the above tasks

PART (B) IQY Master Diploma in Engineering Part 2- (40 credits)

(St Clements University's Master of Applied Engineering)

(STC Technological University Master of Engineering)

BAE709-Design Project (40 credits)

You need to do a supervised design. In this unit, Singapore Institute of Engineering Technologists can provide the supervised design which is a part of Professional Engineers (UK) Assessment. If you do not want to apply for part of Professional Engineers (UK), IQY Technical College itself will provide design supervision that you can later use it to apply for Professional Engineers (UK)

See the given links for required engineering handbooks

You can ask the teacher to send you the e-Books if you want to use it for your selected design

IQY Master Diploma in Applied Science (Information Technology)

(240 credits including 120 Credits for Professional Diploma/ BE degree/ City & Guild Level 6 Diploma)

Master of Applied Science (Information Technology)

(St Clements University)

(240 credits including 120 Credits for Professional Diploma/ BE degree/ City & Guild Level 6 Diploma)

Follow the instructions in

<http://www.highlightcomputer.com/MAppSCIT.pdf>

The candidates will need to request the e-book for study

IQY Master Diploma in Renewable Energy Engineering

Master of Applied Engineering (St Clements University)

Master of Engineering (Renewable Energy)(STC Technological University)

(240 credits including 120 Credits for Professional Diploma/ BE degree/ City & Guild Level 6 Diploma)

Follow the instructions in

<http://www.highlightcomputer.com/MScRE.pdf>

The candidates will need to request the e-book for study

ADDITIONAL COURSE

Doctoral Research Studies

IQY Master Diploma in Research Studies

http://www.highlightcomputer.com/Master_of_Engineering.pdf

Only St Clements University will confer the Doctoral Degree while IQY Technical College will provide the joint supervision.

Dissertation for Doctorate

MAE 601 Research Method

MAE602 Thesis

[http://www.filefactory.com/file/111r1k0ftawt/n/11.Research+Thesis_\(ICT_605\).zip](http://www.filefactory.com/file/111r1k0ftawt/n/11.Research+Thesis_(ICT_605).zip)

MAE601 Research Method

This course guides the student, step by step, through the research process, from problem selection through writing up results. It provides all of the basics necessary to complete a research project in any discipline.

Outline. The following aspects are reflected in this course:

What is research?

Tools of research

The problem: the heart of the research process

Review of the related literature

Planning your research design

Writing the research proposal

Qualitative research

Historical research

Descriptive research

Experimental and causal - comparative designs

Statistical techniques for analyzing quantitative data

Technical details: style, format, and organization of the research report

Doctoral Research Proposal

Synopsis: Research students are expected to present a written research proposal within three months after commencement. The proposal is handed in to the study leader.

Assessors of this proposal are selected by the faculty for their understanding of the field and the research involved. The purpose of a research is to set out a plan for conducting the research and writing the dissertation within the available time. It should take account of the availability and guidance of the study leader.

The starting point for a research proposal is the topic, which is the field of interest in which the research is to be carried out. In introducing the topic, the proposal should clarify the field that it falls into and the specific part that field which the research will explore.

It should clarify why the topic is of interest and importance, and how the proposed research

will contribute to the field of knowledge or profession. The proposal should clarify the research questions, ensuring that these are specific and answerable.

It is important to show how these questions relate to the topic are, and how they will advance the student's contribution. The proposal should detail the research to be carried out, and clarify the research methods, the timeframe and the reasons for selecting particular methods.

Where a period of literature review or research should precede any empirical research, this should be factored in as part of the research. It is important to estimate any periods of field research and to flag their duration and cost in your research proposal.

MAE 602 Thesis

Thesis Dissertation for Doctorate

Candidates need to complete a 60000-words dissertation (in Myanmar or English) and a 3000-words executive portfolio (in English).

This program requires the candidates to complete a thesis as part of the assessment for the Doctorate

Doing a thesis / dissertation means that instead of knowledge and information being presented and following a prescribed route for answering questions, candidates are thrust into an active role of managing an investigation into a topic area. This means researching and discovering things for themselves.

They will have to set their own targets and parameters, pose their own central research questions and decide on the appropriate sources of information to support the research. It therefore requires the use of the higher-level cognitive skills of analysis, synthesis and evaluation. Candidates may choose an area of particular interest to them within the scope of course title.

Doctoral dissertation

A dissertation is an individual effort and the candidate, academic tutor and the course professor will work together on constructing an approved topic (research question) and methodologies.

Dissertation Defence for doctorate

It is expected of Doctoral candidates to defend their thesis by means of a colloquium (academic discussion). The purpose of the meeting is for the candidates to convince a panel of experts in the field of the dissertation how well they have done in the conducting of their research study and the preparation of their dissertation

Candidates need to complete all course assessments with the results of Grade B+ or above.

Weblink

www.highlightcomputer.com/iqymasterdiploma2.pdf

Pre-requisites

Year 10 to 12

Year 1-Diploma in Renewable Energy Engineering

List of subjects (Total 30 credits)

RE001- Foundation Studies in Renewable Energy and Sustainability

RE002- Grid Connected Photovoltaic Power Systems

RE003- Solar and Thermal Energy Systems

RE004- Energy Storage Systems

RE005- Renewable Energy Resource Analysis

RE006- Wind Energy Conversion Systems

RE007- Energy System Efficiency

Year 2 Advanced Diploma in Electro-Mechanical Engineering (Renewable Energy Construction) (Total 60 Credits)

Semester (1)

RE008-Mathematics & Physics (I)

RE009-Mathematics & Physics (II)

RE010-Engineering Materials

RE011-Civil & Mechanical Engineering

Semester (2)

RE012-Electrical Engineering

RE013-Electrical Machines

RE014-Electronics Control

RE015-Electrical Project

Final Project

RE016-Design & Management

Year 3+4 Bachelor of Applied Engineering Technology(Renewable Energy Engineering)

(2 points / unit x 15 units = 30 points)

Year 3

RE101 Mathematics 1A (MATH1131)

RE102 Mathematics 1B (MATH1231)

RE103 Physics 1A (PHYS1121)

RE104 Physics 1B (PHYS1221)

RE105 Engineering Design (ENGG1000)

RE106 Electronics & Telecomm Engineering (1)
(ELEC1111)

RE107 Sustainable Energy (SOLA1070)

Year 4

RE201	Electronics & Telecomm Engineering (2) (ELEC1111)
RE202	Numerical Methods & Statistics (MATH2089)
RE203	Engineering Materials and Chemistry (MATS1101)
RE204	Project in PV and Solar Energy (SOLA2051)
RE205	Sustainable & Renewable. Energy. Technology (SOLA2053)
RE206	Introduction to Electronics Devices (SOLA2060)
RE207	Applied Photo Voltaics (SOLA2540)
RE208	Project Presentation

Bachelor of Engineering (Renewable Energy Engineering)
(2 points / unit x 15 units = 60 points+ Thesis)

Year 5

RE301	Low Energy Buildings and PV (SOLA3010)
RE302	PV Technology & Manufacturing (SOLA3020)
RE303	Software Engineering (COMP3111)
RE304	Analogue Electronics (ELEC2133)
RE305	Power Electronics (ELEC4614)
RE306	Electromagnetic Engineering (ELEC3115)
RE307	Circuits and Signals (ELEC2134)
RE308	Control Systems (ELEC3114)

Year 6

RE401	Fluid Mechanics (MMAN2600)
RE402	Thermodynamics (MMAN2700)
RE403	Computational Fluid Dynamics (MECH9620)
RE404	Strategic Leadership & Ethics (ELEC4122)
RE405	Grid-Connect PV System (SOLA4012)
RE406	Wind Energy Converters (SOLA5053)
RE407	Semiconductor Devices (SOLA5055)
RE408	Thesis

Total 120 Points + Thesis for award of Professional Diploma/Bachelor of Engineering (Renewable Energy Engineering)

ASSESSMENT MODE- Submission of Study Records/ Assignments/ Test in some subjects/ Project , Thesis

ONLINE ENROLMENT

<http://www.iqytechnicalcollege.com/enrolment.htm>

Pre-requisites

Year 10 to 12

Year 1-Diploma in Renewable Energy Engineering

List of subjects (Total 30 credits)

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RE003- Solar and Thermal Energy Systems

RE004- Energy Storage Systems

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Year 2 Advanced Diploma in Electro-Mechanical Engineering (Renewable Energy Construction) (Total 60 Credits)

Semester (1)

RE008-Mathematics & Physics (I)

RE009-Mathematics & Physics (II)

RE010-Engineering Materials

RE011-Civil & Mechanical Engineering

Semester (2)

RE012-Electrical Engineering

RE013-Electrical Machines

RE014-Electronics Control

RE015-Electrical Project

Final Project

RE016-Design & Management

Year 3+4 Bachelor of Applied Engineering Technology(Renewable Energy Engineering)

(2 points / unit x 15 units = 30 points)

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RE102 Mathematics 1B (MATH1231)

RE103 Physics 1A (PHYS1121)

RE104 Physics 1B (PHYS1221)

RE105 Engineering Design (ENGG1000)

RE106 Electronics & Telecomm Engineering (1)
(ELEC1111)

RE107 Sustainable Energy (SOLA1070)

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RE203	Engineering Materials and Chemistry (MATS1101)
RE204	Project in PV and Solar Energy (SOLA2051)
RE205	Sustainable & Renewable. Energy. Technology (SOLA2053)
RE206	Introduction to Electronics Devices (SOLA2060)
RE207	Applied Photo Voltaics (SOLA2540)
RE208	Project Presentation

Bachelor of Engineering (Renewable Energy Engineering)
(2 points / unit x 15 units = 60 points+ Thesis)

Year 5

RE301	Low Energy Buildings and PV (SOLA3010)
RE302	PV Technology & Manufacturing (SOLA3020)
RE303	Software Engineering (COMP3111)
RE304	Analogue Electronics (ELEC2133)
RE305	Power Electronics (ELEC4614)
RE306	Electromagnetic Engineering (ELEC3115)
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Total 120 Points + Thesis for award of Professional Diploma/Bachelor of Engineering (Renewable Energy Engineering)

ASSESSMENT MODE- Submission of Study Records/ Assignments/ Test in some subjects/ Project , Thesis

ONLINE ENROLMENT

<http://www.iqytechnicalcollege.com/enrolment.htm>

IQY Technical College Languages

www.iqytechnicalcollege.com/language.htm

MYANMAR ETHNICS LANGUAGES

Myanmar

Karen

Kachin

Chin

Shan

Mon

Kayah

Rakhine

Wa

Palaung

INTERNATIONAL LANGUAGES

English

French

Spanish

Chinese

Bengali

Danish

Finnish

Irish
Norwegian
Polish
Turkish
Urdu
Japanese
Korean
Hindi
Arabic
Greek
Italian
Russian
Hebrew
Thai
Khamer
Malay
Portuguese
Dutch
German
Farsi (Persian)
Vietnamese
Laotian
Indonesian
Mongolian

Filipino (Tagalog)

Icelandic

Serbian+Croatian

Tamil

Sinhala

Bhutanese(Dzongkha)

Nepali

Swedish

Finnish

Tibetan

Austrian

Albanian

Hungarian

Romanian

Fijian

Bulgarian

Diploma/ Advanced Diploma in Marine Engineering + Professional Diploma in Engineering (Marine & Mechanical) Bachelor of Engineering (Marine & Mechanical)

Objective

The course prepares students for careers in

- Marine and Offshore Engineering - the selection, deployment and commissioning of machinery, machinery systems and operational systems for merchant and naval vessels plus offshore floating and fixed vessels/structures. Building on core fundamental engineering units, this degree specialises in associated mechanical and mechanical-electrical power generation, machinery and operational systems.

Diploma/ Advanced in Marine Engineering is 30 to 60 credit points diploma. Depending on the amount of study, the graduates can achieve Diploma or Advanced Diploma in Marine Engineering

The students who completed this diploma can proceed to third year and fourth year of Professional Diploma in Mechanical Engineering and can be graduated with Professional Diploma in Marine and Mechanical Engineering OR BE(Marine & Mechanical)

Please see

<http://www.highlightcomputer.com/BEwithRE.pdf>

http://www.highlightcomputer.com/Dip_Mar_E_Course_outline.pdf

Diploma/ Advanced Diploma in Automotive Engineering

Professional Diploma in Engineering (Automotive & Mechanical) Bachelor of Engineering (Automotive & Mechanical)

Diploma/ Advanced in Automotive Engineering is 30 to 60 credit points diploma. Depending on the amount of study, the graduates can achieve Diploma or Advanced Diploma in Automotive Engineering

The students who completed this diploma can proceed to third year and fourth year of Professional Diploma in Mechanical Engineering and can be graduated with Professional Diploma in Automotive and Mechanical Engineering OR BE(Automotive& Mechanical)

Please see

<http://www.highlightcomputer.com/BEwithRE.pdf>

http://www.highlightcomputer.com/Dip_AE_Course_Outline.pdf

Professional Diploma in Engineering (Naval Architecture) Bachelor of Engineering (Naval Architecture)

Objective

The course prepares students for careers in

Naval Architecture - the shipbuilding industry, high-speed ferry industry, marine consultancy firms and in government in areas of commercial shipping, transport policy and administration and in the insurance sector.

Learning Outcomes

1. NavArch: Rationally apply comprehensive knowledge of the fundamental principles underpinning maritime engineering, with advanced knowledge of **ocean vehicle design, hydrodynamics, ship structures, and/or on-board systems and equipment** specific to the naval architecture discipline, using creativity, critical thinking and judgement.

OceanEng: Rationally apply comprehensive knowledge of the fundamental principles underpinning maritime engineering, with advanced knowledge of **the design of offshore to coastal installations, subsea platforms and additional equipment and techniques for operations in the maritime environment** specific to the ocean engineering discipline, using creativity, critical thinking and judgement.

MarOffEng: Rationally apply comprehensive knowledge of the fundamental principles underpinning maritime engineering, with advanced knowledge of **the design, procurement and installation of mechanical, electrical and thermal systems**, specific to the marine and offshore engineering discipline, using creativity, critical thinking and judgement.

2. Apply knowledge of research principles and management methods to devise, plan and execute a piece of engineering research with limited supervision.

3. Apply problem solving, design and decision-making methodologies to identify complex problems in both the maritime and wider engineering fields and to formulate innovative solutions with intellectual independence.

4. NavArch: Apply abstraction and analysis to complex problems specific to **ship design and construction industries and the wider maritime sector** whilst concurrently considering the implications of the solution in a global and sustainable context using appropriate engineering methods and tools.

OceanEng: Apply abstraction and analysis to complex problems specific to **the design and development of offshore, subsea and coastal infrastructure and operations in the wider maritime sector** whilst concurrently considering the implications of the solution in a global and sustainable context using appropriate engineering methods and tools.

MarOffEng: Apply abstraction and analysis to complex problems specific to **the maritime engineering industries** whilst concurrently considering the implications of the solution in a global and sustainable context using appropriate engineering methods and tools.

5. Demonstrate a high level of communication skills in professional practice and articulate complex knowledge, by written and oral means, to specialist and nonspecialist audiences; including clients, multi-disciplinary and multi-cultural project teams and stakeholders.
6. Demonstrate entrepreneurship and creativity, professional accountability and ethical conduct through the application of design, research and project management techniques while concurrently displaying an awareness of professional engineering practice.
7. Review personal performance, demonstrate independent initiatives and leadership as a means of managing continuing professional development, wellbeing and lifelong learning through engagement with stakeholders, colleagues and members of other professions.

Program of study

To qualify for the Professional Diploma/Bachelor of Engineering (Naval Architecture)

a student must complete 120 Credits

GENERAL STUDIES- 60 Credits

ENGR1204-Electronics (6pt)-----BAE405/408(EE)

ENGR1401 Professional Skills (2 pt)-----BAE608 (ME Yr 4)

ENGR1711 Engineering Design (2 pt) -----BAE614 (ME Yr 4)

ENGR1721 Engineering Programming (2 pt)-----BAE601 (ME Yr 4)

ENGR1722Engineering Physics and Materials (4 pt)-----RE010+ EE204 (EE Adv Dip)

ENGR1732 Engineering Mechanics (4 pt)-----ME103 (Adv Dip ME) / BAE403 (Common Yr 3 BE)

MATH1121 Mathematics 1A (4 pt)----- EE201/302 (EE Adv Dip)

MATH1122 Mathematics 1B (2 pt)----- BAE401(Common Yr 3 BE)

ENGR2703 Mechanical Practice Certificate (6 pt) PC5 Certificate in Fitting/Machining, PC6 Certificate in Welding/ PC8 Certificate in Air-conditioning Refrigeration & Basic Servicing

ENGR2711 Engineering Mathematics (2 pt) -----BAE402 (Common Yr 3)

ENGR2722 Analysis of Engineering Systems (6 pt)----BAE502/BAE50 (Linear System+ Control System) (EE)/ME203 (Adv Dip ME)

ENGR2741 Mechanics and Structures (4 pt)-----RE011a/b Civil & Mechanical Engineering (Mechanical/Civil) (Common Yr 3 BE)

ENGR2751 Fluid Mechanics (2 pt units)-----BAE423 Fluid Mechanics (Civil)

ENGR2771 Dynamics (2 pt)-----BAE614 (ME Yr 4)

ENGR2776 Hydrostatics (2 pt) -----ME201 (Adv Dip ME)

ENGR3781 Elements of Shipboard Safety (ESS) Certificate (4 units) MarE106 (Dip Mar E)

PHYS2712 Thermodynamics and Energy Systems (2 pt)-----BAE404 (Common Yr 3 BE)

ME634 Pneumatics (2 pt) (Adv Dip ME)

ME303 Computer Aided Design (2 pt) (Adv Dip ME)

NAVAL ARCHITECTURE AND RELATED STUDY 60 Credits

ENGR2766 Ship Design and Construction -----MarE113N (Dip Mar E)

NArch 601 Ship Construction (Naval Architecture) Theory 40 Credits

Each 2 credits

MarE113NA Ship Repairing

MarE113NB Ship Construction Engineering

MarE113NC Principle of Ship Stability

ME206 Introduction to Turbo Machinery

Mar E 110 General Engineering Knowledge

Mar E 111 Motor Engineering Knowledge

Mar E 107 Marine Electrical Practice

ME 305 Corrosion Prevention

NArch 501 Naval Architecture

NArch 502 Ship Design and Construction

NArch 503 Practical Ship Design

NArch 504 Ship Stability Control

NArch 505 History of Ship Design Calculations

NArch 506 Ship Technology

NArch 507 Ship Building Methods.pdf

NArch 508 Ship Design Research

Mgt 508 Project Management

Mgt 605 Management

Mgt505 Quality Management

NArch 509 Ship Propulsion

NArch 602 Ship Construction (Naval Architecture) Project 20 Credits

Detailed Contents

ENGR1201 Electronics

Topic Description	<p>Electronics provides students with an understanding of basic electronics. It includes:</p> <ol style="list-style-type: none">1. Digital Electronics: digital design concepts, number systems and signed numbers, combinational logic and design, minimisation of logic expressions, hazards, sequential logic and design, finite state machines2. Analog Electronics: circuit variables and elements, simple resistive circuits, techniques of circuit analysis3. Microprocessors: introduction to microprocessors, sensors and motors, microprocessor programming4. Workshop Practice: bonding methods, soldering and flux, planning and designing electronic equipment, printed circuit boards and microelectronics
Educational Aims	<p>This topic aims</p> <ol style="list-style-type: none">1. To provide students with a thorough understanding of the principles of combinational and sequential digital logic2. To develop the fundamental theoretical and practical skills required to carry out the design and analysis of digital electronic circuits3. To introduce the elements and basic operation of a microprocessor4. To introduce the manufacture and processes of thick and thin film microelectronics, printed circuit boards, and surface mount packages, the processes, practice, and assessment of soldering, component mounting and other connection methods, and fire safety
Expected Learning Outcomes	<p>At the completion of this topic, students are expected to be able to:</p> <ol style="list-style-type: none">1. Analyse, design and construct simple digital circuits2. Analyse, design and construct simple finite state machines3. Understand and apply basic principles of electric circuit theory4. Understand and use electrical components and instruments5. Have knowledge and understanding of microprocessors, motors and sensors6. Write simple programs for a microcontroller7. Have knowledge and understanding of microelectronics, printed circuit boards and surface mount technology8. Perform and assess electronics assembly tasks, such as soldering and wiring

ENGR1401 Professional Skills

Topic Description	This topic provides an introduction to engineering with a focus on the role of the engineering team in providing a range of products and services. The initiation, planning and development of engineering projects including such subjects as feasibility studies, design and performance specifications, construction, testing and evaluation, operation and maintenance of engineering systems and the optimum use of resources. Aside from technical considerations, the topic will consider the social, economic, political, environmental and ethical issues related to engineering projects as well as the relevant communication and interpersonal skills.
Educational Aims	The aim of this topic is to introduce students to the general nature of engineering and the core professional practices associated with an engineering project. The topic is to develop an understanding of the nature of engineering a range of transferable skills and knowledge including engineering project planning, feasibility and design, oral and written communication skills, meeting procedures, and the ability to work as a group.
Expected Learning Outcomes	<p>At the completion of the topic, students are expected to be able to:</p> <ol style="list-style-type: none">1. Understand the role of engineers in society and the purposes of engineering projects2. Understand the basic processes involved in engineering planning and design3. Apply systems concepts and elementary optimisation theory to the modelling of engineering processes4. Use decision theory and basic economic analysis for the evaluation of engineering projects5. Work effectively in a group on a complex problem6. Demonstrate an ability to apply scientific and engineering methodology7. Work effectively as part of a team, in project formulation and the execution of feasibility studies8. Have taken account of environmental and social issues and the human factor in analysing and designing engineering or other complex systems9. Understand the principles of sustainable development10. Have a basic competency in the use of word processors, spreadsheets, graphics packages and project management software11. Use a style guide, write a report, present a set of logically related ideas in spoken and written form, implement appropriate meeting procedures, and prepare and deliver a seminar

ENGR1711 Engineering Design

Topic Description	Initiation, planning and development of engineering projects including such subjects as feasibility studies, design and performance specifications, creativity, decision theory, construction, testing and evaluation, operation, maintenance and sustainability of engineering systems and the optimum use of resources. Social, economic, political, international and environmental issues related to engineering projects. Drawing and documentation standards, theory and practice, including design and modelling software.
Educational Aims	This topic introduces students to the general nature of and the core professional practices associated with engineering design in the context of engineering projects, with emphasis on the social, economic, political, international and environmental issues. The topic also develops skills in drawing and documentation.
Expected Learning Outcomes	At the completion of the topic, students are expected to be able to: <ol style="list-style-type: none">1. Appreciate the role of engineers in society and the purposes of engineering projects2. Understand the basic processes involved in engineering planning and design3. Apply systems concepts and elementary optimisation theory to the modelling of engineering processes4. Use decision theory and basic economic analysis for the evaluation of engineering projects5. Identify and consider the social, economic, political, international and environmental dimensions of an engineering project6. Apply the principles of sustainable development7. Use software tools for engineering drawing, modelling and documentation

ENGR1721 Engineering Programming

Topic Description	The topic is intended as a first course in programming for students who intend to major in engineering. It aims to introduce students to the basic tools and techniques of software development and engineering packages such as Matlab. The topic will cover the following material: the structure of a program, sequence, selection, iteration, assignment and expressions, arrays, operations, input and output, and principles of design and development, testing, and maintenance.
Educational Aims	The topic aims to help develop: <ol style="list-style-type: none">1. An understanding of the nature of programming2. The ability to read, comprehend and write simple programs3. The application of appropriate development tools4. An appreciation of the process by which software systems are developed, including their specification, design, implementation, testing and maintenance
Expected Learning Outcomes	At the completion of this topic, students are expected to be able to: < <ol style="list-style-type: none">1. Demonstrate that they can comprehend basic program control constructs of sequence, selection, and iteration2. Demonstrate that they can use programming development environments and tools within a defined context3. Demonstrate that they can read pseudo-code and translate it into a readable, working program

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|--|---|
| | 4. Demonstrate that they know the basics of testing and debugging |
| | 5. Demonstrate that they can apply programming principles to solve domain-specific problems |

ENGR1722 Engineering Physics and Materials

Topic Description	<p>Engineering Materials:</p> <ol style="list-style-type: none"> 1. Atomic structure and bonding 2. Structure of metals, ceramics, polymers and composites 3. Material properties 4. Application of Materials 5. Economic, environmental, and societal Issues <p>Electromagnetism:</p> <ol style="list-style-type: none"> 1. Electric charge and electric field 2. Electric potential 3. Electric current and resistance 4. Magnetism 5. Introduction to Electromagnetic waves
Educational Aims	<p>This topic aims to provide students with:</p> <ol style="list-style-type: none"> 1. A basic understanding of the underlying science and the engineering performance of materials used in engineering applications 2. An understanding of the fundamental principles of electromagnetism
Expected Learning Outcomes	<p>At the completion of this topic, students are expected to be able to:</p> <ol style="list-style-type: none"> 1. Understand the classification, structure and application of materials 2. Evaluate the mechanical properties of materials with regards to elastic and plastic deformation 3. Understand the economic, environmental, and societal Issues related to materials use 4. Understand and communicate the basic principles of electromagnetism 5. Apply the concepts of electromagnetism for solving engineering problems

ENGR1732 Engineering Mechanics

Topic Description	<p>Statics: Force Vectors (vector operations, vector addition of forces, addition of a system of coplanar forces, Cartesian vectors, addition of Cartesian vectors, position vectors, force vector directed along a line, dot product); Force System Resultants (moment of a force, scalar and vector formulations, principle of moments, moment of a force about a specified axis, moment of a couple, simplification of a force and couple system); Equilibrium of a Rigid Body (equilibrium and free-body diagrams 2D/3D, equations of equilibrium (2D/3D), two- and three-force members); Dry Friction (theory of dry friction, equilibrium, impending motion, motion, characteristics of dry friction, problems involving dry friction).</p> <p>Particle Dynamics: Kinematics (rectilinear kinematics: continuous motion, general curvilinear motion - rectangular components, motion of a projectile); Kinetics - Force and Acceleration (Newton's 2nd Law of Motion, equation of motion for a system of particles, equation of motion - rectangular coordinates), Work and Energy (work of a force, principle of work and energy for a system of particles, power and efficiency, conservative forces and potential energy, conservation of energy); Impulse and Momentum (principle of linear impulse and momentum, conservation of linear momentum, impact).</p>
Educational Aims	<p>This topic is a fundamental topic upon which most of the later year engineering topics build. This topic aims to ensure that the students understand both basic laws as they apply to static and dynamic mechanical systems and the theory and laws applicable to fundamental electrical circuits.</p>
Expected Learning Outcomes	<p>At the completion of this topic, students are expected to be able to:</p> <ol style="list-style-type: none">1. Understand concepts of static force systems (machines and structures)2. Understand in depth the skills to analyse these force systems and the physical meaning of force and moment equilibrium3. Acquire the skill to draw free-body diagrams and apply the equations of equilibrium for 2D and 3D rigid bodies4. Understand the characteristics of dry friction and how to analyse problems involving dry friction5. Understand the dynamic properties of particles and rigid bodies6. Write the relevant equations of motion associated with Force, Torque and Acceleration, Work and Energy, Impulse and Momentum7. Solve engineering problems dealing with the static and dynamical motion of particles subject to forces and accelerations

MATH1121 Mathematics 1A

Topic Description	<p>This topic together with MATH1122 Mathematics 1B is designed for students who have studied SACE Stage 2 Mathematics and who wish to proceed to a degree in any discipline which requires higher level mathematics. It is the standard prerequisite for all higher level topics in mathematics that require knowledge of first year mathematics.</p> <p>The material covered includes: functions, limits and continuity, differential calculus, computation of derivatives, the chain rule, Intermediate Value and Mean Value Theorems. Applications to graphing, rates of change, maxima and minima. Complex numbers, Euler's formula, complex exponential. Three-dimensional analytic geometry, matrices, systems of linear equations, vectors, equations of lines and planes.</p>
Educational Aims	<p>This topic introduces the basic concepts and techniques of differential calculus, complex numbers, linear algebra, systems of equations and matrices and provides the foundation for all areas requiring first year university mathematics. Intensive hands-on approach in the workshops aims to provide the students the essential skills in mathematical manipulations within the context of the course. The topic aims to develop a modelling and problem solving approach to mathematics and its applications through an appropriate combination of the underlying concepts and the facility of mathematical software.</p>
Expected Learning Outcomes	<p>At the completion of the topic, students are expected to be able to:</p> <ol style="list-style-type: none">1. Understand the key concepts which underlie single-variable differential calculus and linear algebra2. Be familiar with the basic facilities available in Maple mathematical software3. Use problem solving, critical and reasoning abilities

MATH1122 Mathematics 1B

Topic Description	<p>This topic is a continuation of material of MATH1121 Mathematics 1A and together with MATH1121 Mathematics 1A is intended to provide access to all higher level mathematics topics which require knowledge of standard first year mathematics. The emphasis is on a modelling approach to mathematics and its applications within a coherent framework.</p> <p>The material covered includes elementary transcendental functions. Integral calculus, fundamental theorem of the calculus, standard techniques of integration including substitution, parts, partial fractions, application to motion, arclength, area, volumes and solids of revolution, Taylor polynomials, series, power series, introduction to elementary differential equations, simple harmonic motion. Systems of linear equations, Gaussian elimination, matrix algebra and determinants.</p>
Educational Aims	<p>This topic is a continuation of the material of MATH1121 Mathematics 1A. This topic develops the properties of elementary transcendental functions and introduces key ideas and applications of integral calculus, matrix algebra and linear algebra.</p>
Expected Learning Outcomes	<p>At the completion of this topic, students are expected to be able to:</p> <ol style="list-style-type: none">1. Have a knowledge of the basic properties of the elementary transcendental functions2. Understand and apply the key ideas and methods of integral calculus3. Understand and analyse the relation between differential and integral calculus

	<ol style="list-style-type: none"> 4. Understand and apply key ideas from linear and matrix algebra to the solution of systems of linear equations 5. Develop further skills in the use of computational technology 6. Have enhanced problem solving, critical and reasoning abilities 7. Appreciate the historical context underlying the development of modern mathematical principles and ideas 8. Have an informed appreciation of the wide applicability of integral calculus and matrix algebra in other areas of Science and Engineering
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ENGR2703 Mechanical Practice Certificate

Topic Description	The topic covers exposure and practice in common mechanical and materials techniques including occupational health and safety, heat treatment, gas metal arc welding, manual metal arc welding, fabrication techniques, gas tungsten arc welding, machining techniques, marking off and hand tools.
Educational Aims	To give students an understanding of, practice in and an understanding of the safety requirements of common mechanical engineering techniques.
Expected Learning Outcomes	At the completion of this topic, students are expected to be able to have received training on OH&S and practical skills essential to being a mechanical engineer, specifically heat treatment, gas metal arc welding, manual metal arc welding, fabrication techniques, gas tungsten arc welding, machining techniques, marking off and hand tools.

ENGR2711 Engineering Mathematics

Assumed Knowledge	An understanding of fundamental concepts of calculus and linear algebra.
Topic Description	First order ODE (Existence and uniqueness, separable, exact equations), linear ODE (Existence and Uniqueness, constant coefficient homogeneous, variable coefficient homogeneous, constant coefficient nonhomogeneous), boundary value problems. Vectors and the geometry of Space, dot and cross product, equations of lines and planes; Vector Functions, derivatives and integrals of vector functions, velocity and acceleration in space; Partial Derivatives, tangent planes and approximation, chain rule, directional derivatives, maximum and minimum values. Double and Triple Integrals. Vector Fields, Line integrals. Curl and Divergence, Stokes' Theorem. The Divergence Theorem.
Educational Aims	This topic equips the students with the skills needed to solve mathematical problems with several variables, linear systems, and differential equations. These provide the mathematical pre-requisites that the student needs for the second and higher year Engineering topics. The focus is on the application of the mathematical ideas to Engineering problems.
Expected Learning Outcomes	<p>At the completion of the topic, students are expected to be able to:</p> <ol style="list-style-type: none"> 1. Understand and be able to apply Multivariate Calculus to Engineering problems 2. Understand and be able to apply Differential Equations to Engineering problems

ENGR2722 Analysis of Engineering Systems

Topic Description	Review of linear systems, vector spaces, orthogonality, eigenvalues and eigenvectors, linear transformations. Continuous and discrete time signals, unit impulse and unit step signals, impulse response, step response, linear time invariant (LTI) systems, convolution, correlation, system transfer function, frequency response, Fourier transform, DFT (Discrete Fourier Transform), Periodic signals, Fourier series, Nyquist frequency, sampling theorem, aliasing, Laplace transform, bilinear transfer functions, magnitude and phase responses, Bode plots.
Educational Aims	This topic is an introduction to the concepts and theories of linear algebra and signal analysis and their application to engineering systems.
Expected Learning Outcomes	At the completion of this topic, students are expected to be able to: <ol style="list-style-type: none">1. Understand Linear Algebra and Signal Analysis from a Mathematical perspective2. Be able to apply Linear Algebra and Signal Analysis to Engineering problems

ENGR2741 Mechanics and Structures

Topic Description	Principles of Statics (Review); Centre of Gravity, Centroid and Moment of Inertia; Distributed Forces; Stress and Strain; Mechanical Properties of Materials: Ductile/Brittle Materials, Hooke's Law, Poisson's Ratio; Axial load; Torsion; Bending: Shear Force and Bending Moment Diagrams; Stress Concentrations; Transverse Shear; Combined Loadings; Transformation of Stress and Strain: Mohr's Circle; Design of Beams and Shafts.
Educational Aims	This topic gives students an understanding of the basic statics concepts associated with engineering mechanics and structures.
Expected Learning Outcomes	At the completion of this topic, students are expected to be able to: <ol style="list-style-type: none">1. Develop and employ principles of Statics in solving problems2. Learn how to determine centroids and moment of inertias and how to find resultant of distributed loadings3. Understand concepts of stress, strain and mechanical properties of materials4. Analyse axial, torsional, bending, transverse stresses and their combinations in structures and machine components5. Calculate in-plane stresses and strains, their orientations and transformations through Mohr's circle, and calculate principal stresses and strains6. Develop methods for designing beams to resist both bending and shear loads; prismatic and fully stressed beam designs

ENGR2751 Fluid Mechanics

Topic Description	Fluid Mechanics: Fluid properties; Hydrostatics; One dimensional flow of incompressible fluids; Continuity, momentum and energy equations; Laminar and turbulent flows in pipes and ducts; free surface and channel flows; hydraulic jump; weir and waterfall; Dimensional analysis; Flow measurements and fluid machinery.
Educational Aims	This topic aims to ensure that the students understand the following: <ol style="list-style-type: none">1. Modelling the flows of fluids2. Measurements of the flows of fluids3. Heat transferred to and from a fluid
Expected Learning	At the completion of this topic, students are expected to be able to:

Outcomes	<ol style="list-style-type: none"> 1. Understand the basic properties of gases and liquids 2. Write the relevant equations of motion for fluids in pipes and channels 3. Solve simple flow problems 4. Understand how flow measurements are made in practice 5. Understand the flows in pumps and turbines
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ENGR2771 Dynamics

Topic Description	<ol style="list-style-type: none"> 1. Particle dynamics: Curvilinear motion, Force and acceleration, Work and Energy, Impulse and Momentum 2. Rigid body dynamics: Planar Kinematics, Force, Torque and Acceleration, Work and Energy, Linear and Angular Impulse and Momentum 3. Vibrations
Educational Aims	This topic aims to ensure that the students understand Kinematics and Kinetics as applied to particles and rigid bodies; and vibration.
Expected Learning Outcomes	<p>At the completion of this topic, students are expected to be able to:</p> <ol style="list-style-type: none"> 1. Understand the dynamic properties of particles and rigid bodies 2. Write the relevant equations of motion associated with Force, Torque and Acceleration, Work and Energy, Impulse and Momentum 3. Understand the creation and effects of vibration

ENGR2776 Hydrostatics

Topic Description	Geometry of surface vessels; Tabular methods of integration; Mass addition, removal and transfer; Elementary principle of transverse intact stability; Heeling moments and angles, and free surface effects; Inclining experiment; Elementary principles of trim; The Intact Stability Booklet; partially-afloat condition; Damage stability.
Educational Aims	<p>This topic aims to ensure that the students understand the following:</p> <ol style="list-style-type: none"> 1. Fundamentals of hydrostatics and concepts of statical stability, and trim of intact and damaged vessels 2. Introduction to the practical implications and applications of hydrostatic concepts 3. Generation of all relevant stability criteria data required for both design development and operational purposes 4. Introduction and development of a working knowledge of stability regulations
Expected Learning Outcomes	<p>At the completion of the topic, students are expected to be able to:</p> <ol style="list-style-type: none"> 1. Calculate hydrostatic data for any floating structure and predict the influence of geometric parameters on a vessel's stability characteristics 2. Interpret a vessel's response to any loading condition from lever and moment curves 3. Calculate and assess a vessel's damage stability response 4. Undertake an inclining experiment according to industry best practice

ENGR3781 Elements of Shipboard Safety (ESS) Certificate

Topic Description	Course content: <ol style="list-style-type: none">1. Elements of fire prevention on board the vessel2. Theory of combustion and methods of extinguishing fire3. Practical training in the use of portable fire fighting appliances4. Practical training in launching, boarding and survival in an inflatable life raft, including man overboard procedures5. Elements of accident prevention as they apply to the shipboard work place, particularly as they apply to falls, working in close proximity to machinery and moving objects, confined spaces, personal protective equipment and hygiene
Educational Aims	To ensure that students understand basic safety requirements when on board a vessel.
Expected Learning Outcomes	Understand the elements of fire prevention on board the vessel, including the theory of combustion and methods of extinguishing fire. Practical training in the use of portable fire fighting appliances. Practical training in launching, boarding and survival in an inflatable life raft, including man overboard procedures. Elements of accident prevention.

PHYS2712 Thermodynamics and Energy Systems

Topic Description	<ol style="list-style-type: none">1. Concepts and Definitions of Thermodynamics2. Energy and the First Law of Thermodynamics3. Properties of Substances4. Ideal and Real Gases5. Control Volume Analysis Using Energy6. The Second Law of Thermodynamics7. Entropy and Entropy Balance for Closed Systems and Control Volumes; Cycle Processes8. Thermodynamic Equilibrium9. Phase Diagrams10. Vapour Power Systems11. Gas Power Systems12. Refrigeration and Heat Pump Systems
Educational Aims	In this topic students will learn the fundamentals of Thermodynamics. The students will learn how to apply the concepts to solve experimental problems. Students will learn how to apply the fundamental principles of thermodynamics to predict the behaviour of energy systems and properly design required energy systems.
Expected Learning Outcomes	At the completion of this topic, students are expected to be able to: <ol style="list-style-type: none">1. Demonstrate the understanding of the concepts of Thermodynamics and to apply them to experiments2. Understand how solids, liquids and gases behave under different temperature and pressure conditions

	<ol style="list-style-type: none"> 3. Apply thermodynamic concepts to energy systems 4. Analyse thermodynamic cycles such as power and refrigeration cycles 5. Apply the concepts of Thermodynamics to laboratory experiments
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ENGR2766 Ship Design and Construction

Topic Description	<p>DESIGN: Vessel Types. Design Process & Constraints. Design Analyses & Techniques. Hull Form. Introduction to Propulsor Options. Introduction to Prime Mover Options. Introduction to Structural Systems. Primary Deck Machinery and Installation Considerations. Terminologies and Definitions.</p> <p>CONSTRUCTION: Environmental Framework: Commercial, industrial, legal and regulatory aspects of the ship production industry. Assembly Methodologies: Historical, current and alternative methods adopted in the construction of steel and aluminium vessels. Modular and parallel production methods. Composite Vessel Production: Materials and construction methods for composite vessels and components. Dimensional Control: Referencing moulded dimensions. Symbolologies of structural and working drawings. Construction, Launching and Repair Facilities: Shipyard facilities, arrangement and strategic equipment, launching and docking methods. Fabrication Technologies: Cutting, welding and forming technologies. Production and Quality Management: Introduction to the requirement and tools available for production co-ordination and quality assurance.</p>
Educational Aims	<ol style="list-style-type: none"> 1. To provide an introduction to issues influencing a vessel's design 2. To introduce certain fundamental aspects of the rational and engineering approach to marine design 3. Establish an understanding of the considerations essential in the determination of hull characteristics, general arrangement and requisite systems 4. To provide the student with an understanding of the overall philosophy and techniques involved in the manufacture of ships and the context in which the processes are carried out 5. To provide practical experience with commercial surface modelling software and illustrate the scope of Computer Aided Design And Manufacture
Expected Learning Outcomes	<p>At the completion of the topic, students are expected to be able to:</p> <ol style="list-style-type: none"> 1. Demonstrate a basic knowledge of regulatory, practical and economic constraints on design and production of an ocean vehicle 2. Develop a concept design based on an appraisal of operational requirements via a clearly structured and rational process 3. Identify issues regarding the methodology and efficiency of production for any particular vessel and recognise the concepts of ship production system design and main hardware elements of shipyards 4. Effectively combine the use of conventional design tools with naval architecture design software to produce a limited set of design drawings and models in accordance with industry standards and codes of practice

ENGR2768 Offshore Engineering

Topic Description	<p>Marine Sciences - a) Meteorology: regional weather systems and seasonal variations. Global pressure, air mass movement and circulation patterns. Prediction of local weather. Storms and tropical cyclones. b) Physical Oceanography: ocean structure, physical and chemical properties. Global ocean circulations, tides, waves, winds and currents. Marine resources - mineral, biological and energy. c) Marine Geology: geomorphology of the ocean floors, margins and shelves. Sedimentation and origins of hydrocarbons and minerals in the oceans. Formation and classification of coastal regions</p> <p>Ocean Renewable Energy - Renewable energy systems - wave power, wind power, thermal power and tidal power.</p> <p>Marine Transportation - Environmental forces and voyage planning. Introduction to work vessels and offshore structures. Structures - loading, stability and ballast control. Load-out and sea-transport of modules. Loads during transit and sea-fastening design. Operational codes and practices.</p> <p>Construction and Installation - Installation of fixed, floating and subsea structures. Lifting operations and mooring systems. Diving and ROV operations. Maintenance and repair of offshore installations. Removal and salvage of offshore production facilities. Risk assessment and management on offshore operations and on structures.</p>
Educational Aims	<p>The aim of this unit is to provide students with general skills and knowledge on the range of engineering operational activities in the offshore sector. The scope of the unit encompasses the essential theories of marine science and basic knowledge to plan and manage marine operations, including offshore installation, inspection and maintenance.</p>
Expected Learning Outcomes	<p>At the completion of this topic, students are expected to be able to:</p> <ol style="list-style-type: none">1. Demonstrate a fundamental knowledge of marine geology, physical oceanography and marine meteorology and its applications to a range of offshore technical problems2. Describe the equipment, technology and methods that are fundamental to common offshore engineering activities3. Apply scientific knowledge to solve a range of engineering problems4. Understand the differences between designing and building offshore structures from terrestrial structures

Master of Engineering (St Clements University) together with Professional Diploma in Engineering

This program is designed as Practical Engineers and Technicians who are working in Industries without BE/BTech Qualifications but possesses the experience and need the formal qualification papers.

On completion of this program, the graduates will receive the followings

- Professional Diploma in Engineering (IQY Technical College)
- Master Diploma in Engineering (IQY Technical College)
- Bachelor of Engineering (STC Technological University)
- Master of Engineering (St Clements University)

Entry Requirements

- Any Diploma/ Degree other than BE/BTech/AGTI

Study Stage 1

Teaching plan for Advanced Diploma/ Professional Diploma in Engineering . The detailed contents can be flexibility negotiated between the candidate and supervisor that the candidate is allowed to choose the most relevant contents for their work.

The subjects can be chosen from the following link

<http://www.iqytechnicalcollege.com/offeredcourses.htm>

On completion of Stage 1, Professional Diploma in Engineering (IQY Technical College) and Bachelor of Engineering (STC Technological University) will be issued.

Specific Discipline-

Based on the subjects that you chose, the appropriate discipline will be written on your testamur which will be sent electronically and you need to download/ print in colour and laminate it.

The list of graduates will also be expressed on our IQY website

Study Stage 2 Part A

IQY Master Diploma in Engineering

(240 credits including Bachelor Degree 120 credits)

(St Clements University -Master of Applied Engineering)

(STC Technological University-Master of Engineering)

Study Program

PART (A) IQY Master Diploma in Engineering Part 1-

(St Clements University's Graduate Diploma in Applied Engineering)

(STC Technological University Graduate Diploma in Engineering) (80 credits at 10 credits/ unit)

Download from given link

BAE 701 Engineering Fundamental

Download from given link

The candidates need to download the following textbooks

Electrical

Download from given link

Then study **Section 4-Electrical Engineering (PDF File Page 885)**

For every topic, you need to write the short note on what you understand, formula, summary, outlines and at least 2 problems solution (Please note, each problem is solved in short form, you need to clearly reproduce them by step by step)

Mechanical

Then study **Section 3-Mechanical Engineering (PDF File Page 307)**

For every topic, you need to write the short note on what you understand, formula, summary, outlines and at least 2 problems solution (Please note, each problem is solved in short form, you need to clearly reproduce them by step by step)

Civil

Download from given link

Section 1-Civil Engineering (PDF File Page 7)

Section 6- Water & Waste Water Engineering (PDF File Page 1041)

Section 7-Environmental Engineering (PDF File Page 1078)

For every topic, you need to write the short note on what you understand, formula, summary, outlines and at least 2 problems solution (Please note, each problem is solved in short form, you need to clearly reproduce them by step by step)

Telecommunication

Myanmar Text Books

DTE301M Part A-Network Management-Telecom Circuit Analysis

Download from given link

DTE301M Part B-Network Management-Telecommunication Network Analysis-LC Calculation

Download from given link

DTE303M Part A-Telecom Engg-Line Communication Theory Part 1

Download from given link

DTE303M Part B-Telecom Engg-Line Communication Theory Part 2

Download from given link

DTE306-Wireless Communication

Download from given link

For every topic, you need to write the short note on what you understand, formula, summary, outlines and at least 2 problems solution (Please note, each problem is solved in short form, you need to clearly reproduce them by step by step)

After having done all above tasks, BAE 701 Engineering Fundamental will be completed.

Renewable Energy Engineering

BAE701 and BAE708 can be concurrently completed , the list of units that you need to study will be advised. You need to study at least one unit for BAE701 and at least one unit for BAE708

Reference links

Download from given link

BAE701

For every topic, you need to write the short note on what you understand, formula, summary, outlines and at least 2 problems solution (Please note, each problem is solved in short form, you need to clearly reproduce them by step by step)

After having done all above tasks, BAE 701 Engineering Fundamental will be completed.

BAE708

From the list of the subject, select two subjects, ask me to send the e-Book. Then you have to do the followings

The students will have to write 20 pages study report for each of the subjects outlined below. The report needs to include

- ☐ Book review- Review on each chapter of the book highlighting the key concepts, key formula, key theory & practical application concepts

- ☐ Own idea on how to apply those concepts in real practical applications.

- ☐ Examples of engineering designs that use the concepts & knowledge expressed in those books (If any)

- ☐ Your comment on each book

ICT Engineering

BAE701 and BAE708 can be concurrently completed , the list of units that you need to study will be advised. You need to study at least one unit for BAE701 and at least one unit for BAE708

Reference links

Download from given link

BAE701

For every topic, you need to write the short note on what you understand, formula, summary, outlines and at least 2 problems solution (Please note, each problem is solved in short form, you need to clearly reproduce them by step by step)

After having done all above tasks, BAE 701 Engineering Fundamental will be completed.

BAE708

From the list of the subject, select two subjects, ask me to send the e-Book. Then you have to do the followings

The students will have to write 20 pages study report for each of the subjects outlined below.

The report needs to include

☐ Book review- Review on each chapter of the book highlighting the key concepts, key formula, key theory & practical application concepts

☐ Own idea on how to apply those concepts in real practical applications.

☐ Examples of engineering designs that use the concepts & knowledge expressed in those books (If any)

☐ Your comment on each book

BAE 702 Engineering Management

See the site

Download from given link

View the videos, download the lessons, study and then do the exercises in

[Exercises Download Link](#)

Download from given link

BAE 703 Leadership & Human Resources Management

See the site

Download from given link

View the videos, download the lessons, study and then do the exercises in

[Exercises Download Link](#)

Study Guide

Download from given link

Download from given link

BAE 704 Risk Management & Industrial Safety

Download from given link

View the videos, download the lessons, study and then write an essay

“How I will assess the risks in my workplace” You can write 3 to 5 pages.

BAE 705 Engineering Competency Development

Download from given link

View the videos, download the lessons, study

Assignment

During your study

- List the subjects that you have learnt in your study at college/ university
- List the subjects that you have achieved the good mark and explain why and how you got it
- List the subjects that you just marginally passed and explain why it happened
- List the practical tasks that you have done at college/ university
- List any reference books, tuition classes, practical books that you have read at college/ university

After Graduation

- If you are working, provide your CV that shows the detailed of your employment
- If you have not worked, list any training, engineering books, online websites, online videos etc that you study

Your future plan

- Provide an outline what you want to be, what training you will attend, what practical tasks you will do. If you have already attended the trainings and courses, provide the certificates

BAE705 will be completed when you have done the above tasks

BAE 706 Engineering Report Writing

Study Download from given link

You need to read one news paper article or web information or if you can, visit a practical work site and then write a report by following steps

- Title
- Brief description of topics

- Contents
- Detailed information
- Reference data, photos, tables, diagrams to be inserted
- Conclusion
- Reference list

BAE706 will be completed when you have done the above tasks

BAE 707 Engineering Ethics

Society of Professional Engineers-UK

<http://www.professionalengineers-uk.org/index.php/the-society/code-of-professional-conduct>

Code of Professional Conduct

All individuals registered as Professional Engineers and those aspiring to become registered Professional Engineers shall deliver services in accordance with the Society's Code of Professional Conduct and shall:

1. Competence

- only undertake professional tasks for which they are competent and will at all times exercise all reasonable professional skill and care to prevent avoidable danger to health or safety and the creation of adverse impacts on the environment.
- maintain and broaden their knowledge, experience and competence and encourage others to do so.

2. Integrity

- treat all persons fairly with respect and without bias
- avoid where possible real or perceived conflict of interest and advise affected parties should such conflicts arise.
- observe the proper duties of confidentiality owed to appropriate parties.
- discharge their professional duties with integrity, impartiality and objectivity and have no involvement with any form of bribery.

3. Responsibility

- a) accept appropriate responsibility for work carried out under their supervision.
- b) assess relevant risks and liability and, if appropriate, have in force appropriate liability insurances.
- c) notify the Society within 28 days:
 - if convicted of a criminal offence other than parking fines or convictions for exceeding the speed limit:
 - upon becoming bankrupt or disqualified as a Company Director:
 - if they are removed from the membership of another professional body as the result of a matter relating to conduct.
- d) notify the Society of any significant violation of the Code of Conduct by any Professional Engineer on the register or any aspiring member seeking to gain access to the register.

4. Information

- a) co-operate with the Society and provide such information as may be requested to facilitate any investigation into the conduct of any Professional Engineer on the register or any aspiring member seeking to gain access to the register.

5. Relationships

- a) have due regard to their duty of care to clients and not take advantage of any client or potential client for whatever cause or reason in obtaining and carrying out instructions.
 - b) put all terms of engagement in writing and state the fees to be charged; whenever practicable, these should be issued to the client before a project is begun.
 - c) inform his/her client immediately if it appears that his/her estimate as to the total fees to be charged is likely to be or will be exceeded.
 - d) take care not to mislead a client as to the range of services that a quoted fee is intended to cover and the amount of future fees which may be involved.
- Note in respect of relationships: Any Professional Engineer on the register or any aspiring member seeking to gain access to the register shall not:

- accept a professional assignment if he/she is aware or has reasonable cause to suspect that another member is acting for the client in respect of the same assignment, until either the first contract has been determined by the client, or the other member has consented to him acting.
- induce a client to agree to pay sums of money which are not justified by reference to the work which the member has carried out or has been instructed to carry out.
- offer or give any fee, commission, discount or other inducement (financial or otherwise) to a third party in return for the introduction of clients or particular professional assignments unless, before entering into a legally binding agreement

with that client he/she makes full disclosure to the relevant client of the nature or amount of such fee, commission, discount or inducement and the name of the person or persons to whom such fee, commission, discount or inducement was offered or given.

6. Practice

a) Ensure that in respect of any firm in which he/she is or is held out to be a sole proprietor, partner or a director or through which he/she practises or conducts business:

- the composition (list of partners or directors) is clearly stated on all appropriate documentation and that where there has been a material alteration to the composition, all clients of the firm or company are notified of the change promptly;
- the style or title does not adversely reflect upon his/her professional status as a Professional Engineer and the dignity and reputation of the engineering profession;
- the name is not misleading or liable to cause confusion with the public, nor does it imply any partnership arrangement with or endorsement of services by the Society.

b) Titles associated with the registration of Professional Engineers such as "PEng" and "PEng(UK)" and membership of the Society such as "Fellow of the Society of Professional Engineers", "Member of the Society of Professional Engineers", and all others relating to membership of the Society of Professional Engineers, and the designations FSPE, MSPE, Hon.FSPE, Hon.MSPE shall only be used or authorised to be used in connection with a partnership or company

- in the name of any partnership in which such member practises provided all the member's partners are similarly entitled to use the Title and designatory letters
- to describe the name of any company provided only that all the shareholders and/or members of such company and all the directors of such company are similarly entitled to use the Title.
- to describe the name of a firm or business which is not a partnership or company in which he/she practises provided such use of the Title does not give the impression that any other person or persons with whom such member is carrying on business or whom such member employs or with whom such member is associated in any way is entitled to use the same Relevant Title or, if the impression referred to is given, such other person or persons is or are similarly entitled to use the Title.

7. Managerial responsibility

a) In addition to the responsibilities referred to in the Rules of Professional Conduct, but subject to the following, any Professional Engineer on the register or any aspiring member seeking to gain access to the register shall be prima facie responsible, as a matter of professional conduct, for the acts or omissions including, in particular, breach of any of the provisions of the Articles and Bye-Laws of the Society or these Rules of Professional Conduct of:

- any firm in which the member is, or holds him/herself out to be, or allows him/herself to be held out as a partner, or any firm which the member allows to use his/her name and/or style and title or designatory letters in any of its advertisements, publicity material or notepaper; and
- any company of which he/she is a director or any co-director of that company or any company which the member allows to use his/her name and/or style and title or designatory letters in any of its advertisements, publicity material or notepaper.

b) If any Professional Engineer on the register or any aspiring member seeking to gain access to the register is able to show that, without default on his/her part, he/she was not aware, and there was no reason for him to be aware at the time of any breach of these provisions by any firm or company referred to above and he/she had, prior to the breach, taken all reasonable steps to ensure that such a breach would not occur, then he/she shall not be in breach of this Rule.

8 Publicity and Advertising

a) Any Professional Engineer on the register or any aspiring member seeking to gain access to the register may publicise his/her services or permit another person to do so, but in doing so the member must have due regard to the standards set by the Advertising Standards Authority and any standards set by any other regulatory or governmental authority in relation to advertising and ensure that any publicity for which he/she is in any way responsible is neither inaccurate nor misleading.

b) In all advertising, publicity material or public statements for which any Professional Engineer on the register or any aspiring member seeking to gain access to the register is in any way responsible, he/she shall avoid all claims of superiority over, or critical comparisons of, the services provided by other engineers and shall avoid any direct comparison of fees and charges levied by other engineers.

c) Any Professional Engineer on the register or any aspiring member seeking to gain access to the register may only refer to the name of a client in any advertising, publicity material or public statement if the prior written consent of that client is first obtained.

d) Advertisements or other publicity material issued by any Professional Engineer on the register or any aspiring member seeking to gain access to the register or by a firm in which they are held out to be a partner or director or a company through which they practise or conducts their business may state (subject to compliance with any other relevant regulations or legal requirements) either expressly or implied that they, the firm or the company (as the case may be) offers expertise or specialist advice in relation to a particular field of engineering provided only that this is the case.

ASSIGNMENT

From newspaper, journal, internet, online chatting groups, show one event that signify the breach of engineering ethics such as use of substandard materials, breach of safety law, breach of fair practice, attempt to monopolizing , use of law and authority for safeguarding own benefits or personal associates , depressing others and highlight how engineering ethics are breached.

BAE 708 Engineering Knowledge

Civil

Download from given link

Master Diploma resources

Download from given link

From the list of the subject, select two subjects, ask me to send the e-Book. Then you have to do the followings

The students will have to write 20 pages study report for each of the subjects outlined below.

The report needs to include

☐ Book review- Review on each chapter of the book highlighting the key concepts, key formula, key theory & practical application concepts

☐ Own idea on how to apply those concepts in real practical applications.

☐ Examples of engineering designs that use the concepts & knowledge expressed in those books (If any)

☐ Your comment on each book

Electrical

<http://www.highlightcomputer.com/MasterofEngineeringElectricalCourseWorkGraduateDiplomaSyllabus.pdf>

Master Diploma resources

Download from given link

From the list of the subject, select two subjects, ask me to send the e-Book. Then you have to do the followings

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The report needs to include

☐ Book review- Review on each chapter of the book highlighting the key concepts, key formula, key theory & practical application concepts

☐ Own idea on how to apply those concepts in real practical applications.

☐ Examples of engineering designs that use the concepts & knowledge expressed in those books (If any)

☐ Your comment on each book

Mechanical

<http://www.highlightcomputer.com/MasterofEngineeringMechanicalCourseWorkGraduateDiplomaSyllabus.pdf>

Master Diploma resources

Download from given link

From the list of the subject, select two subjects, ask me to send the e-Book. Then you have to do the followings

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The report needs to include

☐ Book review- Review on each chapter of the book highlighting the key concepts, key formula, key theory & practical application concepts

☐ Own idea on how to apply those concepts in real practical applications.

☐ Examples of engineering designs that use the concepts & knowledge expressed in those books (If any)

☐ Your comment on each book

BAE708 will be completed when you have done the above tasks

Telecommunication

Download from given link

Go to the end and access the following units

DTE301 Network Management.zip

DTE302 Photonics.zip

DTE303 Telecom Engg.zip

DTE304 TCPIP.zip

DTE305 Optical Comm.zip

DTE306 Wireless Comm.zip

DTE307 Settlite Comm.zip

DTE308 Mobile Comm.zip

DTE309 VOIP.zip

DTE310 Customer Premise Installation.zip

DTE311 OFDMCDMA.zip

DTE312 SDHSONET.zip

From the list of the subject, select two subjects, ask me to send the e-Book. Then you have to do the followings

The students will have to write 20 pages study report for each of the subjects outlined below.

The report needs to include

☐ Book review- Review on each chapter of the book highlighting the key concepts, key formula, key theory & practical application concepts

☐ Own idea on how to apply those concepts in real practical applications.

☐ Examples of engineering designs that use the concepts & knowledge expressed in those books (If any)

☐ Your comment on each book

BAE708 will be completed when you have done the above tasks

Study Stage 2 Part B

PART (B) IQY Master Diploma in Engineering Part 2-

(St Clements University's Master of Applied Engineering)

(STC Technological University Master of Engineering

BAE709 Design Project (40 Credits)

You need to do a supervised design. In this unit, Singapore Institute of Engineering Technologists can provide the supervised design which is a part of Professional Engineers (UK) Assessment. If you do not want to apply for part of Professional Engineers (UK), IQY Technical College itself will provide design supervision that you can later use it to apply for Professional Engineers (UK)

Alternate Routes for 'Mature Candidates become FSIET & MSPE, PEng(UK)

■ By Design (6-hours open-book Exam)

- [Exam Fee per Design Paper per sitting : S\$160]
- The following main disciplines will be available:
 - Civil Engineering Design
 - Electrical Engineering Design
 - Mechanical Engineering Design
 - Chemical Engineering Design
 - Industrial Engineering Design

■ By Individual Project (3 – 6 months)

- . On a chosen topic to be approved by Joint ICES-SIET Membership Committee.
- . Length : About 10,000 words.
- . To be supervised by Supervisor approved by Joint ICES-SIET Membership Committee.
- . **Project Supervision Fee** : S\$500 (5 x 2 hours = 10 hours of face-to-face counselling).
- . **Project Assessment Fee** : S\$200

The followings are required engineering handbooks

2. Building Services Engineering Spreadsheets

This contains Building Service/ Air Con heat flow problems

Download from given link

3. Electrical Engineering formulae & tables

Download from given link

4. Mathematics-The Civil Engineering Handbook

Download from given link

5. McGraw-Hill - Civil Engineering Formulas 2002 Tlf

Download from given link

6. Mech_Eng_Calculations

Download from given link

Dynamics

Download from given link

This contains all Mechanical Engineering Calculations

7.Newnes Electrical Power Engineer Handbook

Download from given link

8.Newnes Electrical Engineers Handbook

www.mongroupsyzdney1.com/8.pdf

Those are basic handbooks. Furthermore you can explore wider books in the following links.

You can ask the teacher to send you the e-Books if you want to use it for your selected design

Download from given link

Civil

Download from given link

Electrical/ Electronics

Download from given link

Mechanical

Download from given link

For other disciplines, the links to download the resources will be sent when you start doing the design project

IQY Master Diploma in Applied Science (Information Technology)

Master of Applied Science (Information Technology)

(St Clements University and STC Technological University)

Follow the instructions in

Download from given link

The candidates will need to request the e-book for study

IQY Master Diploma in Renewable Energy Engineering

Master of Applied Engineering (St Clements University)

Master of Engineering (STC Technological University)

Follow the instructions in

Download from given link

The candidates will need to request the e-book for study

ADDITIONAL COURSE

Doctoral Research Studies

IQY Master Diploma in Research Studies

Download from given link

Only St Clements University will confer the Doctoral Degree while IQY Technical College will provide the joint supervision.

Dissertation for Doctorate

MAE 601 Research Method

MAE602 Thesis

[http://www.filefactory.com/file/111r1k0ftawt/n/11.Research+Thesis_\(ICT_605\).zip](http://www.filefactory.com/file/111r1k0ftawt/n/11.Research+Thesis_(ICT_605).zip)

MAE601 Research Method

This course guides the student, step by step, through the research process, from problem selection through writing up results. It provides all of the basics necessary to complete a research project in any discipline.

Outline. The following aspects are reflected in this course:

What is research?

Tools of research

The problem: the heart of the research process

Review of the related literature

Planning your research design

Writing the research proposal

Qualitative research

Historical research

Descriptive research

Experimental and causal - comparative designs

Statistical techniques for analyzing quantitative data

Technical details: style, format, and organization of the research report

Doctoral Research Proposal

Synopsis: Research students are expected to present a written research proposal within three months after commencement. The proposal is handed in to the study leader.

Assessors of this proposal are selected by the faculty for their understanding of the field and the research involved. The purpose of a research is to set out a plan for conducting the research and writing the dissertation within the available time. It should take account of the availability and guidance of the study leader.

The starting point for a research proposal is the topic, which is the field of interest in which the research is to be carried out. In introducing the topic, the proposal should clarify the field that it falls into and the specific part that field which the research will explore.

It should clarify why the topic is of interest and importance, and how the proposed research will contribute to the field of knowledge or profession. The proposal should clarify the research questions, ensuring that these are specific and answerable.

It is important to show how these questions relate to the topic are, and how they will advance the student's contribution. The proposal should detail the research to be carried out, and clarify the research methods, the timeframe and the reasons for selecting particular methods.

Where a period of literature review or research should precede any empirical research, this should be factored in as part of the research. It is important to estimate any periods of field research and to flag their duration and cost in your research proposal.

MAE 602 Thesis

Thesis Dissertation for Doctorate

Candidates need to complete a 60000-words dissertation (in Myanmar or English) and a 3000-words executive portfolio (in English).

This program requires the candidates to complete a thesis as part of the assessment for the Doctorate

Doing a thesis / dissertation means that instead of knowledge and information being presented and following a prescribed route for answering questions, candidates are thrust into an active role of managing an investigation into a topic area. This means researching and discovering things for themselves.

They will have to set their own targets and parameters, pose their own central research questions and decide on the appropriate sources of information to support the research. It therefore requires the use of the higher-level cognitive skills of analysis, synthesis and evaluation. Candidates may choose an area of particular interest to them within the scope of course title.

Doctoral dissertation

A dissertation is an individual effort and the candidate, academic tutor and the course professor will work together on constructing an approved topic (research question) and methodologies.

Dissertation Defence for doctorate

It is expected of Doctoral candidates to defend their thesis by means of a colloquium (academic discussion). The purpose of the meeting is for the candidates to convince a panel of experts in the field of the dissertation how well they have done in the conducting of their research study and the preparation of their dissertation

Candidates need to complete all course assessments with the results of Grade B+ or above.

Weblink

www.highlightcomputer.com/iqymasterdiploma.pdf

IQY TECHNICAL COLLEGE

STC TECHNOLOGICAL UNIVERSITY

ST CLEMENTS UNIVERSITY MYANMAR COLLEGE

IPEM TECHNOLOGICAL UNIVERSITY

MASTERS DEGREE LEARNING SUPPORT

There are two types of Masters Programs in Engineering

1. [Master of Engineering Practice](#)
2. [Master of Engineering](#)

(1) Master of Engineering Practice (240 credits, 120 credits for BE degree)

Master of Engineering Practice is for experienced engineers . It will include the following subjects of 10 credits each

- BAE 701 Engineering Fundamental
- BAE 702 Engineering Management
- BAE 703 Leadership & Human Resources Management
- BAE 704 Risk Management & Industrial Safety
- BAE 705 Engineering Competency Development
- BAE 706 Engineering Report Writing
- BAE 707 Engineering Ethics
- BAE 708 Engineering Knowledge

Completion of the above subjects will earn Graduate Diploma in Engineering Practice (80 credits at Masters level +120 Credits for Bachelors degree level total 200 credits. Completion of two or more units can earn Graduate Certificate in Engineering.

The candidate will need to do Engineering Design Project of 40 credits to complete Master of Engineering Practice of 240 credits

The followings are study instruction

Form 15

IQY Master Diploma

BAE701 to 708, you will complete the Graduate Diploma

Then submit the design project to complete the Masters

From the above links, textbooks can be downloaded. Choose Civil Engineering

[Form 45 St Clements University Master of Engineering for Non standard Entry Study Support](#)

The following link shows the example of the tasks that you need to do

[Form 46 Master Diploma Civil Worked Example](#)

The following link contains the Masters Course References.

[Form 18](#)

Master Diploma resources

(1) Master of Engineering (Professional Engineering)

(240 credits, 120 credits for BE degree)

Masters of Engineering (Professional Engineering) program is for recent graduates who have completed their BE degrees.

It will include the following 24 subjects of 5 credits each

The students will have to write 20 pages study progress report for each of the subjects outlined below.

The report needs to include

- Date and chapters that the candidate reads (The student will need to read the book
- at least 4 days per week)

- Highlight the key concepts, key formula, key theory & practical application concepts .
- Notes of the topic that you read.
- Key diagrams, formula, problem solutions
- Power point slides to express the key topics

There are 24 units in Masters of Engineering (Professional Engineering) Program, the candidate will need to complete one unit per month so that the whole program will be completed within 24 months. (120 credits at Masters level and 120 Credits for Bachelors degree total 240 credits).

As Master of Professional Engineering is delivered entirely in English and very intensive program, to encourage the students to earn the Graduate Diploma and Masters degree, the following arrangements are also made.

Graduate Diploma in Engineering (140 credits)

Completion of the compulsory 4 subjects will earn Graduate Diploma in Engineering (20 credits at Masters level +120 Credits for Bachelors degree level total 140 credits. Completion of two or more units can earn Graduate Certificate in Engineering.

Master of Engineering Science

Completion of the compulsory 6 subjects will earn Master of Engineering Science (30 credits at Masters level +120 Credits for Bachelors degree level total 150 credits.

Master of Engineering

Completion of the compulsory 6 subjects PLUS project (30 credits) will earn Master of Engineering (60 credits at Masters level +120 Credits for Bachelors degree level total 180 credits.

Master of Engineering from SCPU School of Engineering registered in Switzerland

Please note that the candidates who want to get the Master of Engineering from SCPU School of Engineering registered in Switzerland must complete

Masters of Engineering (Professional Engineering) by either studying the lectures of entire English medium of language instruction or self study in provided textbooks written in English which they need to do self study and submit the study report.

Electrical Compulsory Subjects

- BAE 655-Wireless Communications
- BAE656 Advanced Digital Signal Processing
- BAE 670-Power System Engineering
- BAE 661-Design of Electrical Services for Buildings
- BAE 677-Photovoltaic Systems
- BAE 660-Control Engineering

The above subjects will be provide with English and Myanmar Instructions and guidance. The candidates can choose the other subjects from the available subjects but they are entire English medium of instruction or self study in provided textbooks written in English which they need to do self study and submit the study report.

Instead of doing the project, the following options are also open for the students.

Option (1) Self study or two more subjects

The students can select choose two more subjects from the available subjects in same discipline or other discipline , follow the entire English medium of instruction or self study in provided textbooks written in English which they need to do self study and submit the study report.

Option (2) Complete any two of the following subjects by submitting the assignments

- BAE 702 Engineering Management
- BAE 703 Leadership & Human Resources Management
- BAE 704 Risk Management & Industrial Safety
- BAE 707 Engineering Ethics

Civil Compulsory Subjects

BAE 631-Advanced Concrete Technology

BAE 634-Building Construction

BAE 636-Building Technology Electrical Mechanical System (BAE661-Design of Electrical Services for Buildings)

BAE 650-Steel Design

BAE 635-Building Survey

BAE 644-Estimating

The above subjects will be provide with English and Myanmar Instructions and guidance. The candidates can choose the other subjects from the available subjects but they are entire English medium of instruction or self study in provided textbooks written in English which they need to do self study and submit the study report.

Instead of doing the project, the students can select choose two more subjects from the available subjects in same discipline or other discipline , follow the entire English medium of instruction or self study in provided textbooks written in English which they need to do self study and submit the study report.

Mechanical Compulsory Subjects

BAE 678A/B-Machine Design

BAE 689A/B-Mechanical Design

BAE 698-Thermal Engineering

BAE 694-Control Engineering

BAE 699-Rotating Machinery Vibration

BAE 690-Mechanical Estimating

The above subjects will be provide with English and Myanmar Instructions and guidance. The candidates can choose the other subjects from the available subjects but they are entire English medium of instruction or self study in provided textbooks written in English which they need to do self study and submit the study report.

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- Date and chapters that the candidate reads (The student will need to read the book
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Electrical Compulsory Subjects

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- BAE656 Advanced Digital Signal Processing
- BAE 670-Power System Engineering
- BAE 661-Design of Electrical Services for Buildings
- BAE 677-Photovoltaic Systems
- BAE 660-Control Engineering

The above subjects will be provide with English and Myanmar Instructions and guidance. The candidates can choose the other subjects from the available subjects but they are entire English medium of instruction or self study in provided textbooks written in English which they need to do self study and submit the study report.

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BAE 689A/B-Mechanical Design

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Professional Engineer Support

Master of Professional Engineering Practice

(120 Credits)

6688901

Course Objective

This course aims to provide both engineering fundamental knowledge and engineering application practice for Professional Engineer.

Contents

BAE701S Engineering Fundamental (16 Credits)

BAE 708S Engineering Knowledge (16 Credits)

BAE 705S Engineering Competency Development(16 Credits)

BAE 706S Engineering Report Writing(16 Credits)

BAE 707S Engineering Ethics(16 Credits)

BAE709 Design Project (40 Credits)

Assessment

Professional report/ Project/ Presentation/ Practical based design project

Master of Information Technology

This degree is designed for the experienced professionals who wish to develop their skills and knowledge as Information Technology professionals.

Graduate Diploma in Information Technology

Compulsory Modules

ICT 501 Programming in Visual C++ PLUS ICT 507 Visual Computing

ICT 502 Database Systems

ICT 503 Business System Development

ICT 504 Business Data Communications

ICT 505 Applied Computing I

ICT 506 Applied Computing II PLUS ICT 508 Object-Oriented Analysis & Design

Master of Science (Information Technology)

Electives

ICT 601 Programming in Java

ICT 602 E-Commerce

ICT 603 Software Engineering

ICT 604 Multimedia Systems

ICT 605 IT Management **Project/Thesis**

A written report between 10,000 – 12,000 words that covers both theory & practical knowledges of the above units.

To qualify for a MSc.IT degree, a student must take and pass 10 modules from the above list of modules, 6 modules are compulsory and the rest are electives.

Additionally, the student must undertake and pass a research-based or work-related project.

Master of Information Technology

This degree is designed for the experienced professionals who wish to develop their skills and knowledge as Information Technology professionals.

Graduate Diploma in Information Technology

Compulsory Modules

ICT 501 Programming in Visual C++ PLUS ICT 507 Visual Computing

ICT 502 Database Systems

ICT 503 Business System Development

ICT 504 Business Data Communications

ICT 505 Applied Computing I

ICT 506 Applied Computing II PLUS ICT 508 Object-Oriented Analysis & Design

Master of Science (Information Technology)

Electives

ICT 601 Programming in Java

ICT 602 E-Commerce

ICT 603 Software Engineering

ICT 604 Multimedia Systems

ICT 605 IT Management **Project/Thesis**

A written report between 10,000 – 12,000 words that covers both theory & practical knowledges of the above units.

To qualify for a MSc.IT degree, a student must take and pass 10 modules from the above list of modules, 6 modules are compulsory and the rest are electives.

Additionally, the student must undertake and pass a research-based or work-related project.

Master of Management

This program has been developed to fulfill the needs for those who are seeking a degree at the master's level and whom wish to specialize in a particular field of endeavor not usually available as a study option.

The main scope of this program is to emphasize the usual administrative aspects of management at the appropriate master's degree level. The Master of Management is today a professional degree and one of the most popular degree programs in the managerial or administrative fields of endeavor.

Our program has been designed to focus on major study areas of management and administration. The core courses forming the basis of the degree program equips the student with the usual fundamental aspects of management and administration applicable to the master's degree level.

The Graduate Diploma course section is common to all the majors and students must continue a masters study after completion of Graduate Diploma.

Graduate Diploma in Management (8 units)

Mgt 501 Organizational Change Management

Mgt 502 Strategic Plans Development & Implementation

Mgt 503 Leadership in Organization

Mgt 504 Innovation & Continuous Improvement

Mgt 505 Risk Management

Mgt 506 Knowledge & Information Management

Mgt 507 Human Resources Management & Strategic Planning

Mgt 508 Employee Relations Management

Master Of Management (5 units)

All Graduate Diploma Subjects PLUS

Mgt 601 Logistics Management

Mgt 602 Project Management

Mgt 603 Financial Management

PLUS

Res 601 Research Methods

PLUS

Mgt 604 Thesis

Master of Management

This program has been developed to fulfill the needs for those who are seeking a degree at the master's level and whom wish to specialize in a particular field of endeavor not usually available as a study option.

The main scope of this program is to emphasize the usual administrative aspects of management at the appropriate master's degree level. The Master of Management is today a professional degree and one of the most popular degree programs in the managerial or administrative fields of endeavor.

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The Graduate Diploma course section is common to all the majors and students must continue a masters study after completion of Graduate Diploma.

Graduate Diploma in Management (8 units)

Mgt 501 Organizational Change Management

Mgt 502 Strategic Plans Development & Implementation

Mgt 503 Leadership in Organization

Mgt 504 Innovation & Continuous Improvement

Mgt 505 Risk Management

Mgt 506 Knowledge & Information Management

Mgt 507 Human Resources Management & Strategic Planning

Mgt 508 Employee Relations Management

Master Of Management (5 units)

All Graduate Diploma Subjects PLUS

Mgt 601 Logistics Management

Mgt 602 Project Management

Mgt 603 Financial Management

PLUS

Res 601 Research Methods

PLUS

Mgt 604 Thesis

Graduate Diploma in Architectural Engineering Course Work

To complete the Graduate Diploma in Engineering, the students will have to complete 12 units with each 8 credit points totalling 96 credit points.

By adding Masters thesis of 24 credit points, they will complete 120 credit points . Total credit points for Masters degree is (Bachelor degree 120 credit points+ Graduate Diploma+ Masters degree 120 credit points Total 240 Credit points).

Graduate Diploma is pre-requisite for Masters degree.

Follow the instruction for Professional Diploma in Civil Engineering

www.highlightcomputer.com/profdipcivilengg.htm

Then complete the architecture units

<http://www.highlightcomputer.com/turesources.htm#i>

Also refer the followings which are not included in the above link.

- Professional Diploma in Civil and Architectural Engineering will be awarded , if 4 Architecture units are completed. 80 points at 20 points each
- Professional Diploma in Civil Engineering and Professional Diploma in Architectural I Engineering will be awarded if 6 Architecture units are completed. (120 points at 20 points each)
- If 8 Architecture Units are completed , Graduate Diploma in Architectural Engineering will be awarded (160 points at 20 points each)
- If 12 Architecture Units are completed , Master Diploma in Architectural Engineering will be awarded (ME-Architecture award by STC Technological University) (240 points)

Year 4 BE (Architectural Engineering)

AchE401 Architecture Theory

AchE402 Architectural Design

AchE403 Building Construction

AchE404 Building Services

AchE405 Construction Materials

AchE406 Sustainable Building Design

AchE407 Architectural Drafting

AchE408 Construction Quantity Surveying

Year 5 BE/ME(Year) (Architectural Engineering)

AchE501 Architectural Management

AchE502 Interior Design

AchE503 Green Building Design

AchE504 Construction Contract

AchE505 Solar Architecture & Smart House Design

AchE506 Architecture Commercial Design

AchE507 Urban Design

AE508 Landscape Design

Year 6 BE/ME (Year 2) (Architectural Engineering)

AchE601 Architectural Design & Ethics

AchE602 Building Survey & Reporting

AchE603 Building Control Systems

AchE604 Sustainable Architecture

AchE605 Details Design

AchE606 Outdoor Structure Design

Course Work Plan

The students will have to write 20 pages study report for each of the subjects outlined below.

The report needs to include

- Book review- Review on each chapter of the book highlighting the key concepts, key formula, key theory & practical application concepts
- Own idea on how to apply those concepts in real practical applications.
- Examples of engineering designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book

BAE 655-Wireless Communications

BAE 656-Advanced Digital Signal Processing

BAE 657-Advanced Electromagnetics

BAE 658-Real-time Systems

BAE 659-Computer-aided Control Systems

BAE 660-Control Engineering

BAE 661-Design of Electrical Services for Buildings

BAE 662-Design of Rotating Electrical Machines

BAE 663-Digital Electronics

BAE 664-Distributed Generation in Power System

BAE 665-Embedded Digital Signal Processing Systems

BAE 666- Low Emission Electricity Generation

BAE 667-Industrial Control System

BAE 668-Photonics

BAE 669-Power Electronics and Instrumentation Engineering

BAE 670-Power System Engineering

BAE 671-Satellite Communications and Navigation Systems

BAE 672-Industrial & System Engineering

BAE 673-Frequency Stability

BAE 674-Intelligent Systems

BAE 675-Nanoelectronics

BAE 676-Failure Analysis

BAE 677-Photovoltaics System

Graduate Diploma in Chemical Engineering Course Work

Professional Diploma (BE)/ Master Diploma (ME) in Chemical Engineering /Metallurgy/Petroleum

Follow the instruction for Professional Diploma in Chemical Engineering

<http://www.highlightcomputer.com/profdipchemengg.htm>

Then do specialized additional studies in Metallurgy/ Explosion Protection/ Petroleum

Based on the units selection and amount of studies, the following qualifications can be issued

Professional Diploma/ Master Diploma in Metallurgical Engineering and Petroleum Engineering

- Professional Diploma in Chemical and Metallurgical Engineering will be awarded , if 4 Metallurgy units are completed. 80 points at 20 points each
- Professional Diploma in Chemical Engineering and Professional Diploma in Metallurgical Engineering will be awarded if 6 Metallurgy units are completed. (120 points at 20 points each)
- If 8 Metallurgy Units are completed , Graduate Diploma in Metallurgical Engineering will be awarded (160 points at 20 points each)
- If 12 Metallurgy Units are completed , Master Diploma in Metallurgical Engineering will be awarded (ME-Metallurgical award by STC Technological University) (240 points)
- Professional Diploma in Chemical and Petroleum Engineering will be awarded , if 4 Petroleum units are completed. (80 points at 20 points each)
- Professional Diploma in Chemical Engineering and Professional Diploma in Petroleum Engineering will be awarded if 6 Petroleum units are completed. (120 points at 20 points each)
- If 8 Petroleum Units are completed , Graduate Diploma in Petroleum Engineering will be awarded (160 points at 20 points each)
- If 12 Petroleum Units are completed , Master Diploma in Metallurgical Engineering will be awarded (ME-Petroleum award by STC Technological University) (240 points at 20 points each)

Graduate Diploma & Master Diploma in Chemical Engineering

- Graduate Diploma in Chemical Engineering will be awarded if the following additional units are completed
 1. PE 41014+42014+Natural Gas Processing-PE 51024Natural Gas Engineering
 2. PE 21002+22002-Drilling Fluids

3. Met507 Explosive Engineering

From <http://www.highlightcomputer.com/profdiphazardous.htm>

4. BAE 637E Hazardous Chemical Management
5. BAE 638E Environmental Engineering in Hazardous Areas
6. BAE 636 E Hazardous Area Inspection
7. BAE 634 Explosion Protection
8. BAE 633E Hazardous Area Safety Audits (160 points at 20 points each)

Then complete Chemical Engineering Thesis to complete Master Diploma in Chemical Engineering (ME-Chemical)

Course Work Plan

The students will have to write 20 pages study report for each of the subjects outlined below.

The report needs to include

- Book review- Review on each chapter of the book highlighting the key concepts, key formula, key theory & practical application concepts
- Own idea on how to apply those concepts in real practical applications.
- Examples of engineering designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book

Graduate Diploma in Chemical Engineering Course Work

Professional Diploma (BE)/ Master Diploma (ME) in Chemical Engineering /Metallurgy/Petroleum

Follow the instruction for Professional Diploma in Chemical Engineering

<http://www.highlightcomputer.com/profdipchemengg.htm>

Then do specialized additional studies in Metallurgy/ Explosion Protection/ Petroleum

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Graduate Diploma in Civil Engineering Course Work

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Graduate Diploma is pre-requisite for Masters degree.

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BAE 631-Advanced Concrete Technology

BAE 632-Architectural Design

BAE 633-Bridge Construction

BAE 634-Building Construction

BAE 635-Building Survey

BAE 636-Building Technology Electrical Mechanical System

BAE 637-Composite Structure of Steel & Concrete

BAE 638-Construction Drawing

BAE 639-Construction Materials

BAE 640-Construction Mathematics

BAE 641-Construction Site Planning

BAE 642-Design of Reinforce Concrete

BAE 643-Earthquake Resistant Structure

BAE 644-Estimating

BAE 645-Geotechnics

BAE 646- Highway Engineering

BAE 647-Piling Engineering

BAE 648-Railways Bridges

BAE 649-Soil & Rock Mechanic

BAE 650-Steel Design

BAE 651-Strom & Waste Water

BAE 652-Structural Analysis

BAE 653-Surveying

BAE 654-Theory & Design of Bridges

Graduate Diploma in Electrical Engineering Course Work

To complete the Graduate Diploma in Engineering, the students will have to complete 12 units with each 8 credit points totalling 96 credit points.

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BAE 656-Advanced Digital Signal Processing

BAE 657-Advanced Electromagnetics

BAE 658-Real-time Systems

BAE 659-Computer-aided Control Systems

BAE 660-Control Engineering

BAE 661-Design of Electrical Services for Buildings

BAE 662-Design of Rotating Electrical Machines

BAE 663-Digital Electronics

BAE 664-Distributed Generation in Power System

BAE 665-Embedded Digital Signal Processing Systems

BAE 666- Low Emission Electricity Generation

BAE 667-Industrial Control System

BAE 668-Photonics

BAE 669-Power Electronics and Instrumentation Engineering

BAE 670-Power System Engineering

BAE 671-Satellite Communications and Navigation Systems

BAE 672-Industrial & System Engineering

BAE 673-Frequency Stability

BAE 674-Intelligent Systems

BAE 675-Nanoelectronics

BAE 676-Failure Analysis

BAE 677-Photovoltaics System

Graduate Diploma in Mechanical Engineering Course Work

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The students will have to write 20 pages study report for each of the subjects outlined below.

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- Book review- Review on each chapter of the book highlighting the key concepts, key formula, key theory & practical application concepts
- Own idea on how to apply those concepts in real practical applications.
- Examples of engineering designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book

BAE 625- Structural Engineering Mechanics

BAE 678A/B-Machine Design

BAE 679- Materials Science

Composite Materials & Joining Technology

BAE 680-Quality Control

BAE 681- Welding Engineering

BAE 682-Assembly Automation & Product Design

BAE 683-Material Engineering

BAE 684-Computerised Engine Control

BAE 685-Electric Vehicle Technology

BAE 686-Electro-Mechanical Manufacturing

BAE 687-Lasers in Manufacturing

BAE 688-Manufacturing Management

BAE 689A/B-Mechanical Design

BAE 690-Mechanical Estimating

BAE 691-Mechatronics

BAE 692-Metallurgy

BAE 693-Piping System

BAE 694-Control Engineering

BAE 695-Random Vibration

BAE 696-Specification Development

BAE 697-Structural Foundation Design

BAE 698-Thermal Engineering

BAE 699-Rotating Machinery Vibration

Graduate Diploma in Metallurgical Engineering Course Work

To complete the Graduate Diploma in Engineering, the students will have to complete 12 units with each 8 credit points totalling 96 credit points.

By adding Masters thesis of 24 credit points, they will complete 120 credit points . Total credit points for Masters degree is (Bachelor degree 120 credit points+ Graduate Diploma+ Masters degree 120 credit points Total 240 Credit points).

Graduate Diploma is pre-requisite for Masters degree.

Course Work Plan

The students will have to write 20 pages study report for each of the subjects outlined below.

The report needs to include

- Book review- Review on each chapter of the book highlighting the key concepts, key formula, key theory & practical application concepts
- Own idea on how to apply those concepts in real practical applications.
- Examples of engineering designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book
- **Metallurgical Engineering**
- Met501 Mechanical Estimating
- Met502 Mechanical Properties of Metals
- Met503 Metallurgy
- Met504 Engineered Metals
- Met505 Metallurgical Alloys
- Met507 Explosive Engineering
- Met508 Metallic Materials
- Met509 Stress Assessment in Metallurgy
- Met601 Metallurgical Processing
- Met602 Machineries Failure Analysis
- Met603 Materials Selection in Mechanical Design
- Met604 Strain Testing

- Met605 Applied Metallurgy

Graduate Diploma in Metallurgical Engineering Course Work

To complete the Graduate Diploma in Engineering, the students will have to complete 12 units with each 8 credit points totalling 96 credit points.

By adding Masters thesis of 24 credit points, they will complete 120 credit points . Total credit points for Masters degree is (Bachelor degree 120 credit points+ Graduate Diploma+ Masters degree 120 credit points Total 240 Credit points).

Graduate Diploma is pre-requisite for Masters degree.

Course Work Plan

The students will have to write 20 pages study report for each of the subjects outlined below.

The report needs to include

- Book review- Review on each chapter of the book highlighting the key concepts, key formula, key theory & practical application concepts
- Own idea on how to apply those concepts in real practical applications.
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- Your comment on each book
- **Metallurgical Engineering**
- Met501 Mechanical Estimating
- Met502 Mechanical Properties of Metals
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- Met504 Engineered Metals
- Met505 Metallurgical Alloys
- Met507 Explosive Engineering
- Met508 Metallic Materials
- Met509 Stress Assessment in Metallurgy
- Met601 Metallurgical Processing
- Met602 Machineries Failure Analysis
- Met603 Materials Selection in Mechanical Design
- Met604 Strain Testing

- Met605 Applied Metallurgy

Master Diploma in Education/ Master of Education

IQY Technical College/ St Clements University/

STC Technological University

www.highlightcomputer.com/medcourse.htm

Course Overview

This program is designed to develop and support the careers of teachers who are teaching professionals, educational administrators, researchers and policymakers.

The students can choose to complete your course with units of study that suit your interests from our field offerings which are engineering education and school and vocational education.

Graduate Attributes

Demonstrate expert, specialised and technical knowledge in broad educational areas of pedagogy, assessment and curriculum designed to address the needs of diverse learners across a range of educational contexts related to engineering education or school and vocational education.

Demonstrate an advanced understanding of theory and practice in specialised disciplines within the field of education in national and/or international contexts in engineering education or school and vocational education.

Analyse critically, reflect on and synthesise information to solve complex problems in the educational field

Conduct independent research and inquiry, involving theoretical conceptualisation, innovative ideas and personal initiative in engineering education or school and vocational education

Demonstrate professional leadership through interpreting and communicating pedagogical knowledge and professional skills to specialist and non-specialist audiences in engineering education or school and vocational education.

Admission requirement

Admission to candidature for the Master of Education requires:

- a Bachelor of Education , or Bachelor degree and working as teacher or equivalent qualification or the completion of postgraduate studies, or professional experience .

Course Structure

The course consists of 240 credit points in which 120 credit points is given for Bachelors degree

Stream 1- Engineering Education

ED431 Student Learning and Teaching Approaches(15 cp)

ED432 Course Design and Assessment(15 cp)

ED433 Scholarly Teaching and Learning Project(15 cp)

ED434 Reflective Academic Practice(15 cp)

ED436 Management for Education(15 cp)

ED413 Engineering Education Part 3 (15 cp)

ED404 Educational Research(15 cp)

ED435 Governance of University (15 cp)

Total	120 cp
Bachelors degree	120 cp
TOTAL	240 cp

Stream 2-School and Vocational Education

ED431 Student Learning and Teaching Approaches(15 cp)

[ED432](#) Course Design and Assessment(15 cp)

[ED433](#) Scholarly Teaching and Learning Project(15 cp)

[ED434](#) Reflective Academic Practice(15 cp)

ED436 Management for Education (15 cp)

ED404 Educational Research(15 cp)

Any Two Electives

ED304 Maths Teaching (15 cp)

ED305 Science Teaching (15 cp)

ED306 Technology Teaching(15 cp)

ED308 Computer Supported Learning Distance Education (15 cp)

Total	120 cp
Bachelors degree	120 cp
TOTAL	240 cp

Professional Certificate in Medical Data System (Course Number-4889008)

Objective- To effectively manage data system in medical records

Pre-requisite- MBBS/ BDS/ B Pharm

Contents ICT409 Hospital Data System

- Hospital Data System (Reader)
- Database Management System for Hospital (Reader)

Videos

- Hospital Database Analysis Design
- Hospital Management System Data Entry
- Hospital website and appointment system
- Hospital Management System Doctor Log in
- Hospital Management System with PHP
- Hospital Management System in PHP

Part 1 - Practical Application Tutorials- Hospital Data System

Award- Professional Certificate in Medical Data System

An introduction about hospital Database

SQL [39 exercises with solution]

[An editor is available at the bottom of the page to write and execute the scripts.]

Sample Database: hospital

1. Write a query in SQL to find all the information of the nurses who are yet to be registered.

- 2.** Write a query in SQL to find the name of the nurse who are the head of their department.
- 3.** Write a query in SQL to obtain the name of the physicians who are the head of each department.
- 4.** Write a query in SQL to count the number of patients who taken appointment with at least one physician
- 5.** Write a query in SQL to find the floor and block where the room number 212 belongs to
- 6.** Write a query in SQL to count the number available rooms
- 7.** Write a query in SQL to count the number of unavailable rooms.
- 8.** Write a query in SQL to obtain the name of the physician and the departments they are affiliated with
- 9.** Write a query in SQL to obtain the name of the physicians who are trained for a special treatement
- 10.** Write a query in SQL to obtain the name of the physicians with department who are yet to be affiliated
- 11.** Write a query in SQL to obtain the name of the physicians who are not a specialized physician
- 12.** Write a query in SQL to obtain the name of the patients with their physicians by whom they got their preliminary treatement
- 13.** Write a query in SQL to find the name of the patients and the number of physicians they have taken appointment
- 14.** Write a query in SQL to count number of unique patients who got an appointment for examination room C
- 15.** Write a query in SQL to find the name of the patients and the number of the room where they have to go for their treatment
- 16.** Write a query in SQL to find the name of the nurses and the room scheduled, where they will assist the physicians.

- 17.** Write a query in SQL to find the name of the patients who taken the appointment on the 25th of April at 10 am, and also display their physician, assisting nurses and room no.
- 18.** Write a query in SQL to find the name of patients and their physicians who does not require any assistance of a nurse
- 19.** Write a query in SQL to find the name of the patients, their treating physicians and medication.
- 20.** Write a query in SQL to find the name of the patients who taken an advanced appointment, and also display their physicians and medication
- 21.** Write a query in SQL to find the name and medication for those patients who did not take any appointment
- 22.** Write a query in SQL to count the number of available rooms in each block
- 23.** Write a query in SQL to count the number of available rooms in each floor
- 24.** Write a query in SQL to count the number of available rooms for each block in each floor.
- 25.** Write a query in SQL to count the number of unavailable rooms for each block in each floor.
- 28.** Write a query in SQL to obtain the name of the patients, their block, floor, and room number where they are admitted.
- 29.** Write a query in SQL to obtain the nurses and the block where they are booked for attending the patients on call.
- 30.** Write a query in SQL to make a report which will show -
- a) name of the patient,
 - b) name of the physician who is treating him or her,
 - c) name of the nurse who is attending him or her,
 - d) which treatment is going on to the patient,
 - e) the date of release,
 - f) in which room the patient has admitted and which floor and block the room belongs to respectively.

- 31.** Write a SQL query to obtain the names of all the physicians performed a medical procedure but they are not certified to perform
- 32.** Write a query in SQL to obtain the names of all the physicians, their procedure, date when the procedure was carried out and name of the patient on which procedure have been carried out but those physicians are not certified for that procedure.
- 33.** Write a query in SQL to obtain the name and position of all physicians who completed a medical procedure with certification after the date of expiration of their certificate
- 34.** Write a query in SQL to obtain the name of all those physicians who completed a medical procedure with certification after the date of expiration of their certificate, their position, procedure they have done, date of procedure, name of the patient on which the procedure had been applied and the date when the certification expired
- 35.** Write a query in SQL to obtain the names of all the nurses who have ever been on call for room 122.
- 36.** Write a query in SQL to Obtain the names of all patients who has been prescribed some medication by his/her physician who has carried out primary care and the name of that physician
- 37.** Write a query in SQL to obtain the names of all patients who has been undergone a procedure costing more than \$5,000 and the name of that physician who has carried out primary care
- 38.** Write a query in SQL to Obtain the names of all patients who had at least two appointment where the nurse who prepped the appointment was a registered nurse and the physician who has carried out primary care
- 39.** Write a query in SQL to Obtain the names of all patients whose primary care is taken by a physician who is not the head of any department and name of that physician along with their primary care physician

Part (2) – My SQL General Studies (ICT410)

Award- Professional Certificate in Information Technology (MYSQL)

Lesson Videos

Introduction to My SQL

How to install My SQL in Windows 10

Full Course for beginner

Creating application by using MY SQL

My SQL Tutorial 1

My SQL Tutorials 2

My SQL Workbench Tutorial

Create Search System by using PHP

Textbooks

MySQLNotesForProfessionals

My SQL Tutorial

Software

My SQL Installer Web Community

My SQL Installer Community

Medical Data System

**Part (3) – Graduate Certificate in Information Technology (Hospital Data System)
(30 Credits)**

- ICT409 Medical Data System (10 Credits)
- ICT410 MYSQL (10 Credits)
- ICT502 Data Base System (10 Credits)

Application

- Access
- STATA

MASTER OF SCIENCE (RENEWABLE ENERGY COURSE OUTLINE)

Part (1) Preliminary Course

RE001- Foundation Studies in Renewable Energy and Sustainability
RE002- Grid Connected Photovoltaic Power Systems
RE003- Solar and Thermal Energy Systems
RE004- Energy Storage Systems
RE005- Renewable Energy Resource Analysis
RE006- Wind Energy Conversion Systems
RE007- Energy System Efficiency

Part (2) Qualified (1) Course

Semester (1)

RE008-Mathematics & Physics (I)
RE009-Mathematics & Physics (II)
RE010-Engineering Materials
RE011-Civil & Mechanical Engineering

Semester (2)

RE012-Electrical Engineering
RE013-Electrical Machines
RE014-Electronics Control
RE015-Electrical Project
RE016-Design & Management

Part (3) Qualified (2) Course

RE 501-Control of Solar Energy System
RE502- Biomass Gasification
RE503- Energy Management in Industrial and Commercial Facilities
RE504- Engineering Solution for Sustainability
RE505- Green Building Design
RE506- Low Emission Power Generation Technologies
RE507- Offshore Wind Turbines
RE508- Solar Hydrogen Energy System
RE509- Applied Photovoltaics
RE510- Water Conservation
RE511- Sustaining Earth Energy resource

A written report between 10,000 – 12,000 words that covers both theory & practical knowledge of the above units.

Part (4) Final Thesis

Res 601 Research Method
MAE 602 Thesis

This course guides the student, step by step, through the research process, from problem selection through writing up results. It provides all of the basics necessary to complete a research project in any discipline.

Outline. The following aspects are reflected in this course:

What is research?

Tools of research

The problem: the heart of the research process

Review of the related literature

Planning your research design

Writing the research proposal

Qualitative research

Historical research

Descriptive research

Experimental and causal - comparative designs

Statistical techniques for analyzing quantitative data

Technical details: style, format, and organization of the research report

Masters Research Proposal

Synopsis: Research students are expected to present a written research proposal within three months after commencement. The proposal is handed in to the study leader.

Assessors of this proposal are selected by the faculty for their understanding of the field and the research involved. The purpose of a research is to set out a plan for conducting the research and writing the dissertation within the available time. It should take account of the availability and guidance of the study leader.

The starting point for a research proposal is the topic, which is the field of interest in which the research is to be carried out. In introducing the topic, the proposal should clarify the field that it falls into and the specific part that field which the research will explore. It should clarify why the topic is of interest and importance, and how the proposed research will contribute to the field of knowledge or profession. The proposal should clarify the research questions, ensuring that these are specific and answerable.

It is important to show how these questions relate to the topic are, and how they will advance the student's contribution. The proposal should detail the research to

be carried out, and clarify the research methods, the timeframe and the reasons for selecting particular methods. Where a period of literature review or research should precede any empirical research, this should be factored in as part of the research. It is important to estimate any periods of field research and to flag their duration and cost in your research proposal.

Res 601 Research Method

MENG6005 Quantitative Methods and Statistics (45 hrs) 3 credits

MAE 602 Thesis

Engineering Project/Thesis 24 credits

Candidates need to complete a 60000-words engineering dissertation (in Myanmar or English) and a 3000-words executive portfolio (in English).

This program requires the candidates to complete a dissertation as part of the assessment for the MSc (RE) degree. Doing a thesis means that instead of knowledge and information being presented and following a prescribed route for answering questions, candidates are thrust into an active role of managing an investigation into a topic area. This means researching and discovering things for themselves. They will have to set their own targets and parameters, pose their own central research questions and decide on the appropriate sources of information to support the research. It therefore requires the use of the higher-level cognitive skills of analysis, synthesis and evaluation. Candidates may choose an area of particular interest to them within the scope of course title. A dissertation is an individual effort and the candidate, academic tutor and the course professor will work together on constructing an approved topic (research question) and methodologies.

Engineering Dissertation Defense 9 credits

It is expected of Master's candidates to defend their thesis by means of a colloquium doctum (academic discussion). The purpose of the meeting is for the candidates to convince a panel of experts in the field of the dissertation how well they have done in the conducting of their research study and the preparation of their dissertation

Program Total Credits 48 credits

Candidates need to complete all course assessments with the results of Grade B+ or above.

MASTER OF SCIENCE (RENEWABLE ENERGY COURSE OUTLINE)

Part (1) Preliminary Course

RE001- Foundation Studies in Renewable Energy and Sustainability
RE002- Grid Connected Photovoltaic Power Systems
RE003- Solar and Thermal Energy Systems
RE004- Energy Storage Systems
RE005- Renewable Energy Resource Analysis
RE006- Wind Energy Conversion Systems
RE007- Energy System Efficiency

Part (2) Qualified (1) Course

Semester (1)

RE008-Mathematics & Physics (I)
RE009-Mathematics & Physics (II)
RE010-Engineering Materials
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Semester (2)

RE012-Electrical Engineering
RE013-Electrical Machines
RE014-Electronics Control
RE015-Electrical Project
RE016-Design & Management

Part (3) Qualified (2) Course

RE 501-Control of Solar Energy System
RE502- Biomass Gasification
RE503- Energy Management in Industrial and Commercial Facilities
RE504- Engineering Solution for Sustainability
RE505- Green Building Design
RE506- Low Emission Power Generation Technologies
RE507- Offshore Wind Turbines
RE508- Solar Hydrogen Energy System
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A written report between 10,000 – 12,000 words that covers both theory & practical knowledge of the above units.

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Program Total Credits 48 credits

Candidates need to complete all course assessments with the results of Grade B+ or above.

Master of Science (Computer Network) (Each 10 credits) (70883)

Bachelor of Applied Science (Network)- 120 Credits

Master of Applied Science (Network)- 120 Credits

Total 240 credits

PART (1) Course Work in Graduate Diploma in Computer Network Level

(60 credits) (Each 10 credits)

ICTN701 APNET Content Management System

ICTN702 CISCO Certified Design Associate

ICTN703 CISCO Certified Network Associate

ICTN704 CISCO Firewall

ICTN705 CISCO LAN Switching Configuration

ICTN706 Computer Architecture and Security

PART (2) Course Work in Masters Level

(40 credits) (Each 10 credits)

Select 4 units

ICTN707 Computer Systems

ICTN708 Python Network Programming

ICTN709 Microsoft.NET Framework

ICTN710 Enterprise Network Monitoring

ICTN711 Parallel Computer Architecture

ICTN712 Cloud Computing

The students will have to write 20 pages study report for each of the subjects outlined below.

The report needs to include

- Book review- Review on each chapter of the book highlighting the key concepts, key points, key theory & practical application concepts in IT.
- Own idea on how to apply those concepts in real practical applications.

- Examples of IT system designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book

Master of Applied Science Work Example

[http://www.iqytechnicalcollege.com/Master Diploma in Information Technology-Worked Sample Report on IT Topics.pdf](http://www.iqytechnicalcollege.com/Master%20Diploma%20in%20Information%20Technology-Worked%20Sample%20Report%20on%20IT%20Topics.pdf)

PART (3) Master Project in Computer Network

(20 credits)

The candidate needs to write the project report for one topic mutually selected by the candidate and supervisor

REPORT GUIDE

<http://www.mongroupsydney1.com/Report.pdf>

Part (4) Master of Engineering (Computer Network) (70884)

Complete the following units after completion of Master of Applied Science (Computer Network) Each 10 credits

BAE 702 Engineering Management

BAE 703 Leadership & Human Resources Management

BAE 704 Risk Management & Industrial Safety

BAE 705 Engineering Competency Development

BAE 706 Engineering Report Writing

BAE 707 Engineering Ethics

Total Credits 320 Credits

Self Study Online CPD Courses

www.highlightcomputer.com/onlinecpdcourses.htm

To enrol these course , follow the steps

1. Pay the fees (First course is Kyats 30000, then Kyats 10000 per additional course) . Deposit into the following account

Daw Hla Myat Mon –Account Numbner 020-33-500265-2 (Yoma Bank) and attached the evidence of deposit to this application form

2. Fill the online form. (Without evidence of fund deposit, no reply will be made.)

<http://www.emailmeform.com/builder/form/H7zdPO8n8K6EBIG>

3. Then , we will send you the download links to download the e-Books

4. We will send you CPD Course Attendance Certificate electronically.

5. Each course has 20 CPD Hours.

6. They are self study courses. No needs to submit the assessment tasks

7. The list of the CPD course attenders are not included in IQY Technical College Graduates List but the authenticity of issued IQY CPD Certificates can be enquired by emailing to iqytechnicalcollege@gmail.com

Study Areas

GE1	Electrical Wiring (EE)
GE2	Electrical Machine (EE)
GE3	Electrical Distribution (EE)
GE4	Power System Operation (EE)
GE5	Power System Protection
GE6	Occupational Health & Safety
GE7	Project Management (EE/CE/ME)
GE8	Electronics (EE)
GE9	Process Control (EE/ME)
GE10	Industrial Electronics (EE)
GE11	Programmable Logic Controller (EE/ME)
GE12	Photovoltaic Solar Electrical System
GE13	Principle of Engine (ME)
GE14	Fitting & Machining (ME)
GE15	Building Construction (CE)
GE16	Engineering Drawing I (EE/CE/ME)
GE17	Pipe Fitting (CE/ME)
GE18	Air-conditioning & Refrigeration (ME)
GE19	Computer Programming (EE/CE/ME)
GE20	Computer Networking (EE)
GE21	Welding (ME)
GE22	Painting & Decoration (CE)
GE23	Pneumatics (CE/ME)
GE24	Manufacturing Management (ME)
GE25	Surveying (CE)
GE26	Energy Efficient Building Design
GE27	Machine Principle (ME)
GE28	Hydraulic (CE/ME)

GE29	Materials & Corrosion Prevention (CE/ME)
GE30	Bricklaying (CE)
GE31	Sprouting & Guttering (CE)
GE32	Electronic Security Installation
GE33	Explosion Protection
GE34	Engineering Business Management
GE35	Scaffolding
GE36	Materials Handling & Storage
IE1	Engineering Mathematics
IE2	Engineering Physics
IE3	Material Science
IE4	Advanced Engineering Mathematics
IE5	Mechanical Science
IE6	Principle of Electricity
IE7	Electrical Circuit I (EE)
IE8	Electrical Circuit II (EE)
IE9	Advanced Building Construction (CE)
IE10	Transmission Line (EE)
IE11	Electrical & Mechanical Engineering Work Experience
IE12	Civil Engineering Work Experience
IE13	Workshop
IE15	Advanced Engineering Design & Project Work
IE16	Power System Analysis-Fault Calculation
IE17	Power Line Design
IE18	Building services
IE19	PCB Design
IE20	Maths References
IE21	Electrical Principle
IE22	Co-generation
IE23	Industrial Computer System
IE24	Microprocessor
IE25	Power System Fundamental
IE26	Electrical Communication Fundamental
IE27	Control Concept
IE28	Electronic Signal & System
IE29	Electrical Estimating
IE30	Electronic Workbench
IE31	Introduction to Renewable Energy Technology
IE32	Telecommunication Cabling & Installation
IE33	Hybrid Energy System
IE34	Electricity Supply Industrial Skills

GENERAL VOCATIONAL COURSES

www.highlightcomputer.com/othervocational.htm

- Self study,
- Present the record of study
- Certificate of Studies can be issued

GE36 Storage & Materials Handling

VOC 1-Aged Care Facility Design

VOC 2-Animal Handling

VOC 3-Business Planning

VOC 4-Construction Equipment & Methods

VOC 5-Construction Management Planning

VOC 6-Fabric Preparation

VOC 7-Hotel Management

VOC 8-Kitchen & Food Management

VOC 9-Laundry Design

VOC 10-Soil Management

VOC 11-Store Management

VOC 12-Supply Chain Management

GE36 Storage & Materials Handling

Storage

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CANDIDATES TO PREPARE FOR PROFESSIONAL ENGINEER (ELECTRICAL-BUILDING
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Prepared BY- U Kyaw Naing

Registered Professional Engineer of Queensland

RPEQ-Electrical (Registration Number 07661)

Board of Professional Engineers of Queensland State

Government (Australia) www.bpeq.qld.gov.au

&

Electrical Engineering Teacher (TAFE-NSW) (Australia)

Based on 25 years experiences since BE (Electrical Power) Graduation from Yangon Institute of Technology in 1987 as electrical engineer, electrician and electrical engineering teacher in Myanmar, Fiji, Australia, New Zealand & Niue, these online electrical learning materials in line with the study materials being used to teach the engineering courses in Australia are prepared to assist Young Myanmar Engineers to participate in professional development programs of Myanmar Engineering Society to accomplish the aims & objectives of Myanmar Engineers Board in the process of Professional Engineers Registration in Myanmar.

Online tests and assessments are also included for the candidates to assess their self learning. The resources are not only theoretical studies but also industrial rules and regulations in Singapore, UK, Australia and New Zealand and practical resources of engineering practice. PEng registration competency report writing in Australia & New Zealand are also included in the resources. [Engineering Report Writing.zip](#) & ([Engineering Competency Report Submitted by U Kyaw Naing for Registered Professional Engineer of Queensland, Australia](#)). Browse <http://www.electricaldiploma2013.zoomshare.com/> for details of Australian Electrical Training.

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SCOPE- Electrical PE (Building Services)

PART (1)

YEAR 1 & 2 (Minumum 3 to 4 years is required for a graduate to become a PE)

(Total PDP Points for Informal Learning Activities-Private Study Part Time) (Total 10 points per year maximum)(MEB-PE Regulation Appendix 3). Ctrl+Click the link & then allow to download the contents.

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1.Basic Electricity

1. **DC Circuit**
2. **Alternating (sinusoidal) Voltage and current**
3. **Single phase AC Circuit**
4. **Phasor Algebra and AC Circuit**
5. **Resonance in RLC Circuit**

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2. Three phase Circuits and System

1. Three phase voltage generation
2. Phasor diagram
3. Star/ Delta connection
4. Balanced Three phase loads
5. Active , Reactive and Apparent Power
6. Power Measurements
7. Power Factor Correction

STUDY MATERIALS (Three Phase Circuits)

[G049_7762AB_7761M_Notes](#) [G049_7762ABTutorial](#)

[E029_Motor_Control_1](#) [E029_Motor_Control_2](#)

[Fault Calculation](#)

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[ABFormula.zip](#)

Power System Analysis

[7761M-Part1.zip](#) [7761M-Part2.zip](#) [7761M-Part3.zip](#) [7761M-Part4.zip](#) [7761M-Part5.zip](#)

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Phase AC Supply Handout		
Connection of balanced three phase loads handout		
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Symmetrical components handout		
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Phase sequence diagrams for power systems handout		
Phase sequence detectors handout		
Fault calculations on power system handout		
Power Circuits (Reference)		
Part 1	Part 2	Part 3
Part 4	Part 5	Part 6
Part 7	Part 8	Part 9
Part 10	Part 11	Part 12
Part 13	Part 14	Part 15
Part 16	Part 17	Part 18

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3. Magnetism and Magnetic Circuits

1. Magnetic Field
2. Magnetic Materials and Magnetization curves
3. Magnetic Equivalent Circuit
4. Sinusoidal Excitation
5. Magnetic losses

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G001 Test 1

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<http://www.classroomclipboard.com/503511/Home/Test/ec4d44c4f8004474b48ceafa43b2e228#/InitializeTst.xml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- BDL8L85

After you have done the test, the score can be printed out in PDF format The score with at least 50% or more for all tests, it will be record of 2 HR x 0.5 = 1 HR

4.AC/DC Machines

1. DC Machine: operating principle, voltage and torque equations
2. Three phase Induction motors: operating principle, equivalent Circuit, torque-speed, Characteristics, losses and efficiency

STUDY MATERIALS (AC/DC Machines)

[Elect Machine-G043+G044+G045.zip](#) http://www.filefactory.com/file/c0b6668/n/Elect_Machine-G043_G044_G045.zip

[G043_G045_7762AF_Notes](#) [G043_G045_Part_1_7762AF_Notes](#)

[G015_G046_G040_G043_G045_G042Tutorials](#)

[ESI12_14_Syn_Motor_Generator.zip](#) [ESI_13_Voltage_regulation_devices.zip](#)

[ESI_19.4_Turbine_Control.zip](#)

[ESI_19.2_Generator_Control_Load_Flow.zip](#)

[ESI_19.3_Generator_.zip](#)

[Synchronous Generator](#)

Advanced AC Machines

[AF_Wk_1-2.zip](#) [AF_Wk_2-3.zip](#) [AF_Wk_4.zip](#) [AF_Wk_5.zip](#) [AF_Wk_6.zip](#) [AF_Wk_7.zip](#) [AF_Wk_8.zip](#)

[AF_Wk_9.zip](#) [AF_Wk_10.zip](#) [AFWk11-12-13Part1.zip](#) [AFWk11-12-13Part2.zip](#) [AF_Wk_14.zip](#)

[AF_Wk_15.zip](#) [AF_Week_16.zip](#) [AF_wk_17.zip](#)

[Motor_Lab.pdf](#)

[Principle_of_Synchronous_motors.doc](#)

[SyncMotorsPowerControl.pdf](#)

[G043_G045_7762AF_Notes](#) [G043_G045_Part_1_7762AF_Notes](#)

[MachineControlCkt1.zip](#) [MachineControlCkt2.zip](#) [MachineControlCkt3.zip](#)

[Motor control 2](#) [Motor control 3](#) [Motor control 4](#) [Motor control 5](#)

[Motor control 6](#) [Motor control 7](#) [Motor control 8](#) [Motor control 9](#)

[Motor control 10](#) [Motor control 11](#) [Motor control 12](#) [Motor control 13](#)

[Motor control 14](#) [Motor control 15](#) [Motor control 16](#)

[E029_Motor_Control_1](#) [E029_Motor_Control_2](#) [E047Mech](#)

Advanced DC Machines

[G044_7762AC1](#) [G044_7762AC2](#)

<http://www.filefactory.com/file/cf9a3a6/n/E029.zip>

ONLINE MCQ TEST (7)

G043+G045 Test

http://www.filefactory.com/file/7h9c99zngfq1/n/G043_G045_Online_Test_1_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/2f02528bbe5d47ba8056aae1c66972#/InitializeTest.xaml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- 7TBWXJ5

G044Test

http://www.filefactory.com/file/5iyno92bji67/n/G044_Online_Test_1_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/39a2497862a448b1b34e39893dd92183#/InitializeTest.xaml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- VH4D

After you have done the test, the score can be printed out in PDF format The score with at least 50% or more for all tests, it will be record of 4 HR x 0.5 = 2 HR

5.Transformers

1. **Ideal Transformer**
2. **Equivalent circuit**
3. **Phasor Diagrams**
4. **Determination of Parameters**
5. **Performance Evaluation**
6. **Auto-transformers**
7. **Three phase Transformers**

STUDY MATERIALS (Power Transformer)

[Power Transformer+Line-G040.zip](#)

[G040_7762AD_Notes](#)

[New-AA_AB_AD_AE_AF_AG_AH_4269T_Tutorials](#)

[ESI_4_11_Power_Transformer.zip](#)

[ESI_4_Power_Transformer.zip](#)

7762AD Power Transformer

[AD_Day_1.zip](#) [AD_Day_2.zip](#) [AD_Day_4.zip](#) [AD_Day_5.zip](#) [AD_Day_6.zip](#)

[AD_Day_8.zip](#) [AD_Day_9.zip](#)

Power Transformer Reference

[TrRef1.zip](#) [TrRef2.zip](#) [TrRef3_0.zip](#) [TrRef4.zip](#) [TrRef5.zip](#) [TRRef6.zip](#)

[TrRef7.zip](#) [TrRef8.zip](#) [TrRef9.zip](#)

ONLINE MCQ TEST (8)

G040 Test 1

http://www.filefactory.com/file/3ve7iz9640yp/n/G040_Online_Test_1_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/b12e17211b8b407b9cac0025aff7462c#/InitializeTest.xaml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- 67VWMYJ

After you have done the test, the score can be printed out in PDF format The score with at least 50% or more for all tests, it will be record of 4 HR x 0.5 = 2 HR

6.Active Power and Frequency Control

1. Governor Control Systems
2. Transmission Losses , penalty factors and loss coefficients
3. Automatic Generation Control
4. Active power Control Devices

STUDY MATERIALS (Power Frequency Control 1)

[ESI12_14_Syn_Motor_Generator.zip](#) [ESI_13_Voltage_regulation_devices.zip](#)

[ESI_18.1_Substation equipments_1.zip](#) [ESI_18.2_Substation equipments_2.zip](#)

[ESI_18.3_Substation equipments_3.zip](#) [ESI_33.3_Harmoniceffect_on_machines.zip](#)

[ESI_33.4_Harmonic_in_synchronous_machines.zip](#)

[ESI_33.5_Harmonic_in_transformer.zip](#)

[ESI_33.6_Power_Quality_Improvement_Capacitor_bank.zip](#)

[ESI_33.7_Power_Quality_Improvement-Filter.zip](#)

[ESI_33.8_Power_Quality_Improvement-General.zip](#)

[ESI_33.9_Power_Quality_Improvement-Power_Conditioner.zip](#)

[Stage 2 Part 1A.zip](#) http://www.filefactory.com/file/c0cb96f/n/Stage_2_Part_1A.zip

[Stage 2 Part 3.zip](#) http://www.filefactory.com/file/c0ccb1f/n/Stage_2_Part_3.zip

[ESI12_14_Harmonic](#) [ESI12_14_Reactor](#) [ESI12_14_Syn_Motor_Generator](#)

[ESI_19.1_Computer_Control](#) [ESI_19.4_Turbine_Control](#)

[ESI_19.2_Generator_Control_Load_Flow](#)

[ESI_19.3_Generator](#) [ESI_22.1_Generator_Study](#) [ESI_22.2_Voltage_surge_control](#)

[ESI_24_Modern_Power_System](#)

[Lesson 1](#)

[Lesson 3](#)

[Power System Operation \(General aspect\) Reading 1](#)

[Power System Operation \(General aspect\) Reading 2](#)

[Power System Operation \(General aspect\) Reading 3](#)

[Power System Operation \(General aspect\) Reading 4](#)

[Power System Operation \(General aspect\) Reading 5](#)

[Power System Operation \(General aspect\) Reading](#)

<http://kyawnaing325.zoomshare.com/files/7762ElectricalPowerModules.htm>

7762AH Power System Fundamental

7762AH Power System Fundamental

[AH_Day_1.zip](#) [AH_Day_2_3.zip](#) [AH_Day_4.zip](#) [AH_Day_5.zip](#) [AH_Day_6_7_8.zip](#)

[Stage 3 Part 3.zip](#) http://www.filefactory.com/file/c0ccd44/n/Stage_3_Part_3.zip

7.Reactive Power and Frequency Control

1. Production and Absorption of Reactive Power
2. Methods of Voltage Control
3. Reactive Power and Voltage Control Devices
4. Application to Transmission and Distribution Systems

STUDY MATERIALS (Power Frequency Control 2)

[G015 G037 G038 G030Pt1 7762AG Notes](#) [G015 G042 G037 G038 G039 Part 2 Notes](#)

[G015 G042 G037 G038 G039 Part 2 Notes](#) [G015 G037 G038 G030Pt1 7762AG Notes](#)

[Power system 2-G037+G038+G039.zip](#)

http://www.filefactory.com/file/c0b7a33/n/Power_system_2-G037_G038_G039.zip

[Power system 2-G037+G038+G039.zip](#)

http://www.filefactory.com/file/c0b7a33/n/Power_system_2-G037_G038_G039.zip

[Transmission line-G042.zip](#)

http://www.filefactory.com/file/c0b7dad/n/Transmission_line-G042.zip

[G042 Part 3 Notes](#) [G037 G038 G030Pt1 7762AG Notes](#)

ONLINE MCQ TEST (9)

G037+G038+G039 Test 1

http://www.filefactory.com/file/6o7ow8er4f9l/n/G037_G038_G039_Online_Test_1_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/9696759cec624be1a7793b7d1edd87c2#/InitializeTest.xaml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- HYCEUE

ONLINE MCQ TEST (10)

G037+G038+G039 Test 2

http://www.filefactory.com/file/5by85g9rxmoh/n/G037_G038_G039_Online_Test_2_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/8ea510a583bf41b5b6a994378eeb912f#/InitializeTest.xaml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- LCCD

ONLINE MCQ TEST (11)

G037+G038+G039 Test 3

http://www.filefactory.com/file/5fy0regqoh0n/n/G037_G038_G039_Online_Test_3_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/adae49f2f39c4158925fe7010b460540#/InitializeTest.xaml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- S947G

ONLINE MCQ TEST (12)

G037+G038+G039 Test 4

http://www.filefactory.com/file/q1sn4hitpb/n/G037_G038_G039_Online_Test_4_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/f1486f63ce8f4e349919659cd7bd4a98#/InitializeTest.xaml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- 49JL

ONLINE MCQ TEST (13)

G037+G038+G039 Test 5

http://www.filefactory.com/file/738vtwzyd3qp/n/G037_G038_G039_Online_Test_5_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/029dcf4b117c47109ff8d981a108e5c6#/InitializeTest.xaml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- KV6K3G

After you have done the test, the score can be printed out in PDF format The score with at least 50% or more for all tests, it will be record of 8 HR x 0.5 = 4HR

8.Electric Power Distribution Systems

1. Distribution System Configuration
2. Primary and Secondary Distribution
3. Ring , Radial and Inter-connected Systems
4. Distribution System Layout
5. Planning Criteria and Network Design
6. Fault Diagnosis and Restoration of Supply

STUDY MATERIALS (Electrical Power Distribution)

Electrical Distribution Typed Notes

[AA_Typed_Note_1.doc](#) [AA_Typed_Note_2.doc](#) [AA_Typed_Notes_3-.doc](#)

[7762AA_Typed_Note_4.doc](#)

[AA_Typed_note_5.doc](#) [AA_Typed_note_6.doc](#) [AA_typed_note_7.doc](#)

[AA_typed_note_8.doc](#) [7762AA_Module_Book](#)

[Power System 1-G015+G046+A010](#)

[AA.zip](#)

<http://www.filefactory.com/file/c0b7e92/n/AA.zip>

[AE.zip](#)

<http://www.filefactory.com/file/c0b7ff7/n/AE.zip>

[AG.zip](#)

<http://www.filefactory.com/file/c0b7f21/n/AG.zip>

[A010.zip](#)

<http://www.filefactory.com/file/c0b7f3c/n/A010.zip>

[AA_AB_AD_AE_AF_AG_AH_4269T_Tutorials](#)

[ESI_8_Insulation_1.zip](#)

[ESI_8_Insulation_2.zip](#)

[ESI_25_27_31_32_Part_2_Installation_and_testing_0.zip](#)

[ESI_25_27_31_32_Part_3_Electrical_Drawing.zip](#)

[ESI_25_27_31_32_Part_4_Data_Com_and_Wiring.zip](#)

[ESI_25_27_31_32_Part_5_Installation_Work_Books.zip](#)

[ESI_25_27_31_32_Part_6_Switching_1_2.zip](#)

[ESI_25_27_31_32_Part_7_Switching_3_4.zip](#)

[ESI_25_27_31_32_Part_8a_Electrical_Installation_Requirement_1.zip](#)

[ESI_25_27_31_32_Part_8b_Electrical_Installation_Requirement_2.zip](#)

[ESI_9.1_Protection_Relay_Construction.zip](#)

[ESI_9.2Test_Equipment.zip](#)

Study Package (10) HV Equipments

[ESI10.1_HV_equipments.zip](#)

[ESI10.2_Substation_equipments.zip](#)

Study Package (12) Harmonics

[ESI12_14_Harmonic.zip](#)

[ESI12_14_Reactor.zip](#)

[ESI12_14_Syn_Motor_Generator.zip](#)

Study Package (13) Voltage Regulation 3333

[ESI_13_Voltage_regulation_devices.zip](#)

Study Package (18) Sub station equipments

[ESI_18.1_Substation_equipments_1.zip](#)

[ESI_18.2_Substation_equipments_2.zip](#)

[ESI_18.3_Substation_equipments_3.zip](#)

Study Package (33) Power Quality

[ESI_33.1_Power_Quality_Concept.zip](#)

[ESI_33.2_Harmonic_in_capacitor.zip](#)

[ESI_33.3_Harmoniceffect_on_machines.zip](#)

[ESI_33.4_Harmonic_in_synchronous_machines.zip](#)

[ESI_33.5_Harmonic_in_transformer.zip](#)

[ESI_33.6_Power_Quality_Improvement_Capacitor_bank.zip](#)

[ESI_33.7_Power_Quality_Improvement-Filter.zip](#)

[ESI_33.8_Power_Quality_Improvement-General.zip](#)

[ESI_33.9_Power_Quality_Improvement-Power_Conditioner.zip](#)

Study Package (34) Power Equipments Commissioning

[ESI_34.1_Power_Eqpt_Commissioning_1.zip](#)

[ESI_34.2_Power_Eqpt_Commissioning_2.zip](#)

[ESI_34.3_Power_Eqpt_Commissioning_3.zip](#)

[ESI_34.4_Power_Eqpt_Commissioning_4.zip](#)

[ESI_34.5_Power_Eqpt_Commissioning_5.zip](#)

[ESI_34.6_Power_Eqpt_Commissioning_6.zip](#)

[ESI_34.7_Power_Eqpt_Commissioning_Trade_1.zip](#)

[ESI_34.8_Power_Eqpt_Commissioning_Trade_2.zip](#)

[ESI_34.9_Power_Eqpt_Commissioning_Trade_3.zip](#)

[ESI_34.10_Power_Eqpt_Commissioning_Trade_4.zip](#)

[ESI_34.11_Power_Eqpt_Commissioning_Trade_5.zip](#)

[ESI_34.12_Power_Eqpt_Commissioning_Trade_6.zip](#)

[ESI_34.13_Power_Eqpt_Configuration_1.zip](#)

[ESI_34.14_Power_Eqpt_Configuration_2.zip](#)

Study Package (34) Equipments Commissioning [ESI_34.1_Background_theory_for_equipments_commissioning_1.zip](#)

[ESI_34.2_Background_theory_for_equipments_commissioning_2.zip](#)

[ESI_34.3_Background_theory_for_equipments_commissioning_3.zip](#)

[ESI_34.4_Background_theory_for_equipments_commissioning_4.zip](#)

[ESI_34.5_Background_theory_for_equipments_commissioning_5.zip](#)

[ESI_34.6_Background_theory_for_equipments_commissioning_6.zip](#)

BACK UP FOR 2& 10

[Stage 2 Part 1A.zip](#) http://www.filefactory.com/file/c0cb96f/n/Stage_2_Part_1A.zip

[Stage 2 Part 3.zip](#) http://www.filefactory.com/file/c0ccb1f/n/Stage_2_Part_3.zip

Switch Gear

[Elect_Installation_Protection_Method_Devices.zip](#)

[ElectSystSafety1.zip](#)

[ElectSystSafety2.zip](#)

[ESI_27.4Circuit_Breaker_1.zip](#)

[ESI_27.5_Circuit_Breaker_2.zip](#)

[ESI_7_Switching_system_design_consideration.zip](#)

[ESI_8.2_Site_Insulation_Surge_Protection.zip](#)

ONLINE MCQ TEST (14)

G015+G046 Test 1

http://www.filefactory.com/file/50ox6xeklufp/n/G015_G046_Online_Test_1_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/67dbfd25caa3484498a850f3b1050457#/InitializeTest.xaml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code -----G9UCJ

ONLINE MCQ TEST (15)

G015+G046 Test 2

http://www.filefactory.com/file/1s822zs1jz89/n/G015_G046_Online_Test_2_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/204b4231f0ea4492986ce2ec11302704#/InitializeTest.xaml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code -----FSXU

ONLINE MCQ TEST (16)

G015+G046 Test 3

http://www.filefactory.com/file/6pcivv5e0y05/n/G015_G046_Online_Test_3_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/542fb0501a334d8788c68c19208e96e1#/InitializeTest.xaml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code -----JE3W

After you have done the test, the score can be printed out in PDF format The score with at least 50% or more for all tests, it will be record of 4 HR x 0.5=2HR

9. Building Services Engineering

1. Estimation of Power Demand
2. LV Cable and Bus-way Systems
3. Conductor Sizing Factors
4. Circuit Protective Conductor
5. Earth Leakage and Touch Voltage
6. Inspection and Testing
7. Lightning Protection

STUDY MATERIALS (Building Service Engineering)

[Wiring_Notes_1.](#) [Wiring_Notes_2](#) [Switchboard_Wiring](#)

[1Wiring_E033_E008](#) [2Wiring_E033_E008](#)

http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip

[Stage 1 Part 1.zip](#) http://www.filefactory.com/file/c0cb8ab/n/Stage_1_Part_1.zip

[Stage 1 Part 5.zip](#) http://www.filefactory.com/file/c0cb9b3/n/Stage_1_Part_5.zip

[Electrical_safe_working.zip](#)

[NREL_Disconnect_Reconnect.zip](#)

[Stage 1 Part 5.zip](#) http://www.filefactory.com/file/c0cb9b3/n/Stage_1_Part_5.zip

[Stage 1 Part 1.zip](#) http://www.filefactory.com/file/c0cb8ab/n/Stage_1_Part_1.zip

[ELV_Cable_termination](#) [ELV_Cable_termination](#) [Wiring_Notes_1.](#) [Wiring_Notes_2](#) [Switchboard_Wiring](#)

[1Wiring_E033_E008](#) [2Wiring_E033_E008](#)

[ElectricalDrawing1.zip](#) [ElectricalDrawing2.zip](#) [ElectricalDrawing3.pdf](#)

[Stage 2 Part 2A.zip](#)

http://www.filefactory.com/file/c0cca4a/n/Stage_2_Part_2A.zip

[Construction_ElectricalSafety.zip](#)

[InserviceTesting.zip](#)

BACK UP FOR 9 & 10

[Stage 2 Part 1B.zip](#) http://www.filefactory.com/file/c0ccac0/n/Stage_2_Part_1B.zip

[Stage 2 Part 3.zip](#) http://www.filefactory.com/file/c0ccb1f/n/Stage_2_Part_3.zip

[Stage 2 Part 6.zip](#) http://www.filefactory.com/file/c0cccc0/n/Stage_2_Part_6.zip

[Stage 3 Part 3.zip](#) http://www.filefactory.com/file/c0ccd44/n/Stage_3_Part_3.zip

[Stage 3 Part 4.zip](#) http://www.filefactory.com/file/c0ccd9a/n/Stage_3_Part_4.zip

[Stage 4 Part 8.zip](#) http://www.filefactory.com/file/c0cc5a1/n/Stage_4_Part_8.zip

[Stage 4 Part 9.zip](#) http://www.filefactory.com/file/c0cc5db/n/Stage_4_Part_9.zip

[Stage 4 Part 10.zip](#) http://www.filefactory.com/file/c0cc5f8/n/Stage_4_Part_10.zip

[Stage 3 Part 5.zip](#) http://www.filefactory.com/file/c0ccefd/n/Stage_3_Part_5.zip

[Stage 3 Part 8.zip](#) http://www.filefactory.com/file/c0ccf09/n/Stage_3_Part_8.zip

[Stage 3 Part 9.zip](#) http://www.filefactory.com/file/c0ccf48/n/Stage_3_Part_9.zip

http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip

[AS3000-2007Overview.zip](#)

[AS3000_AS3008TablesExtract.zip](#)

[WiringRules.zip](#)

Part (1) Study the following notes

[Installation_Requirement_1-A.zip](#)

[Installation_Requirement_1-B.zip](#)

[Installation_Requirement_2-A.zip](#)

[Installation_Requirement_2-B.zip](#)

[Stage_2_Wiring.zip](#)

http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip

[AS3000-2007Overview.zip](#)

[AS3000_AS3008TablesExtract.zip](#)

[WiringRules.zip](#)

Part (1) Study the following notes

[Installation_Requirement_1-A.zip](#) [Installation_Requirement_1-B.zip](#)

[Installation_Requirement_2-A.zip](#) [Installation_Requirement_2-B.zip](#)

[Stage_2_Wiring.zip](#)

[Cable_Installation.zip](#)

[Regulatory_Requirement.zip](#)

BACK UP FOR 9 & 10

[Stage 2 Part 1B.zip](#) http://www.filefactory.com/file/c0ccac0/n/Stage_2_Part_1B.zip

[Stage 2 Part 3.zip](#) http://www.filefactory.com/file/c0ccb1f/n/Stage_2_Part_3.zip

[Stage 2 Part 6.zip](#) http://www.filefactory.com/file/c0cccc0/n/Stage_2_Part_6.zip

[Stage 3 Part 3.zip](#) http://www.filefactory.com/file/c0ccd44/n/Stage_3_Part_3.zip

[Stage 3 Part 4.zip](#) http://www.filefactory.com/file/c0ccd9a/n/Stage_3_Part_4.zip

[Stage 3 Part 5.zip](http://www.filefactory.com/file/c0ccefd/n/Stage_3_Part_5.zip)http://www.filefactory.com/file/c0ccefd/n/Stage_3_Part_5.zip

[Stage 3 Part 8.zip](http://www.filefactory.com/file/c0ccf09/n/Stage_3_Part_8.zip) http://www.filefactory.com/file/c0ccf09/n/Stage_3_Part_8.zip

[Stage 3 Part 9.zip](http://www.filefactory.com/file/c0ccf48/n/Stage_3_Part_9.zip) http://www.filefactory.com/file/c0ccf48/n/Stage_3_Part_9.zip

[Stage 4 Part 7.zip](http://www.filefactory.com/file/c0cc479/n/Stage_4_Part_7.zip)http://www.filefactory.com/file/c0cc479/n/Stage_4_Part_7.zip

[Stage 4 Part 8.zip](http://www.filefactory.com/file/c0cc5a1/n/Stage_4_Part_8.zip) http://www.filefactory.com/file/c0cc5a1/n/Stage_4_Part_8.zip

[Stage 4 Part 9.zip](http://www.filefactory.com/file/c0cc5db/n/Stage_4_Part_9.zip) http://www.filefactory.com/file/c0cc5db/n/Stage_4_Part_9.zip

[Stage 4 Part 10.zip](http://www.filefactory.com/file/c0cc5f8/n/Stage_4_Part_10.zip) http://www.filefactory.com/file/c0cc5f8/n/Stage_4_Part_10.zip

http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip G103+104 Notes+Lessons http://www.filefactory.com/file/2bg8qift6nzh/n/G103_G104.zip
Wiring_Notes_1_ Wiring_Notes_2 Switchboard_Wiring 1Wiring_E033_E008 2Wiring_E033_E008 Fixing Equipments E002_E005.zip Lighting.zip E_trade_1.zip E_trade_2.zip E_trade_3.zip E_trade_4.zip G008_General_Notes_1.zip G008_General_Notes_2.zip Hazard_Identification.zip G003_G004_Wiring_2_Part_1.zip G003_G004_Wiring_2_Part_2.zip Cable_CktProt_E_Accessories.zip Cable_Conduit_E_Accessories.zip Elect_Installation_Protection_Method_Devices.zip Elect_Installation_Requirement_1.zip Elect_Installation_Requirement_1.zip Elect_Installation_Requirement_2.zip ElectricInstallationDesign.zip ElectSystSafety1.zip ElectSystSafety2.zip FireProtHeatingTestingEarthing.zip GeneralWiring.zip HazardLightingPanel.zip PanelRCDWireSpecial_Installation.zip ProtectionMethods.zip

[Electrician Capstone unit.pdf](#)

http://www.filefactory.com/file/c392ae1/n/Electrician_Capstone_unit.pdf

Electrician Capstone Test Old Questions

[Electrician Capstone Unit Study Guide.zip](#)

http://www.filefactory.com/file/c4bbf1b/n/Electrician_Capstone_Unit_Study_Guide.zip

ONLINEASSESSMENT (17)

Reflect your experience in the work place , write the technical report of 10 pages & submit it.

After you have done the test, the score can be printed out in PDF format The score with at least 50% or more for all tests, it will be record of 4 HR x 0.5 = 2HR

10.General Protections

1. Basic Protection Principles
2. Instrument Transformers
3. Co-ordination of Over-current and Earth Protection for Distribution Systems
4. Pilot-wire Differential Protection Feeder

STUDY MATERIALS (General Protection Principles)

[AE.zip](#)

<http://www.filefactory.com/file/c0b7ff7/n/AE.zip>
[G015_G042_G037_G038_G039_Part_2_Notes](#)

[ESI_27.1_Arts_and_Science_of_Protective_Relaying_1.zip](#)

[ESI 27.2 Arts and Science of Protective Relaying 2.zip](#)

[ESI 27.3 Arts and Science of Protective Relaying 3.zip](#)

[ESI 27.4Circuit Breaker 1.zip](#) [ESI 27.5 Circuit Breaker 2.zip](#)

[ESI 27_1 Relay Principle 1.zip](#) [ESI 27_1 Relay Principle 2.zip](#)

[ESI 27_1 Relay Principle 3.zip](#) [ESI 27.2 Element of Relay Protection.zip](#)

[ESI 27.3 Relay operation characteristics.zip](#) [ESI 27.4 Relay connection and response.zip](#)

[ESI 27.5 Machine and busbar protection 1.zip](#) [ESI 27.5 Machine and busbar protection 2.zip](#)

[ESI 27.5 Machine and busbar protection 3.zip](#)

[ESI 27.6 Feeder protection.zip](#) [ESI 27.7 CT and PT.zip](#) [ESI 27.9 Comparator.zip](#)

[ESI 27.10 Static relay.zip](#) [ESI 27.11 Test and maintenance.zip](#)

[ESI 27.12 Circuit Breaker 1.zip](#) [ESI 27.12 Circuit Breaker 2.zip](#)

[ESI 27.12 Circuit Breaker 3.zip](#) [ESI 27.12 Circuit Breaker 4.zip](#)

[ESI 27.8 Line protection 1.zip](#) [ESI 27.8 Line protection 2.zip](#)

[ESI 27.8 Line protection 3.zip](#) [ESI 27.5 Machine and busbar protection 2_0.zip](#)

ONLINE MCQ TEST (18)

G015+G046 Test 4

http://www.filefactory.com/file/4obspr3n1fkf/n/G015_G046_Online_Test_4_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/faf4fd339f25425784a5c04d186fe5db#/InitializeTest.xaml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code ----CCLV2SN

ONLINE MCQ TEST (19)

G015+G046 Test 5

http://www.filefactory.com/file/5t1q4kveec4v/n/G015_G046_Online_Test_5_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/0fd45546932d49dbb628fee5cbbaed7b#/InitializeTest.xaml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code ----T6X5982

After you have done the test, the score can be printed out in PDF format The score with at least 50% or more for all tests, it will be record of 2 HR x 0.5 = 1HR

TOTAL PROFESSIONAL DEVELOPMENT PROGRAM (PDP) HOURS = 20 Hours For Year 1 &

SCOPE Electrical PE (Building Services)

PART (2)

YEAR 3 & 4 (Minumum 3 to 4 years is required for a graduate to become a PE)

The practice reports need to write for each topics of the study materials included in Scope Part II.

The reports should include the followings:

- Professional topics----- You need to select the topic such as building electrical wiring or power distribution etc
- Fundamental of Engineering- What knowledge you got from the materials in your selected professional topic..
- Engineering Management--- How will you manage the I project / workforce to implement the engineering tasks by applying those knowledge in actual workplace project or simulated work place and project?.
- Rules Regulations, Standards & Specifications- You need to refer the relevant engineering rules, regulations, standards and specifications in the tasks expressed in your report.
- Safety---How will you safeguard public safety in performing the engineering tasks?
- Ethics--- How will you apply professional code of ethics in performing the engineering tasks?

The candidate should use the following format in the practice exercise reports for each topics of the Scope II that are simulated practice tasks for preparing the Professional Experience and Competency Report to be submitted to Myanmar Engineers Board for Professional Engineer (PE) Registration.

Section (1) Introduction

Section (2) Work experiences in brief and highlight the major important projects

Section 3 to 10 , the following competency should be addressed

- Apply engineering knowledge, methods and techniques
- Use of engineering technology , tools and equipments
- Safeguard public safety
- Recognition the impacts of engineering on the environment , economy and society.
- Manage engineering activities
- Communicate engineering information.
- Work collaboratively
- Main and enhance engineering skills and knowledge. (Ref-MEB PEng Reg)

1.Electrical Power Supply

1. Generation, Transmission and Distribution
2. Application of Electricity
3. Solar Photovoltaic System
4. Design of Electrical Installation
5. Load Estimation
6. Power Factor Correction
7. Power Quality and Power System Harmonics
8. Consumer and Substation Switchboards and Switch Gears
9. Maintenance of Electrical Equipments, Switch Gears and Cables
10. Design of Energy Efficiency and Sustainability

STUDY MATERIALS (Electrical Power Supply)

[G008 General Notes 1.zip](#) [G008 General Notes 2.zip](#) [MachineControlCkt1.zip](#) [MachineControlCkt2.zip](#)

[MachineControlCkt3.zip](#) [MachineRepair1.zip](#) [MachineRepair2.zip](#) [MachineRepair3.zip](#) [ProcessControlCkt1.zip](#)
[ProcessControlCkt2.zip](#) [ProcessControlCkt3.zip](#)

[ESI 8 Insulation 1](#) [ESI 8 Insulation 2](#) [ESI 9.1 Protection Relay Construction](#)

[ESI 9.2Test Equipment](#) [ESI 33.1 Power Quality Concept](#) [ESI 33.2 Harmonic in capacitor](#)

[ESI 33.3 Harmoniceffect on machines](#) [ESI 3.1 HV Measurement Cable Test.zip](#)

[ESI 3.2 Magnetic measurement.zip](#) [ESI 3.3 Power measurement.zip](#)

[ESI 3.4 RLC measurement 1.zip](#) [ESI 3.4 RLC measurement 2.zip](#) [ESI 3.4 RLC measurement 3.zip](#)

[ESI 3.5 Digital equipments.zip](#) [ESI 3.6 V.A.W meter.zip](#) [ESI 3.7T and M.zip](#) [ESI 3.8 Thermography.zip](#)

[ESI 4 11 Power Transformer.zip](#) [ESI 5 Machinery Installation.zip](#) [ESI 7 Drawing Switching Diagram.zip](#)

[ESI 7 Electrical Installation Design.zip](#) [ESI10.1 HV equipments.zip](#)

[ESI10.2 Substation equipments.zip](#) [ESI12 14 Harmonic.zip](#)

[ESI12 14 Reactor.zip](#) [ESI12 14 Syn Motor Generator.zip](#)

[ESI 13 Voltage regulation devices.zip](#)

[Power system 2-G037+G038+G039.zip](#)

http://www.filefactory.com/file/c0b7a33/n/Power_system_2-G037_G038_G039.zip

[ESI12 14 Harmonic](#) [ESI12 14 Reactor](#) [ESI12 14 Syn Motor Generator](#)

[ESI 19.1 Computer Control](#) [ESI 19.4 Turbine Control](#)

[ESI 19.2 Generator Control Load Flow](#)

[ESI 19.3 Generator](#) [ESI 22.1 Generator Study](#) [ESI 22.2 Voltage surge control](#)

[ESI 24 Modern Power System](#)

[2.bUnintentional islanding in distribution grids with a high penetration of inverter-based DG.mht](#)

2.Un intentional islanding in distribution grids-Part 2 [2.c.pdf](#)

2.Un intentional islanding in distribution grids-Part 3 [2.d-1.pdf](#)

2.Distribution Network 1 [2b_Distribution_Network.pdf](#)

2.Distribution Network 2 [2d-2.pdf](#)

2.Distribution Network 3 [2d-3.pdf](#)

[Solar Inspector Training.zip](#)

[ESI_22.2_Voltage_surge_control.zip](#)

[ESI_33.5_Harmonic_in_transformer.zip](#)

[ESI_33.6_Power_Quality_Improvement_Capacitor_bank.zip](#)

[ESI_33.7_Power_Quality_Improvement-Filter.zip](#)

[ESI_33.8_Power_Quality_Improvement-General.zip](#)

[ESI_33.9_Power_Quality_Improvement-Power_Conditioner.zip](#)

[ESI_25_27_31_32_Part_2_Installation_and_testing_0.zip](#)

[ESI_25_27_31_32_Part_3_Electrical_Drawing.zip](#)

[ESI_25_27_31_32_Part_4_Data_Com_and_Wiring.zip](#)

[ESI_25_27_31_32_Part_5_Installation_Work_Books.zip](#)

[ESI_25_27_31_32_Part_6_Switching_1_2.zip](#)

[ESI_25_27_31_32_Part_7_Switching_3_4.zip](#)

[ESI_25_27_31_32_Part_8a_Electrical_Installation_Requirement_1.zip](#)

[ESI_25_27_31_32_Part_8b_Electrical_Installation_Requirement_2.zip](#)

[ESI_13_Voltage_Regulating_Devices.zip](#)

[ESI_27.7_CT_and_PT.zip](#)

[ESI_27.9_Comparator.zip](#) [ESI_27.10_Static_relay.zip](#) [ESI_27.11_Test_and_maintenance.zip](#)

Advanced Diploma in Electricity Supply Industry (ESI)

The [LINK](#) for

Study Package (2)-Power System Planning

Study Package (3)-Testing

The [LINK](#) for

Study Package (16+17)-OHS

Study Package (20) Transmission System

Study Package (28) Power Accessories

The [LINK](#) for

Study Package (23) Machine Rating

The [LINK](#) for

Study Package (5) Machine Installation

Study Package (9) Protection

[ESI_9.2Test_Equipment.zip](#)

The [LINK](#) for

Study Package (3)-Testing

Study Package (5) Machine Installation

Study Package (15) Electrical Estimating

The [LINK](#) for

Study Package (1)-OHS

Study Package (12) Harmonics

Study Package (19) Computer Control

Study Package (20) Transmission System

The [LINK](#) for

Study Package (4) Power Transformer

Study Package (7) Drawing

Study Package (21+34)-Electrical Distribution

The [LINK](#) for

Study Package (10) HV Equipments

Study Package (18) Sub station equipments

The [LINK](#) for

Study Package (12) Harmonics

Study Package (22) Generator

Study Package (24) Signal Communication

The [LINK](#) for

Study Package (19) Generator

Study Package (25+27+31+32) Installation & Testing

The [LINK](#) for

Study Package (9) Protection

Study Package (16+17)-OHS

The [LINK](#) for

Study Package (22) Generator

The [LINK](#) for

Study Package (34) Power Equipments Commissioning

Study Package (21+34)-Electrical Distribution

The [LINK](#) for

Study Package (26) (41)

The [LINK](#) for

Study Package (6+ 10) HV Equipments

The [LINK](#) for

Study Package (7) Drawing

Study Package (8) Insulation

Study Package (13) Voltage Regulation

The [LINK](#) for

Study Package (15) Electrical Estimating

Study Package (15) Transmission System

Study Package (25+27+31+32) Installation & Testing

The [LINK](#) for

Study Package (18) Sub station equipments

Study Package (28) Power Accessories

The [LINK](#) for

Study Package (24) Modern Power System

The [LINK](#) for

Study Package (33) Power Quality

The [LINK](#) for

Study Package (27) Relay

The [LINK](#) for

Study Package (13) Voltage Regulation

The [LINK](#) for

Study Package (35)

The [LINK](#) for

Study Package (34) Equipments Commissioning

The [LINK](#) for

Study Package (8) Insulation

Study Package (12) Harmonics

The [LINK](#) for

Study Package (25+27+31+32) Installation & Testing

Study Package (25+27+31+32) Installation & Testing

The [LINK](#) for

Study Package (27) Relay

The [LINK](#) for

Study Package (20) Transmission System

EXERCISE ASSESSMENT (20)

Based on the study you got from the above resources, write a professional experiences and competency report for engineering tasks in electrical power supply in above mentioned format & submit it to the assessor.

(Weighted informal learning time for CPD including study &

report= 20Hr x 0.5= 10Hr)

2.Lighting Requirement for Workplace , Indoor and Outdoor

1. Visual Needs for Safety and Security
2. Determine the Lighting Requirement for Indoor and Outdoor Workplaces

STUDY MATERIALS (Lighting Requirement)

[Lighting.zip](#) [E_trade_1.zip](#) [E_trade_2.zip](#) [E_trade_3.zip](#) [E_trade_4.zip](#)

[G008_General_Notes_1.zip](#) [G008_General_Notes_2.zip](#) [Hazard_Identification.zip](#)

[K041_Lesson_16-Energy_efficiency+Lighting.zip](#)

http://www.filefactory.com/file/c0b6e0f/n/K041_Lesson_16-Energy_efficiency_Lighting.zip

[K041_Lesson_17-Illumination+Smoke_alarm.zip](#)

http://www.filefactory.com/file/c0b6fc5/n/K041_Lesson_17-Illumination_Smoke_alarm.zip

EXERCISE ASSESSMENT (21)

Based on the study you got from the above resources, write a professional experiences and competency report for engineering tasks in workplace lighting in above mentioned format & submit it to the assessor.

(Weighted informal learning time for CPD including study & report= 20Hr x 0.5= 10Hr)

3.Energy Efficiency Requirement

1. Minimum Energy Efficiency Requirements for New Installation and Replacement of Systems and Equipments in Buildings
2. Replacement of Components of Systems and Equipments in Buildings
3. Criteria for Determining Compliance with Energy Efficiency in Building with regards to Air conditioning and Heat Rejection Equipments, Water Heater, Motor Drives and Lighting used in Buildings.

STUDY MATERIALS (Energy Efficiency)

Building Design+Material Science-K041+E047.zip http://www.filefactory.com/file/c0b645d/n/Building_Design_Material_Science-K041_E047.zip
K041_Building_Design_1 K041_Building_Design_2 K041Airconditioning K041Energy_Management_Textbook E047Mech

[UEENEEK041B E047B Tutorials](#)

[Energy_survey_assignment](#)

[K041Textbook1.zip](#) [K041Textbook2.zip](#) [K041Textbook3.zip](#)

EXERCISE ASSESSMENT (22)

Based on the study you got from the above resources, write a professional experiences and competency report for engineering tasks in energy efficiency in above mentioned format & submit it to the assessor.

(Weighted informal learning time for CPD including study & report= 20Hr x 0.5= 10Hr)

4. Protection for Safety
1. Principle of Operation of Protective Devices
2. Maximum Demand and Diversity Factors
3. Protection against Over Current and Short Circuit Currents
4. Protective Devices and Circuit Conductors
5. Discrimination in Protection of Electrical Circuits

STUDY MATERIALS (Protection for Safety)

http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip G033 http://www.filefactory.com/file/1b2utxydvcx7/n/G033.zip

[Wiring_Notes_1.](#)

[Wiring_Notes_2 Switchboard Wiring](#)

[1Wiring_E033_E008 2Wiring_E033_E008](#)

Fixing Equipments

[E002_E005.zip Lighting.zip](#)

[E_trade_1.zip](#)

[E_trade_2.zip](#)

[E_trade_3.zip](#)

[E_trade_4.zip](#)

[G008_General_Notes_1.zip](#)

[G008_General_Notes_2.zip](#)

[Hazard_Identification.zip](#)

[G003_G004_Wiring_2_Part_1.zip](#)

[G003_G004_Wiring_2_Part_2.zip](#)

[Cable_CktProt_E_Accessories.zip](#)

[Cable_Conduit_E_Accessories.zip](#)

[Elect_Installation_Protection_Method_Devices.zip](#)

[Elect_Installation_Requirement_1.zip](#)

[Elect_Installation_Requirement_1.zip](#)

[Elect_Installation_Requirement_2.zip](#)

[ElectricInstallationDesign.zip](#)

[ElectSystSafety1.zip](#)

[ElectSystSafety2.zip](#)

[FireProtHeatingTestingEarthing.zip](#)

[GeneralWiring.zip](#)

[HazardLightingPanel.zip](#)

[PanelRCDWireSpecial_Installation.zip](#)

[ProtectionMethods.zip](#)

[G008_General_Notes_1.zip](#) [G008_General_Notes_2.zip](#) [MachineControlCkt1.zip](#) [MachineControlCkt2.zip](#)

[MachineControlCkt3.zip](#) [MachineRepair1.zip](#) [MachineRepair2.zip](#) [MachineRepair3.zip](#) [ProcessControlCkt1.zip](#)
[ProcessControlCkt2.zip](#) [ProcessControlCkt3.zip](#)

[ESI_8_Insulation_1](#) [ESI_8_Insulation_2](#) [ESI_9.1_Protection_Relay_Construction](#)

[ESI_9.2Test_Equipment](#) [ESI_33.1_Power_Quality_Concept](#) [ESI_33.2_Harmonic_in_capacitor](#)

[ESI_33.3_Harmoniceffect_on_machines](#) [ESI_3.1_HV_Measurement_Cable_Test.zip](#)

[ESI_3.2_Magnetic_measurement.zip](#) [ESI_3.3_Power_measurement.zip](#)

[ESI_3.4_RLC_measurement_1.zip](#) [ESI_3.4_RLC_measurement_2.zip](#)

[ESI_3.4_RLC_measurement_3.zip](#)

[ESI_3.5_Digital equipments.zip](#) [ESI_3.6_V.A.W_meter.zip](#) [ESI_3.7T_and_M.zip](#)

[ESI_3.8_Thermography.zip](#)

[ESI_4_11_Power_Transformer.zip](#) [ESI_5_Machinery_Installation.zip](#)

[ESI_7_Drawing_Switching_Diagram.zip](#) [ESI_7_Electrical_Installation_Design.zip](#)

[ESI10.1_HV equipments.zip](#) [ESI10.2_Substation equipments.zip](#)

[ESI12_14_Harmonic.zip](#) [ESI12_14_Reactor.zip](#)

[ESI12_14_Syn_Motor_Generator.zip](#) [ESI_13_Voltage_regulation_devices.zip](#)

[BACK UP FOR 4](#)

[Stage 3 Part 3.zip](#) http://www.filefactory.com/file/c0ccd44/n/Stage_3_Part_3.zip

[Stage 4 Part 15.zip](http://www.filefactory.com/file/c0cc7cb/n/Stage_4_Part_15.zip) http://www.filefactory.com/file/c0cc7cb/n/Stage_4_Part_15.zip

[Stage 4 Part 17.zip](http://www.filefactory.com/file/c0cc76b/n/Stage_4_Part_17.zip) http://www.filefactory.com/file/c0cc76b/n/Stage_4_Part_17.zip

[Stage 4 Part 7.zip](http://www.filefactory.com/file/c0cc479/n/Stage_4_Part_7.zip) http://www.filefactory.com/file/c0cc479/n/Stage_4_Part_7.zip

[Stage 4 Part 14.zip](http://www.filefactory.com/file/c0cc684/n/Stage_4_Part_14.zip) http://www.filefactory.com/file/c0cc684/n/Stage_4_Part_14.zip

Study Package (19) Generator

[ESI 19.4 Generator .zip](#)

Study Package (28) Power Accessories

[ESI 28.1 Power Accessories 1.zip](#) [ESI 28.2 Power Accessories 2.zip](#)

[ESI 28.3 Power Accessories 3.zip](#) [ESI 28.4 Power Accessories 4.zip](#)

[ESI 28.5 Power Accessories 5.zip](#) [ESI 28.6 Power Accessories 6.zip](#)

Study Package (34) Equipments Commissioning

[ESI 34.1 Background theory for equipments commissioning 1.zip](#)

[ESI 34.2 Background theory for equipments commissioning 2.zip](#)

[ESI 34.3 Background theory for equipments commissioning 3.zip](#)

[ESI 34.4 Background theory for equipments commissioning 4.zip](#)

[ESI 34.5 Background theory for equipments commissioning 5.zip](#)

[ESI 34.6 Background theory for equipments commissioning 6.zip](#)

Study Package (27) Relay

[ESI 27_1 Relay Principle 1.zip](#) [ESI 27_1 Relay Principle 2.zip](#)

[ESI 27_1 Relay Principle 3.zip](#)

[ESI 27.2 Element of Relay Protection.zip](#)

[ESI 27.3 Relay operation characteristics.zip](#) [ESI 27.4 Relay connection and response.zip](#)

[ESI 27.5 Machine and busbar protection 1.zip](#) [ESI 27.5 Machine and busbar protection 2.zip](#)

[ESI 27.5 Machine and busbar protection 3.zip](#)

[ESI 27.6 Feeder protection.zip](#) [ESI 27.7 CT and PT.zip](#) [ESI 27.9 Comparator.zip](#)

[ESI 27.10 Static relay.zip](#) [ESI 27.11 Test and maintenance.zip](#)

[ESI 27.12 Circuit Breaker 1.zip](#) [ESI 27.12 Circuit Breaker 2.zip](#)

[ESI 27.12 Circuit Breaker 3.zip](#) [ESI 27.12 Circuit Breaker 4.zip](#)

[ESI 27.8 Line protection 1.zip](#) [ESI 27.8 Line protection 2.zip](#)

[ESI 27.8 Line protection 3.zip](#) [ESI 27.5 Machine and busbar protection 2 0.zip](#)

EXERCISE ASSESSMENT (23)

Based on the study you got from the above resources, write a professional experiences and competency report for engineering tasks in protection and safety in above mentioned format & submit it to the assessor.

(Weighted informal learning time for CPD including study & report= 20Hr x 0.5= 10Hr)

5.Cables,Bus-ways and Distribution Boards

1. Types and Characteristics of Cables
2. Method Installation
3. Sizing of Conduit and Trunking
4. Factors Affecting the Current Carrying Capacities of Cables
5. Sizing of Cables and Bus-ways for use Under Different Types of Conditions
6. Connected Load, Maximum Demand and Circuit Breakers Ratings for an Electrical Distribution Board

STUDY MATERIALS (Electrical Installation)

http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip

[AS3000-2007Overview.zip](#) [AS3000_AS3008TablesExtract.zip](#) [WiringRules.zip](#)

Part (1) Study the following notes

[Installation_Requirement_1-A.zip](#) [Installation_Requirement_1-B.zip](#)

[Installation_Requirement_2-A.zip](#) [Installation_Requirement_2-B.zip](#)

[Stage_2_Wiring.zip](#)

[G003_G004_Wiring_2_Part_1.zip](#)

[G003_G004_Wiring_2_Part_2.zip](#)

[Cable_CktProt_E_Accessories.zip](#)

[Cable_Conduit_E_Accessories.zip](#)

[Elect_Installation_Protection_Method_Devices.zip](#)

[Elect_Installation_Requirement_1.zip](#)

[Elect_Installation_Requirement_1.zip](#)

[Elect_Installation_Requirement_2.zip](#)

[ElectricInstallationDesign.zip](#)

[ElectSystSafety1.zip](#)

[ElectSystSafety2.zip](#)

[FireProtHeatingTestingEarthing.zip](#)

[GeneralWiring.zip](#)

[HazardLightingPanel.zip](#)

[PanelRCDWireSpecial_Installation.zip](#)

[ProtectionMethods.zip](#)

Assessment

Read the above notes files and do the assignments for the following tutorial file.

[WiringPracticals.zip](#)

[G003G004Tutorial.zip](#)

PRACTICAL

Workshop 2+3

[WorkShop_Part_2_Practical_1_to_6_.zip](#) [WorkShop_Part_2_Practical_7_to_12_.zip](#)

[WorkShop_Part_2_Practical_13_to_17_.zip](#) [WorkShop_Part_2_Practical_18_to_21_.zip](#)

[ElectricalWorkshopPart3_G008_Group1Machine_.zip](#)

[ElectricalWorkshopPart3_G008_Group2LineProtection_.zip](#)

[ElectricalWorkshopPart3_G008_Group3InstrumentsDevices_.zip](#)

OTHER PRACTICALS

[ELECTRICAL_WORKSHOP_PART_2_G003_G004_G009_.zip](#)

[Electrical_Workshop_Part_2_Practical_1_to_18.zip](#)

[Electrical_Workshop_Part_2_Practical_19_to_21.zip](#)

[G003_G004_G009Practicals.pdf](#)

G005

UEENEEG005B		Verify compliance and functionality of general electrical installations
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[G005.zip](#)

Power Distribution Trade

[Power_Distribution_Trade.zip](#)

Metering

[Metering.zip](#)

Switch Gear

[Elect_Installation_Protection_Method_Devices.zip](#)

[ElectSystSafety1.zip](#)

[ElectSystSafety2.zip](#)

7762AH Power System Fundamental

[AH_Day_1.zip](#) [AH_Day_2_3.zip](#) [AH_Day_4.zip](#) [AH_Day_5.zip](#) [AH_Day_6_7_8.zip](#)

[ESI_27.4Circuit_Breaker_1.zip](#) [ESI_27.5_Circuit_Breaker_2.zip](#)

[ESI_7_Switching_system_design_consideration.zip](#) [ESI_8.2_Site_Insulation_Surge_Protection.zip](#)

EXERCISE ASSESSMENT (24)

Based on the study you got from the above resources, write a professional experiences and competency report for engineering tasks in electrical installation in above mentioned format & submit it to the assessor.

(Weighted informal learning time for CPD including study & report= 20Hr x 0.5= 10Hr)

6.Earthing

1. Purpose of Earthing
2. Methods of Earthing
3. Earth Fault Loop Impedance and Earth Fault Current
4. Suitable Sizes of Circuit Protective Conductor
5. Testing of Earthing

STUDY MATERIALS (Electrical Earthing)

G007

[G007 Lesson 1 AS3000 Wiring rule overview.zip](#)

http://www.filefactory.com/file/cf94220/n/G007_Lesson_1_AS3000_Wiring_rule_overview.zip

[G007 Lesson 2 Maximum Demand calculation.zip](#)

http://www.filefactory.com/file/cf9456f/n/G007_Lesson_2_Maximum_Demand_calculation.zip

[G007 Lesson 3 Cable selection.zip](#)

http://www.filefactory.com/file/cf9465c/n/G007_Lesson_3_Cable_selection.zip

[G007 Lesson 4 Cable voltage drop calculation.zip](#)

http://www.filefactory.com/file/cf9479e/n/G007_Lesson_4_Cable_voltage_drop_calculation.zip

[G007 Lesson 5 Derating of cable part 1.zip](#)

http://www.filefactory.com/file/cf95acb/n/G007_Lesson_5_Derating_of_cable_part_1.zip

[G007 Lesson 6 Derating of cable part 2.zip](#)

http://www.filefactory.com/file/cf95a6b/n/G007_Lesson_6_Derating_of_cable_part_2.zip

[G007 Lesson 7 Derating of cable for HRC fuse protection.zip](#)

http://www.filefactory.com/file/cf95cd7/n/G007_Lesson_7_Derating_of_cable_for_HRC_fuse_protection.zip

[G007 Lesson 8 Final subcircuit fault loop impedance.zip](#)

http://www.filefactory.com/file/cf95dd1/n/G007_Lesson_8_Final_subcircuit_fault_loop_impedance.zip

Electrical Installation requirement

[FireProtHeatingTestingEarthing.zip](#)

[HazardLightingPanel.zip](#)

[PanelRCDWireSpecial_Installation.zip](#)

[ProtectionMethods.zip](#)

[ESI_8.2_Site_Insulation_Surge_Protection.zip](#)

[Power system 2-G037+G038+G039.zip](#)

http://www.filefactory.com/file/c0b7a33/n/Power_system_2-G037_G038_G039.zip

[G037+G038+G039 Lesson 2-Site Earthing.zip](#)

http://www.filefactory.com/file/c0bb244/n/G037_G038_G039_Lesson_2-Site_Earthing.zip

[G037+G038+G039 Lesson 8-Turbine Control+Power Line Earthing.zip](#)

http://www.filefactory.com/file/c0bb521/n/G037_G038_G039_Lesson_8-Turbine_Control_Power_Line_Earthing.zip

[G037+G038+G039 Lesson 9-Insulator.zip](#)

http://www.filefactory.com/file/c221eff/n/G037_G038_G039_Lesson_9-Insulator.zip

Power System (2)

[G037+G038+G039 Lesson 1-Power Flow.zip](#)

http://www.filefactory.com/file/c0bb2a3/n/G037_G038_G039_Lesson_1-Power_Flow.zip
[G037+G038+G039 Lesson 2-Site Earthing.zip](#)

http://www.filefactory.com/file/c0bb244/n/G037_G038_G039_Lesson_2-Site_Earthing.zip
[G037+G038+G039 Lesson 4-Auxiliary System+Harmonic.zip](#)

http://www.filefactory.com/file/c0bb3c3/n/G037_G038_G039_Lesson_4-Auxiliary_System_Harmonic.zip
[G037+G038+G039 Lesson 3-Power System Control Equipments.zip](#)

http://www.filefactory.com/file/c0bcd7/n/G037_G038_G039_Lesson_3-Power_System_Control_Equipments.zip
[G037+G038+G039 Lesson 5-Harmonic.zip](#)

http://www.filefactory.com/file/c0bb35b/n/G037_G038_G039_Lesson_5-Harmonic.zip
[G037+G038+G039 Lesson 6-Harmonic Calculation.zip](#)
http://www.filefactory.com/file/c0bb43f/n/G037_G038_G039_Lesson_6-Harmonic_Calculation.zip

[G037+G038+G039 Lesson 7-Synchronous Generator Loading.zip](#)

http://www.filefactory.com/file/c0bb49d/n/G037_G038_G039_Lesson_7-Synchronous_Generator_Loading.zip
[G037+G038+G039 Lesson 8-Turbine Control+Power Line Earthing.zip](#)
http://www.filefactory.com/file/c0bb521/n/G037_G038_G039_Lesson_8-Turbine_Control_Power_Line_Earthing.zip

[G037+G038+G039 Lesson 9-Insulator.zip](#)

http://www.filefactory.com/file/c221eff/n/G037_G038_G039_Lesson_9-Insulator.zip

[G037+G038+G039 Lesson 10-Reliability of Power System.zip](#)
http://www.filefactory.com/file/c0bb6e4/n/G037_G038_G039_Lesson_10-Reliability_of_Power_System.zip

[G037+G038+G039 Lesson 11-Harmonic Reduction.zip](#)

http://www.filefactory.com/file/c0bce89/n/G037_G038_G039_Lesson_11-Harmonic_Reduction.zip
[G037+G038+G039 Lesson 12-Grounding + Power Quality.zip](#)
http://www.filefactory.com/file/c0bb872/n/G037_G038_G039_Lesson_12-Grounding_Power_Quality.zip
[G037+G038+G039 Lesson 13-Power Quality.zip](#)
http://www.filefactory.com/file/c0bb98d/n/G037_G038_G039_Lesson_13-Power_Quality.zip
[G037+G038+G039 Lesson 14-Harmonic Model.zip](#)
http://www.filefactory.com/file/c0bcd7/n/G037_G038_G039_Lesson_14-Harmonic_Model.zip
[G037+G038+G039 Lesson 15-Harmonic Losses in Transformer.zip](#)
http://www.filefactory.com/file/c0bca73/n/G037_G038_G039_Lesson_15-Harmonic_Losses_in_Transformer.zip
[G037+G038+G039 Lesson 16-Reliability Improvement.zip](#)
http://www.filefactory.com/file/c0bcba0/n/G037_G038_G039_Lesson_16-Reliability_Improvement.zip

[G037+G038+G039 Lesson 17-Preparation for emergency.zip](#)

http://www.filefactory.com/file/c0bcbd7/n/G037_G038_G039_Lesson_17-Preparation_for_emergency.zip
[G037+G038+G039 Lesson 18-Harmonic problems.zip](#)
http://www.filefactory.com/file/c0bcb68/n/G037_G038_G039_Lesson_18-Harmonic_problems.zip
[G037+G038+G039 Lesson 19-Synchronous machine problems.zip](#)
http://www.filefactory.com/file/c0bccb8/n/G037_G038_G039_Lesson_19-Synchronous_machine_problems.zip

[G037+G038+G039 Lesson 20-Power Generation + Generator Control.zip](#)

http://www.filefactory.com/file/c0bcc20/n/G037_G038_G039_Lesson_20Power_Generation_Generator_Control.zip
[G037+G038+G039 Lesson 21-Turbine Control+ Digital Excitation.zip](#)

http://www.filefactory.com/file/c0bcd6/n/G037_G038_G039_Lesson_21-Turbine_Control_Digital_Excitation.zip
[G037+G038+G039 Lesson 22-Power System Protection.zip](#)
http://www.filefactory.com/file/c0bcd4c/n/G037_G038_G039_Lesson_22-Power_System_Protection.zip

[G037+G038+G039 Lesson 23-Switch Gear.zip](#)

http://www.filefactory.com/file/c0bcea8/n/G037_G038_G039_Lesson_23-Switch_Gear.zip

EXERCISE ASSESSMENT (25)

Based on the study you got from the above resources, write a professional experiences and competency report for engineering tasks in site earthing in above mentioned format & submit it to the assessor.

(Weighted informal learning time for CPD including study & report= 20Hr x 0.5= 10Hr)

7.Emergency Lighting

1. Exit and Emergency Lighting Requirements for Evaluation of Occupants
2. Types of Back-up Power Supply
3. Exit and Directional Signs

STUDY MATERIALS (Emergency Lighting)

[EE 617 Building Electrical and Mechanical System Part 1 \(1 pt\)](#)

[EE 617 Building Electrical and Mechanical System Part 2](#)

[BAE 606 Building Service Electrical & Mechanical Engineering Lighting.zip](#)

[E_trade_1.zip](#) [E_trade_2.zip](#) [E_trade_3.zip](#) [E_trade_4.zip](#)

EXERCISE ASSESSMENT (26)

Based on the study you got from the above resources, write a professional experiences and competency report for engineering tasks in emergency lighting in above mentioned format & submit it to the assessor.

(Weighted informal learning time for CPD including study & report= 20Hr x 0.5= 10Hr)

8.Standby Power Generator System

1. **Types of Essential and Critical Loads**
2. **Sizing of Generator**
3. **Voltage Regulation and its Effects on Generator Sizing**
4. **Protection of Alternators and Prime Movers**
5. **Installation of Standby Generator System Including Day-tank Battery and Charger, Fuel Supply, Engine cooling system, Plant room ventilation and fresh air intake, contend instrumentation plant and automatic transfer switch.**

STUDY MATERIALS (Standby Power GeneratorSystem)

Study Package (22) Generator

[ESI_22.1_Generator_Study.zip](#)

[ESI_22.2_Voltage_surge_control.zip](#)

Study Package (23) Machine Rating

[ESI_23.1_Generator_Rating.zip](#)

[ESI_23.1_Transformer_Rating.zip](#)

Study Package (24) Modern Power System

[ESI_24_Modern_Power_System.zip](#)

[EE 512 Electrical Power Generation System \(1 pt\)](#)

[EE 512 Principles of Power Systems](#)

[EE 512 Generation Transmission and Distribution of Electrical Power](#)

EXERCISE ASSESSMENT (27)

Based on the study you got from the above resources, write a professional experiences and competency report for engineering tasks in stand by power system in above mentioned format & submit it to the assessor.

(Weighted informal learning time for CPD including study & report= 20Hr x 0.5= 10Hr)

9Automatic Fire Alarm System

1. **Requirement for automatic and manual fire detection system and purpose of compartmentation as required by the fire code.**
2. **Interaction with other building services as emergency voice communication system, lifts, AHU, pressurization fans and auto-doors during alarm activation.**

STUDY MATERIALS (Automatic Fire Alarm System)

Part 1 Over all Knowledge of the subject

[BAE 606 Building Service Electrical & Mechanical Engineering](#)

Part 2 Competency units of the subject

Building Electrical & Mechanical System

[EE 617 Building Electrical and Mechanical System Part 1 \(1 pt\)](#)

[EE 617 Building Electrical and Mechanical System Part 2](#)

[HazardLightingPanel.zip](#)

ADDITIONAL STUDY FOR AUTOMATIC FIRE ALARM SYSTEM

Contact: highlightcomputergroup1@gmail.com to request the URL for download

10. Emergency Voice Communication System

1. Requirement for public address system for building above 24 meters but less than 60 meters.
2. Requirements for emergency voice communication for building above 60 meters.
3. Requirement for fireman intercom.

STUDY MATERIALS (Emergency Voice Communication System)

Study Package (24) Signal Communication

[ESI_26_Electronics_Signals.zip](#)

[FireProtHeatingTestingEarthing.zip](#)

[E071Hazard_Identification_Wk6_.zip](#)

EXERCISE ASSESSMENT (28)

Based on the study you got from the above resources, write a professional experiences and competency report for engineering tasks in emergency voice communication system in above mentioned format & submit it to the assessor.

(Weighted informal learning time for CPD including study & report= 20Hr x 0.5= 10Hr)

ADDITIONAL STUDY FOR EMERGENCY VOICE COMMUNICATION

Contact: highlightcomputergroup1@gmail.com to request the URL for download

11. Inspection, Testing and Common Violation in Electrical Installation

1. Mandatory requirements for inspection and testing of electrical prior to energisation of electrical supply
2. Types of test instruments and standard methods of testing.

STUDY MATERIALS (Electrical Testing & Inspection)

Electrical Risk Assessment

[Project Risk Management References](#)

[Electrician Capstone unit.pdf](#)

http://www.filefactory.com/file/c392ae1/n/Electrician_Capstone_unit.pdf

Electrician Capstone Test Old Questions

[Electrician Capstone Unit Study Guide.zip](#)

http://www.filefactory.com/file/c4bbf1b/n/Electrician_Capstone_Unit_Study_Guide.zip

[SubstationEntry.zip](#)

[Construction ElectricalSafety.zip](#)

[InserviceTesting.zip](#)

UEENEE033

[Electrical_safe_working.zip](#)

[NREL_Disconnect_Reconnect.zip](#)

[AS3000-2007Overview.zip](#)

[AS3000_AS3008TablesExtract.zip](#)

[WiringRules.zip](#)

Part (1) Study the following notes

[Installation_Requirement_1-A.zip](#)

[Installation_Requirement_1-B.zip](#)

[Installation_Requirement_2-A.zip](#)

[Installation_Requirement_2-B.zip](#)

[Stage_2_Wiring.zip](#)

[Cable_Installation.zip](#)

[Protection_1.zip](#)

[Protection_2.zip](#)

[System_safety_1.zip](#)

[System_safety_2.zip](#)

[Regulatory_Requirement.zip](#)

[FireProtHeatingTestingEarthing.zip](#)

EXERCISE ASSESSMENT (29)

Based on the study you got from the above resources, write a professional experiences and competency report for engineering tasks in electrical safety inspection and testing in above mentioned format & submit it to the assessor.

(Weighted informal learning time for CPD including study & report= 20Hr x 0.5= 10Hr)

12.Measuring Instruments

1. Principle of operation of Electrical Measuring Instruments
2. Essential of Indicating Instruments
3. Types of Instruments
4. Errors Common to All Types of Instruments
5. Moving Iron Instruments
6. Moving coil Instruments
7. Comparison Between Moving Iron and Moving Coil Instruments
8. Comparison Between Moving Iron and Dynamometer Type Instrument
9. Extension of Instrument Range
10. Measurement of Power
11. Watt Meter, Dynamometer Type Wattmeter
12. Energy Meter, Multi-meter or AVO Meter, Electronic Multi-meter
13. Digital Multi-meter

STUDY MATERIALS (Electrical Measurement)

[EE 404 Electrical Measurement \(1 pt\)](#)

EXERCISE ASSESSMENT (30)

Based on the study you got from the above resources, write a professional experiences and competency report for engineering tasks in electrical measurement and testing in above mentioned format & submit it to the assessor.

(Weighted informal learning time for CPD including study & report= 20Hr x 0.5= 10Hr)

13.Electrical Engineering Codes/ Standards

1. Codes, Standards and Regulations
2. Codes and Standards for building services

STUDY MATERIALS (Electrical Engineering Code and Standard)

MYANMAR

[Myanmar Electrical Regulations](#)

UK

[IEE2002](#)

[Electrical Building Services IEE based](#)

[Domestic Electric Wiring BS7671_2008](#)

[Handbook of Electrical Installation Practice UK](#)

USA

[IEEE colored books](#)

[Handbook of Electrical Design Details](#)

[American Electrician Handbook](#)

IEC

[Electrical Engineer Portable Handbook \(IEC\)](#)

AUSTRALIA & NEW ZEALAND

[Australian Electrical Wiring Rules Part 1](#)

[Australian Electrical Wiring Rules Part 2](#)

[Australian Electrical Wiring Rules Part 3](#)

[New South Wales Electrical Service Rules Australia](#)

OTHERS

[Switch Gear Manual](#)

[Energy Management Handbook](#)

[Handbook of Electrical Design Details](#)

[Newnes Electrical Power Engineer Handbook](#)

[Newnes Electrical Engineers Handbook](#)

[Power Fault Calculation & Protection Cable Selection Note](#)

[Power Data Planning India](#)

[Switch Gear Online](#)

[Engineering Competency Report Submitted by U Kyaw Naing for Registered Professional Engineer of Queensland](#)

REFERENCES

[Service_Rule_1](#) [Service_Rule_2](#) [Service_Rule_3](#)

[AS3000 Wiring Rules Overview](#)

[AS3000-2007Overview.zip](#)

[AS3000_AS3008TablesExtract.zip](#)

[WiringRules.zip](#)

[E071DesiE071HVOverheadConductors_Wk2-3_.zip](#)

[E071LVOverheadConductor_Wk4-5_.zip](#)

[E071Hazard_Identification_Wk6_.zip](#)

[E071General_Wiring_Wk7-8_.zip](#)

[E071UGCableSpecification_Wk9-10-11_.zip](#)

[E071TelecomDatacom_Wk12_.zip](#)

[E071Switching_Wk13_.zip](#)

[E071DesignStdOHDevelopment_Wk14-16_.zip](#)

[12-Specifications](#)

[13-BSpecifications](#)

[14-Specifications](#)

[E071DesiE071HVOverheadConductors_Wk2-3_.zip](#)

[6-ElectricalDrawing](#)

BACK UP FOR 2, 6 & 10

[Stage 4 Part 7.zip](#) http://www.filefactory.com/file/c0cc479/n/Stage_4_Part_7.zip

[Stage 4 Part 11.zip](#) http://www.filefactory.com/file/c0cc540/n/Stage_4_Part_11.zip

[Stage 4 Part 12.zip](#) http://www.filefactory.com/file/c0cc566/n/Stage_4_Part_12.zip

[Stage 4 Part 13.zip](#) http://www.filefactory.com/file/c0cc6c1/n/Stage_4_Part_13.zip

[Electrician Capstone unit.pdf](#)

http://www.filefactory.com/file/c392ae1/n/Electrician_Capstone_unit.pdf

Electrician Capstone Test Old Questions

[Electrician Capstone Unit Study Guide.zip](#)

http://www.filefactory.com/file/c4bbf1b/n/Electrician_Capstone_Unit_Study_Guide.zip

OTHERS REFERENCES

[E_trade_1.zip](#) [E_trade_2.zip](#) [E_trade_3.zip](#) [E_trade_4.zip](#)

[G008_General_Notes_1.zip](#) [G008_General_Notes_2.zip](#)

Part (1) Study the following notes

[Installation_Requirement_1-A.zip](#) [Installation_Requirement_1-B.zip](#)

[Installation_Requirement_2-A.zip](#) [Installation_Requirement_2-B.zip](#)

[Stage_2_Wiring.zip](#)

Do the assignments from the following book & submit the assignment (1)

[Cable_Installation.zip](#)

Assignment: At the end of each chapter, there are review questions & exercises. You need to do all exercises & submit them as assignment

Part (2) Study the following notes

[Protection_1.zip](#) [Protection_2.zip](#) [System_safety_1.zip](#) [System_safety_2.zip](#)

Do the assignments from the following book & submit the assignment (2)

[Regulatory_Requirement.zip](#)

Assignment: At the end of each chapter, there are review questions & exercises. You need to do all exercises & submit them as assignment

Tutorial review questions and answers

[Electrical_trade_review_questions_and_answers.zip](#)

[Stage 2 Part 6.zip](#)
http://www.filefactory.com/file/c0cccc0/n/Stage_2_Part_6.zip
Stage_1_Wiring_Practical
Stage_2_Wiring
System_Installation_Examples_-_NUER02_version
System_safety_1
System_safety_2

[Stage_1_Wiring_Practical.zip](#)

[Electrical_safe_working.zip](#)

OTHER REFERENCES

UEENEEG003B		Install wiring and accessories for low voltage circuits
UEENEEG004B		Install low voltage electrical apparatus and associated equipment

[G003_G004_Wiring_2_Part_1.zip](#)

[G003_G004_Wiring_2_Part_2.zip](#)

[Stage 3 Part 1B.zip](#)
http://www.filefactory.com/file/c0ccc42/n/Stage_3_Part_1B.zip
Cable_CktProt_E_Accessories
Cable_Conduit_E_Accessories

[Stage 4 Part 8.zip](#)

http://www.filefactory.com/file/c0cc5a1/n/Stage_4_Part_8.zip

Cable+CktProt+E Accessories

Cable+Conduit+E Accessories

Elect Installation Protection Method Devices

[Stage 4 Part 9.zip](#)

http://www.filefactory.com/file/c0ccc5db/n/Stage_4_Part_9.zip

G003+G004 Notes Upload

[Cable_CktProt_E_Accessories.zip](#)

[Cable_Conduit_E_Accessories.zip](#)

[Elect_Installation_Protection_Method_Devices.zip](#)

[Elect_Installation_Requirement_1.zip](#)

[Elect_Installation_Requirement_1.zip](#)

[Elect_Installation_Requirement_2.zip](#)

[ElectricInstallationDesign.zip](#)

[Stage 3 Part 5.zip](#)

http://www.filefactory.com/file/c0ccefd/n/Stage_3_Part_5.zip

ElectSystSafety1

ElectSystSafety2

Energy survey assignment

FireProtHeatingTestingEarthing

G003_G004_G009Practicals

G003_G004_Wiring_2_Part_1

G003_G004_Wiring_2_Part_2

G003G004Tutorial

G005

[ElectSystSafety1.zip](#)

[ElectSystSafety2.zip](#)

[FireProtHeatingTestingEarthing.zip](#)

[GeneralWiring.zip](#)

[HazardLightingPanel.zip](#)

[PanelRCDWireSpecial_Installation.zip](#)

[ProtectionMethods.zip](#)

[Assessment](#)

Read the above notes files and do the assignments for the following tutorial file.

[Stage 3 Part 9.zip](#)

http://www.filefactory.com/file/c0ccf48/n/Stage_3_Part_9.zip

WiringPracticals

WorkShop_Part_2_Practical_1_to_6_

WorkShop_Part_2_Practical_7_to_12_

WorkShop_Part_2_Practical_13_to_17_

WorkShop_Part_2_Practical_18_to_21_

EXERCISE ASSESSMENT (31)

Based on the study you got from the above resources, write a professional experiences and competency report for engineering tasks in electrical engineering codes and standards used in engineering work in above mentioned format & submit it to the assessor.

(Weighted informal learning time for CPD including study & report= 20Hr x 0.5= 10Hr)

SELF STUDY PROFESSIONAL DEVELOPMENT ONLINE LEARNING RESOURCES
MATERIALS AND SELF ASSESSMENT ONLINE TESTS FOR ASSISTING THE
CANDIDATES TO PREPARE FOR PROFESSIONAL ENGINEER (ELECTRONICS)
REGISTRATION WITH MYANMAR BOARD OF ENGINEERS

Prepared BY- U Kyaw Naing

Registered Professional Engineer of Queensland

RPEQ-Electrical (Registration Number 07661)

Board of Professional Engineers of Queensland State

Government (Australia) www.bpeq.qld.gov.au

&

Electrical Engineering Teacher (TAFE-NSW) (Australia)

Based on 25 years experiences since BE (Electrical Power) Graduation from Yangon Institute of Technology in 1987 as electrical engineer, electrician and electrical engineering teacher in Myanmar, Fiji, Australia, New Zealand & Niue, these online electrical learning materials in line with the study materials being used to teach the engineering courses in Australia are prepared to assist Young Myanmar Engineers to participate in professional development programs of Myanmar Engineering Society to accomplish the aims & objectives of Myanmar Engineers Board in the process of Professional Engineers Registration in Myanmar.

Online tests and assessments are also included for the candidates to assess their self learning. The resources are not only theoretical studies but also industrial rules and regulations in Singapore, UK , Australia and New Zealand and practical resources of engineering practice. PEng registration competency report writing in Australia & New Zealand are also included in the resources.

Browse www.electricaldiploma2013.zoomshare.com for details of Australian Electrical Training.

Members of Myanmar Engineering Society at the grade of Junior Member can utilize the materials uploaded to this site at **free of charge** for online self learning & self assessment. The candidates should have good internet access to download the study support materials from this site. But for sending the materials in USB or copying them from the authorised representatives in Myanmar or assessing and providing individual professional support by e-mail, appropriate fees can be chargeable.

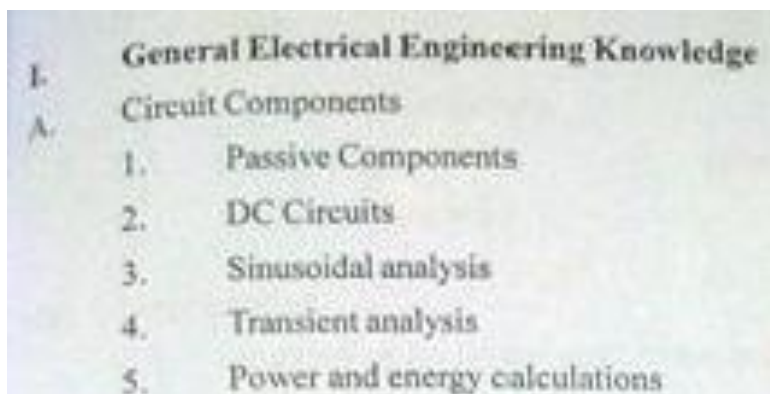
Further contact should be made to: U Kyaw Naing at [highlightcomputergroup1@ gmail.com](mailto:highlightcomputergroup1@gmail.com)

SCOPE- Electrical PE (Building Services)

PART (1)

YEAR 1 & 2 (Minumum 3 to 4 years is required for a graduate to become a PE)

(Total PDP Points for Informal Learning Activities-Private Study Part Time) (Total 10 points per year maximum)(MEB-PE Regulation Appendix 3). Ctrl+Click the link & then allow to download the contents.



STUDY MATERIALS (DC Circuits)

[DC Circuit E003 E004.zip](#)

http://www.filefactory.com/file/c0cb8ab/n/Stage_1_Part_1.zip

The tests are based on your general knowledge on the subject. They are not designed to test the limited area of study that the candidate learns one paper & sits one test.

ONLINE MCQ TEST (1)

http://www.filefactory.com/file/58r3nfe1qieh/n/E003_E004_Online_Test_1_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/3ebb0fe603a748b6b2430e75fb07af4f#/InitializeTest.xam>

<http://www.classroomclipboard.com/503511/Home/Test/3ebb0fe603a748b6b2430e75fb07af4f#/QuestionPresenter.xam?id=11>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- G4UYTV

STUDY MATERIALS (AC Circuit 1)

[G002](#)

ONLINE MCQ TEST (2)

http://www.filefactory.com/file/7ebmnciqxmf3/n/G002_Online_Test_1_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/f7fb9a22d8ba413a8d39bc6ef7be4d20#/InitializeTest.xaml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- 8YGTHT

STUDY MATERIALS (AC Circuit 2)

[G048_7769AC](#)

[G048_Tutorials.zip](#)

Notes for assignment/ tutorials

[G048_Full_Part_1.zip](#)

[G048Part2.zip](#)

[E025_Circuits_1](#)

[E025_Circuits_2](#)

[E025_Tutorial](#)

[Stage 2 Part 3.zip](#) http://www.filefactory.com/file/c0ccb1f/n/Stage_2_Part_3.zip

[Stage 3 Part 2.zip](#) http://www.filefactory.com/file/c0ccdbc/n/Stage_3_Part_2.zip

ONLINE MCQ TEST (3)

http://www.filefactory.com/file/52h82a0f3f/n/E025_Online_Test_1_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/0d8e41400b24465b97e60b2a555d7cff#/InitializeTest.xaml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- DCVK7

ONLINE MCQ TEST (4)

http://www.filefactory.com/file/713uvwk5vbel/n/G048_Online_Test_1_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/a03f83dbf40e4991800c44b484ae6a1d#/InitializeTest.xaml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- G9PLM

After you have done the test, the score can be printed out in PDF format The score with at least 50% or more for all tests, it will be record of 4 HR x 0.5 = 2 HR

STUDY MATERIALS (Three Phase Circuits)

[G049 7762AB 7761M Notes](#)

[G049 7762ABTutorial](#)

[E029 Motor Control 1](#)

[E029 Motor Control 2](#)

Fault Calculation

[7762AB Fault Calculation.zip](#)

[AB-Part1.zip](#) [AB-Part 2.zip](#) [AB-Part 3.zip](#) [AB-Part4.zip](#) [AB-Part5.zip](#) [AB-Part6.zip](#)

[ABFormula.zip](#)

Power System Analysis

[7761M-Part1.zip](#) [7761MPart-2.zip](#) [7761M-Part-3.zip](#) [7761M-Part-4.zip](#) [7761M-Part-5.zip](#)

[7761M-Part-6.zip](#) [7761M-Part-7.zip](#)

[Phase AC Supply Handout](#)

[Connection of balanced three phase loads handout](#)

[Star delta conversion handout](#)

[Connection of unbalanced three phase loads](#)

[Power and energy in ac circuit handout](#)

[Watt meter handout](#)

[Three Phase Power Handout](#)

[Power factor correction handout](#)

[High voltage transmission line losses handout](#)

[Symmetrical components handout](#)

[Distribution of fault currents through power system handout](#)

[Phase sequence diagrams for power systems handout](#)

[Phase sequence detectors handout.](#)

[Fault calculations on power system handout](#)

[Power Circuits \(Reference\)](#)

Part 1	Part 2	Part 3
Part 4	Part 5	Part 6
Part 7	Part 8	Part 9
Part 10	Part 11	Part 12
Part 13	Part 14	Part 15
Part 16	Part 17	Part 18

[Stage 2 Part 3.zip](#) http://www.filefactory.com/file/c0ccb1f/n/Stage_2_Part_3.zip

[E029Tutorial](#)

ONLINE MCQ TEST (5)

G049 Test 1

http://www.filefactory.com/file/5vhbs8sn20f3/n/G049_Online_Test_1_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/d5b2138544c74b709963660627046ffe#/InitializeTest.xml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- UE6FAG

G049 Test 2

http://www.filefactory.com/file/611ftvpa3dit/n/G049_Online_Test_2_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/797cac44d12248b9b3be8507518c9bc4#/InitializeTest.xml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- PS83

After you have done the test, the score can be printed out in PDF format The score with at least 50% or more for all tests, it will be record of $4 \text{ HR} \times 0.5 = 2 \text{ HR}$

B.	Measurement and Instrumentation
1.	Transducer and System Characteristics
2.	Operational Amplifier

STUDY MATERIALS (Electrical Measurement)

[EE 404 Electrical Measurement \(1 pt\)](#)

EXERCISE ASSESSMENT (30)

Based on the study you got from the above resources, write a professional experiences and competency report for engineering tasks in electrical measurement and testing in above mentioned format & submit it to the assessor.

(Weighted informal learning time for CPD including study & report= 20Hr x 0.5= 10Hr)

After you have done the test, the score can be printed out in PDF format The score with at least 50% or more for all tests, it will be record of 2 HR x 0.5 = 1 HR

C.	Signal Processing
1.	Sampling Theory
2.	Analog-to-digital (A/D) and digital-to-analog (D/A) Conversions

[Process control-I006+I008+I020.zip](#)

http://www.filefactory.com/file/c0b7d9d/n/Process_control-I006_I008_I020.zip

I006

UEENEEI006B		Solve problems in process controllers, transmitters and converters
6032A	EA904	Control concepts
7761L	EA190	Electronic signals and systems

1.Process control transducer

2.Operational amplifier

3.Pnuematic

4.Digital control

5.PLC TL31

- 6.Encoder+Decoder
- 7.Digital signal processing
- 8.DAC+Flipflop+Sensor
- 9.Analogue to Digital Conversion
- 10.Temperature control
- 11.Industrial transducer
- 12.Control system evaluation
- 13.Proportional control
- 14.Electronic signal system
- 15.Types of transducers
- 16.Speed measurement

[Stage 4 Part 18.zip](#)

http://www.filefactory.com/file/c0cc793/n/Stage_4_Part_18.zip

[Stage 4 Part 1A.zip](#)

http://www.filefactory.com/file/c0cc226/n/Stage_4_Part_1A.zip

ONLINE MCQ TEST

I006Test 1

http://www.filefactory.com/file/46zzpcym7uqz/n/I006_H012_Online_Test_1_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/25f59f11b4584a23b3f564fe4041fb1d#/InitializeTest.xml>

SPHHMYT

I006Test 2

http://www.filefactory.com/file/78kbc9x2alx/n/I006_H012_Online_Test_2_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/7b0f9808d98a48d79e9d77ea4e2af721#/InitializeTest.xml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- F44J

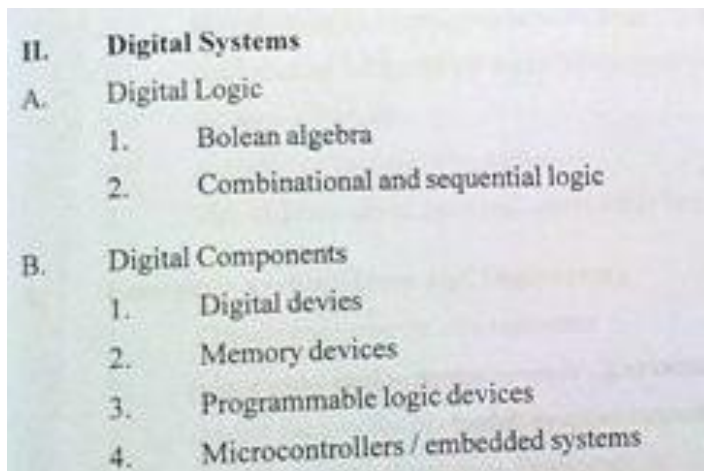
Advanced References

[EE 403 Introduction to Electronic Engineering \(1 pt\)](#)

[EE 524 Introduction to Power Electronics \(1 pt\)](#)

[EE 524 Power Electronics](#)

[EE 524 Applied Electronics](#)



II.	Digital Systems
A.	Digital Logic
1.	Boolean algebra
2.	Combinational and sequential logic
B.	Digital Components
1.	Digital devices
2.	Memory devices
3.	Programmable logic devices
4.	Microcontrollers / embedded systems

Digital Electronics Notes

UEENEEH012B		Troubleshoot digital subsystems
UEENEEH043B		Diagnose and rectify faults in digital subsystems of electronic controls

<http://kyawnaing325.zoomshare.com/files/6/DigitalElectronics.htm>

<http://kyawnaing325.zoomshare.com/files/6/7794CD-DigitalElectronics.htm>

DE 1

Binary Number [Binary Number Lesson.zip](#)

D.A.C Encoder Multiplexer [DAC-Encoder-Multiplexer.zip](#)

Introduction to Digital Logic [DE1-1.zip](#)

Boolean Algebra [DE1-2.zip](#)

De Morgan Theorem [DE1-3.zip](#)

Karnaugh's Map [DE1-5.zip](#)

DE2

Timing Diagram + Operation of Discrete Equipments [DE2-1 2 Notes.zip](#)

7 Segments Display [DE2-7 Segment Display.zip](#)

Logic Families Part 1 & Part 2 [DE2 Logic Families Part I Part II Note Exercise.zip](#)

SR Flip Flop [DE2-SR Flip Flop Notes.zip](#)

D J K Flip Flop [DE2-D J K Flip Flop.zip](#)

Data Transfer [DE2-Data Transfer Note.zip](#)

Encoder [DE2-Encoder Lesson.zip](#)

Logic Level [DE2-Logic Level Note Exercise.zip](#)

Logic Level + Totem Pole [DE2-Logic Level TotemPole Note Exercise.zip](#)

Multiplexer [DE2-Multiplexer Lesson.zip](#)

Schmitt Trigger [DE2-Schmitt Trigger Device Exercise.zip](#)

Shift Register [DE2-Shift Register.zip](#)

ESD [ESD Review Questions.zip](#)

Digital Logic Simplification [Digital Logic Simplification.zip](#)

SR & D Latches [SRandDLatches.mht](#)

Simple Sequential [SimpleSequentialCircuit.mht](#)

Demorgan [DeMorganTheorm 0.mht](#)

Sequential State Diagram [SequentialCircuitStateDiagram.mht](#)

De Morgan Theorem [DeMorganTheorm.mht](#)

D & JK Flip Flop [DandJKFlipFlops 0.mht](#)

Basic Logic Gates [BasicLogicGates.mht](#)

Digital Electronics [DE.zip](#) [DE1.zip](#) [DE2Notes.zip](#)

[Digital logic Simplification.zip](#)

IC Reference

[Digital IC Ref 1-Part 1.zip](#)

[Digital IC Ref 1-Part 2 0.zip](#)

[Digital IC Reference 2-Part 1.zip](#)

[Digital IC Reference 2-Part 2.zip](#)

Digital Electronics Exercises

DE1 Exercise

[DE1-1 Review Question.zip](#)

[DE1-2Review Questions.zip](#)

[DE1-3 Review Question.zip](#)

[DE1-4 Review Question.zip](#)

[ESD Review Questions.zip](#)

[Digital Logic Simplification.zip](#)

DE2 Exercise

[DE2-7 Segment Display Review Q.zip](#)

[DE2 Shift Register Exercise.zip](#)

[DE2-Counter Exercise.zip](#)

[DE2 SR Flip Flop Q.zip](#)

[DE2-D Flip Flop Q.zip](#)

[DE2-Data Transfer Q.zip](#)

[DE2-DecoderMultiplexer Assignment.zip](#)

Advanced References

[BAE 408 Analogue & Digital Electronics](#)

[EE 405 Digital System \(1 pt\)](#)

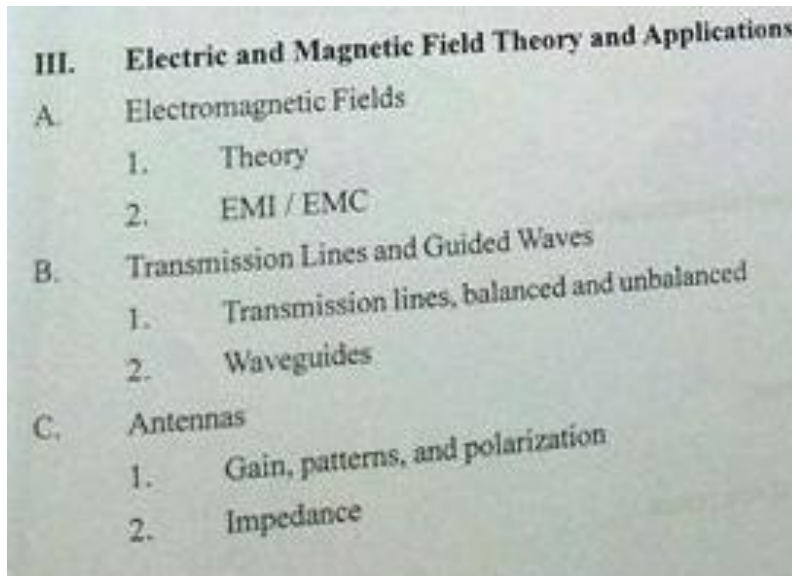
[EE 405 Digital System \(1 pt\)](#)

[EE 526 Digital Signal Processing \(1 pt\)](#)

[EE 527 Digital Image Processing 1 \(1 pt\)](#)

[EE 527 Digital Image Processing 2](#)

After you have done the test, the score can be printed out in PDF format The score with at least 50% or more for all tests, it will be record of 4 HR x 0.5 = 2 HR



[G042 Part 3 Notes](#)

[G037 G038 G030Pt1 7762AG Notes](#)

[G015 G042 G037 G038 G039 Part 2 Notes](#)

[G015 G037 G038 G030Pt1 7762AG Notes](#)

[Stage 4 Part 15.zip](#)

http://www.filefactory.com/file/c0cc7cb/n/Stage_4_Part_15.zip

[BAE 607 Radio Wave Propagation & Microwave Techniques](#)

[EE 625 Radio Wave Propagation \(1 Pt\)](#)

[EE 626 Microwave Technique \(1pt\)](#)

ONLINE MCQ TEST

G042 Test 1

http://www.filefactory.com/file/12pcsbpgbkhx/n/G042_Online_Test_1_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/8c2511d53079456f9c5d159095ec766a#/InitializeTest.xml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- HPNYFFB

G042 Test 2

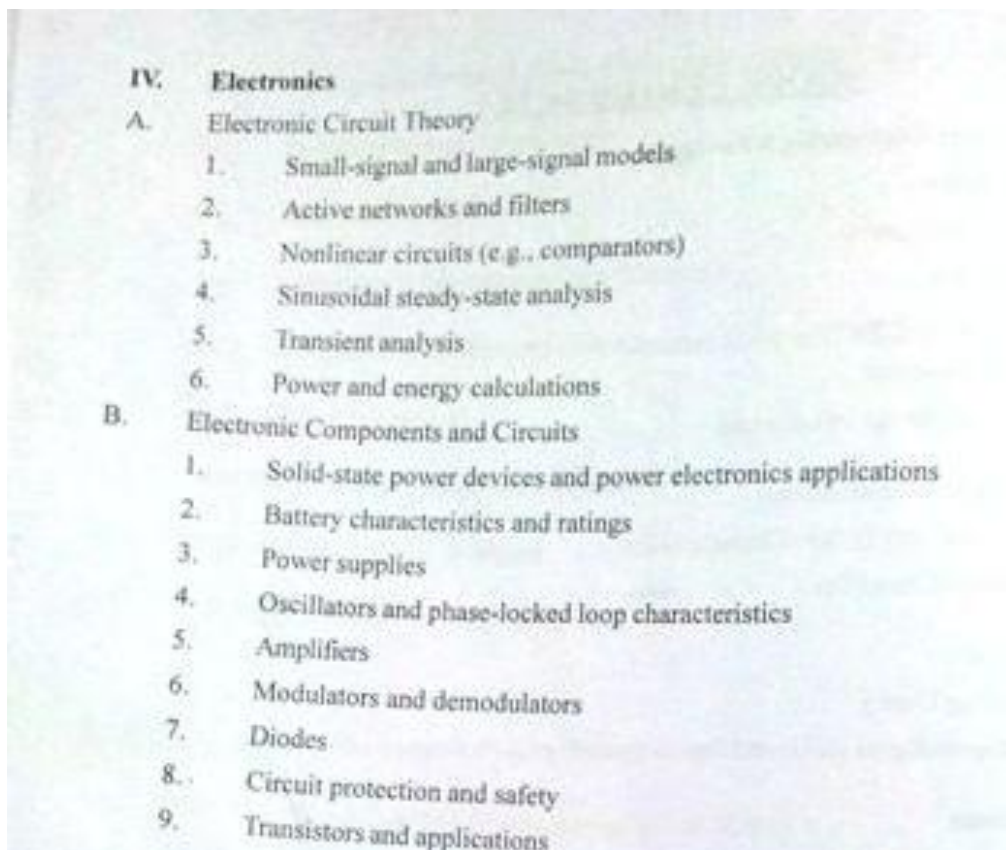
http://www.filefactory.com/file/3ol2dpyi4qm9/n/G042_Online_Test_2_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/cb5cd0dd19524431905d5519ad17ab67#/InitializeTest.xaml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- 35KCC

After you have done the test, the score can be printed out in PDF format The score with at least 50% or more for all tests, it will be record of $4 \text{ HR} \times 0.5 = 2 \text{ HR}$



IV. Electronics
A. Electronic Circuit Theory
1. Small-signal and large-signal models
2. Active networks and filters
3. Nonlinear circuits (e.g., comparators)
4. Sinusoidal steady-state analysis
5. Transient analysis
6. Power and energy calculations
B. Electronic Components and Circuits
1. Solid-state power devices and power electronics applications
2. Battery characteristics and ratings
3. Power supplies
4. Oscillators and phase-locked loop characteristics
5. Amplifiers
6. Modulators and demodulators
7. Diodes
8. Circuit protection and safety
9. Transistors and applications

H045+7761A

UEENEEH045		Develop solutions to analogue electronic problems
7761A	EA100	Analogue electronics 1

Analog1

Analog2

Assessment-Test + Assignment for flexible study students

Electronics H045 Tutorials

H025

UEENEEH025		Provide solutions to single phase electronic power control problems
8273Z	NE064	Variable speed drives

H025 Operational Amplifier

Assessment-Test + Assignment for flexible study students

Electronics H025 Tutorials

H026

UEENEEH026		Provide solutions to polyphase electronic power control problems
8273Z	NE064	Variable speed drives

H026 3 Ph Power Control Electronics 1

H026 3 Ph Power Control Electronics 2

H026 3 Ph Power Control Electronics 3

H026 3 Ph Power Control Electronics 4

Assessment-Test + Assignment for flexible study students

UEENEEH026 Tutorials.doc

Stage 3 Part 2.zip

http://www.filefactory.com/file/c0ccdbc/n/Stage_3_Part_2.zip

BAE 408 Analogue & Digital Electronics

Part 2 Competency units of the subject

Advanced References

EE 403 Introduction to Electronic Engineering (1 pt)

[EE 524 Introduction to Power Electronics \(1 pt\)](#)

[EE 524 Power Electronics](#)

[EE 524 Applied Electronics](#)

ONLINE MCQ TEST

H011Test 2

http://www.filefactory.com/file/3e54mrgli7ft/n/H011_Online_Test_2_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/367cc44c01944cb59982be0255dca5bd#/InitializeTest.xml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- 65TG

H013Test 1

http://www.filefactory.com/file/4ze60r57ea9/n/H013_Online_Test_1_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/eea8db99cb2b44c49d016f6c8eee5910#/InitializeTest.xml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- SN3T84

H013Test 2

http://www.filefactory.com/file/sutmaakz949/n/H013_Online_Test_2_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/957b751abb4641cf9ae0a79176936549#/InitializeTest.xml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- 6LYXKLE

H025Test 1

http://www.filefactory.com/file/7j320hlrk6k9/n/H025_H045_I006_Online_Test_1_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/ab5d528d1ff742f7a3d632a61c210eb0#/InitializeTest.xml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- 96T3TX3

H025Test 2

http://www.filefactory.com/file/20vzqp9mvm8p/n/H025_H045_I006_Online_Test_2_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/99835b7ab0c348e8a2fd0827394b60d8#/InitializeTest.xml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- HHH2HNC

H026Test 1

http://www.filefactory.com/file/fch86cnsrdp/n/H026_Online_Test_1_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/ee1e8307748441aeab67110c145a7d16#/InitializeTest.xml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- U585X6W

H045Test 1

http://www.filefactory.com/file/3vpq08cwj73/n/H045_Online_Test_1_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/bd50d0b35eb241518cdddc8e23c0b593#/InitializeTest.xml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- 8S359V

H045Test 2

http://www.filefactory.com/file/6pxixn406w51/n/H045_Online_Test_2_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/f059c6212cc94ca098b61d5ef8188826#/InitializeTest.xml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- L9UMJM6

After you have done the test, the score can be printed out in PDF format The score with at least 50% or more for all tests, it will be record of $8 \text{ HR} \times 0.5 = 4\text{HR}$

V.	Control System Fundamentals
A.	Block diagrams
B.	Characteristic equations
C.	Frequency response
D.	Time response
E.	Control system design and implementation (e.g., compensators, steady-state error)
F.	Stability (e.g., tests, Bode plots, root locus, transport delay)

I006

UEENEEI006B		Solve problems in process controllers, transmitters and converters
6032A	EA904	Control concepts
7761L	EA190	Electronic signals and systems

[AnalogDigitalSignalConditioning](#)

[H085 66 I006 Note 1 Sensors 1](#)

[H085 66 I006 Note 2 Sensors 2](#)

[H085 66 I006 Note 3 Sensors 3](#)

[H085 66 I006 Note 4 Control Concept1](#)

[H085 66 I006 Note 5 Control Concept2](#)

[H085 66 I006 Note 6 Electronics Signal](#)

[H085 66 I006 Note 8 Process Control 1](#)

[H085 66 I006 Note 9 Process Control 2](#)

[PLC Textbook1](#)

[PLC Textbook2](#)

[PLC Textbook3](#)

[PLC](#)

[6487E.zip](#)

PLC References

[User Manuals.zip](#)

[TRILOGI5-purdue](#)

[SetupTL6Edu](#)

[Installation](#)

[Installation Instruction](#)

[F Nano-Product Sheets](#)

PID (Proportional Integral Derivative) Control

[PID.zip](#)

Assessment

[I006_Tutorials.zip](#)

UEENEEI001B		Install and set up transducers and sensing devices
UEENEEI002B		Solve problems in pressure measurement systems
UEENEEI004B		Solve problems in flow measurement systems

UEENEEI005B		Solve problems in temperature measurement systems
-------------	--	---

I001

[H085_66_I006_Note_1_Sensors_1](#)

[H085_66_I006_Note_2_Sensors_2](#)

[H085_66_I006_Note_3_Sensors_3](#)

I002+I004

[I002I004PressureFlowPnuematicReference.zip](#)

I005

[I005TemperatureMeasurement.zip](#)

Process Control Practicals

[PLC_Application_Assignment.zip](#)

[Control_Circuit_Boards.zip](#)

[PLC_Hardware_Notes_1.zip](#)

[PLC Hardware Notes 2.zip](#)

[PLC Hardware Notes 3.zip](#)

[PLC Hardware Notes 4.zip](#)

[PLC Hardware Notes 5.zip](#)

[PLC Hardware Notes 6.zip](#)

[PLC Trilogy Advanced Programs.zip](#)

[PLC SCADA Project Example 1.zip](#)

[PLC SCADA Project Example 2.zip](#)

[PLC SCADA Project Example 3.zip](#)

[Process Control Equipment Setup 1.zip](#)

[Process Control Equipment Setup 2.zip](#)

[SCADA PLC Project 1.zip](#)

[SCADA PLC Project 2.zip](#)

[SCADA PLC Project 3.zip](#)

[SCADA PLC Project 4.zip](#)

[SCADA PLC Project 5.zip](#)

MACHINE REPAIR+PROCESS CONTROL

[MachineControlCkt1.zip](#) [MachineControlCkt2.zip](#) [MachineControlCkt3.zip](#)

[ProcessControlCkt1.zip](#) [ProcessControlCkt2.zip](#) [ProcessControlCkt3.zip](#)

[Stage 4 Part 1A.zip](#)

http://www.filefactory.com/file/c0cc226/n/Stage_4_Part_1A.zip

Advanced References

[BAE 503 Control System](#)

[BAE 503 Control System Part 1](#)

Part 2 Competency units of the subject

Linear System + Control System

[EE 601 Non Linear Control Applications \(1 pt\)](#)

[EE 601 Control Engineering \(1 pt\)](#)

[EE 601 Feedback and Control System](#)

[EE 601 PID Control](#)

[EE 601 Non Linear Control](#)

[EE 624 Process Control \(1 pt\)](#)

http://www.filefactory.com/file/34ha7biln93z/EE_624_Process_Control.pdf

[ME 534 Numerical Control Part 1 \(1 pt\)](#)

[ME 534 Numerical Control Part 2](#)

ONLINE MCQ TEST

I006Test 3

http://www.filefactory.com/file/hl6qx2ks1b1/n/I006_H012_Online_Test_3_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/ef761b3fa64a4ca783baa5dd986f24ab#/InitializeTest.xml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- 2J3PEH

I006Test 4

http://www.filefactory.com/file/3sbsd1yu13h/n/I006_Online_Test_4_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/ae651477d73c4f5194abd42c8487095b#/InitializeTest.xml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- WKMM7

After you have done the test, the score can be printed out in PDF format The score with at least 50% or more for all tests, it will be record of 4 HR x 0.5=2HR

PART (2)

YEAR 3 & 4 (Minimum 3 to 4 years is required for a graduate to become a PE)

The practice reports need to write for each topics of the study materials included in Scope Part II.

The reports should include the followings:

- Professional topics----- You need to select the topic such as building electrical wiring or power distribution etc
- Fundamental of Engineering- What knowledge you got from the materials in your selected professional topic..
- Engineering Management--- How will you manage the I project / workforce to implement the engineering tasks by applying those knowledge in actual workplace project or simulated work place and project?.
- Rules Regulations, Standards & Specifications- You need to refer the relevant engineering rules, regulations, standards and specifications in the tasks expressed in your report.
- Safety—How will you safeguard public safety in performing the engineering tasks?
- Ethics--- How will you apply professional code of ethics in performing the engineering tasks?

The candidate should use the following format in the practice exercise reports for each topics of the Scope II that are simulated practice tasks for preparing the Professional Experience and Competency Report to be submitted to Myanmar Engineers Board for Professional Engineer (PE) Registration.

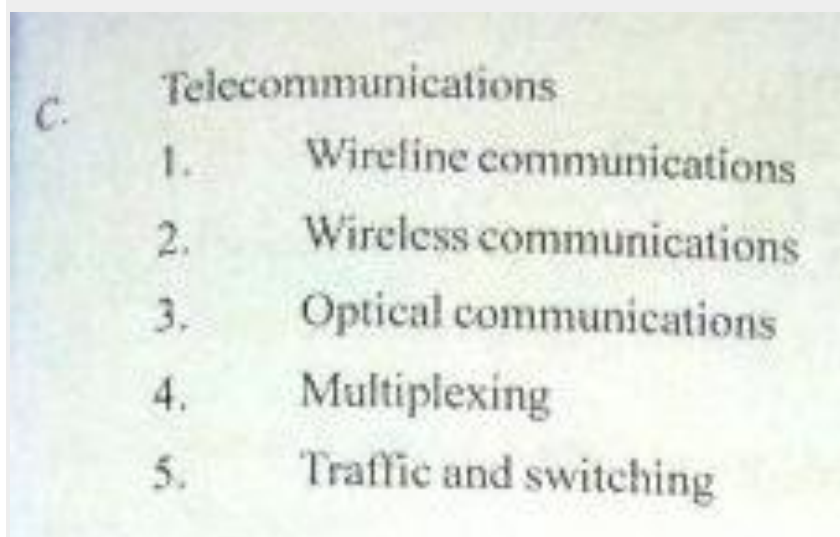
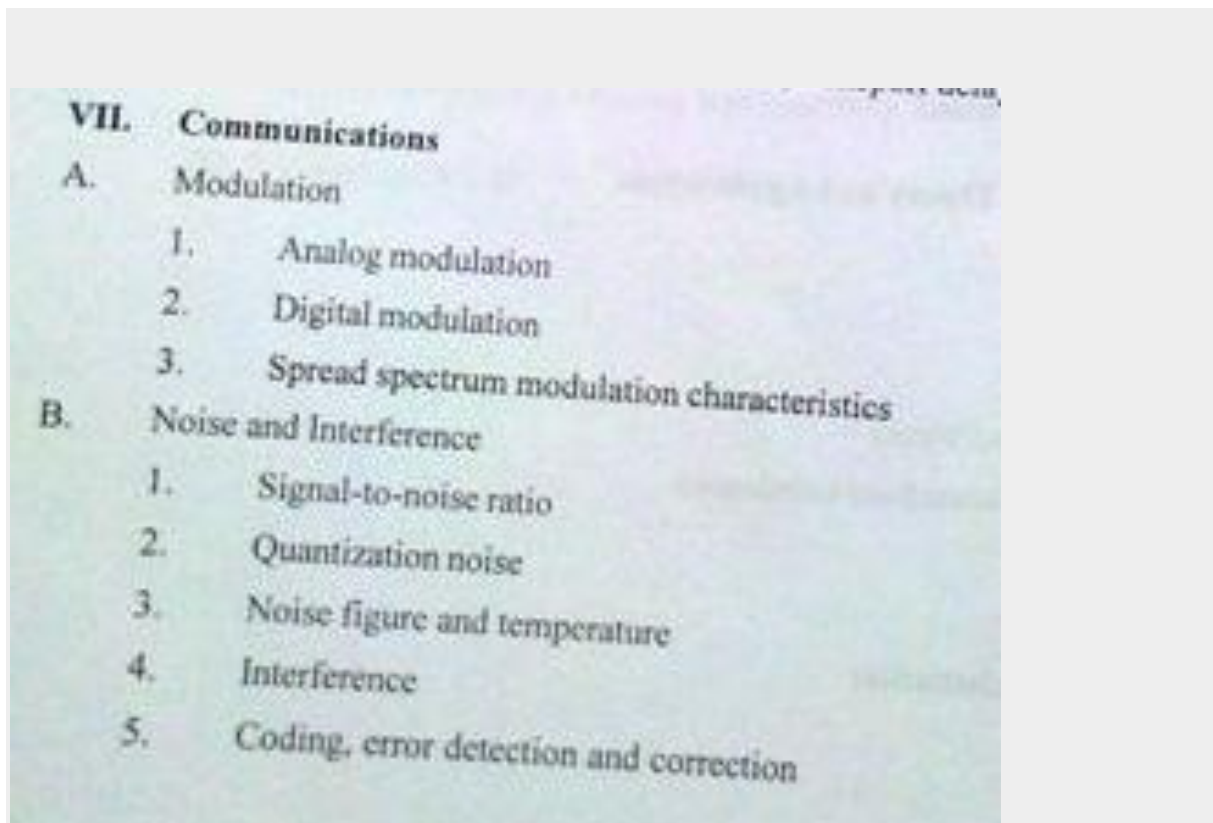
Section (1) Introduction

Section (2) Work experiences in brief and highlight the major important projects

Section 3 to 10 , the following competency should be addressed

- Apply engineering knowledge, methods and techniques
- Use of engineering technology , tools and equipments
- Safeguard public safety
- Recognition the impacts of engineering on the environment , economy and society.
- Manage engineering activities
- Communicate engineering information.

- Work collaboratively
- Main and enhance engineering skills and knowledge. (Ref-MEB PEng Reg)



H046 Telecommunication

UEENEEH046B		Solve fundamental problems in electronic communications system
7761AU	EA181	Communication fundamentals

[H046TelecomNote1.zip](#)

[H046TelecomNote2.zip](#)

[H046TelecomNote3.zip](#)

[Stage 4 Part 16.zip](#)

http://www.filefactory.com/file/c0cc703/n/Stage_4_Part_16.zip

Advanced References

[BAE 604 Telecommunication Engineering](#)

Part 2 Competency units of the subject

Electronics Communications

[EE 525 Data Communication \(1 pt\)](#)

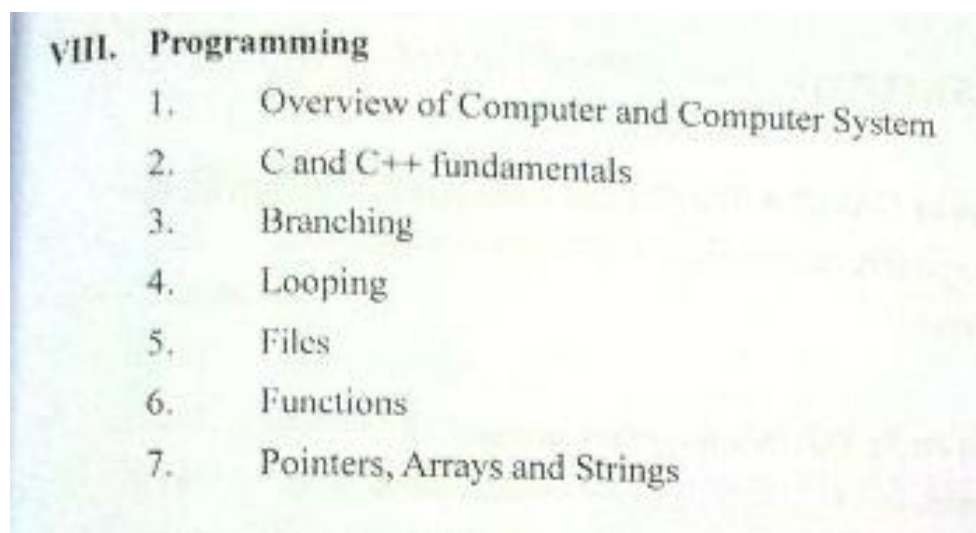
[EE 603 Electronics Telecommunication \(1 pt\)](#)

Reflect your experience in the work place , write the technical report of 10 pages & submit it.

EXERCISE ASSESSMENT

Based on the study you got from the above resources, write a professional experiences and competency report for engineering tasks in electrical power supply in above mentioned format & submit it to the assessor.

(Weighted informal learning time for CPD including study & report= 20Hr x 0.5= 10Hr)



viii. Programming
1. Overview of Computer and Computer System
2. C and C++ fundamentals
3. Branching
4. Looping
5. Files
6. Functions
7. Pointers, Arrays and Strings

BAE 601 Computer Programming

[C++ Programming Part 1](#)

[C++ Programming Part 2](#)

[C++ Programming Part 3](#)

[C++ Programming Part 4](#)

[C++ Programming Part 5](#)

[C++ Programming Part 6](#)

C # Programming

[C # Programming](#)

C++ & Java Programming Course

[Speed_C_Programming.zip](#)

[Turbo_C.zip](#)

[C_Programming_1.zip](#)

[C_Programming_2.zip](#)

[C_Programming_3.zip](#)

[C_Programming_4.zip](#)

[C_Programming_5.zip](#)

[C_Programming_6.zip](#)

[C_Programming_7.zip](#)

[C_Programming_8.zip](#)

Part 2 Competency units of the subject

IT + Programming 1

[IT 401 Object Oriented Programming \(1 pt\)](#)

[IT 402 Structured Programming \(1 pt\)](#)

[IT 403 Visual Basic Programming \(1 pt\)](#)

EXERCISE ASSESSMENT (20)

Based on the study you got from the above resources, write a professional experiences and competency report for engineering tasks in electrical power supply in above mentioned format & submit it to the assessor.

(Weighted informal learning time for CPD including study & report= 20Hr x 0.5= 10Hr)

IX. Microprocessor System

1. Introduction to Microprocessor System
2. Architecture of the 8088/ 8086 Microprocessor
3. Addressing Modes
4. Assembly Language Programming
5. The architecture of Intel microprocessor families

X. Computer Architecture and Engineering

1. Classic components of a computer
2. Measuring Performance
3. Major factors for performance of a computer
4. MIPS assembly Language Programming

Computer Programming

UEENEED027B	Develop structured programs for control sub systems to access external devices
-------------	--

UEENEED009B	Develop, enter and verify programs for industrial control systems using high level instruction
-------------	--

[Microprocessor Notes upload.zip](#)

[Microprocessor Textbook to upload.zip](#)

[Microprocessor References to upload.zip](#)

[Speed C Programming.zip](#)

[Turbo C.zip](#)

[C Programming 1.zip](#)

[C Programming 2.zip](#)

[C Programming 3.zip](#)

[C Programming 4.zip](#)

[C Programming 5.zip](#)

[C Programming 6.zip](#)

[C Programming 7.zip](#)

[C Programming 8.zip](#)

MP LAB

[33014K.pdf](#)

[DS-51317H.pdf](#)

[DS-51761B.pdf](#)

[MPLAB Integrated Development Environment.doc](#)

[MPLAB IDE 8 50 Release Notes.zip](#)

[MPLAB User Guide 51519c.pdf](#)

[Stage 4 Part 5A.zip](#)

http://www.filefactory.com/file/c0cc4a1/n/Stage_4_Part_5A.zip

[Stage 4 Part 5B.zip](#)

http://www.filefactory.com/file/c0c3a6e/n/Stage_4_Part_5B.zip

EXERCISE ASSESSMENT

Based on the study you got from the above resources, write a professional experiences and competency report for engineering tasks in electrical power supply in above mentioned format & submit it to the assessor.

(Weighted informal learning time for CPD including study & report= 20Hr x 0.5= 10Hr)

STUDY MATERIALS (Electrical Engineering Code and Standard)

Myanmar Electrical Regulations

IEE2002

Electrical Building Services IEE based

Domestic Electric Wiring BS7671 2008

IEEE colored books

Handbook of Electrical Design Details

American Electricians' Handbook, 15th Edition

Electrical Eng Portable handbook NEC (2)

Newnes Electrical Power Engineer Handbook

Newnes Electrical Engineers Handbook

Energy Management Handbook 6E

Handbook of Electrical Installation Practice UK

Power Fault Calculation & Protection Cable Selection Note

Power Data Planning India

Myanmar Professional Engineers Register (The Institution of Professional Engineers-Myanmar)

www.highlightcomputer.com/mper.htm

Myanmar Engineering Council Law Changing Campaign

www.highlightcomputer.com/mengclaw.htm

PROFESSIONAL ENGINEER SUPPORT WEBSITE OF IQY TECHNICAL COLLEGE OF HIGHLIGHT COMPUTER GROUP

(if the direct download link is unavailable, the resources can be found & downloaded from the download centre)

www.highlightcomputer.com/pesupport.htm

www.highlightcomputer.com

A Professional Engineer needs wide knowledge of theory and practical applications of engineering. The knowledge is not limited to a particular course.

This Professional Engineer Support Website includes Engineering Job Competencies, Technician+ Technologist Level, Theoretical Knowledge requirement for Professional Engineer, Undergraduate Level Theoretical Knowledge requirement for Professional Engineer, Post graduate Level Theoretical Knowledge requirement for Professional Engineer, Practical Knowledge requirement for Professional Engineer ,Professional Engineer Postgraduate Competency Development (Electrical & Civil),Knowledge refreshing by watching lesson videos, Youtube Engineering Lessons ,MP4 Engineering Lessons ,Engineering Rules/Regulation/Safety Knowledge(Electrical Safety, Construction site safety & OHS, Explosion Protection & safety etc are included & the reference materials are referred from relevant Australian Industrial Safety Authorities), Engineering Competency Demonstration Report and Information on Professional Engineer Registration around the world. .

The purpose is to provide the one stop shop for the engineers who seek PE/RSE registration in Myanmar as well as ASEAN , UK, USA, Australia etc to get the information as well as refreshing the theoretical studies and practical knowledge.

Engineering Job Competencies

[IQY Technical College Professional Engineer/Management Professional & Information Technology Professional Skills Training](#)

[Engineers Australia Professional Engineer, Engineering Technologists & Engineering Associate Competencies References](#)

Part 1-ENGINEERING FUNDAMENTAL

[Technician+ Technologist Level Theoretical Knowledge requirement for Professional Engineer](#)

[Undergraduate Level Theoretical Knowledge requirement for Professional Engineer \(Part 1-Online Lessons\)](#)

[Undergraduate Level Theoretical Knowledge requirement for Professional Engineer \(Part 2-Reference Resources\)](#)

[Post graduate Level Theoretical Knowledge requirement for Professional Engineer](#)

Practical Knowledge requirement for Professional Engineer

Practical Knowledge requirement for Professional Engineer

Part 2-PROFESSIONAL ENGINEER COMPETENCY

DEVELOPMENT

Electrical Electronics Civil

The resources+ handbooks can only be provided in DVD disks

Refresh your knowledge by watching lesson videos

Youtube Engineering Lessons by Program Leader Engineering-
MIEAust, RPEQ,FSIET

MP4 Engineering Lessons by Program Leader Engineering-
MIEAust, RPEQ, FSIET

Youtube Engineering Lessons (Advanced Diploma of Electrical Engineering/Technology courses in Australia)

by Program Leader Engineering- **MIEAust, RPEQ, FSIET**

Part 3-ENGINEERING RULES/REGULATION/SAFETY

Engineering Rules/Regulation/Safety Knowledge

Engineering Competency Demonstration Report

Competency Elements of Stage 1 Professional Engineer (Australia)

Electro-technology Competency Development

Electro-technology Competency Development (Electronics)

Part 4-PROFESSIONAL ENGINEER REGISTRATION

Professional Engineer Registration around the world

Undergraduate Level Theoretical Knowledge requirement for Professional Engineer

Part 5-PROFESSIONAL ENGINEER RESOURCES DOWNLOAD CENTRE

Overall

www.highlightcomputer.com/downloadcentre.htm

Electrical+ Building Services

www.highlightcomputer.com/PEEE.htm

Electronics

www.highlightcomputer.com/PEEC.htm

Civil

www.highlightcomputer.com/PECivilCombined.htm

Bachelor of Engineering (Civil)

<http://www.highlightcomputer.com/CivilDegreeInstruction.pdf>

<http://www.highlightcomputer.com/CivilDegreeInstruction1.pdf>

Video

Click Common Engineering Degree Video

Click BE Civil Instruction Video

Bachelor of Engineering (Electrical)

<http://www.highlightcomputer.com/ElectricalDegreeInstruction.pdf>

<http://www.highlightcomputer.com/ElectricalDegreeInstruction1.pdf>

Video

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Click [BE \(Electrical\) Instruction Video](#)

Bachelor of Engineering (Mechanical)

<http://www.highlightcomputer.com/MechanicalDegreeInstruction.pdf>

<http://www.highlightcomputer.com/MechanicalDegreeInstruction1.pdf>

Video

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Technician+ Technologist Level Theoretical Knowledge requirement for Professional Engineer

Certificate/Diploma/Advanced Diploma (Civil Engineering)

<http://www.highlightcomputer.com/CivilDiplomaInstruction.pdf>

Video

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Certificate/Diploma/Advanced Diploma (Electrical Engineering)

<http://www.highlightcomputer.com/ElectricalDiplomaInstruction.pdf>

Video

Click [Electrical Engineering Diploma Instruction Video](#)

Certificate/Diploma/Advanced Diploma (Mechanical Engineering)

<http://www.highlightcomputer.com/MechanicalDiplomaInstruction.pdf>

Video

Click [Mechanical Engineering Diploma Instruction Video](#)

Post graduate Level Theoretical + Practical+ Management Knowledge requirement for Professional Engineer

Graduate Diploma & Master of Engineering Practice (Electrical/Civil/ Mechanical) for Graduate Engineers

(72115/73315/72515/72315/72415/82115/82215/82315/82415/)

<http://www.highlightcomputer.com/GraduateDiplomaEngineeringPracticeOutline.pdf>

GRADUATE ENGINEER TRAINING PROGRAM

www.mongroupsytdney1.com/GraduateCapstone.pdf

www.mongroupsytdney1.com/AdditionalCapstoneTextBooks.pdf

PROFESSIONAL ENGINEER REGULATIONS

www.mongroupsytdney1.com/PEngReg.pdf

PROPOSED PE ROUTE

www.mongroupsytdney1.com/PERSEProposalBasedonAccreditationModel.pdf

PROPOSED PE ROUTE EXPLANATION

www.mongroupsydneyn1.com/PERSEFlowDiagramExplanation.pdf

PROPOSED PE REGISTRATION PROCESS

www.mongroupsydneyn1.com/MyanmarEngineerRegistrationRulesProvision.pdf

REVIEW OF ENGINEER LAW

www.mongroupsydneyn1.com/MEngCLawsPossibleWaystoimplementMod.pdf

MYANMAR VERSION

www.mongroupsydneyn1.com/MEngCLawAnalysisMyanmarVersionTyped.pdf

www.mongroupsydneyn1.com/RegistraionSuggestionDrKyawNaing.pdf

Engineering Rules/Regulation/Safety Knowledge

Explosion Protection

PROTECTION UNITS

Click [HERE](#) to access the references for explosion protection

Electrical Safety

Electrician Licensing Requirements.zip

[Stage 1 Part 3.zip](#)

http://www.filefactory.com/file/c0cb8f5/n/Stage_1_Part_3.zip

Substation Entry.zip

[Stage 1 Part 5.zip](#)

http://www.filefactory.com/file/c0cb9b3/n/Stage_1_Part_5.zip

Construction Electrical Safety.zip

[Stage 1 Part 1.zip](#)

http://www.filefactory.com/file/c0cb8ab/n/Stage_1_Part_1.zip

Inservice Testing.zip

[Stage 1 Part 4.zip](#)

http://www.filefactory.com/file/c0cc1cd/n/Stage_1_Part_4.zip

NREL_Disconnect_Reconnect.zip

[Stage 1 Part 5.zip](#)

http://www.filefactory.com/file/c0cb9b3/n/Stage_1_Part_5.zip

Electrical_safe_working.zip

[Stage 1 Part 3.zip](#)

http://www.filefactory.com/file/c0cb8f5/n/Stage_1_Part_3.zip

Occupational Health & Safety

OHS Workbook.zip

[Stage 1 Part 5.zip](#)

http://www.filefactory.com/file/c0cb9b3/n/Stage_1_Part_5.zip

Electrical Risk Assessment

[Project Risk Management References](#)

[Report Writing](#)

Post graduate Level Theoretical Knowledge requirement for Professional Engineer

[IOY Masters Degree \(M Mat+ ME \(EE.CE.ME\)+M App Sc \(IT\)+MSc \(RE\)+ Associate Degree in RE+ BE \(Civil+ Mechanical\) Courses Learning Support Website](#)

[Graduate Diploma of Engineering Practice \(Mechanical\) Course Outline](#)

Course Notes

http://www.filefactory.com/file/21fkobz76fvj/Graduate_Diploma%20in%20Mechanical%20Engineering%20Course%20Work.pdf

[Graduate Diploma of Engineering Practice \(Civil\) Course Outline](#)

Course Notes

http://www.filefactory.com/file/21ifsjw6w873/Graduate_Diploma%20in%20Civil%20Engineering%20Course%20Work.pdf

Graduate Diploma of Engineering (Electrical+Electronics) Course Outline

Course Notes

http://www.filefactory.com/file/70g9yl2t4ogt/Graduate_Diploma%20in%20Electrical%20Engineering%20Course%20Work.pdf

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[Practical Knowledge requirement for Professional Engineer](#)

Part 2-PROFESSIONAL ENGINEER COMPETENCY DEVELOPMENT

[Electrical](#) [Electronics](#) [Civil](#)

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[MP4 Engineering Lessons by Dr Kyaw Naing](#)

MIEAust, RPEQ, FSIET

[Youtube Engineering Lessons \(Advanced Diploma of Electrical Engineering/Technology courses in Australia\)](#)

[By Dr Kyaw Naing](#) **MIEAust, RPEQ, FSIET**

Part 3-ENGINEERING RULES/REGULATION/SAFETY

[Engineering Rules/Regulation/Safety Knowledge](#)

[Engineering Competency Demonstration Report](#)

[Competency Elements of Stage 1 Professional Engineer \(Australia\)](#)

[Electro-technology Competency Development](#)

[Electro-technology Competency Development \(Electronics\)](#)

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[Professional Engineer Registration around the world](#)

[Undergraduate Level Theoretical Knowledge requirement for Professional Engineer](#)

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<http://www.highlightcomputer.com/CivilDiplomaInstruction.pdf>

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Video

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Video

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-

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Course Notes

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http://www.filefactory.com/file/21ifsjw6w873/Graduate_Diploma%20in%20Civil%20Engineering%20Course%20Work.pdf

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Construction ElectricalSafety.zip Stage 1 Part 1.zip http://www.filefactory.com/file/c0cb8ab/n/Stage_1_Part_1.zip
InserviceTesting.zip Stage 1 Part 4.zip http://www.filefactory.com/file/c0cc1cd/n/Stage_1_Part_4.zip NREL_Disconnect_Reconnect.zip Stage 1 Part 5.zip http://www.filefactory.com/file/c0cb9b3/n/Stage_1_Part_5.zip
Electrical_safe_working.zip Stage 1 Part 3.zip http://www.filefactory.com/file/c0cb8f5/n/Stage_1_Part_3.zip
Occupational Health & Safety
OHSWorkbook.zip Stage 1 Part 5.zip http://www.filefactory.com/file/c0cb9b3/n/Stage_1_Part_5.zip
RiskManagement.pdf Stage 4 Part 20.zip http://www.filefactory.com/file/c0cc9b4/n/Stage_4_Part_20.zip
Electrical Risk Assessment
Project Risk Management References

Civil/Mechanical/Electrical Engineering Practical Courses for AGTI/BTech/BE students of Government Technical Colleges & Technological Universities

If you find the question in Myanmar language, the lessons in Myanmar language for that question is also provided.

PC 1-Certificate in Bricklaying & Masonry

PC 2-Certificate in Plumbing

PC 3-Certificate in Building Construction

PC 4-Certificate in Gutter Construction

PC 5-Certificate in Fitting & Machining

PC 6-Certificate in Welding

PC 7-Certificate in Engine Operation & Basic Servicing

PC 8-Certificate in Air-conditioning & Refrigeration Basic Servicing

PC 9-Certificate in Electrical Wiring

PC 10-Certificate in Electrical Machine Winding

PC 11-Certificate in Electrical Power Wiring & Switch Gear Installation

(PC15/H102) Certificate in Basic Electronics & Telecommunication

PC16 Certificate in Rigging & Scaffolding

PC Practical Course (Level 2 for Engineering Technicians)

PC 12-Certificate in Surveying. Quantity Surveying & Estimating

PC 13-Certificate in Manufacturing Process Control & CNC

PC 14-Certificate in Building Energy Efficiency

Preparation for Myanmar Engineering Council Accreditation Course

Course Outline

This two weeks course is designed as Technical Teacher Education Professional Development course for teachers working at Government Technical Colleges and Technological Universities to design the curriculums and teaching resources to meet the accreditation requirements of Myanmar Engineering Council.

Aim of the course

To provide the training to the technical education teachers to understand and apply the principles of adult & vocational education outcome based education, competency based training, compliance with Qualification & Training Authority-Myanmar Engineering Council's Rules, Regulations and Standards for accreditation by taking part in intensive workshop focussing on curriculum development and assessment documents portfolio preparations for Myanmar Engineering Council Accreditation

Outcome of the course

After completion of this course, the participant will be able to

- Understand Myanmar Engineering Council Accreditation Rules & Regulations related to accreditation of Government Technical Colleges & Technological Universities in Myanmar.
- Understand and utilize the principle & features of Outcome based education.
- Understand the Adult & Vocational Education, Work based Learning and Competency based training & assessments tasks.
- Acquire the knowledge on Competency based education and training and training packages being used in industrialized countries (Examples of Australian Standard Competency based vocational education & training system.
- Get the information & knowledge on Current issues related to international & Myanmar Engineering profession.
- Participate in hand on practice workshop focussing on curriculum development & collecting and preparing the materials for accreditation by Myanmar Engineering Council Engineering Accreditation Committee & taking part in mock accreditation sessions.
- Explore the Adult & Vocational Educational Literatures, Textbooks, References & Resources, e-Learning, Learning Technology & Technology in classroom resources knowledge sharing.
- Certificate of Training will be issued by Myanmar Engineering Council as well as by the trainer's educational institution.

Target Group

- Course leaders who are responsible for development of teaching curriculums and learning resources for teaching of engineering programs.

Arrangement of attendances

- It will be an official course development and accreditation workshop in accordance with Myanmar Engineering Councils' Rules , Regulations and Accreditation system, the attendance of this course is part of the official duty and appropriate duty release arrangement may be required under the procedures of the Ministry of Science & Technology.

Place of the course

- Appropriate training venue arranged by Myanmar Engineering Council or Myanmar Engineering Society.

Course Duration

12 days (Mondays to Saturdays) (December 2015)(The exact date will be provided)

Requirements

The participants will need to bring the documents related to teaching plan, curriculum, course materials or reference notes that they are using in teaching. Access to laptop/computer will be required for the participants. Teaching aids such as white board , computer & Overhead Projector will be required to show the slides. It will be better to access Internet.

Sessions , Trainers and Facilitators

Session 1 9 to 10:30AM	Tea break	Session 2 11 to 12:30 Noon
<div>5</div> <div>Welcome speech by<ul style="list-style-type: none">• Chairman of Myanmar Engineering Council• President of Myanmar Engineering Society• Chairman of Engineering Accreditation CommitteeIntroduction to trainers & facilitators Outline of the program Participants ' self introduction General information and arrangement (detailed time schedule needs to be arranged)</div>	Morning tea and networking	Overview of Myanmar Engineering By -Trainer from Myanmar Engineering Council Delivery mode-Lecture

5	<p>Outcome Based Education</p> <p>By Myanmar Engineering Council or Myanmar Engineering Society</p> <p>Delivery mode-Lecture</p>	<p>Morning tea and networking</p>	<p>Competency based education to reach the desired outcome</p> <p>By Dr Kyaw Naing</p> <p>References</p> <p><i>Characteristics of Learning Outcomes</i></p> <p>Delivery mode-Lecture 30 min</p> <p>VIDEO</p> <p>Day 2 Session 2(1)-Competency http://youtu.be/k0OtStQk7NA</p> <p>Day 2 Session 2(2)-Outcome based http://youtu.be/sqBmP7N1Kms</p> <p>Day 2 Session 2(3)-Assessment http://youtu.be/GvJlac8yy-4s</p> <p>Day 2 Session 2(4)-BE course content http://youtu.be/TLAsivfd69o</p> <p>Day 2 Session 2(5)-BE Curriculum http://youtu.be/C02IhMzcO8k</p> <p>Day 2 Session 2(6)- Day 2 Session http://youtu.be/jUggt-eG6N4</p> <p>References</p> <p>http://www.highlightcomputer.com/KyawNaing/day-2-session</p> <p>In Certificate I to Vocational Diploma http://www.filefactory.com/file/32f Page 36 to 41</p> <p>Provide the level of performances</p> <p>Sample Curriculums</p> <p>Certificate to Advanced Diploma http://www.highlightcomputer.com</p> <p>Bachelor degrees equivalent level http://highlightcomputer.com/B%2</p>
5	<p>9.2.3 Learning Outcomes Requirement of Myanmar Engineering Council & how to design the curriculum to address the learning outcomes</p> <p>By Dr Kyaw Naing</p> <p>Delivery mode-Lecture</p> <p>VIDEO</p> <p>Day 3 Session 1(1) Motivation of adult learning http://youtu.be/fX1E8GBKJko</p> <p>Day 3 Session 2(2) Course evaluation http://youtu.be/plfr_KaAHDQ</p> <p>Day 3 Session 1(3)-Experimental Learning http://youtu.be/NxfczPA1J1l</p> <p>Day 3 Session 1(4)-Relating Learning Outcomes to Program Objectives http://youtu.be/cCkgL0kKakY</p> <p>LISTEN</p> <p>http://yourlisten.com/KyawNaing/day-3-session-1</p> <p>Educational Theoretical Readings</p> <p>ED 104 Lesson Planning http://www.filefactory.com/file/4m30ym0ez37r/ED%20104%20Lesson%20Planning.zip</p> <p>ED 202 Curriculum & Design http://www.filefactory.com/file/1jotv5d428j1/ED%20202%20Curriculum%20%26amp%38%20Design.zip</p> <p>Practical Example</p> <p>www.highlightcomputer.com/OverallProgramGeneral.pdf Page 13 to 21</p>	<p>Morning tea and networking</p>	<p>Engineering Fundamental</p> <p>Current Engineering Fundamentals</p> <p>By Myanmar Engineering Society</p> <p>Delivery mode-Lecture</p> <p>Engineering Fundamental Assessment</p> <p>By Myanmar Engineering Society</p> <p>Engineering Fundamental Assessment</p> <p>By Dr Sam Man Keong President of Singapore Institute of Technology</p> <p>Delivery mode-Lecture</p>

5	<p><u>9.2.4 Academic Curriculum</u> Discuss the programme structure and course contents(MEng C) Discuss the programme delivery and assessment methods</p> <p>By Myanmar Engineering Council Delivery mode-Lecture</p>	<p>Morning tea and networking</p>	<p>General Knowledge related to By Dr Kyaw Naing Vocational Education Teacher Education</p> <p>VIDEO http://youtu.be/q191YGPWaZM</p> <p>Delivery mode-Lecture 45 min http://youlisten.com/Kyaw-Naing http://www.filefactory.com/file/4yb11lp1x9</p> <p>Sample Training Packages Electrotechnology/ Electronics/ /Communication UEE11_R1.5.docm (13.37MB) http://www.filefactory.com/file/1n283tjamw2p</p> <p>Electricity Supply UET12_R2.1.docm (7.86MB) http://www.filefactory.com/file/56saqflqmh41/</p> <p>Electrical Power Generation UEP12_R2.1.docm (7.79MB) http://www.filefactory.com/file/52peQ3hs2xq1</p> <p>Automotive AUR12_R2.1.docm (13.37MB) http://www.filefactory.com/file/4qtgr5i39dzl/n/</p> <p>Manufacturing & Engineering (Mechanical) MEM05_R11.1.docm (9.8MB) http://www.filefactory.com/file/29evfecw9yk9/</p> <p>Marine MAR_R2.0.docm (1.78MB) http://www.filefactory.com/file/6sodu2z259j3/</p> <p>Textile LMT07_R4.1.docm (8.28MB) http://www.filefactory.com/file/6gea7ztqgsq3/</p> <p>Construction CPC08_R9.0.docm (9.59MB) http://www.filefactory.com/file/3j1y315nbze7/</p> <p>Information Technology ICA11_R2.0.docm (5.27MB) http://www.filefactory.com/file/4e3ioubld73n/r</p> <p>Chemical PMA02_2.pdf (1.92MB) http://www.filefactory.com/file/2t53b3xj0slr/n/</p> <p>PMA02_1.pdf (1.65MB) http://www.filefactory.com/file/33ikm94dl8jb/r</p> <p>Manufacturing MSA07_R8.4.docm (4.93MB) http://www.filefactory.com/file/4tcjsetp0rd/n/</p> <p>TAE10_R3.4.docm (1.87MB) http://www.filefactory.com/file/566jfcvasu5/r</p> <p>Gas UEG11_R2.0.docm (5.44MB) http://www.filefactory.com/file/6shho87gm1n/</p> <p>Mining MNM05_3.pdf (2.28MB) http://www.filefactory.com/file/78fk485ew98v</p> <p>MNM05_2.pdf (2.29MB) http://www.filefactory.com/file/72vjazer7nij/n/</p> <p>MNM05_1.pdf (1.77MB) http://www.filefactory.com/file/6ahwwdwosk8</p>
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5	<p>Approach to various learning modes in VET</p> <p>By- Dr Kyaw Naing & the speakers from various technological universities Delivery mode-Lecture 43 min VIDEO http://youtu.be/NVgAAT7Muv0</p> <p>Audio http://yourlisten.com/Kyaw_Naing/day-3-session-11</p> <p>Topics & References</p> <p>Practical focus Group Base learning.pdf (3.25MB) http://www.filefactory.com/file/266naJoy9to3/n/16.taadel401a_Plan_&Organize_Group_Base_learning.pdf</p> <p>Facilitate Group based learning.pdf (2.81MB) http://www.filefactory.com/file/1bvk73q17j43/n/18.taadel402a_Facilitate_Group_based_learning.pdf</p> <p>Work based learning.pdf (4.15MB) http://www.filefactory.com/file/24ap55s5n0fx/n/22.taadel404a_Facilitate_work_based_learning.pdf</p> <p>individual learning.pdf (1.94MB) http://www.filefactory.com/file/4mmwy8ldewh1/n/20.taadel403a_Facilitate_individual_learning.pdf</p> <p>Distance based learning (2.56MB) http://www.filefactory.com/file/3w2b2mdycbx1/n/24.taadel405a_Coordinate_7_facilitate_distance_based_learnin.pdf</p> <p>Educational Theory Resources ED 103 Teaching Practice http://www.filefactory.com/file/1o732n0j46mf/ED%20103%20Teaching%20Practice.zip</p> <p>ED 105 Principle of Learning http://www.filefactory.com/file/7660i6kjr8sx/ED%20105%20Principle%20of%20Learning.zip</p> <p>ED 107 Teaching & Learning http://www.filefactory.com/file/6u5o455lyqj7/ED%20107%20Teaching%20%26amp%3B%20Learning.zip</p> <p>Myanmar Engineering Council References</p> <ul style="list-style-type: none"> the choice of the teaching-learning (delivery) methods. A balanced curriculum The curriculum shall integrate theory with practice through adequate exposure to laboratory work and professional engineering (MEng C) Time allocation Credit points <p>ED 401 Adult Learning Technology http://www.filefactory.com/file/68y4bd94janb/ED%20401%20Adult%20Learning%20Technology.zip</p>	Morning tea and networking	<p>Preparing vocational teaching By Dr Kyaw Naing Delivery mode-Lecture 48 min References Worksheets VIDEO http://youtu.be/cc-xLKjz3J8</p> <p>Audio http://yourlisten.com/Kyaw_Naing/day-3-session-11</p> <p>Provide Training through instr TAADEL301A.doc (0.03MB) http://www.filefactory.com/file/2ppyhdqlhsh/r</p> <p>Facilitate work-based learning TAADEL404A.doc (0.03MB) http://www.filefactory.com/file/60ojuvglyvuy3/n</p> <p>Group based delivery TAADEL401A.doc (0.03MB) http://www.filefactory.com/file/3i5sccp12gkdn/r</p> <p>Use Training Packages to mee TAADES401A.doc (0.03MB) http://www.filefactory.com/file/32bofyvl82wfr/n</p> <p>Design and develop learning p TAADES402A.doc (0.03MB) http://www.filefactory.com/file/4nhro84kl2nxx/r</p> <p>Work effectively in vocational TAAENV401A.doc (0.03MB) http://www.filefactory.com/file/45zeif6cy5zx/n</p> <p>Foster and promote an inclusi TAAENV402A.doc (0.03MB) http://www.filefactory.com/file/3zoufgaty89n/r</p> <p>Ensure a safe and healthy lear TAAENV403A.doc (0.03MB) http://www.filefactory.com/file/6ireaw7s5jg9/r</p> <p>Individual learning TAADEL403A.doc (0.03MB) http://www.filefactory.com/file/7g3h9iwpdqfr/r</p> <p>Language Literacy & Numeracy</p> <p>1397606218-taelln411_sample.pdf (0.34MB) http://www.filefactory.com/file/5fh2bd8z3k0r/r</p> <p>Report.pdf (0.41MB) http://www.filefactory.com/file/655u3qypqy3/</p> <p>Section 4 Model for core skills analysis.p http://www.filefactory.com/file/6p480mpcellfr/r</p> <p>ACSF_Document.pdf (1.03MB) http://www.filefactory.com/file/54s5xbs3esdn/r</p> <p>LLN Preparation of students.docx (0.02MB) http://www.filefactory.com/file/77ps5dxqgbhpi/</p> <p>Australian Core Skills Framework for LLN http://www.filefactory.com/file/4qt7qx24cd9l/r</p> <p>LLN Preparation of students.docx (0.02MB) http://www.filefactory.com/file/1rvd487gxw0j/r</p>
5	<p>Assessment Validation Guide of Myanmar Engineering Council</p> <ul style="list-style-type: none"> assessment & evaluation methods for the attainment achievement of the Learning Outcome <p>Developing the assessment strategies in VET</p> <p>VIDEO http://youtu.be/qwNZHPBn6DQ</p> <p>By Dr Kyaw Naing Delivery mode-Lecture 60 min Audio http://yourlisten.com/Kyaw_Naing/day-6-session-11</p> <p>Practical Application Resources Participate in assessment validation TAAASS404A.doc (0.03MB) http://www.filefactory.com/file/5zv1ke0eh2djin/TAAASS404A.doc</p> <p>Develop assessment tools TAAASS403A.doc (0.03MB) http://www.filefactory.com/file/5rxw2lqgk7rx/n/TAAASS403A.doc</p> <p>Plan and organise assessment TAAASS401A.doc (0.03MB) http://www.filefactory.com/file/1tpnwpwxgqv/n/TAAASS401A.doc</p> <p>Assess competence TAAASS402A.doc (0.03MB) http://www.filefactory.com/file/48yye4zmmxi7/n/TAAASS402A.doc</p> <p>Reference Textbooks (Theory aspect) ED 205 Teaching & Measuring http://www.filefactory.com/file/4eu01ck2awl/ED%20205%20Teaching%20%26amp%3B%20Measuring.zip</p> <p>Designing Instructions & Assessment http://www.filefactory.com/file/4dnh3r8wsd9t/ED%20206%20Designing%20Instructions%20%26amp%3B%20Assessment.zip</p> <p>ED 405 Training Principle http://www.filefactory.com/file/5qupttpxznnin/ED%20405%20Training%20Principle.zip</p>	Morning tea and networking	<p>Examination & Assessment St</p> <p>By the educators from various tec</p>

5	Educational Resources Development in line with Myanmar Engineering Council Requirements 9.2.7 Facilities By- Myanmar Engineering Council Engineering Accreditation Committee Delivery mode-Lecture Overviews of Professional Development Programs provided by Myanmar Engineering Society By- Myanmar Engineering Society Delivery mode-Lecture	Morning tea and networking	Integration of Learning Techno By Dr Kyaw Naing Delivery mode-Lecture VIDEO http://youtu.be/bV_CJdY7fs0 AUDIO http://yourlisten.com/Kyaw.Naing Resources http://www.filefactory.com/file/3bsfz0e/ http://www.filefactory.com/file/cvavvr9/ Due to the big file size, the resour
5	Technology in Classroom By Dr Kyaw Naing Delivery mode-Lecture 1 Hr VIDEO http://youtu.be/rzLQq6D6-OU AUDIO http://yourlisten.com/Kyaw.Naing/day-8-session-1a Resources ED312 Technology in Classrooms http://www.filefactory.com/file/7jcivu232opx/n/7_Technology_in_classroom_zip ED 308 Computer Supported Learning & Distance Education http://www.filefactory.com/file/4mdzrx52k45/ED%20308%20Computer%20Supported%20Learning%20%26amp%3B%20Distance%20Education.zip		Integration of Learning Techno Delivery mode-Lecture+ Tutor VIDEO http://youtu.be/Katbr81IPnk AUDIO http://yourlisten.com/Kyaw.Naing By Dr Kyaw Naing Sharing the e-Learning work exper <ul style="list-style-type: none"> Resources development Computer assisted test Use of online test/online surv Online simulated practicals www.easytestmaker.com http://www.emailreform.com/
5	8.5.2 Programme Quality Management and Planning 8.5.4 Quality Assurance 9.2.8 Quality Management System Preparation of self accreditation report Requirements of Myanmar Engineering Council By -Myanmar Engineering Council Delivery mode-Lecture References Curriculum design for accreditation compliance http://www.filefactory.com/file/2vyvpy64k4w3/Accredition%20Manual.pdf Overall accreditation and compliance practice http://www.filefactory.com/file/2vyvpy64k4w3/Accredition%20Manual.pdf Preparation for self accreditation report http://www.filefactory.com/file/43x0yutpx31v/2%20SAR.pptx Engineering Accreditation Plan http://www.filefactory.com/file/2ynzo3fydckb/2015%20YTU%20First%20Workshop.pptx	Morning tea and networking	Preparing the documents to cc Delivery mode-Lecture 25 min VIDEO http://youtu.be/vKGOB9ZBKAU AUDIO http://yourlisten.com/Kyaw.Naing By Dr Kyaw Naing Sample www.highlightcomputer.com/asse Quality Assurance http://www.highlightcomputer.com
5	Learning Environment By- Dr Kyaw Naing Delivery mode-Lecture 48min VIDEO http://youtu.be/3Lzk27pAQBk AUDIO http://yourlisten.com/Kyaw.Naing/day-0a-session-1 - Reference ED 407 Learning Environment http://www.filefactory.com/file/31o7fw99ux7I/ED%20407%20Learning%20Environment.zip	Morning tea and networking	Change Management By- Daw Hla Myat Mon Delivery mode-Lecture 38min VIDEO http://youtu.be/ynkcUcKr8tQ AUDIO http://yourlisten.com/Kyaw.Naing - References University of Technology Master o & experience in University of Tech
5	Preparation and finalisation of full documentations for Myanmar Engineering Council Accreditation Delivery mode-Tutorial Facilitators Dr Kyaw Naing Prof Dr Charlie Than & other trainers of MEng C	Morning tea and networking	Preparation and finalisation of Delivery mode-Tutorial Dr Kyaw Naing Prof Dr Charlie Than & other trainers of MEng C
5	Mock Accreditation Sessions Practice	Morning tea and networking	Mock Accreditation Sessions Pract

Remark

Depending on the resources & facilities availabilities, Session 2 & 3 of Day 7 & 8 may need to be replaced with other activities

Preparation for Myanmar Engineering Council Accreditation Course

Course Outline

This two weeks course is designed as Technical Teacher Education Professional Development course for teachers working at Government Technical Colleges and Technological Universities to design the curriculums and teaching resources to meet the accreditation requirements of Myanmar Engineering Council.

Aim of the course

To provide the training to the technical education teachers to understand and apply the principles of adult & vocational education outcome based education, competency based training. compliance with Qualification & Training Authority-Myanmar Engineering Council's Rules, Regulations and Standards for accreditation by taking part in intensive workshop focussing on curriculum development and assessment documents portfolio preparations for Myanmar Engineering Council Accreditation

Outcome of the course

After completion of this course, the participant will be able to

- Understand Myanmar Engineering Council Accreditation Rules & Regulations related to accreditation of Government Technical Colleges & Technological Universities in Myanmar.
- Understand and utilize the principle & features of Outcome based education.
- Understand the Adult & Vocational Education, Work based Learning and Competency based training & assessments tasks.
- Acquire the knowledge on Competency based education and training and training packages being used in industrialized countries (Examples of Australian Standard Competency based vocational education & training system.
- Get the information & knowledge on Current issues related to international & Myanmar Engineering profession.
- Participate in hand on practice workshop focussing on curriculum development & collecting and preparing the materials for accreditation by Myanmar Engineering Council Engineering Accreditation Committee & taking part in mock accreditation sessions.

- Explore the Adult & Vocational Educational Literatures, Textbooks, References & Resources, e-Learning, Learning Technology & Technology in classroom resources knowledge sharing.
- Certificate of Training will be issued by Myanmar Engineering Council as well as by the trainer's educational institution.

Target Group

- Course leaders who are responsible for development of teaching curriculums and learning resources for teaching of engineering programs.

Arrangement of attendances

- It will be an official course development and accreditation workshop in accordance with Myanmar Engineering Councils' Rules, Regulations and Accreditation system, the attendance of this course is part of the official duty and appropriate duty release arrangement may be required under the procedures of the Ministry of Science & Technology.

Place of the course

- Appropriate training venue arranged by Myanmar Engineering Council or Myanmar Engineering Society.

Course Duration

12 days (Mondays to Saturdays) (December 2015)(The exact date will be provided)

Requirements

The participants will need to bring the documents related to teaching plan, curriculum, course materials or reference notes that they are using in teaching. Access to laptop/computer will be required for the participants. Teaching aids such as white board, computer & Overhead Projector will be required to show the slides. It will be better to access Internet.

Sessions , Trainers and Facilitators

Day	Session 1 9 to 10:30AM	Tea break	Session 2 11 to 12:30 Noon	Lunch break 12:30 to 1:30 PM	Session 3 1:30 to 3:30PM (The extended time up to 5PM can be taken up to the duration of workshop & group works)
1 17 Dec 2015	<p>Welcome speech by</p> <ul style="list-style-type: none"> Chairman of Myanmar Engineering Council President of Myanmar Engineering Society Chairman of Engineering Accreditation Committee <p>Introduction to trainers & facilitators</p> <p>Outline of the program</p> <p>Participants ' self introduction</p> <p>General information and arrangement (detailed time schedule needs to be arranged)</p>	Morning tea and networking	<p>Overview of Myanmar Engineering Council Law, Regulation, Accreditation Principles</p> <p>By -Trainer from Myanmar Engineering Council</p> <p>Delivery mode-Lecture</p>	Lunch	<p>Highlighting 9.2.1 General Information (MEng C) 9.2.2 Programme Objectives & writing the objectives of the course by Dr Kyaw Naing</p> <p>Delivery mode-Lecture 30 min + Tutorial 90 min Audio http://yourlisten.com/Kyawnaing2524/day-1-session-3</p> <p>Reference Reading (Education theory) ED 106 Interpreting Curriculums http://www.filefactory.com/file/1h141zxbv8z/ED%20106%20Interpreting%20Curriculums.zip</p> <p>Practical Information Provide the examples of how to set up the program objectives for Professional Engineer, Engineering Technologists and Engineering Associates levels www.highlightcomputer.com/OverallProgramGeneral.pdf</p> <p>Page 4 to 11</p> <p>References</p>

					<p>Engineers Australia References www.highlightcomputer.com/engineersaustraliareferences.htm</p> <p>Stage 1 Competencies of PEng, Eng Technologists & Eng Associates</p> <p>Engineering job competencies http://www.highlightcomputer.com/EngineeringJobCompetencies.pdf</p> <p>Participants' tasks</p> <p>Write the course objectives of the engineering programs that they are teaching, discussion & feedback</p>
<p>2 18 Dec 2015</p>	<p>Outcome Based Education</p> <p>By Myanmar Engineering Council or Myanmar Engineering Society</p> <p>Delivery mode-Lecture</p>	<p>Morning tea and networking</p>	<p>Competency based education & training & how the competency based training is important to reach the desired outcome</p> <p>By Dr Kyaw Naing</p> <p>References</p> <p><i>Characteristics of Learning Outcomes</i></p> <p>Delivery mode-Lecture 30 min + Demonstration 60 min</p> <p>AUDIO http://yourlisten.com/Kyaw.Naing/day-2-session-2</p>	<p>Lunch</p>	<p>1:30 to 3:30PM</p> <p><u>Example of Singapore Professional Engineers Assessment Programs</u></p> <p>By Dr Sam Man Keong President of Singapore Institute of Engineering Technologists</p> <p>Delivery mode-Lecture</p> <p>3:45 to 5PM</p> <p><u>Sample of Competency based training widely used in Myanmar</u></p> <p>Examples of marine engineers competency assessment in Myanmar/ in line with International Certification standards & explore the way to apply the similar competency based training in other engineering areas</p>

			<p>In Certificate I to Vocational Diploma http://www.filefactory.com/file/32hy8l1za8wz/TAE10_R3.4.docm Page 36 to 41</p> <p>Provide the level of performances of the students tasks in the curriculums & activities</p> <p>Sample Curriculums</p> <p>Certificate to Advanced Diploma http://www.highlightcomputer.com/detailedcontent.htm</p> <p>Bachelor degrees equivalent level http://highlightcomputer.com/B%20E+B%20App%20Sc(IT)+B%20Bus%20Course%20Detailed%20Contents.htm</p>		<p>By- Dr Charlie Than</p> <p>Delivery mode-Lecture</p>
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3 19 Dec 2015	<p><u>9.2.3 Learning Outcomes Requirement of Myanmar Engineering Council & how to design the curriculum to address the learning outcomes</u></p> <p>By Dr Kyaw Naing</p> <p>Delivery mode-Lecture AUDIO</p> <p>http://yourlisten.com/KyawNaing/day-3-session-1</p> <p>Educational Theoretical Readings ED 104 Lesson Planning http://www.filefactory.com/file/4m30ym0ez37r/ED%20104%20Lesson%20Planning.zip</p> <p>ED 202 Curriculum & Design http://www.filefactory.com/file/1jotv5d428j1/ED%20202%20Curriculum%20%26amp%3B%20Design.Zip</p> <p>Practical Example</p> <p>www.highlightcomputer.com/OverallProgramGeneral.pdf Page 13 to 21</p>	Morning tea and networking	<p><u>Engineering Fundamental</u></p> <p><u>Current Engineering Fundamental Assessment in Myanmar</u></p> <p>By Myanmar Engineering Society</p> <p>Delivery mode-Lecture</p> <p>Engineering Fundamental Assessments</p> <p>By Myanmar Engineering Society</p> <p><u>Engineering Fundamental Assessment in UK Engineering Council Examinations</u></p> <p>By Dr Sam Man Keong President of Singapore Institute of Engineering Technologists</p> <p>Delivery mode-Lecture</p>	Lunch	<p><u>Curriculum Development Workshop Part 1</u></p> <p>The participants need to make the samples of the plans to provide the competency based training in their teaching and training areas</p> <p>Delivery mode-Tutorial 120 min</p> <p><u>Facilitator</u>- Dr Kyaw Naing & other trainers</p> <p>How to put the topics to meet the learning outcomes and how to include the engineering fundamentals concepts into curriculum contents</p> <p>Group development task & discussions</p> <p><u>Facilitators</u> Dr Kyaw Naing & other trainers Dr Sam Man Keong will also contribute his views & advices.</p> <p><u>Education Theory Reference</u></p> <p>ED 106 Interpreting Curriculums</p> <p>http://www.filefactory.com/file/1h141zxbov8z/ED%20106%20Interpreting%20Curriculums.zip</p> <p>Delivery mode-Tutorial 120 min</p>
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<p>4 21 Dec 2015</p>	<p><u>9.2.4 Academic Curriculum</u> <u>Discuss the programme structure and course contents(MEng C)</u> <u>Discuss the programme delivery and assessment methods</u></p> <p>By Myanmar Engineering Council Delivery mode-Lecture</p>	<p>Morning tea and networking</p>	<p><u>General Knowledge related to overseas programs</u> By Dr Kyaw Naing <u>Vocational Education Teacher Education</u> Delivery mode-Lecture 45 min AUDIO http://yourlisten.com/KyawNaing/day-4-session-2 http://www.filefactory.com/file/4yb11p1x9b/n/Vocatinal_Education_Teacher_Education_pdf <u>Sample Training Packages</u> Electrotechnology/ Electronics/ /Communication UEE11_R1.5.docm (13.37MB) http://www.filefactory.com/file/1n283tjamw2p/n/UEE11_R1.5.docm Electricity Supply UET12_R2.1.docm (7.86MB) http://www.filefactory.com/file/56saqflqmh41/n/UET12_R2.1.docm</p>	<p>Lunch</p>	<p><u>Curriculum Development Workshop Part 2</u></p> <p>Group work on selecting the Contents of curriculums & training packages into teaching curriculums of participants' institutions. Group discussion, feedback</p> <p>Facilitator</p> <p>Dr Kyaw Naing & Other trainers Delivery mode-Tutorial 120 min</p> <p><u>Examples</u> www.highlightcomputer.com/OverallProgramGeneral.pdf Page 22 to 43</p> <p><u>Samples</u> http://www.highlightcomputer.com/BECurriculum.htm http://www.highlightcomputer.com/DiplomaAdvancedDiplomaCivilEngineeringCurriculum.htm http://www.highlightcomputer.com/DiplomaAdvancedDiplomaElectricalEngineeringCurriculum.htm http://www.highlightcomputer.com/DiplomaAdvancedDiplomaMechanicalEngineeringCurriculum.htm</p>
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			<p>Electrical Power Generation UEP12_R2.1.docm (7.79MB) http://www.filefactory.com/file/52pe03hs2xq1/n/UEP12_R2.1.docm</p> <p>Automotive AUR12_R2.1.docm (13.37MB) http://www.filefactory.com/file/4gtgr5i39dzt/n/AUR12_R2.1.docm</p> <p>Manufacturing & Engineering (Mechanical)</p> <p>MEM05_R11.1.docm (9.8MB) http://www.filefactory.com/file/29evfecw9yk9/n/MEM05_R11.1.docm</p> <p>Marine MAR_R2.0.docm (1.78MB) http://www.filefactory.com/file/6sodu2z259j3/n/MAR_R2.0.docm</p> <p>Textile LMT07_R4.1.docm (8.28MB) http://www.filefactory.com/file/6gea7ztqgsq3/n/LMT07_R4.1.docm</p>		<p>Examples Page 77 to 86 of www.highlightcomputer.com/OverallProgramGeneral.pdf</p>
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			<p>Construction</p> <p>CPC08_R9.0.docm (9.59MB) http://www.filefactory.com/file/3j1y315nbze7/n/CPC08_R9.0.docm</p> <p>Information Technology</p> <p>ICA11_R2.0.docm (5.27MB) http://www.filefactory.com/file/4e3ioubld73n/n/ICA11_R2.0.docm</p> <p>Chemical</p> <p>PMA02_2.pdf (1.92MB) http://www.filefactory.com/file/2t53b3xi0slr/n/PMA02_2.pdf</p> <p>PMA02_1.pdf (1.65MB) http://www.filefactory.com/file/33ikm94dl8jb/n/PMA02_1.pdf</p> <p>Manufacturing</p> <p>MSA07_R8.4.docm (4.93MB) http://www.filefactory.com/file/4tcjlsetp0rd/n/MSA07_R8.4.docm</p> <p>TAE10_R3.4.docm (1.87MB)</p>		
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			http://www.filefactory.com/file/566jfcvasu5/n/TAE10_R3.4.docm Gas UEG11_R2.0.docm (5.44MB) http://www.filefactory.com/file/6shho87gm1nh/n/UEG11_R2.0.docm Mining MNM05_3.pdf (2.28MB) http://www.filefactory.com/file/78fk485ew98v/n/MNM05_3.pdf MNM05_2.pdf (2.29MB) http://www.filefactory.com/file/72vjazer7njj/n/MNM05_2.pdf MNM05_1.pdf (1.77MB) http://www.filefactory.com/file/6ahwwdwosk8j/n/MNM05_1.pdf		
5 22 Dec 2015	<u>Approach to various learning modes in VET</u> By- Dr Kyaw Naing & the speakers from various technological universities Delivery mode-Lecture 43 min AUDIO http://yourlisten.com/Kyaw.Naing/day-5-session-1b	Morning tea and networking	<u>Preparing vocational teaching portfolios</u> By Dr Kyaw Naing Delivery mode-Lecture 48 min References Worksheets AUDIO http://yourlisten.com/Kyaw.Naing/day-5-session-23	Lunch	<u>Learning outcomes & Teaching / Training Strategies workshop</u> Develop teaching and learning strategies in the curriculum for the courses that are taught by the participants Group work, group discussions <u>Example</u>

	<p>Topics & References</p> <p>Practical focus</p> <p>Group Base learning.pdf (3.25MB) http://www.filefactory.com/file/266najo91o3/n/16.taadel401a_Plan_&_Organize_Group_Base_learning.pdf</p> <p>Facilitate Group based learning.pdf (2.81MB) http://www.filefactory.com/file/1tvk73q17i43/n/18.taadel402a_Facilitate_Group_based_learning.pdf</p> <p>Work based learning.pdf (4.15MB) http://www.filefactory.com/file/24apg5s5n0fx/n/22.taadel404a_Facilitate_work_based_learning.pdf</p> <p>individual learning.pdf (1.94MB) http://www.filefactory.com/file/4nmwy8ldewh1/n/20.taadel403a_Facilitate_individual_learning.pdf</p> <p>Distance based learning (2.56MB) http://www.filefactory.com/file/3w2b2mdycbx1/n/24.taadel405a_Coordinate_7_facilitate_distance_based_learnin.pdf</p> <p>Educational Theory Resources ED 103 Teaching Practice http://www.filefactory.com/file/1o732n0j46mf/ED%20103%20Teaching%20P</p>	<p>Provide Training through instruction and demonstration of work skills</p> <p>TAADEL301A.doc (0.03MB) http://www.filefactory.com/file/2ppyhdlqhlsh/n/TAADEL301A.doc</p> <p>Facilitate work-based learning</p> <p>TAADEL404A.doc (0.03MB) http://www.filefactory.com/file/60ojucglvyu3/n/TAADEL404A.doc</p> <p>Group based delivery</p> <p>TAADEL401A.doc (0.03MB) http://www.filefactory.com/file/3i5scp12gkdn/n/TAADEL401A.doc</p> <p>Use Training Packages to meet client needs</p> <p>TAADES401A.doc (0.03MB) http://www.filefactory.com/file/32bofyyl82wf/n/TAADES401A.doc</p> <p>Design and develop learning programs</p> <p>TAADES402A.doc (0.03MB) http://www.filefactory.com/file/4nhro84kl2nx/n/TAADES402A.doc</p>	<p>Page 44 to 49 of www.highlightcomputer.com/OverallProgramGeneral.pdf</p> <p>Facilitator Dr Kyaw Naing & Other trainers</p> <p>Contents Research http://www.filefactory.com/file/eovzqp6gd1/assessment%20strategies.pdf</p> <p>http://www.filefactory.com/file/7jfakka1vpfx/G015BWor k%20performance%20report.doc</p> <p>http://www.filefactory.com/file/3ymfd2ekdn11/UFE11%20V1acessguidelines%5B1%5D.pdf</p> <p>DELIVERY & ASSESSMENT PLAN SAMPLES http://www.filefactory.com/file/1c03t5k3fp8p/SAMPLE%20ASSESSMENT%20ITEMS.htm</p>
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	<p>ractice.zip</p> <p>ED 105 Principle of Learning</p> <p>http://www.filefactory.com/file/7660l6kjr8sx/ED%20105%20Principle%20of%20Learning.zip</p> <p>ED 107 Teaching & Learning</p> <p>http://www.filefactory.com/file/6u5o455lyqj7/ED%20107%20Teaching%20%26amp%3B%20Learning.zip</p> <p><u>Myanmar Engineering Council</u> <u>References</u></p> <ul style="list-style-type: none"> the choice of the teaching-learning (delivery) methods. A balanced curriculum The curriculum shall integrate theory with practice through adequate exposure to laboratory work and professional engineering(MEng C) 		<p>Work effectively in vocational education and training</p> <p>TAAENV401A.doc (0.03MB) http://www.filefactory.com/file/45zeif6cy5zx/n/TAAENV401A.doc</p> <p>Foster and promote an inclusive learning culture</p> <p>TAAENV402A.doc (0.03MB) http://www.filefactory.com/file/3zoufgaty89n/n/TAAENV402A.doc</p> <p>Ensure a safe and healthy learning environment</p> <p>TAAENV403A.doc (0.03MB) http://www.filefactory.com/file/6ireaw7s5jg9/n/TAAENV403A.doc</p> <p>Individual learning</p> <p>TAADEL403A.doc (0.03MB) http://www.filefactory.com/file/7g3h9iwpodfr/n/TAADEL403A.doc</p> <p>Language Literacy &</p>		
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	<ul style="list-style-type: none"> • Time allocation • Credit points <p>ED 401 Adult Learning Technology</p> <p>http://www.filefactory.com/file/68y4bd94ianb/ED%20401%20Adult%20Learning%20Technology.zip</p>		<p>Numeracy</p> <p>1397606218-taelln411_sample.pdf (0.34MB) http://www.filefactory.com/file/5fh2bd8z3k0r/n/1397606218-taelln411_sample.pdf</p> <p>Report.pdf (0.41MB) http://www.filefactory.com/file/655u3qypqyj3/n/Report.pdf</p> <p>Section 4 Model for core skills analysis.pdf (0.69MB) http://www.filefactory.com/file/6p480mpcelft/n/Section_4_Model_for_core_skills_analysis.pdf</p> <p>ACSF_Document.pdf (1.03MB) http://www.filefactory.com/file/54s5xbe3esdn/n/ACSF_Document.pdf</p> <p>LLN Preparation of students.docx (0.02MB) http://www.filefactory.com/file/77ps5dxgbhbj/n/LLN_Preparation_of_students.docx</p> <p>Australian Core Skills Framework for LLN Level</p>	
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			<p>determination.docx (0.02MB) http://www.filefactory.com/file/4qt7gx24cd9l/n/Australian_Core_Skills_Framework_for_LLN_Level_determination.docx</p> <p>LLN Preparation of students.docx (0.02MB) http://www.filefactory.com/file/1rvd487gxw0j/n/LLN_Preparation_of_students.docx</p>		
<p>6 23 Dec 2015</p>	<p><u>Assessment Validation Guide of Myanmar Engineering Council</u></p> <ul style="list-style-type: none"> assessment & evaluation methods for the attainment achievement of the Learning Outcome <p><u>Developing the assessment strategies in VET</u></p> <p>By Dr Kyaw Naing</p> <p>Delivery mode-Lecture 60 min AUDIO http://yourlisten.com/Kyaw.Naing/day-6-session-1</p>	<p>Morning tea and networking</p>	<p><u>Examination & Assessment Strategies & Experiences talks</u></p> <p>By the educators from various technological universities & skills training organizations</p>	<p>Lunch</p>	<p><u>Prepare the sample assessment activities for the courses that the participants are teaching</u></p> <p>Delivery mode-Lecture 41min + Tutorial 80 min AUDIO http://yourlisten.com/Kyaw.Naing/day-6-session-23</p> <p><u>Facilitator</u> Dr Kyaw Naing & Other trainers</p> <p>Page 49 to 76 of www.highlightcomputer.com/OverallProgramGeneral.pdf</p> <p>Sample Assessment validation matrices http://www.filefactory.com/file/617mgi9ir63x/UEENEEE046B.zip</p>

	<p><u>Practical Application Resources</u></p> <p>Participate in assessment validation</p> <p>TAAASS404A.doc (0.03MB) http://www.filefactory.com/file/5zv1ke0eh2dj/n/TAAASS404A.doc</p> <p>Develop assessment tools</p> <p>TAAASS403A.doc (0.03MB) http://www.filefactory.com/file/5rxw2igqk7rx/n/TAAASS403A.doc</p> <p>Plan and organise assessment</p> <p>TAAASS401A.doc (0.03MB) http://www.filefactory.com/file/1tpnwpxgvgv/n/TAAASS401A.doc</p> <p>Assess competence</p> <p>TAAASS402A.doc (0.03MB) http://www.filefactory.com/file/48yye4zmmxt7/n/TAAASS402A.doc</p> <p><u>Reference Textbooks (Theory aspect)</u></p> <p>ED 205 Teaching & Measuring http://www.filefactory.com/file/4eu01</p>				<p>http://www.filefactory.com/file/333wtizbok0n/UEENEEG002.zip</p> <p>http://www.filefactory.com/file/11tkbwlf04jt/UEENEEG015B.zip</p> <p>Sample delivery & assessment schedules http://www.filefactory.com/file/5k19ps1z6xj9/20222%20Sequence%20%28V1%29%20%28001%200861%29%2020120726.pdf</p> <p>Self assessment journal/ Reflection http://www.filefactory.com/file/1c0jfwumb27p/Self%20Assessment%20Journal%20Reflection.doc</p> <p>Sample-Student Assessment Guide.doc (0.09MB) http://www.filefactory.com/file/10m1ja7dnha3/n/UEENEE101A_Student_Assessment_Guide.doc</p> <p>Sample- RPL Tool Validation Record.pdf (0.08MB) http://www.filefactory.com/file/34muh9bkgpk9/n/UEENEE101A_RPL_Tool_Validation_Record.pdf</p> <p>Sample- Assessment Cover sheet.doc (0.08MB) http://www.filefactory.com/file/n6s0sk8izqj/n/UEENEE101A_Assessment_Cover_sheet.doc</p> <p>Sample-Assessment Feedback Sheet.docx (0.05MB) http://www.filefactory.com/file/3soxroqt927j/n/UEENEE101A_Assessment_Feedback_Sheet.docx</p>
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	ck2awl/ED%20205%20Teaching%20%26amp%3B%20Measuring.zip ED 206 Designing Instructions & Assessment http://www.filefactory.com/file/4dnh3r8wsd9t/ED%20206%20Designing%20Instructions%20%26amp%3B%20Assessment.zip ED 405 Training Principle http://www.filefactory.com/file/5guptpxznin/ED%20405%20Training%20Principle.zip				Evaluation check list http://www.filefactory.com/file/6jslcpuborkx/Evaluation%20Check%20List%20General%2BOnline%20Survey.docx http://www.filefactory.com/file/4crkqpgke02z/Evaluation.docx Recognition of Prior Learning Tools-Sample http://www.filefactory.com/file/2gtq6nqjag03/20278%20ORPL_form_WVL_2014_V1_multi.xlsm http://www.filefactory.com/file/4phu09qmmmy89/20281%20ORPL_form_WVL_2014_V1_multi.xlsm http://www.filefactory.com/file/6qtg6w4uh3fh/20282%20ORPL_form_WVL_2014_V1_multi.xlsm
7 24 Dec 2015	<u>Educational Resources Development in line with Myanmar Engineering Council Requirements</u> <u>9.2.7 Facilities</u> By- Myanmar Engineering Council Engineering Accreditation Committee Delivery mode-Lecture	Morning tea and networking	<u>Integration of Learning Technology in Teaching & Learning Part 1</u> By Dr Kyaw Naing Delivery mode-Lecture AUDIO http://yourlisten.com/KyawNaing/day-7-session23	Lunch	<u>On line & offline e-Learning systems Part 1</u> By Dr Kyaw Naing Delivery mode-Tutorial 120 min Samples Learning Platform example http://www.highlightcomputer.com/onlineteaching1.htm Using multimedia & videos in teaching & Learning http://www.highlightcomputer.com/videos1.htm

	<p>Overviews of Professional Development Programs provided by Myanmar Engineering Society</p> <p>By- Myanmar Engineering Society</p> <p>Delivery mode-Lecture</p>	<p>Resources</p> <p>http://www.filefactory.com/file/3bsfz0ehba7z/n/5_Learning_Technology_1_zip</p> <p>http://www.filefactory.com/file/cvavvr9gonr/n/6_Learning_Technology_2_zip</p> <p>Due to the big file size, the resources will be given in CD</p>	<p>Using Youtube in teaching & learning</p> <p>http://www.highlightcomputer.com/videos2.htm</p> <p>Practice</p> <p>Use of DVD recorder, Digital note takers to record the lessons and prepare the multimedia power point lectures, PDF-JPG format conversion softwares</p>
<p>8</p> <p>26 Dec 2015</p>	<p>Technology in Classroom</p> <p>By Dr Kyaw Naing</p> <p>Delivery mode-Lecture 1 Hr</p> <p>AUDIO</p> <p>http://yourlisten.com/Kyaw.Naing/day-8-session-1a</p> <p>Resources</p> <p>ED312 Technology in Classrooms</p> <p>http://www.filefactory.com/file/7jativu232opx/n/7_Technology_in_classroom_zip</p> <p>ED 308 Computer Supported Learning & Distance Education</p> <p>http://www.filefactory.com/file/4mdzrx52kl45/ED%20308%20Computer%20Supported%20Learning%20%26amp%3B%20Distance%20Education.zip</p>	<p>Integration of Learning Technology in Teaching & Learning Part 2</p> <p>Delivery mode-Lecture+ Tutorial</p> <p>AUDIO</p> <p>http://yourlisten.com/Kyaw.Naing/day-8-session-23</p> <p>By Dr Kyaw Naing</p> <p>Sharing the e-Learning work experience utilized in TAFE-NSW Australian Classroom</p> <ul style="list-style-type: none"> Resources development Computer assisted test 	<p>On line & offline e-Learning systems Part 2</p> <p>Delivery mode-Tutorial 120 min</p> <p>Development of e-Learning Resources Practice workshop</p> <p>Development of learning support website & contents placement</p> <p>Sample</p> <p>www.electricaldiploma2013.zoomshare.com</p> <p>Use of online documents sharing sites</p> <p>www.filefactory.com</p> <p>www.uploading.com</p> <p>www.zoomshare.com</p> <p>www.webs.com</p>

			<ul style="list-style-type: none"> • Use of online test/online survey • Online simulated practicals www.easytestmaker.com http://www.emailmeform.com/		
9 28 Dec 2015	8.5.2 Programme Quality Management and Planning 8.5.4 Quality Assurance 9.2.8 Quality Management System Preparation of self accreditation report Requirements of Myanmar Engineering Council By -Myanmar Engineering Council Delivery mode-Lecture <u>References</u> Curriculum design for accreditation compliance http://www.filefactory.com/file/2vyvpy64k4w3/Accredition%20Manual.pdf Overall accreditation and	Morning tea and networking	<u>Preparing the documents to comply with Myanmar Engineering Council Requirement</u> Delivery mode-Lecture 25 min AUDIO http://yourlisten.com/KyawNaing/day-9-session-23 By Dr Kyaw Naing Sample www.highlightcomputer.com/assessment.htm Quality Assurance http://www.highlightcomputer.com/QualityAssurance.htm	Lunch	<u>Quality Assurance Compliance Documentation preparation workshop</u> Delivery mode-Tutorial 120 min The participants to prepare the quality assurance documents for the courses that they are teaching to comply with the requirements of Myanmar Engineering Council <u>Facilitator</u> Dr Kyaw Naing & Other trainers <u>Reference</u> Page 92 to 96 of www.highlightcomputer.com/OverallProgramGeneral.pdf

	<p>compliance practice http://www.filefactory.com/file/2vyvpy64k4w3/Accreditation%20Manual.pdf</p> <p>Preparation for self accreditation report http://www.filefactory.com/file/43x0yutpx31v/2%20SAR.pptx</p> <p>Engineering Accreditation Plan http://www.filefactory.com/file/2ynzo3fydckb/2015%20YTU%20First%20Workshop.pptx</p>				
<p>10 29 Dec 2015</p>	<p>Learning Environment By- Dr Kyaw Naing Delivery mode-Lecture 48min</p> <p>AUDIO http://yourlisten.com/Kyaw.Naing/day-10-session-1</p> <p>Reference ED 407 Learning Environment http://www.filefactory.com/file/31o7fw99ux7l/ED%20407%20Learning%20Environment.zip</p>	<p>Morning tea and networking</p>	<p>Change Management By- Daw Hla Myat Mon Delivery mode-Lecture 38min</p> <p>AUDIO http://yourlisten.com/Kyaw.Naing/day-10-session-23</p> <p>References University of Technology Master of Business Change Management References & experience in University of Technology Sydney</p>	<p>Lunch</p>	<p>Educational Leadership work experience knowledge By Invited Educational Leaders of Myanmar Education Delivery mode-Lecture</p> <p>Textbook ED 308 Change Management http://www.filefactory.com/file/4cxrjx86buot/n/9_Leadership_Change_Management.zip</p> <p>ED309 Educational Communication http://www.filefactory.com/file/6tbjy1omi7kz/n/1_Educational_Communication.zip</p> <p>ED 402 Educational Leadership http://www.filefactory.com/file/68h2rewfq7jx/ED%20402%20Educational%20Leadership.zip</p>

11 30 Dec 2015	<u>Preparation and finalisation of full documentations for Myanmar Engineering Council Accreditation</u> Delivery mode-Tutorial Facilitators Dr Kyaw Naing Prof Dr Charlie Than & other trainers of MEng C	Morning tea and networking	<u>Preparation and finalisation of full documentations for Myanmar Engineering Council Accreditation</u> Delivery mode-Tutorial Dr Kyaw Naing Prof Dr Charlie Than & other trainers of MEng C	Lunch	<u>Preparation and finalisation of full documentations for Myanmar Engineering Council Accreditation</u> Delivery mode-Tutorial Dr Kyaw Naing Prof Dr Charlie Than & other trainers of MEng C
12 31 Dec 2015	Mock Accreditation Sessions Practice	Morning tea and networking	Mock Accreditation Sessions Practice		Conclusion of the training.

Remark

Depending on the resources & facilities availabilities, Session 2 & 3 of Day 7 & 8 may need to be replaced with other activities

Diploma in Hazardous Safety Engineering Course (based on Professional Diploma but focused on beginner aspect (30 credits)

Course Objective

This course provides the information and knowledge related to safely working in hazardous areas, safe working knowledge, safety protection equipments, systems and methods, auditing the safety requirements of hazardous area engineering works such as mining, petroleum, chemical plants ,civil ,electrical and mechanical engineering

Pre-requisite

Nil

SAFE 101 General Safety Management(Diploma version of BAE 636E Hazardous Area Inspection)

(5 Credits)

-Contents- Management+ Industrial Management + Safety Lessons

SAFE102 Electrical Safety(Diploma version of BAE 632E Electrical Wiring in Hazardous Areas) (

(5 Credits)

-Contents EE101+102+ Electrical Wiring (IQY)+ + Electrical Safety Lessons

SAFE103 –Construction Safety (Diploma version of BAE 633E Hazardous Area Safety Audits)

(5 Credits)

-Contents- CE104+CE106 Building Construction+ Brick Laying+ Plumbing+ Safety Lessons

SAFE104 –Chemical Safety (Diploma version of BAE 637E Hazardous Chemical Management)

(5 Credits)

-Contents Year 12 Chemistry + Chemical Safety Lessons

SAFE105 –Environmental Safety (Diploma version of BAE 638E Environmental Engineering in Hazardous Areas)

(5 Credits)

Contents-BAE 523A Environmental Engineering+ Safety Lessons

SAFE106-Mechanical Safety(Diploma version of BAE 631E Maintenance & Repair Works in Hazardous Areas)

Content-Fitting & Machining + Safety Lessons

Location

IQY Technical College- No 307B Thura 2 Street, 9 Ward South Okkalapa

GGO Training Group -No 76A 4 th Floor Awwbar St, Kyauk-myaung, Tarmwe

ADVANCED COURSE (ONLINE)

Professional Diploma in Hazardous Safety Engineering

Course Objective

This course provides the information and knowledge related to safely working in hazardous areas, safe working knowledge, safety protection equipments, systems and methods, auditing the safety requirements of hazardous area engineering works such as mining, petroleum, chemical plants ,civil ,electrical and mechanical engineering

Pre-requisite

Professional Diploma/ Bachelor degree in Engineering (Any discipline)

Course Outline

It consists of 8 units with each 5 credits.

- BAE 631E Maintenance & Repair Works in Hazardous Areas
- BAE 632E Electrical Wiring in Hazardous Areas
- BAE 633E Hazardous Area Safety Audits
- BAE 634E Explosion Protection
- BAE 635E Testing in Hazardous Areas
- BAE 636E Hazardous Area Inspection
- BAE 637E Hazardous Chemical Management
- BAE 638E Environmental Engineering in Hazardous Areas

Professional Diploma in Architectural Engineering

(Guided study to complete Professional Diploma in Civil Engineering & Fees will be charge for that)

Stage 1- Complete Professional Diploma in Civil Engineering Program

Stage 2-Study the textbooks in the following site.

(Self study with presentation of study progress report to complete Professional Diploma in Architectural Engineering- Assessment Fees will be charged only after the student can submit the report for first textbook)

Year 4 BE (Architectural Engineering)

AE401 Architecture Theory

AE402 Architectural Design

AE404 Building Services

AE406 Sustainable Building Design

AE407 Architectural Drafting

Year 5 BE (Architectural Engineering)

AE501 Architectural Management

AE502 Interior Design

AE503 Green Building Design

AE504 Construction Contract

AE505 Solar Architecture & Smart House Design

AE506 Architecture Commercial Design

AE507 Urban Design

AE508 Landscape Design

Year 6 BE (Architectural Engineering)

AE601 Architectural Design& Ethics

AE602 Building Survey & Reporting

AE603 Building Control Systems

AE604 Sustainable Architecture

AE605 Details Design

AE606 Outdoor Structure Design

Study Method & Assessment

The students will need to read the reference materials provided in folder of each unit & write the report on their study for each unit.

The report should contain

- Summary of knowledge acquired in the unit
- Practical methods related to assessment, safe working, protection, technical data, equipments utilized in hazardous areas
- Practical applications in work place
- Specific applications in the area of your choice
- Reference guides etc

Each report should be Arial 11 fonts with 10 to 20 pages written in own words by using English..

Insert the appropriate diagrams & tables, formula and data related to information.

Professional Diploma in Chemical Engineering

(This course can only be studied by self study mode)

Fees will only be charged after submission of the study progress report for first textbook.

EM 11001	Engineering Mathematics I
EPh 11011	Engineering Physics I
ECh11011	Engineering Chemistry I
ME 11011	Basic Engineering Drawing
ChE 11001	Organic Chemistry

ME 22021	Machine Drawing
ME 22015	Engineering Mechanics
EcE 22012	Applied Electronic Engineering
Met 21071	Engineering Material
ChE 22013	Material and Energy Balances

BE(Chemical) Year 3

ME 31014	Strength of Materials
ChE 31012	Fluid Mechanics
ChE 31013	Chemical Engineering Thermodynamics
ChE 31022	Heat Transfer

BE(Chemical) Year 4

ME 41031	Design of Machine Elements
ChE41015	Quality Control
ChE41032	Mass Transfer
ChE41042	Particle Mechanics

BE(Chemical) Year 5

ME 51028	Industrial Management
ChE51025	Instrumentation for Chemical and Automatic Process Control
ChE 51052	Chemical Reaction Kinetics and Reactor Design
ChE 51007	Pollution Control, Maintenance and Industrial Safety
ChE 51062	Biochemical Engineering
ChE 51016	Chemical Process Design

BE(Chemical) Year 6

IT 61024 Computer Application Software

ChE 61016 Plant Design and Economics for Chemical Engineers

Study Method & Assessment

The students will need to read the reference materials provided in folder of each unit & write the report on their study for each unit.

The report should contain

- Summary of knowledge acquired in the unit
- Practical methods related to assessment, safe working, protection, technical data, equipments utilized in hazardous areas
- Practical applications in work place
- Specific applications in the area of your choice
- Reference guides etc

Each report should be Arial 11 fonts with 10 to 20 pages written in own words by using English..

Insert the appropriate diagrams & tables, formula and data related to information.

Advanced Diploma in Engineering (Engineering Practice)/ Professional Diploma in Engineering (Engineering Practice)

(Course 67110/67111)

Course Objective

This course aims to provide the necessary skills and knowledge for Diploma/ AGTI /BTech /BE Graduates of Government or Non Government Technical Colleges and Technological Universities of Myanmar to achieve the educational requirement to acquire Singapore Recognized Engineer (Fellowship)/ ASEAN Engineering Technologists/ Associate Engineering Technologists/ ASEAN Engineering Technician/ Associate Technicians through Membership of Singapore Institute of Engineering Technologists & further career progress toward ASEAN Engineer.

Course Outline

ENG601- Engineering Studies (60 pt- for submission of AGTI/BTech/BE)

ENG602-Engineering Applications (10 pt for submission of Curriculum Vitae for experienced engineers and Final Year Project Report for recent graduates)

ENG603-Engineering Practicals (10 pt- Which can be exempted for minimum of 5 Years Engineering Experience)

ENG604-Occupational Health & Safety (5 pt)

ENG605-Engineers Law (2 pt)

ENG606-Engineering Ethics (3 pt)

The candidates who complete ENG 601/602/603/604/605/606) can receive Advanced Diploma in Engineering (Engineering Practice) (Credit Points 90) which is academic requirement for MSIET (Member of Singapore Institute of Engineering Technologists)

ENG607 -Leadership & Management Skills for Engineers (4 pt)

ENG608-Business Skills for Engineers (6 pt)

ENG609-Financial Management Skills for Engineers (3 pt)

ENG610-Engineering Materials (4 pt)

ENG611-Renewable Energy Engineering (10 Pt)

ENG612-Risk Assessment Skills for Engineers (3 pt)

The candidates who complete ENG 601/602/603/604/605/606/607/608/609/610/611/612) can receive Professional Diploma in Engineering (Engineering Practice) (Credit Points 120) which is academic requirement for FSIET (Fellow of Singapore Institute of Engineering Technologists)

Enrol at the following link <http://www.emailmeform.com/builder/form/p915fvwS1a00971Hx9U6u10>

STUDY GUIDE

ENG601- Engineering Studies (60 pt- for submission of AGTI/BTech/BE)

ENG602-Engineering Applications (10 pt for submission of Curriculum Vitae for experienced engineers and Final Year Project Report for recent graduates)

ENG603-Engineering Practicals

Select any two practical courses, study and submit the assignment

RESOURCES DOWNLOAD LINK

<http://www.highlightcomputer.com/PracticalCourses.htm>

ENG604-Occupational Health & Safety (5 pt)

Mgt 208 Safety Management

www.mongroupsyzdney1.com/Mgt208SafetyManagement.pptx

ASSIGNMENT

Do the exercises in the following link.

www.mongroupsyzdney1.com/AdvancedDiplomainManagementStudyGuide.pdf

VIDEOS

E011+E017 Lesson 1 Hazards of electricity

<http://youtu.be/u7hZkdSDWxl>

E011+E017 Lesson 2 Low voltage safety

<http://youtu.be/O9C0S5yzpy4>

<http://youtu.be/DILqJf5qNEQ>

<http://youtu.be/8fjcP8MEffl>

E011+E017 Lesson 3 Safety procedure & methods

<http://youtu.be/DRdri7ZJUfw>

E011+E017 Lesson 4 Electrical installation safety

<http://youtu.be/2srZpukbAQw>

E011+E017 Lesson 5 Installation safety

<http://youtu.be/NVBghDWmeX0>

Power Line Accident Due to Ladder

<http://youtu.be/csV1qiMskSQ>

Electric Fire

<http://youtu.be/0DXz2Ny7w74>

<http://youtu.be/1n61ds40lt4>

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ENG605-Engineers Law (2 pt)

Write the critical review of Myanmar Engineering Council Laws and Regulations by reflecting your own view. You can write 1 to 3 Pages.

RESOURCES DOWNLOAD LINK

<http://www.highlightcomputer.com/mengclaw.htm>

<http://www.myanmarengc.org/laws-regulation>

ENG606-Engineering Ethics (3 pt)

Study Engineers Ethics of Myanmar Engineering Council. Then do the research work on various media such as Newspaper/ Journals/ Internet to find out any engineering tasks which do not comply with public safety/ ware fare of public and wasting of public money/ breach of consumers' right etc and provide the critical review by referring the relevant clauses of Engineers Ethics.

RESOURCES DOWNLOAD LINK

www.highlightcomputer.com/MEngCEthics.pdf

|

ENG607 -Leadership & Management Skills for Engineers (4 pt)

VIDEOS

Mgt 101 Management

[Day 3 Part 3AMgt 101+501](#)

[Day 3 Part 3BMgt 101+501](#)

[Day 3 Part 3CMgt 101+501](#)

ICT 104 Mgt 104 Program Project +BAE 508 Project Management

Day 7 Part 2

[ICT104+Mgt104+BAE508 1](#)

[ICT104+Mgt104+BAE508 2](#)

[ICT104+Mgt104+BAE508 3](#)

[ICT104+Mgt104+BAE508 4](#)

[ICT104+Mgt104+BAE508 5](#)

[ICT104+Mgt104+BAE508 6](#)

-

Mgt 105 Quality Management

Day11 Part 2

[Mgt 5051](#)

[Mgt 5052](#)

[Mgt 5053](#)

[Mgt 5054](#)

[Mgt 5055](#)

-

LESSONS TO BE STUDIED & ASSIGNMENT

www.iqytechnicalcollege.com/MgtAdvDip.zip

studies all files JPG+MP3

Then answer Questions for MGT 104 (for MGT505+EE309 Lessons) (Page 3 to 5) and MGT105 (for MGT505 Lessons (Page 5 to 8) of www.highlightcomputer.com/DipManagementAssignment.pdf

OTHER REFERENCES

www.highlightcomputer.com/Day 3 Part2-Mgt 101 Management.zip

www.highlightcomputer.com/Day 7 Part 2-ICT 104 Mgt 104 Program Project BAE 508 ProjectManagement.zip

www.highlightcomputer.com/Day 11 Part 2-Mgt 105 Quality Management.zip

ENG608-Business Skills for Engineers (6 pt)

VIDEOS

Mgt 102 Performance Management

Day 12 Part 2

[Mgt 1021](#)

[Mgt 1022](#)

[Mgt 1023](#)

Mgt 201 Customer Service Management

<https://youtu.be/3I-eSQyy9x0>

Mgt 202 Change Management

<https://youtu.be/cF8e-GrmqIo>

<https://youtu.be/i-yXY9k71uc>

Mgt 203 Inventory & Budget Management

<https://youtu.be/UsUsrFLspxc>

Mgt 204 Continuous Improvement Management

<https://youtu.be/H8X9GP9nY7Q>

Mgt 205 Office Management

<https://youtu.be/yYacivydUa4>

<https://youtu.be/J6Nwoz8nnOY>

Mgt 206 Work-based Training Management

https://youtu.be/_t0SLtD3BY

<https://youtu.be/wgTrTLTS9KY>

Mgt 207 Business Letter Writing

<https://youtu.be/3c4mhgmBums>

Mgt 210 Professional Development Management

<https://youtu.be/bYrknSQDERA>

<https://youtu.be/wxUI2K390GY>

Mgt 211 Leadership

<https://youtu.be/cF8e-GrmqIo>

<https://youtu.be/i-yXY9k71uc>

Mgt 212 Preparing Portfolios

Mgt 213 Conflict Management

<https://youtu.be/caiSooLv5K0>

-

LESSONS TO BE STUDIED & ASSIGNMENT

Do any two units of the followings/ If you do all, you will get Advanced Diploma in Management as well.

Mgt 201 Customer Service Management

www.mongroupsydney1.com/Mgt201CustomerServiceManagement.zip

Mgt 202 Change Management Reader

www.mongroupsydney1.com/Mgt202ChangeManagementReader.pdf

Mgt 204 Continuous Improvement Management

www.mongroupsydney1.com/Mgt204ContinuousImprovementManagement.zip

Mgt 211 Leadership

www.mongroupsydney1.com/Mgt211Leadership.zip

Mgt 213 Conflict Management

www.mongroupsydney1.com/Mgt213ConflictManagement.zip

ASSIGNMENT

Do the exercises in the following link.

www.mongroupsydney1.com/AdvancedDiplomainManagementStudyGuide.pdf

ENG609-Financial Management Skills for Engineers (3 pt)

Certificate in Financial Management

www.highlightcomputer.com/Mgt106.zip

All lessons+ Exercises in the above link

ENG610-Engineering Materials (4 pt)

10 RE010-Engineering Materials

www.iqytechnicalcollege.com/RE010.zip

ASSIGNMENT

Page 48 to 61 of

www.highlightcomputer.com/BEGeneralREAssignment.pdf

ENG611-Renewable Energy Engineering (10 Pt)

Do any two units. If you do all, you will also receive Diploma in Renewable Energy Engineering.

RE001- Foundation Studies in Renewable Energy and Sustainability

www.iqytechnicalcollege.com/RE001.pdf

ASSIGNMENT

Page 5 to 16 All questions of

www.highlightcomputer.com/BEGeneralREAssignment.pdf

RE003- Solar and Thermal Energy Systems

www.iqytechnicalcollege.com/RE003.zip

ASSIGNMENT

Page 18 All questions of

www.highlightcomputer.com/BEGeneralREAssignment.pdf

RE004- Energy Storage Systems

www.iqytechnicalcollege.com/RE004.zip

ASSIGNMENT

Page 19 to 30 All questions of

www.highlightcomputer.com/BEGeneralREAssignment.pdf

RE005- Renewable Energy Resource Analysis & Wind Energy Conversion Systems

www.iqytechnicalcollege.com/RE005.zip

www.iqytechnicalcollege.com/RE006.zip

ASSIGNMENT

Page 31 to 46 All questions of

www.highlightcomputer.com/BEGeneralREAssignment.pdf

RE007- Energy System Efficiency

www.iqytechnicalcollege.com/RE007.zip

ASSIGNMENT

www.mongroupsyzdney1.com/RE007Exercises.pdf

VIDEOS

LECTURES (ENGLISH+MYANMAR EXPLANATIONS)

When you click the link, it will come out with Safety Mode ON
You need to sign in by using your e-mail account to lock off the Safety Mode.

RE001 Foundation Studies in Renewable Energy

Day 6 Part 1

[Foundation Studies in Renewable Energy 1\(Myanmar+English\)](#)

Topics-Climate change, solar energy, hydro energy

[Foundation Studies in Renewable Energy 2\(Myanmar+English\)](#)

Topics-Tidal Power, Design for climate

[Foundation Studies in Renewable Energy 3\(Myanmar+English\)](#)

Topics-Solar heating, Site selection, Embodied Energy

Day 6 Part 1

RE001- Foundation Studies in Renewable Energy and Sustainability /BAE 523A Environmental Engineering (Civil)

www.highlightcomputer.com/Day 6 Part 1 R001BAE523-Foundation Studies in Renewable Energy and Sustainability.zip

Day 6 Part 1

RE 001 Foundation Studies in RE

Slide 1,2,4,8,12,14,16,20,22,23,24,27,29,34,44,50,52,66,69,77,81,82,86,88,93,97,99,114,115,117,118,119,138,142,145,146,161,164,192

RE005 Renewable Energy Resources Analysis

Day 9 Part 1

[Renewable Energy Resources Analysis 1 \(Myanmar+English\)](#)

Topics-Hydro Power Plants

[Renewable Energy Resources Analysis 2 \(Myanmar+English\)](#)

Topics-Water Turbines

[Renewable Energy Resources Analysis 3 \(Myanmar+English\)](#)

Topics-Bio-Energy, Thermo Chemical

[Renewable Energy Resources Analysis 4 \(Myanmar+English\)](#)

Topics-Bio-Chemical Processing, Geo-thermal Energy, Tidal Energy

[Renewable Energy Resources Analysis 5 \(Myanmar+English\)](#)

Topics-Tidal Wave Generators, Connection to Electricity Grid

Day 9 Part 1

RE005- Renewable Energy Resource Analysis

RE005-RE Resources Analysis (6).pdf (5.42MB)

[http://www.filefactory.com/file/6ij4aag9kodh/n/RE005-RE_Resources_Analysis_\(6\).pdf](http://www.filefactory.com/file/6ij4aag9kodh/n/RE005-RE_Resources_Analysis_(6).pdf)

[www.highlightcomputer.com/Day 9 Part 1 RE005-Renewable Energy Resource Analysis.zip](http://www.highlightcomputer.com/Day_9_Part_1_RE005-Renewable_Energy_Resource_Analysis.zip)

Day 9 Part 1

RE005 Renewable Energy Resources Analysis

RE004-4

Hydro power Slide 2,3,5,6

Hydro plants 7,8

Turbine blades 11,14,15,18,22

Bio energy

29,31,32,33,34,

Bio fuel 36,37,41

Oil extraction 44,45

Thermo chemical processing 46

RE005-5

Bio chemical processing 7,9,10,11, Ethanol 13,14

Geothermal 24,28,32,36,40,42,46,50,51

RE005-6

Tidal energy Physics 1,3,5,6,7,8,9,11,14,17,20,21,23,24,25,27,28,29,30,31,34,36,37,43,44,47,50,52,53

RE005-7

Hydrogen Fuel

1,2,3

Fuel cell 13,14

RE003- Solar and Thermal Energy Systems

Day 7 Part 1

[Solar and Thermal Energy Systems 1 \(Myanmar+English\)](#)

Topics-Solar Energy & Thermal Conversion

[Solar and Thermal Energy Systems 2 \(Myanmar+English\)](#)

Topics-Heat Exchanger, District Heating, Combined Heat & Power

[Solar and Thermal Energy Systems 3 \(Myanmar+English\)](#)

Topics-Domestic Solar Heating & Cooling, Earth Heat Reservoir

Day 7Part 1

RE003 Solar & Thermal Energy System

Slide

1,2,5,6,9,11,14,15,20,21,24,25,31,33,35,37,39,42,44,46,47,53,57,58,61,63,69,71,73,77,100,117,118,122,123,126,130,137,138,148,151,152,154

Solar energy+ Measurement of irradiation Page 1 to 15

Solar water heating system + Collectors Page 20 to 39

Solar water heater + Heat exchanger Page 42 to 63

Combined hot water system Page 100 to 148

Dielectric +Heating system + Earth Reservoir Page 151 to 154

Day 7 Part 1

RE003- Solar and Thermal Energy Systems

[www.highlightcomputer.com/Day 7 Part 1 RE003- Solar and Thermal Energy Systems.zip](http://www.highlightcomputer.com/Day_7_Part_1_RE003-Solar_and_Thermal_Energy_Systems.zip)

RE004- Energy Storage Systems

Day 8 Part 1

[Energy Storage Systems \(Myanmar+English\)](#)

Topics-Principle, Power Grid Energy Storage Devices, Redox

Battery, Hydrogen Cell Battery

Day 8 Part 1

RE004- Energy Storage Systems+ RE006- Wind Energy Conversion Systems

www.highlightcomputer.com/Day 8 Part 1A-RE004- Energy Storage Systems.zip

Day 8 Part 1A

RE004 Energy Storage System

Storage& density Page 1,4,6

Page 7-System, Page 8 Storage management Page 10

Frequency regulation Page 12 Voltage Page 16

Distribution network energy storage Page 18

Energy storage retailer Page 23, 24, 25, 29, 30, 31,32,35,37,38,41,42,43,44

www.highlightcomputer.com/Day 8 Part 1B-RE006- Wind Energy Conversion Systems.zip

RE006 Wind Energy Conversion System

Wind Energy Conversion System 1(Myanmar+English)

Topics-Energy& Power in Wind, World Wind Energy

Wind Energy Conversion System 2 (Myanmar+English)

Topics-Wind Turbine, Aero-dynamic forces, Electricity Generated by Wind Turbine

Day 8 Part 1B

RE006 Wind Energy System

Page 1 Wind of the world

Page 2 Energy & Power in the wind Page 3,4

Wind machines Page 6,7,8,9

Page 14 Aero dynamic force Page 19,20 Aerofoil

Page 23 Relative wind velocity

Page 24 Wind turbine power 26,27,28

Page 32 Wind energy calculation Page 36

RE002- Grid Connected Photovoltaic Power Systems-Electrical

Day 14Part 1

Grid Connected Photovoltaic Power Systems 1(Myanmar+English)

Topics-Sun Geometry, Solar Cell Connection

Grid Connected Photovoltaic Power Systems 2(Myanmar+English)

Topics-Solar Electrical System Installation

Grid Connected Photovoltaic Power Systems 3(Myanmar+English)

Topics-Power Output from solar cell, Grid Connection

Grid Connected Photovoltaic Power Systems 4(Myanmar+English)

Topics-Solar Installation Inspection

Grid Connected Photovoltaic Power Systems 5(Myanmar+English)

Topics-Lightning & Surge Protection, Metering

Day 14 Part 1

RE002- Grid Connected Photovoltaic Power Systems-Electrical

www.highlightcomputer.com/Day 14-Part 1-RE002- Grid Connected Photovoltaic Power Systems-Electrical.zip

Day 14 Part 1

RE002 Grid Connected PV system

RE 002 Part 1

Sun geometry 1

Daily irradiance 2, 9

Power output calculation 29, 31, 36

Pen circuit voltage 37,40,41,42,44

Inverter diagram 45,46,48,52,53

Grid protection 55, 56, 57, 58, 59

Lightening surge protection 62, 63

Net metering 64, 67, 68, Inspection& testing

73 PV array location 81, 82, 89, 90

PV power system 92,93,

Typical arrays 97,98,100,102,105,

Grid connected inverter 134,135,136,137,139,146

RE002 Part 2

Economy 16,20,23

RE007- Energy System Efficiency

Day 16 Part 1

[Energy System Efficiency 1 \(Myanmar+English\)](#)

Topics-Unit Energy, Energy used by day

[Energy System Efficiency 2 \(Myanmar+English\)](#)

Topics-Comparison of energy usage, Solar Farming

[Energy System Efficiency 3 \(Myanmar+English\)](#)

Topics-Regeneration, Combined Heat& Power

[Energy System Efficiency 4 \(Myanmar+English\)](#)

Topics-Heat Transfer, Energy Efficient Building Construction

[Energy System Efficiency 5\(Myanmar+English\)](#)

Topics-Energy Survey, Building Survey, Lighting Control

Day 16 Part 1

RE007- Energy System Efficiency
(Electrical)(Mechanical)

www.highlightcomputer.com/Day_16Part_1-RE007- Energy System Efficiency.zip

Day 16 Part 1

RE007 Energy Efficiency

Page 1,3,4,5,6 Energy Use Page 11

Water use Page 16

Comparison Page 19,20

Solar farming Page 21,25,26,27,30

Bulb efficiency Page 35,40,45,46

Regenerative braking Page 48, 49, 53

CHP Page 55, 57, 58

Efficient electricity use Page 61, 64, 66

Car Page 68,69,70,

Ventilation Page 76, 78, 86

Energy efficient office Page 92,93,94,95,110

Power system in energy efficiency Page 111

Survey Page 115,118,119,120

Building survey

Page 122, 123

ENG612-Risk Assessment Skills for Engineers (3 pt)

VIDEOS

Mgt 208 Safety Management

<https://youtu.be/rPhf8Ngkd7w>

Mgt 209 Risk Management

<https://youtu.be/QawB3xDt2dc>

LESSONS TO BE STUDIED & ASSIGNMENT

Mgt 208 Safety Management

www.mongroupsytdney1.com/Mgt208SafetyManagement.pptx

Mgt 209 Risk Management

www.mongroupsytdney1.com/Mgt209RiskManagement.zip

ASSIGNMENT

Do the exercises in the following link.

Professional Diploma in Electrical Engineering (Electrical Power & Electronics)

(Prof Dip EPEC Engg)

www.highlightcomputer.com/profdipepec1.htm

Enrolment Link

<http://www.emailmeform.com/builder/form/xE6omX3577z595GCB60>

Objective

This course provides Electrical Power Knowledge to Electronics Engineers and Electronics Knowledge to Electrical Power Engineers.

Features of the course

It integrates Australian Electrical Engineering Training System Units (UEE07/UEE011)

It focuses on practical application aspects and the entire course is taught in English language by referring classroom lessons and videos that are used in Australian Electrical Engineering teaching classes.

Credit Points

It needs 120 credit points to complete this course. The credit transfer arrangements is as follows.

For Electrical Power Graduates

AGTI(EP)/BTech(EP)/BE(EP)----Credit Transfer of 60 points

Complete the following 20 subjects (Each 3 Credit points) Total= 60 Points

Total Credit Points = 120 Points

List of Subjects	Australian Electrical Units
EPEC601 Electronics Power Supply	UEENEEH011B
EPEC602 Digital Electronics	UEENEEH012B
EPEC603 Amplifiers	UEENEEH013B
EPEC604 Single Phase Electronics Power Control	UEENEEH025B
EPEC605 Three Phases Electronics Power Control	UEENEEH026B
EPEC606 Analogue Electronics	UEENEEH045B
EPEC607 Process Control Systems	UEENEEI006B
EPEC608 Sinewaves & Solar Inverters	UEENEEK035C
EPEC609 Building Services Electrical & Mechanical Systems	UEENEEK041B
EPEC610 Electrical Workshops	Electrical Workshops (UEENEEE001/002/005/007/008)
EPEC611 Electrical Wiring	UEENEEG003/004/005/007/033/063
EPEC612 Electrical Risk Assessment	UEENEEE011C+E117B
EPEC613 Control Programming	UEENEEED150/151B
EPEC614 Programmable Logic Controllers	UEENEEI150/151
EPEC615 Electronics Workshop	UEENEEH102B
EPEC626 Advanced Power System	UEENEEG037/38/39
BAE 604 Telecommunication Engineering	
BAE 602 Computer Network	
BAE 603 Software Engineering	
RE007 Energy System Efficiency	

For Electronics Graduates

AGTI(EC)BTech(Ec)/BE(EC)----Credit Transfer of 60 points

Complete the following 20 subjects (Each 3 Credit points) Total= 60 Points

Total Credit Points = 120 Points

List of Subjects	Australian Electrical Units
EPEC616 Electromagnetism & Basic Machines	UEENEEG001/002/E029B
EPEC610 Electrical Workshops	Electrical Workshops (UEENEEE001/002/005/007/008)
EPEC611 Electrical Wiring	UEENEEG003/004/005/007/033/063
EPEC612 Electrical Risk Assessment	UEENEEE011C+E117B
EPEC617 Electrical Distribution	UEENEEG015B(AA)
EPEC618 Power System Protection	UEENEEG015B(AE)
EPEC619 Power System Operation	UEENEEG015B(AG)
EPEC620 Power Panel Design &	UEENEEA010
EPEC621 Three Phase Power Circuits & Fault Calculations	UEENEEG049B
EPEC622 Power Transformer	UEENEEG040B
EPEC623 Transmission Line	UEENEEG042B
EPEC624 Electrical Machines	UEENEEG043/44/45
EPEC625 Solar Electrical System	UEENEEK025B
RE007 <u>Energy System Efficiency</u>	
RE003- Solar and Thermal Energy Systems	
RE004- Energy Storage Systems	
EPEC626 Advanced Power System	UEENEEG037/38/39
<u>BAE 404 Engineering Materials & Thermodynamics</u>	
<u>BAE 506 Power System Stability & Protection</u>	
RE010-Engineering Materials	

Practicals (Trade Level)

Electrical Wiring

<http://www.highlightcomputer.com/PracticalCourses.htm#j>

Electrical Machine Winding

<http://www.highlightcomputer.com/PracticalCourses.htm#k>

Power Wiring

<http://www.highlightcomputer.com/PracticalCourses.htm#l>

Basic Electronics Communication

<http://www.highlightcomputer.com/PracticalCourses.htm#m>

Practicals (Professional Level)

<http://www.filefactory.com/file/cf88135/n/Practical.zip>

Enrolment Link

<http://www.emailmeform.com/builder/form/xE6omX3577z595GCB60>

Professional Diploma in Information Technology (Computer Networking)

Bachelor of Applied Science (Computer Networking) (63347)

Professional Diploma in ICT Engineering (Network)

Bachelor of Engineering (Computer Networking) (63348)

Professional Diploma in Information Technology (Computer Networking)

Bachelor of Applied Science (Computer Networking)

Pre-requisite- Advanced Diploma in Information Technology (Network)
(Experience based) (60 Credits)

Self study

Professional 1-Core units (Each 5 credit points)

ICTN401-Computer Systems Architecture

ICTN402-Computer Networking

ICTN403-Cisco Networking

ICTN404- Home Networking

ICTN405- System and Network Administration

ICTN406- Wireless Communications and Networking

Professional 2-Elective units (Each 5 credit points)

Any six units to complete

ICTN501-Enterprise System Administration

ICTN502- Mobile and Wireless Network Security

ICTN503- Cisco Certified Entry Networking

ICTN504- Wireless Security

ICTN505- UNIX System Administration

ICTN506- Advanced Network Programming

ICTN507- Windows Server Administration

ICTN508- Enterprise Network Testing

Total 120 Credits

Professional Diploma in ICT Engineering (Network)

Bachelor of Engineering (Computer Networking)

Completion of Professional Diploma in IT (Computer Networking) (120 credits)+completion of the following units

BAE 401 Advanced Engineering Mathematics (3 credits)

BAE 402 Calculus (3 credits)

RE012a-Electrical Engineering Part 1(3 credits)

RE014-Electronics Control (3 credits)

BAE 604 Telecommunication Engineering (3 credits)

BAE 605 Engineering Management (3 credits)

BAE 608 Professional Engineer Engineering Competency Demonstration Report (2 credits)

Total 140 Credits

www.iqytechnicalcollege.com/ProfDipICTEnggBENetwork.pdf

Professional Diploma in Mechanical Engineering and Management

www.iqytechnicalcollege.com/ProfDipMechEnggMgtOutline.pdf

This program is mixture of Mechanical Engineering and Management. The graduates can either work as Mechanical Engineer or Project Manager

Advanced Diploma in Mechanical Engineering and Management

Advanced Diploma in Mechanical Engineering

30 Credit Points in Engineering units Each 2 Points

Maths 101 Engineering Mathematics

ME101 Applied Mathematics

ME106 Electrical Circuits

ME201 Introduction to Fluid Mechanic

ME103 Engineering Mechanics

ME107+ME102 Thermodynamics and Heat Transfer

ME108 Principle of Engines (Self Study)

ME203 Control Engineering

ME205 Manufacturing Processes and Materials (Self Study)

ME634 Pnuematics (Self Study)

ME334 Air-conditioning and Refrigeration (Self Study)

ME434 Mechatronics and Robotics (Self Study)

EE102+ME105 Electrical Workshop

ME305 Corrosion Protection (Self Study)

CE111 Drawing

30 Credit Points in Management units

Advanced Diploma in Management

Mgt 101 Management (4 pt)

Mgt 102 Performance Management (4 pt)

Mgt 103 Operation Management +Mgt 107 Industrial Risk Assessment
(4 pt)

ICT 104 Mgt 104 Program Project +BAE 508 Project Management

(6 pt)

Mgt 105 Quality Management (4 pt)

ICT 107 Business Information Systems (4 pt)

Mgt 108 Computer Application in Management (4 pt)

THS graduates will need to do self study in some mechanical units .

Advanced Diploma in Mechanical Engineering and Management will be completed

Professional Diploma in Mechanical Engineering and Management

PART 1-Engineering (9 points)

Professional Diploma in Engineering (Year 3) (9 points for Engineering)

Complete BAE units by personal attendance and RE units by self study

1 BAE 401 Advanced Engineering Mathematics (2 pt)

2 BAE 402 Calculus (2 pt)

3 BAE 403 Engineering Mechanics (2 pt)

4 BAE 404 Engineering Materials & Thermodynamics (3 pt)

PART 2-Management (21 points)

Complete any 7 units at each 3 points

Complete

<http://www.iqytechnicalcollege.com/advdipmgt.htm>

Mgt 201 Customer Service Management

Mgt 202 Change Management

Mgt 203 Inventory & Budget Management

Mgt 204 Continuous Improvement Management

Mgt 205 Office Management

Mgt 206 Work-based Training Management

Mgt 207 Business Letter Writing
Mgt 208 Safety Management
Mgt 209 Risk Management
Mgt 210 Professional Development Management
Mgt 211 Leadership
Mgt 212 Preparing Portfolios
Mgt 213 Conflict Management

Professional Diploma in Mechanical Engineering & Management (Year 4)
(30 points)

Professional Diploma in Mechanical Engineering

Complete 10 units at 30 Points

RE011a Civil and Mechanical Engineering (3 pt)
BAE606 Building Services Electrical and Mechanical Engineering(3 pt)
BAE314 Power Generation (3 pt)
BAE423 Fluid Mechanics(3 pt)
BAE512 Building Services Water Supply System (3 pt)
RE014 Electronics Control (3 pt)
BAE601 Computer Programming (3 pt)
BAE605 Management (3 pt)
BAE508 Project Management (3 pt)
BAE608 Engineering Competency Report (3 pt)

Professional Diploma in Mechanical Engineering and Management will be completed

Professional Diploma in Mechanical Engineering and Management

www.iqytechnicalcollege.com/ProfDipMechEnggMgtOutline.pdf

This program is mixture of Mechanical Engineering and Management. The graduates can either work as Mechanical Engineer or Project Manager

Advanced Diploma in Mechanical Engineering and Management

Advanced Diploma in Mechanical Engineering

30 Credit Points in Engineering units Each 2 Points

Maths 101 Engineering Mathematics

ME101 Applied Mathematics

ME106 Electrical Circuits

ME201 Introduction to Fluid Mechanic

ME103 Engineering Mechanics

ME107+ME102 Thermodynamics and Heat Transfer

ME108 Principle of Engines (Self Study)

ME203 Control Engineering

ME205 Manufacturing Processes and Materials (Self Study)

ME634 Pnuematics (Self Study)

ME334 Air-conditioning and Refrigeration (Self Study)

ME434 Mechatronics and Robotics (Self Study)

EE102+ME105 Electrical Workshop

ME305 Corrosion Protection (Self Study)

CE111 Drawing

30 Credit Points in Management units

Advanced Diploma in Management

Mgt 101 Management (4 pt)

Mgt 102 Performance Management (4 pt)

Mgt 103 Operation Management +Mgt 107 Industrial Risk Assessment
(4 pt)

ICT 104 Mgt 104 Program Project +BAE 508 Project Management

(6 pt)

Mgt 105 Quality Management (4 pt)

ICT 107 Business Information Systems (4 pt)

Mgt 108 Computer Application in Management (4 pt)

THS graduates will need to do self study in some mechanical units .

Advanced Diploma in Mechanical Engineering and Management will be completed

Professional Diploma in Mechanical Engineering and Management

PART 1-Engineering (9 points)

Professional Diploma in Engineering (Year 3) (9 points for Engineering)

Complete BAE units by personal attendance and RE units by self study

1 BAE 401 Advanced Engineering Mathematics (2 pt)

2 BAE 402 Calculus (2 pt)

3 BAE 403 Engineering Mechanics (2 pt)

4 BAE 404 Engineering Materials & Thermodynamics (3 pt)

PART 2-Management (21 points)

Complete any 7 units at each 3 points

Complete

<http://www.iqytechnicalcollege.com/advdipmgt.htm>

Mgt 201 Customer Service Management

Mgt 202 Change Management

Mgt 203 Inventory & Budget Management

Mgt 204 Continuous Improvement Management

Mgt 205 Office Management

Mgt 206 Work-based Training Management

Mgt 207 Business Letter Writing
Mgt 208 Safety Management
Mgt 209 Risk Management
Mgt 210 Professional Development Management
Mgt 211 Leadership
Mgt 212 Preparing Portfolios
Mgt 213 Conflict Management

Professional Diploma in Mechanical Engineering & Management (Year 4)
(30 points)

Professional Diploma in Mechanical Engineering

Complete 10 units at 30 Points

RE011a Civil and Mechanical Engineering (3 pt)
BAE606 Building Services Electrical and Mechanical Engineering(3 pt)
BAE314 Power Generation (3 pt)
BAE423 Fluid Mechanics(3 pt)
BAE512 Building Services Water Supply System (3 pt)
RE014 Electronics Control (3 pt)
BAE601 Computer Programming (3 pt)
BAE605 Management (3 pt)
BAE508 Project Management (3 pt)
BAE608 Engineering Competency Report (3 pt)

Professional Diploma in Mechanical Engineering and Management will be completed

Professional Diploma in Metallurgical & Materials Engineering

Stage 1- Complete Advanced Diploma in Mechanical Engineering & Year 3 Common course of Professional Diploma in Mechanical Engineering Studies

(Guided study to complete Advanced Diploma in Mechanical Engineering PLUS up to Year 3 of Professional Diploma)

Stage 2-Study the following textbooks

Year 4 BE (Metallurgy & Materials)

(Self study with presentation of study progress report to complete Professional Diploma in Metallurgical & Materials Engineering- Assessment Fees will be charged only after the student can submit the report for first textbook)

Met 401 Mechanical Properties of Metals
Met 402 Metallurgical Engineering Alloys
Met 403 Metallurgy Principle
Met 404 Metallurgy
Met 405 Powdered Metallurgy

Year 5 BE (Metallurgy & Materials) common to BE (Minerals Extraction & Explosion Protection)

Met501 Mechanical Estimating
Met502 Mechanical Properties of Metals

Met503 Metallurgy

Met504 Engineered Metals

Met505 Metallurgical Alloys

Met507 Stress Assessment in Metallurgy

Met508 Metallic Materials

Year 6 BE (Metallurgy & Materials) common to BE (Minerals Extraction & Explosion Protection)

Met601 Metallurgical Processing

Met602 Machinery Failure Analysis

Met603 Materials Selection in Mechanical Design

Met604 Strain Testing

Met605 Applied Metallurgy

Met606 Metals Extraction

Additional units

Met608 Corrosion Prevention

Study Method & Assessment

The students will need to read the reference materials provided in folder of each unit & write the report on their study for each unit.

The report should contain

- Summary of knowledge acquired in the unit
- Practical methods related to assessment, safe working, protection, technical data, equipments utilized in hazardous areas
- Practical applications in work place
- Specific applications in the area of your choice
- Reference guides etc

Each report should be Arial 11 fonts with 10 to 20 pages written in own words by using English..

Insert the appropriate diagrams & tables, formula and data related to information.

Professional Diploma in Mineral Extraction & Explosion Protection Engineering (Combined course of Mining & Petroleum)

Stage 1- Complete Advanced Diploma in Mechanical Engineering & Year 3 Common course of Professional Diploma in Mechanical Engineering Studies

(Guided study to complete Advanced Diploma in Mechanical Engineering PLUS up to Year 3 of Professional Diploma)

Stage 2-Study the following textbooks

(Self study with presentation of study progress report to complete Professional Diploma in Metallurgical & Materials Engineering- Assessment Fees will be charged only after the student can submit the report for first textbook)

Year 3 BE (Mineral Extraction& Explosion Protection)

PE 21015	Properties of Reservoir Rocks and Fluids
PE 21002	Drilling Fluids
Geol 21002	Petroleum Geology
ChE 31013	Chemical Engg. Thermodynamics
PE 31012	Drilling Engg.
PE 31016	Formation Evaluation
PE 31013	Production Engineering

Year 4 BE (Mineral Extraction& Explosion Protection)

PE 41014	Natural Gas Engg.
PE 41022	Applied Drilling Engg.
PE 41023	Well Completion and Servicing
PE 41035	Applied Reservoir Engg.

Year 4 BE (Minerals Extraction & Explosion Protection) common to
BE (Metallurgy & Materials)

Min501 Mechanical Estimating/ Met501 Mechanical Estimating

Min502 Mechanical Properties of Metals/ Met502 Mechanical Properties of
Metals

Min503 Metallurgy/ Met503 Metallurgy

Min504 Engineered Metals/ Met504 Engineered Metals

Min505 Metallurgical Alloys/ Met505 Metallurgical Alloys

Min507 Stress Assessment in Metallurgy/ Met507 Stress Assessment in
Metallurgy

Min508 Metallic Materials/ Met508 Metallic Materials

Year 5 BE (Minerals Extraction & Explosion Protection) common to
BE (Metallurgy & Materials)

Min601 Metallurgical Processing/ Met601 Metallurgical Processing

Min602 Machineries Failure Analysis/ Met602 Machineries Failure Analysis

Min603 Materials Selection in Mechanical Design/ Met603 Materials Selection
in Mechanical Design

Min604 Strain Testing/ Met604 Strain Testing

Min605 Applied Metallurgy/ Met605 Applied Metallurgy

Min606 Metals Extraction/ Met606 Metals Extraction

Additional Unit

Met607 Explosive Engineering

ADDITIONAL STUDY

Year 6 BE (Minerals Extraction & Explosion Protection)

Explosion Protection

Lessons+ References

Professional Diploma in Hazardous Safety Engineering

www.highlightcomputer.com/profdiphazardous.htm

Professional Diploma in Hazardous Safety Engineering

Course Objective

This course provides the information and knowledge related to safely working in hazardous areas, safe working knowledge, safety protection equipments, systems and methods, auditing the safety requirements of hazardous area engineering works such as mining, petroleum, chemical plants ,civil ,electrical and mechanical engineering

Course Outline

It consists of 8 units with each 5 credits.

BAE 631E Maintenance & Repair Works in Hazardous Areas

BAE 632E Electrical Wiring in Hazardous Areas

BAE 633E Hazardous Area Safety Audits

BAE 634 Explosion Protection

BAE 635E Testing in Hazardous Areas

BAE 636 E Hazardous Area Inspection

BAE 637E Hazardous Chemical Management

BAE 638E Environmental Engineering in Hazardous Areas

Study Method & Assessment

The students will need to read the reference materials provided in folder of each unit & write the report on their study for each unit.

The report should contain

- Summary of knowledge acquired in the unit
- Practical methods related to assessment, safe working, protection, technical data, equipments utilized in hazardous areas
- Practical applications in work place
- Specific applications in the area of your choice
- Reference guides etc

Each report should be Arial 11 fonts with 10 to 20 pages written in own words by using English..

Insert the appropriate diagrams & tables, formula and data related to information.

Objective of the course

This Professional Diploma in Technical Teaching (Training, Assessment & Learning Management) is designed as Teachers Education Professional Development for teachers in Government Technical Colleges , Technological Universities and other Vocational Education and Training Institutions in Myanmar to upgrade their skills and knowledge in training and assessment, curriculum design and development, management of technical training institutions, adult and vocational education and training ,assessment validation and current accreditation rules and requirements of Myanmar Engineering Council as well as current training and assessment practices of overseas industrialized countries.

Learning Outcomes

After completion of the levels of the training programs, the students should be able to

- Understand adult learning principles in technical education and training contexts
- Apply the skills in training, assessment, course development, curriculum development, learning management and management of technical training institutions.
- Understand the accreditation requirements of Myanmar Engineering Council in accredited engineer, technologist and technician education & prepare for the compliance processes.
- Understand the technology, science and mathematics teaching & educational pedagogies principles of outcome based education and effectively utilize them in the workplace
- Provide effective work-based learning & career development for the working people in industries and apply the various ways of assessing the competences

Components of the course

- Educational theories ,educational technology, teaching and learning, teaching and measuring.
- Lesson planning, interpreting curriculums, class room management, instruction and assessment design, training principle, competency based training and assessment integrated the competencies of Australian Training and Assessment (TAE40110) course
- Management of educational establishment in line with the accreditation requirements of Myanmar Engineering Council by customizing the competencies in Australian Vocational Education and Training Diploma (TAE50111) to be relevant to the requirements of Myanmar Vocational Education and Training .
- Postgraduate level educational knowledge related to Learning Technology, Technology in classrooms, educational leadership, leadership and change management , computer supported learning and distance education,
- Teaching practicum preparation at different levels of training

Study Areas & Levels of Training

Level 1-Educational Theories , Teaching Pedagogies & Training and Assessment Practice

Part (1) Educational Theoretical Subjects

- ED 101 Theory of Education
- ED 102 Education Technology
- ED 103 Teaching Practice
- ED 104 Lesson Planning
- ED 105 Principle of Learning
- ED 106 Interpreting Curriculums
- ED 107 Teaching & Learning
- ED 201 Class Room Management & Teaching

Part (2A) Basic Teaching Practicum Preparation

ED101P-Teaching Support

ED102P- Application of Information Technology in School /Vocational Education

ED103P- Classroom Management

ED104P- Teaching Portfolio

ED105P- Inclusive Teaching

ED106P- Subject Area Knowledge

ED107P- Theory of Education, Educational Technology & Teaching Practice

ED107PA-Theory of Education

ED107PB-Education Technology

ED107PC-Teaching Practice

ED107PD-Lesson Planning

ED108P- Curriculum Study , Teaching & Learning

ED108PA-Principle of Learning

ED108PB-Interpreting Curriculums

ED108PC-Teaching & Learning

Part (2B) Training &Assessment Practice (Certificate IV in Training & Assessment TAE40110)

- ED111P Learning Program Design & Development Practice
(TAEDES401A Design and develop learning programs)
- ED112P Assessing the needs of trainees
(TAEDES402A Use training packages and accredited courses to meet client needs Delivery)
- ED113P Group based learning
(TAEDEL401A Plan, organise and deliver group-based learning)
- ED114P Workplace Assessment
(TAEDEL402A Plan, organise and facilitate learning in the workplace Assessment)
- ED115P Assessment Planning
(TAEASS401B Plan assessment activities and processes)
- ED116P Competency Assessment
(TAEASS402B Assess competence)
- ED117P Assessment Validation
(TAEASS403B Participate in assessment validation)
- ED118P Work skills Instruction
(TAEDEL301A Provide work skill instruction)
- ED119P Educational Presentation
(BSBCM401A Make a presentation)(TAEASS301B Contribute to assessment

Level 2-Adult Vocational Education

Part (1) Adult Vocational Education Theoretical Subjects

- ED 401 Adult Learning Technology
- ED 202 Curriculum & Design
- ED 205 Teaching & Measuring
- ED 206 Designing Instructions & Assessment
- ED 405 Training Principle

Part (2) Vocational Education & Training Practice (Diploma in Vocational Education & Training TAE50111)

- ED201P-Advanced Assessment Practice
(TAEASS501A: Provide advanced assessment practice)

- ED202P-Assessment Development
(TAEASS502B: Design and develop assessment tools)
- ED203P-Training Facilitation
(TAEDEL502A: Provide advanced facilitation practice)
- ED204P-Learning Strategies
(TAEDES501A: Design and develop learning strategies)
- ED205P- Language Literacy & Numeracy
(TAEELN401A: Address adult language, literacy and numeracy skills)
- ED206P-Continuing Professional Development
(TAEPPD501A: Maintain and enhance professional practice)
- ED207P Learning Resources Design & Development
(TAEDES502A: Design and develop learning resources)
- ED208P Organizational Training Needs Analysis
(TAETAS501B: Undertake organisational training needs analysis)
- ED 404 Educational Research (Part 1)
(TAERES501A: Apply research to training and assessment practice)
- ED209P- Training Program Evaluation
(TAEDES505A: Evaluate a training program)

Level 3-Training Authorities Accreditation Compliances

Part (1) Educational Leadership Subjects

- ED 402 Educational Leadership
- ED 301 Educational Policy (Myanmar Engineering Council Accreditation Requirements)
- ED 308 Change Management
- ED309 Educational Communication
- ED 407 Learning Environment
- ED311 Outcome based Education

Part (2) Myanmar Engineering Council's Accreditation Compliance Practice

- ED301P- Curriculum design for accreditation compliance
- ED302P-Overall accreditation and compliance practice

Level 4-Specialized Teaching Areas

- ED 308 Computer Supported Learning & Distance Education
- ED 304 Maths Teaching
- ED 305 Science Teaching
- ED 306 Technology Teaching
- ED 404 Educational Research (Part 2)
- ED310 Learning Technology I & II
- ED312 Technology in Classrooms

RESOURCES

ASSESSMENT FOR THE SUBJECTS IN PART 1 OF THE LEVELS

The students will have to write 20 pages study report for each of the subjects outlined in the Part 1 of any level .

The report needs to include

- Book review- Review on each chapter of the book highlighting the key concepts, points, key theory & practical application concepts
- Own idea on how to apply those concepts in real practical applications.
- Examples of curriculum designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book

The book references for the subjects can be downloaded from the following links by entering the given password.

Password- to be given

ASSESSMENT FOR THE SUBJECTS IN PART 2 OF THE LEVELS

Follow the specific assessment instruction provided for the units in Part 2 of the levels

Study Areas & Levels of Training

Level 1-Educational Theories , Teaching Pedagogies & Training and Assessment Practice

Part (1) Educational Theoretical Subjects

The students will have to write 20 pages study report for each of the subjects outlined in the Part 1 of any level .

The report needs to include

- Book review- Review on each chapter of the book highlighting the key concepts, points, key theory & practical application concepts
- Own idea on how to apply those concepts in real practical applications.
- Examples of curriculum designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book

The book references for the subjects can be downloaded from the following links by entering the given password.

Password- to be given

- ED 101 Theory of Education
<http://www.filefactory.com/file/4fuby1dpqs9f/ED%20101%20Theory%20of%20Education.zip>
- ED 102 Education Technology
<http://www.filefactory.com/file/1ghlzng7e0n3/ED%20102%20Education%20Technology.zip>
- ED 103 Teaching Practice
<http://www.filefactory.com/file/1o732n0j46mf/ED%20103%20Teaching%20Practice.zip>
- ED 104 Lesson Planning
<http://www.filefactory.com/file/4m30ym0ez37r/ED%20104%20Lesson%20Planning.zip>
- ED 105 Principle of Learning
<http://www.filefactory.com/file/7660l6kjr8sx/ED%20105%20Principle%20of%20Learning.zip>
- ED 106 Interpreting Curriculums
<http://www.filefactory.com/file/1h141zxbv8z/ED%20106%20Interpreting%20Curriculums.zip>
- ED 107 Teaching & Learning
<http://www.filefactory.com/file/6u5o455lyqj7/ED%20107%20Teaching%20%26amp%3B%20Learning.zip>
- ED 201 Class Room Management & Teaching
<http://www.filefactory.com/file/48gvqykksqiz/ED%20201%20Class%20Room%20Mgt%20%26amp%3B%20Teaching.zip>

[Part \(2A\) Basic Teaching Practicum Preparation](#)

Follow the specific assessment instruction provided for the units in Part 2 of the levels

ED101P-Teaching Support

ED102P- Application of Information Technology in School /Vocational Education

ED103P- Classroom Management

ED104P- Teaching Portfolio

ED105P- Inclusive Teaching

ED106P- Subject Area Knowledge

[Certificate in Teaching Support+ Diploma in Teaching Practice+ Bachelor of Teaching+ Bachelor of Education \(School & Vocational\)](http://www.filefactory.com/file/4a5o50idxqvr/Diploma%20in%20Teaching%20Practice.pdf)
<http://www.filefactory.com/file/4a5o50idxqvr/Diploma%20in%20Teaching%20Practice.pdf>

ED107P- Theory of Education, Educational Technology & Teaching Practice

ED107PA-Theory of Education

ED107PB-Education Technology

ED107PC-Teaching Practice

ED107PD-Lesson Planning

ED108P- Curriculum Study , Teaching & Learning

ED108PA-Principle of Learning

ED108PB-Interpreting Curriculums

ED108PC-Teaching & Learning

ED 107 Lesson Slide 1 to 20 Mod.pdf (4.71MB)

http://www.filefactory.com/file/1w4faybri0p9/n/ED_107_Lesson_Slide_1_to_20_Mod.pdf

Download now by clicking the above link!

ED107 Lesson Slide 21 to 40.pdf (3.06MB)

http://www.filefactory.com/file/1ae111n3e1gl/n/ED107_Lesson_Slide_21_to_40.pdf

[Download now!](#)

ED107 Lesson Slide 41 to 60.pdf (3.27MB)

http://www.filefactory.com/file/4slgwynziwxz/n/ED107_Lesson_Slide_41_to_60.pdf

[Download now!](#)

ED107 Lesson Slide 61 to 80.pdf (3.22MB)

http://www.filefactory.com/file/1txrj08z5329/n/ED107_Lesson_Slide_61_to_80.pdf

[Download now!](#)

ED107 Lesson Slide 81 to 100.pdf (2.97MB)

http://www.filefactory.com/file/15p9vb74rljl/n/ED107_Lesson_Slide_81_to_100.pdf

[Download now!](#)

ED107 Lesson Slide 101 to 120.pdf (3.07MB)

http://www.filefactory.com/file/lxvcg3369i9/n/ED107_Lesson_Slide_101_to_120.pdf

[Download now!](#)

ED107 Lesson Slide 121 to 140.pdf (2.69MB)

http://www.filefactory.com/file/6h7bu8dsq7q7/n/ED107_Lesson_Slide_121_to_140.pdf

[Download now!](#)

ED107 Lesson Slide 141 to 160.pdf (2.57MB)

http://www.filefactory.com/file/6pxq45urnfyn/n/ED107_Lesson_Slide_141_to_160.pdf

[Download now!](#)

ED107 Lesson Slide 161 to 180.pdf (2.99MB)

http://www.filefactory.com/file/6srxl6iwl2o3/n/ED107_Lesson_Slide_161_to_180.pdf

[Download now!](#)

ED107 Lesson Slide 181 to 200.pdf (2.76MB)

http://www.filefactory.com/file/10d9wna6jr4r/n/ED107_Lesson_Slide_181_to_200.pdf

[Download now!](#)

ED107 Lesson Slide 201 to 220.pdf (2.86MB)

http://www.filefactory.com/file/3o4wea6j5uof/n/ED107_Lesson_Slide_201_to_220.pdf

[Download now!](#)

ED107 Lesson Slide 221 to 240.pdf (3.27MB)

http://www.filefactory.com/file/32bcquqzs1ll/n/ED107_Lesson_Slide_221_to_240.pdf

[Download now!](#)

ED107 Lesson Slide 241 to 260.pdf (2.83MB)

http://www.filefactory.com/file/p0y76lkvkjd/n/ED107_Lesson_Slide_241_to_260.pdf

[Download now!](#)

ED107 Lesson Slide 261 to 280.pdf (2.84MB)

http://www.filefactory.com/file/2kdx8ty4uj1d/n/ED107_Lesson_Slide_261_to_280.pdf

[Download now!](#)

ED107 Lesson Slide 281 to 304.pdf (3.78MB)

http://www.filefactory.com/file/1y06uzz0iaq1/n/ED107_Lesson_Slide_281_to_304.pdf

[Download now!](#)

ED 107 Exercises.pdf (2.3MB)

http://www.filefactory.com/file/1isf2cao4gxx/n/ED_107_Exercises.pdf

[Download now!](#)

ED 108 Curriculum Study , Teaching & Learning Lessons**ED108 Lesson Slide 1 to 20.pdf (2.37MB)**

http://www.filefactory.com/file/6r5rg8bucgkx/n/ED108_Lesson_Slide_1_to_20.pdf

[Download now!](#)

ED108 Lesson Slide 21 to 40.pdf (2.69MB)

http://www.filefactory.com/file/1wxu981xeel/n/ED108_Lesson_Slide_21_to_40.pdf

[Download now!](http://www.filefactory.com/file/1wxu981xeel/n/ED108_Lesson_Slide_21_to_40.pdf)

ED108 Lesson Slide 41 to 60.pdf (2.27MB)

http://www.filefactory.com/file/71av1by59uit/n/ED108_Lesson_Slide_41_to_60.pdf

[Download now!](http://www.filefactory.com/file/71av1by59uit/n/ED108_Lesson_Slide_41_to_60.pdf)

ED108 Lesson Slide 61 to 80.pdf (2.12MB)

http://www.filefactory.com/file/4qghmt89g2zr/n/ED108_Lesson_Slide_61_to_80.pdf

[Download now!](http://www.filefactory.com/file/4qghmt89g2zr/n/ED108_Lesson_Slide_61_to_80.pdf)

ED108 Lesson Slide 81 to 100.pdf (2.22MB)

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ED108 Lesson Slide 101 to 120.pdf (2.57MB)

http://www.filefactory.com/file/67air98a9wpz/n/ED108_Lesson_Slide_101_to_120.pdf

[Download now!](http://www.filefactory.com/file/67air98a9wpz/n/ED108_Lesson_Slide_101_to_120.pdf)

ED108 Lesson Slide 121 to 140.pdf (2.32MB)

http://www.filefactory.com/file/2fw5kwlelb03/n/ED108_Lesson_Slide_121_to_140.pdf

[Download now!](http://www.filefactory.com/file/2fw5kwlelb03/n/ED108_Lesson_Slide_121_to_140.pdf)

ED108 Lesson Slide 141 to 168.pdf (2.7MB)

http://www.filefactory.com/file/5foiol6m9rwx/n/ED108_Lesson_Slide_141_to_168.pdf

[Download now!](http://www.filefactory.com/file/5foiol6m9rwx/n/ED108_Lesson_Slide_141_to_168.pdf)

ED 108 Exercises.pdf (1.22MB)

http://www.filefactory.com/file/5o110j6pg6dz/n/ED_108_Exercises.pdf

[Download now!](http://www.filefactory.com/file/5o110j6pg6dz/n/ED_108_Exercises.pdf)

[Part \(2B\) Training & Assessment Practice \(Certificate IV in Training & Assessment TAE40110\)](#)

Follow the specific assessment instruction provided for the units in Part 2 of the levels

- ED111P Learning Program Design & Development Practice
(TAEDES401A Design and develop learning programs)
- ED112P Assessing the needs of trainees
(TAEDES402A Use training packages and accredited courses to meet client needs Delivery)
- ED113P Group based learning
(TAEDEL401A Plan, organise and deliver group-based learning)
- ED114P Workplace Assessment
(TAEDEL402A Plan, organise and facilitate learning in the workplace Assessment)

- ED115P Assessment Planning
(TAEASS401B Plan assessment activities and processes)
- ED116P Competency Assessment
(TAEASS402B Assess competence)
- ED117P Assessment Validation
(TAEASS403B Participate in assessment validation)
- ED118P Work skills Instruction
(TAEDEL301A Provide work skill instruction)
- ED119P Educational Presentation
(BSBCMM401A Make a presentation)(TAEASS301B Contribute to assessment

RESOURCES FOR ABOVE UNITS

Working in Vocational Education & Assessment

http://www.filefactory.com/file/136bwooflstr/n/3_Assessment_Working_in_VET_zip

Preparing vocational teaching portfolios

http://www.filefactory.com/file/2l9iu8ptfk0t/n/8_Guides_for_preparing_VET_portfolios_zip

Learning , Facilitation & Teaching in Vocational Education and Training

http://www.filefactory.com/file/3b1d9kduz515/n/4_Learning_Facilitation_Teaching_in_VET_zip

Work-based Learning & Assessment

http://www.filefactory.com/file/5pef2h8dhav9/n/10_Workbased_Learning_amp_Assessment_2_zip

Learning Environment

http://www.filefactory.com/file/5l12qij9s67j/n/12_Learning_Environment_zip

Level 2-Adult Vocational Education

Part (1) Adult Vocational Education Theoretical Subjects

The students will have to write 20 pages study report for each of the subjects outlined in the Part 1 of any level .

The report needs to include

- Book review- Review on each chapter of the book highlighting the key concepts, points, key theory & practical application concepts

- Own idea on how to apply those concepts in real practical applications.
- Examples of curriculum designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book

The book references for the subjects can be downloaded from the following links by entering the given password.

Password- to be given

- ED 401 Adult Learning Technology
<http://www.filefactory.com/file/68y4bd94ianb/ED%20401%20Adult%20Learning%20Technology.zip>
- ED 202 Curriculum & Design
<http://www.filefactory.com/file/1jotv5d428j1/ED%20202%20Curriculum%20%26amp%3B%20Design.zip>
- ED 205 Teaching & Measuring
<http://www.filefactory.com/file/4eu01ck2awl/ED%20205%20Teaching%20%26amp%3B%20Measuring.zip>
- ED 206 Designing Instructions & Assessment
<http://www.filefactory.com/file/4dnh3r8wsd9t/ED%20206%20Designing%20Instructions%20%26amp%3B%20Assessment.zip>
- ED 405 Training Principle
<http://www.filefactory.com/file/5qupttpxznn/ED%20405%20Training%20Principle.zip>

Part (2) Vocational Education & Training Practice (Diploma in Vocational Education & Training TAE50111)

Follow the specific assessment instruction provided for the units in Part 2 of the levels

- ED201P-Advanced Assessment Practice
(TAEASS501A: Provide advanced assessment practice)
- ED202P-Assessment Development
(TAEASS502B: Design and develop assessment tools)
- ED203P-Training Facilitation
(TAEDEL502A: Provide advanced facilitation practice)
- ED204P-Learning Strategies

(TAEDES501A: Design and develop learning strategies)

- ED205P- Language Literacy & Numeracy

(TAEELLN401A: Address adult language, literacy and numeracy skills)

- ED206P-Continuing Professional Development
(TAEPPDD501A: Maintain and enhance professional practice)

- ED207P Learning Resources Design & Development

(TAEDES502A: Design and develop learning resources)

- ED208P Organizational Training Needs Analysis

(TAETAS501B: Undertake organisational training needs analysis)

- ED 404 Educational Research (Part 1)

(TAERES501A: Apply research to training and assessment practice)

- ED209P- Training Program Evaluation

(TAEDES505A: Evaluate a training program)

Vocational Education & Training Practice (Diploma in Vocational Education & Training TAE50111) Portfolio Guide

<http://www.filefactory.com/file/rh0eb9n4sfn/TAE50111PortfolioGuide.pdf>

SAMPLE PORTFOLIOS

Please note that the reference & example documents contained in the link of the portfolio can not be downloaded from the internet, they can only be available in DVDs that can be sent upon request.

The document is password protected. Password is needed and can be given upon request.

http://www.filefactory.com/file/3i8k0ls9peup/TAE50110_Diploma%20RPL%20Submission%20U%20Kyaw%20Naing.pdf

Level 3-Training Authorities Accreditation Compliances

Part (1) Educational Leadership Subjects

The students will have to write 20 pages study report for each of the subjects outlined in the Part 1 of any level .

The report needs to include

- Book review- Review on each chapter of the book highlighting the key concepts, points, key theory & practical application concepts
- Own idea on how to apply those concepts in real practical applications.

- Examples of curriculum designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book

The book references for the subjects can be downloaded from the following links by entering the given password.

Password- to be given

- ED 402 Educational Leadership
<http://www.filefactory.com/file/68h2rewfq7jx/ED%20402%20Educational%20Leadership.zip>
- ED 301 Educational Policy (Myanmar Engineering Council Accreditation Requirements)

Registration Rules

<http://www.filefactory.com/file/yzxtm3a7z2b/06.%20Licensing%20%26amp%3B%20Registration%20Rules%20-%20Engineering%20-%20Myanmar%20-%20CCS%2068%20reduced.pdf>

Myanmar Assessment Statement

<http://www.filefactory.com/file/9adocfm4877/06.%20Myanmar%20Assessment%20Statement%20-%20%28ACPECC%2014%29.pdf>

Graduates Attributes

<http://www.filefactory.com/file/4r5z3i9uxw5p/1%20Graduate%20Attributes%20%26amp%3B%20Terminology.pptx>

Qualification Policy

<http://www.filefactory.com/file/69mj6zk64zj5/Policy%20%20Qualifications%20Policy%20POL11%20v4.PDF>

Regulations

<http://www.filefactory.com/file/65cxuftzoxmh/Regulations.pdf>

Engineers Australia References

www.highlightcomputer.com/engineersaustraliareferences.htm

- ED 308 Change Management
http://www.filefactory.com/file/4cxrjx86buot/n/9_Leadership_Change_Management_zip
- ED309 Educational Communication
http://www.filefactory.com/file/6tbjy1omi7kz/n/1_Educational_Communication_zip
- ED 407 Learning Environment
<http://www.filefactory.com/file/31o7fw99ux7l/ED%20407%20Learning%20Environment.zip>

- ED311 Outcome based Education

<http://www.filefactory.com/file/6sq2l3hmac3b/Final%20OBE%20Training%20at%20Myanmar%20July%202014.pptx>

[Part \(2\) Myanmar Engineering Council's Accreditation Compliance Practice](#)

- ED301P- Curriculum design for accreditation compliance

<http://www.filefactory.com/file/2vyvpy64k4w3/Accreditation%20Manual.pdf>

[Example](#)

www.highlightcomputer.com/OverallProgramGeneral.pdf

- ED302P-Overall accreditation and compliance practice

<http://www.filefactory.com/file/2vyvpy64k4w3/Accreditation%20Manual.pdf>

<http://www.highlightcomputer.com/Accreditation.htm>

Preparation for self accreditation report

<http://www.filefactory.com/file/43x0yutpx31v/2%20SAR.pptx>

Engineering Accreditation Plan

<http://www.filefactory.com/file/2ynzo3fydckb/2015%20YTU%20First%20Workshop.pptx>

ASSIGNMENT

Prepare the portfolios for your section/ department to comply with Myanmar Engineering Council's Accreditation Requirements.

Level 4-Specialized Teaching Areas

The students will have to write 20 pages study report for each of the subjects outlined in the Part 1 of any level .

The report needs to include

- Book review- Review on each chapter of the book highlighting the key concepts, points, key theory & practical application concepts
- Own idea on how to apply those concepts in real practical applications.
- Examples of curriculum designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book

The book references for the subjects can be downloaded from the following links by entering the given password.

Password- to be given

- ED 308 Computer Supported Learning & Distance Education
<http://www.filefactory.com/file/4mdzrx52kl45/ED%20308%20Computer%20Supported%20Learning%20%26amp%3B%20Distance%20Education.zip>
- ED 304 Maths Teaching
<http://www.filefactory.com/file/60ngdjnse60x/ED%20304%20Maths%20Teaching.zip>
- ED 305 Science Teaching
<http://www.filefactory.com/file/4hq1f7r16xyf/ED%20305%20Science%20Teaching.zip>
- ED 306 Technology Teaching
<http://www.filefactory.com/file/3crwj4pdyt7b/ED%20306%20Techology%20Teaching.zip>
- ED 404 Educational Research (Part 2)
<http://www.filefactory.com/file/42pl9c8013ab/ED%20404%20Educational%20Research.zip>
- ED310 Learning Technology I & II
http://www.filefactory.com/file/3bsfz0ehba7z/n/5_Learning_Technology_1.zip
http://www.filefactory.com/file/cvavvr9gonr/n/6_Learning_Technology_2.zip
- ED312 Technology in Classrooms
http://www.filefactory.com/file/7jicivu232opx/n/7_Technology_in_classroom.zip

Professional Diploma in Hazardous Safety Engineering

Course Objective

This course provides the information and knowledge related to safely working in hazardous areas, safe working knowledge, safety protection equipments, systems and methods, auditing the safety requirements of hazardous area engineering works such as mining, petroleum, chemical plants ,civil ,electrical and mechanical engineering

Pre-requisite

Professional Diploma/ Bachelor degree in Engineering (Any discipline)

Course Outline

It consists of 8 units with each 5 credits.

BAE 631E Maintenance & Repair Works in Hazardous Areas

BAE 632E Electrical Wiring in Hazardous Areas

BAE 633E Hazardous Area Safety Audits

BAE 634E Explosion Protection

BAE 635E Testing in Hazardous Areas

BAE 636E Hazardous Area Inspection

BAE 637E Hazardous Chemical Management

BAE 638E Environmental Engineering in Hazardous Areas

Study Method & Assessment

The students will need to read the reference materials provided in folder of each unit & write the report on their study for each unit.

The report should contain

- Summary of knowledge acquired in the unit
- Practical methods related to assessment, safe working, protection, technical data, equipments utilized in hazardous areas
- Practical applications in work place
- Specific applications in the area of your choice
- Reference guides etc

Each report should be Arial 11 fonts with 10 to 20 pages written in own words by using English..

Insert the appropriate diagrams & tables, formula and data related to information.

Detailed Topics

BAE 631 Maintenance & Repair Works in Hazardous Areas

UEENEEM019A Attend to breakdowns in hazardous areas - coal mining

KS01-EM01

9A

Explosion protection, certification and techniques

Evidence shall show an understanding of Ex certification schemes and techniques to accepted Standards to an extent indicated by the following aspects:

T1 Explosion-protection equipment — Ex certification schemes encompassing:

- ☐ Purpose and scope of certification schemes.
- ☐ Schemes accepted in Australia and New Zealand.
- ☐ Schemes commonly used in countries other than Australia and New Zealand.
- ☐ Processes for having equipment certified under the acceptable Ex schemes — scheme procedures; quality management requirements; conformance testing and assessment; and requirements for ongoing certification.

T2 Flameproof (Ex 'd') explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the flameproof (Ex 'd') technique. (Examples of characteristics and design features are flame paths, integrity under pressure, pressure piling, and enclosure entries).
- ☐ Typical situations where the flameproof explosion-protection technique is used;
- ☐ Actions or conditions that would void the protection provided the Flameproof technique;
- ☐ The use of Standards in determining the requirements to which the installation of flameproof explosion-protected apparatus shall comply.

T3 Increased safety (Ex 'e') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Increased safety (Ex 'e') technique (Examples of characteristics and design features are temperature rise, maximum power dissipation, protection devices, certified components, creepage and clearance distances, absence of sparking contacts and enclosure entries).

☐ Typical situations where the Increased safety explosion-protection technique is used;

Actions or conditions that would void the protection provided the Increased safety technique;

☐ The use of Standards in determining the requirements to which the installation of Increased safety explosion-protected apparatus shall comply.

T4 Non-sparking (Ex 'n') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Non-sparking (Ex 'n') technique (Examples of characteristics and design features are creepage and clearance distances and restricted breathing).

☐ Typical situations where the Non-sparking explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Non-sparking technique; and

☐ The use of Standards in determining the requirements to which the installation of Non-sparking explosion-protected apparatus shall comply.

T5 Intrinsic safety (Ex 'i') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Intrinsic safety (Ex 'i') technique (Examples of characteristics and design features are field devices, cables, safe area devices, earthing, entity

versus integrated system concept, simple devices and interface devices and their parameters, segregation, infallible components, current and voltage limiting, creepage and clearance distances).

☐ Typical situations where the Intrinsic safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Intrinsic safety;

☐ The use of Standards in determining the requirements to which the installation of Intrinsic safety explosion-protected apparatus shall comply.

T6 Pressurization (Ex 'p') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Pressurization (Ex 'p') technique (Examples of characteristics and design features are exclusion and dilution; purge periods, controlled shut down, monitoring and sources of internal release).

☐ Typical situations where the pressurization explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the pressurization technique;

☐ The use of Standards in determining the requirements to which the installation of pressurization explosion-protected apparatus shall comply.

T7 Enclosures for dusts (Ex 'tD') - explosion-protection technique encompassing:

The purpose and characteristics of the design features of apparatus and circuits protected by the techniques for dusts (Examples of characteristics and design features are for enclosures; pressurization; encapsulation; and intrinsic safety).

☐ Typical situations where the each dust explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the each dust technique;

☐ The use of Standards in determining the requirements to which the installation of dust explosion-protected apparatus shall comply.

T8 Common characteristics of explosion-protection techniques encompassing:

☐ The purposes of 'temperature classification' and 'gas grouping/apparatus grouping'.

☐ Compliance plate markings.

☐ Limitations of non-metallic or specific alloy enclosures.

☐ The purpose of conformity and certification/approval for equipment used in hazardous areas.

☐ Environmental conditions that may impact on explosion-protection techniques.

☐ The principles and applications of other and mixed explosion-protection techniques (Other techniques include encapsulation Ex 'm'; oil-immersion Ex 'o'; powder-filling Ex 'q', ventilation Ex 'v' and special protection Ex 's').

☐ Features and purpose of conduit seals and cable termination devices designed for use in hazardous areas (These include conduit seals and barrier and compression glands for cables with or without armouring, screening and/or drain wires)

UEENEEM020A Attend to breakdowns in hazardous areas - gas

Atmospheres

KS01-EM020

A

Explosion protection, certification and techniques

Evidence shall show an understanding of Ex certification schemes and techniques to accepted Standards to an extent indicated by the following aspects:

T1 Explosion-protection equipment — Ex certification schemes encompassing:

☐ Purpose and scope of certification schemes.

☐ Schemes accepted in Australia and New Zealand.

☐ Schemes commonly used in countries other than Australia and New Zealand.

☐ Processes for having equipment certified under the acceptable Ex schemes — scheme procedures; quality management requirements; conformance testing and assessment; and requirements for ongoing certification.

T2 Flameproof (Ex 'd') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the flameproof (Ex 'd') technique. (Examples of characteristics and design features are flame paths, integrity under pressure, pressure piling, and enclosure entries).

☐ Typical situations where the flameproof explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Flameproof technique;

☐ The use of Standards in determining the requirements to which the installation of flameproof explosion-protected apparatus shall comply.

T3 Increased safety (Ex 'e') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Increased safety (Ex 'e') technique (Examples of characteristics and design features are temperature rise, maximum power dissipation, protection devices, certified components, creepage and clearance distances, absence of sparking contacts and enclosure entries).

☐ Typical situations where the Increased safety explosion-protection technique is used;

Actions or conditions that would void the protection provided the Increased safety technique;

☐ The use of Standards in determining the requirements to which the installation of Increased safety explosion-protected apparatus shall comply.

T4 Non-sparking (Ex 'n') explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Non-sparking (Ex 'n') technique (Examples of characteristics and design features are creepage and clearance distances and restricted breathing).
- ☐ Typical situations where the Non-sparking explosion-protection technique is used;
- ☐ Actions or conditions that would void the protection provided the Non-sparking technique; and
- ☐ The use of Standards in determining the requirements to which the installation of Non-sparking explosion-protected apparatus shall comply.

T5 Intrinsic safety (Ex 'i') explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Intrinsic safety (Ex 'i') technique (Examples of characteristics and design features are field devices, cables, safe area devices, earthing, entity versus integrated system concept, simple devices and interface devices and their parameters, segregation, infallible components, current and voltage limiting, creepage and clearance distances).
- ☐ Typical situations where the Intrinsic safety explosion-protection technique is used;
- ☐ Actions or conditions that would void the protection provided the Intrinsic safety;
- ☐ The use of Standards in determining the requirements to which the installation of Intrinsic safety explosion-protected apparatus shall comply.

T6 Pressurization (Ex 'p') explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Pressurization (Ex 'p') technique (Examples of characteristics

and design features are exclusion and dilution; purge periods, controlled shut down, monitoring and sources of internal release).

☐ Typical situations where the pressurization explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the pressurization technique;

☐ The use of Standards in determining the requirements to which the installation of pressurization explosion-protected apparatus shall comply.

T7 Enclosures for dusts (Ex 'tD') - explosion-protection technique encompassing:

The purpose and characteristics of the design features of apparatus and circuits protected by the techniques for dusts (Examples of characteristics and design features are for enclosures; pressurization; encapsulation; and intrinsic safety).

☐ Typical situations where the each dust explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the each dust technique;

☐ The use of Standards in determining the requirements to which the installation of dust explosion-protected apparatus shall comply.

T8 Common characteristics of explosion-protection techniques encompassing:

☐ The purposes of 'temperature classification' and 'gas grouping/apparatus grouping'.

☐ Compliance plate markings.

☐ Limitations of non-metallic or specific alloy enclosures.

☐ The purpose of conformity and certification/approval for equipment used in hazardous areas.

☐ Environmental conditions that may impact on explosion-protection techniques.

☐ The principles and applications of other and mixed explosion-protection techniques (Other techniques include encapsulation Ex 'm'; oil-immersion Ex

‘o’; powder-filling Ex ‘q’, ventilation Ex ‘v’ and special protection Ex ‘s’).

☐ Features and purpose of conduit seals and cable termination devices designed for use in hazardous areas (These include conduit seals and barrier and compression glands for cables with or without armouring, screening and/or drain wires).

UEENEEM021A Attend to breakdowns in hazardous areas - dust

Atmospheres

KS01-EM021

A

Explosion protection, certification and techniques

Evidence shall show an understanding of Ex certification schemes and techniques to accepted Standards to an extent indicated by the following aspects:

T1 Explosion-protection equipment — Ex certification schemes encompassing:

☐ Purpose and scope of certification schemes.

☐ Schemes accepted in Australia and New Zealand.

☐ Schemes commonly used in countries other than Australia and New Zealand.

☐ Processes for having equipment certified under the acceptable Ex schemes — scheme procedures; quality management requirements; conformance testing and assessment; and requirements for ongoing certification.

T2 Flameproof (Ex ‘d’) explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the flameproof (Ex ‘d’) technique. (Examples of characteristics and design features are flame paths, integrity under pressure, pressure piling, and enclosure entries).

☐ Typical situations where the flameproof explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Flameproof

technique;

☐ The use of Standards in determining the requirements to which the installation of flameproof explosion-protected apparatus shall comply.

T3 Increased safety (Ex 'e') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Increased safety (Ex 'e') technique (Examples of characteristics and design features are temperature rise, maximum power dissipation, protection devices, certified components, creepage and clearance distances, absence of sparking contacts and enclosure entries).

☐ Typical situations where the Increased safety explosion-protection technique is used;

Actions or conditions that would void the protection provided the Increased safety technique;

☐ The use of Standards in determining the requirements to which the installation of Increased safety explosion-protected apparatus shall comply.

T4 Non-sparking (Ex 'n') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Non-sparking (Ex 'n') technique (Examples of characteristics and design features are creepage and clearance distances and restricted breathing).

☐ Typical situations where the Non-sparking explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Non-sparking technique; and

☐ The use of Standards in determining the requirements to which the installation of Non-sparking explosion-protected apparatus shall comply.

T5 Intrinsic safety (Ex 'i') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Intrinsic safety (Ex 'i') technique (Examples of characteristics and design features are field devices, cables, safe area devices, earthing, entity versus integrated system concept, simple devices and interface devices and their parameters, segregation, infallible components, current and voltage limiting, creepage and clearance distances).

☐ Typical situations where the Intrinsic safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Intrinsic safety;

☐ The use of Standards in determining the requirements to which the installation of Intrinsic safety explosion-protected apparatus shall comply.

T6 Pressurization (Ex 'p') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Pressurization (Ex 'p') technique (Examples of characteristics and design features are exclusion and dilution; purge periods, controlled shut down, monitoring and sources of internal release).

☐ Typical situations where the pressurization explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the pressurization technique;

☐ The use of Standards in determining the requirements to which the installation of pressurization explosion-protected apparatus shall comply.

T7 Enclosures for dusts (Ex 'tD') - explosion-protection technique encompassing:

The purpose and characteristics of the design features of apparatus and circuits protected by the techniques for dusts (Examples of characteristics and design features are for enclosures; pressurization; encapsulation; and intrinsic safety).

- ☐ Typical situations where the each dust explosion-protection technique is used;
- ☐ Actions or conditions that would void the protection provided the each dust technique;
- ☐ The use of Standards in determining the requirements to which the installation of dust explosion-protected apparatus shall comply.

T8 Common characteristics of explosion-protection techniques encompassing:

- ☐ The purposes of 'temperature classification' and 'gas grouping/apparatus grouping'.
- ☐ Compliance plate markings.
- ☐ Limitations of non-metallic or specific alloy enclosures.
- ☐ The purpose of conformity and certification/approval for equipment used in hazardous areas.
- ☐ Environmental conditions that may impact on explosion-protection techniques.
- ☐ The principles and applications of other and mixed explosion-protection techniques (Other techniques include encapsulation Ex 'm'; oil-immersion Ex 'o'; powder-filling Ex 'q', ventilation Ex 'v' and special protection Ex 's').
- ☐ Features and purpose of conduit seals and cable termination devices designed for use in hazardous areas (These include conduit seals and barrier and compression glands for cables with or without armouring, screening and/or drain wires).

UEENEEM022A Attend to breakdowns in hazardous areas – pressurisation

KS01-EM02

2A

Explosion protection, certification and techniques

Evidence shall show an understanding of Ex certification schemes and techniques to accepted Standards to an extent indicated by the following aspects:

T1 Explosion-protection equipment — Ex certification schemes encompassing:

☐ Purpose and scope of certification schemes.

☐ Schemes accepted in Australia and New Zealand.

☐ Schemes commonly used in countries other than Australia and New Zealand.

☐ Processes for having equipment certified under the acceptable Ex schemes — scheme procedures; quality management requirements; conformance testing and assessment; and requirements for ongoing certification.

T2 Flameproof (Ex 'd') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the flameproof (Ex 'd') technique. (Examples of characteristics and design features are flame paths, integrity under pressure, pressure piling, and enclosure entries).

☐ Typical situations where the flameproof explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Flameproof technique;

☐ The use of Standards in determining the requirements to which the installation of flameproof explosion-protected apparatus shall comply.

T3 Increased safety (Ex 'e') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Increased safety (Ex 'e') technique (Examples of characteristics and design features are temperature rise, maximum power dissipation, protection devices, certified components, creepage and clearance distances, absence of sparking contacts and enclosure entries).

☐ Typical situations where the Increased safety explosion-protection technique is used;

Actions or conditions that would void the protection provided the Increased safety technique;

☐ The use of Standards in determining the requirements to which the installation of Increased safety explosion-protected apparatus shall comply.

T4 Non-sparking (Ex 'n') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Non-sparking (Ex 'n') technique (Examples of characteristics and design features are creepage and clearance distances and restricted breathing).

☐ Typical situations where the Non-sparking explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Non-sparking technique; and

☐ The use of Standards in determining the requirements to which the installation of Non-sparking explosion-protected apparatus shall comply.

T5 Intrinsic safety (Ex 'i') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Intrinsic safety (Ex 'i') technique (Examples of characteristics and design features are field devices, cables, safe area devices, earthing, entity versus integrated system concept, simple devices and interface devices and their parameters, segregation, infallible components, current and voltage limiting, creepage and clearance distances).

☐ Typical situations where the Intrinsic safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Intrinsic safety;

☐ The use of Standards in determining the requirements to which the installation of Intrinsic safety explosion-protected apparatus shall comply.

T6 Pressurization (Ex 'p') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Pressurization (Ex 'p') technique (Examples of characteristics and design features are exclusion and dilution; purge periods, controlled shut down, monitoring and sources of internal release).

☐ Typical situations where the pressurization explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the pressurization technique;

☐ The use of Standards in determining the requirements to which the installation of pressurization explosion-protected apparatus shall comply.

T7 Enclosures for dusts (Ex 'tD') - explosion-protection technique encompassing:

The purpose and characteristics of the design features of apparatus and circuits protected by the techniques for dusts (Examples of characteristics and design features are for enclosures; pressurization; encapsulation; and intrinsic safety).

☐ Typical situations where the each dust explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the each dust technique;

☐ The use of Standards in determining the requirements to which the installation of dust explosion-protected apparatus shall comply.

T8 Common characteristics of explosion-protection techniques encompassing:

☐ The purposes of 'temperature classification' and 'gas grouping/apparatus grouping'.

☐ Compliance plate markings.

☐ Limitations of non-metallic or specific alloy enclosures.

☐ The purpose of conformity and certification/approval for equipment used in hazardous areas.

☐ Environmental conditions that may impact on explosion-protection techniques.

☐ The principles and applications of other and mixed explosion-protection techniques (Other techniques include encapsulation Ex 'm'; oil-immersion Ex 'o'; powder-filling Ex 'q', ventilation Ex 'v' and special protection Ex 's').

☐ Features and purpose of conduit seals and cable termination devices designed for use in hazardous areas (These include conduit seals and barrier and compression glands for cables with or without armouring, screening and/or drain wires).

UEENEEM027A Maintain equipment in hazardous areas - coal mining

KS01-EM027

A

Explosion protection installation and maintenance requirements

Evidence shall show an understanding of explosion protection installation and maintenance requirements to an extent indicated by the following aspects:

T1 Explosion-protection equipment — Ex certification schemes encompassing:

☐ Purpose and scope of certification schemes.

☐ Schemes accepted in Australia and New Zealand.

☐ Schemes commonly used in countries other than Australia and New Zealand.

☐ Processes for having equipment certified under the acceptable Ex schemes — scheme procedures; quality management requirements; conformance testing and assessment; and requirements for ongoing certification.

T2 Flameproof (Ex 'd') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the flameproof (Ex 'd') technique. (Examples of characteristics and design features are flame paths, integrity under pressure, pressure piling, and enclosure entries).

☐ Typical situations where the flameproof explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Flameproof technique;

☐ The use of Standards in determining the requirements to which the installation of flameproof explosion-protected apparatus shall comply.

T3 Increased safety (Ex 'e') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Increased safety (Ex 'e') technique (Examples of characteristics and design features are temperature rise, maximum power dissipation, protection devices, certified components, creepage and clearance distances, absence of sparking contacts and enclosure entries).

☐ Typical situations where the Increased safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Increased safety technique;

☐ The use of Standards in determining the requirements to which the installation of Increased safety explosion-protected apparatus shall comply.

T4 Non-sparking (Ex 'n') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Non-sparking (Ex 'n') technique (Examples of characteristics and design features are creepage and clearance distances and restricted breathing).

☐ Typical situations where the Non-sparking explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Non-sparking technique; and

☐ The use of Standards in determining the requirements to which the installation of Non-sparking explosion-protected apparatus shall comply.

T5 Intrinsic safety (Ex 'i') explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Intrinsic safety (Ex 'i') technique (Examples of characteristics and design features are field devices, cables, safe area devices, earthing, entity versus integrated system concept, simple devices and interface devices and their parameters, segregation, infallible components, current and voltage limiting, creepage and clearance distances).
- ☐ Typical situations where the Intrinsic safety explosion-protection technique is used;
- ☐ Actions or conditions that would void the protection provided the Intrinsic safety;
- ☐ The use of Standards in determining the requirements to which the installation of Intrinsic safety explosion-protected apparatus shall comply.

T6 Pressurization (Ex 'p') explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Pressurization (Ex 'p') technique (Examples of characteristics and design features are exclusion and dilution; purge periods, controlled shut down, monitoring and sources of internal release).
- ☐ Typical situations where the pressurization explosion-protection technique is used;
- ☐ Actions or conditions that would void the protection provided the pressurization technique;
- ☐ The use of Standards in determining the requirements to which the installation of pressurization explosion-protected apparatus shall comply.

T7 Enclosures for dusts (Ex 'tD') - explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the techniques for dusts (Examples of characteristics and design

features are for enclosures; pressurization; encapsulation; and intrinsic safety).

- ☐ Typical situations where the each dust explosion-protection technique is used;

- ☐ Actions or conditions that would void the protection provided the each dust technique;

- ☐ The use of Standards in determining the requirements to which the installation of dust explosion-protected apparatus shall comply.

T8 Common characteristics of explosion-protection techniques encompassing:

- ☐ The purposes of 'temperature classification' and 'gas grouping/apparatus grouping'.

- ☐ Compliance plate markings.

- ☐ Limitations of non-metallic or specific alloy enclosures.

- ☐ The purpose of conformity and certification/approval for equipment used in hazardous areas.

- ☐ Environmental conditions that may impact on explosion-protection techniques.

- ☐ The principles and applications of other and mixed explosion-protection techniques (Other techniques include encapsulation Ex 'm'; oil-immersion Ex 'o'; powder-filling Ex 'q', ventilation Ex 'v' and special protection Ex 's').

- ☐ Features and purpose of conduit seals and cable termination devices designed for use in hazardous areas (These include conduit seals and barrier and compression glands for cables with or without armouring, screening and/or drain wires).

T9 Preparation to install and maintain explosion-protected equipment in hazardous areas encompassing:

- ☐ OHS procedures to be followed when working in a hazardous area;

the significance of information provided on the certification documentation and schedules for a given item of explosion-protected equipment;

- ☐ the typical contents of a verification dossier and their purpose; and

☐ limitations in the use of tools and testing devices in hazardous areas.

T10 The relationship between explosion-protected equipment, their certification documents and required locations given in specifications and layout drawings and/or written instructions encompassing:

☐ the purpose of markings on the compliance plate and certification documents for a given item of explosion-protected equipment;

☐ matching explosion-protected equipment with certification documents and the equipment specified for an installation; and

☐ the location the items of explosion-protected equipment for an installation from specifications and layout drawings and/or instructions.

T11 Installation Standards and requirements applicable to hazardous encompassing:

☐ the wiring systems permitted and not permitted in or above hazardous areas;

☐ equipment not permitted in or above hazardous areas;

☐ the regulations and Standards to which explosion-protected equipment and wiring must be installed in a hazardous area and how these are applied; and

☐ the documentation required as a record of the installation process, including certification documentation.

T12 Maintenance procedures in hazardous areas that will ensure the integrity of the explosion-protection technique encompassing:

☐ the purpose of a maintenance schedule;

☐ the purpose and extent of 'close', 'sample' and 'periodic' inspections;

☐ the features of each explosion-protection techniques that should be included in a maintenance schedule;

☐ the impact of environmental conditions on explosion-protected equipment, including corrosion and frequency of maintenance;

☐ the documentation requirements for recording the maintenance process and

results;

☐ the use of Standards in determining the requirements with which the design of explosion-protected apparatus shall comply.

T13 Cable termination types suitable for use in hazardous areas encompassing:

☐ explosion protection features of cable terminations devices.

☐ selecting compliant cable termination devices.

T14 Terminating cables suitable for use in hazardous areas encompassing:

☐ installing conduit systems, where applicable, including seals to meet hazardous areas requirements. (Gases only.)

☐ terminating a cable with a barrier gland. (Gases only.)

☐ terminating a multipair, SWA, overall screened, individual screened cable into an enclosure.

☐ testing termination/connections of installed cables/circuits.

UEENEEM028A Maintain equipment in hazardous areas - gas

Atmospheres

KS01-EM028

A

Explosion protection installation and maintenance requirements

Evidence shall show an understanding of explosion protection installation and maintenance requirements to an extent indicated by the following aspects:

T1 Explosion-protection equipment — Ex certification schemes encompassing:

☐ Purpose and scope of certification schemes.

☐ Schemes accepted in Australia and New Zealand.

☐ Schemes commonly used in countries other than Australia and New Zealand.

☐ Processes for having equipment certified under the acceptable Ex schemes — scheme procedures; quality management requirements; conformance testing and assessment; and requirements for ongoing certification.

T2 Flameproof (Ex 'd') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the flameproof (Ex 'd') technique. (Examples of characteristics and design features are flame paths, integrity under pressure, pressure piling, and enclosure entries).

☐ Typical situations where the flameproof explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Flameproof technique;

☐ The use of Standards in determining the requirements to which the installation of flameproof explosion-protected apparatus shall comply.

T3 Increased safety (Ex 'e') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Increased safety (Ex 'e') technique (Examples of characteristics and design features are temperature rise, maximum power dissipation, protection devices, certified components, creepage and clearance distances, absence of sparking contacts and enclosure entries).

☐ Typical situations where the Increased safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Increased safety technique;

☐ The use of Standards in determining the requirements to which the installation of Increased safety explosion-protected apparatus shall comply.

T4 Non-sparking (Ex 'n') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Non-sparking (Ex 'n') technique (Examples of characteristics and design features are creepage and clearance distances and restricted

breathing).

☐ Typical situations where the Non-sparking explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Non-sparking technique; and

☐ The use of Standards in determining the requirements to which the installation of Non-sparking explosion-protected apparatus shall comply.

T5 Intrinsic safety (Ex 'i') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Intrinsic safety (Ex 'i') technique (Examples of characteristics and design features are field devices, cables, safe area devices, earthing, entity versus integrated system concept, simple devices and interface devices and their parameters, segregation, infallible components, current and voltage limiting, creepage and clearance distances).

☐ Typical situations where the Intrinsic safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Intrinsic safety;

☐ The use of Standards in determining the requirements to which the installation of Intrinsic safety explosion-protected apparatus shall comply.

T6 Pressurization (Ex 'p') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Pressurization (Ex 'p') technique (Examples of characteristics and design features are exclusion and dilution; purge periods, controlled shut down, monitoring and sources of internal release).

☐ Typical situations where the pressurization explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the pressurization technique;

☐ The use of Standards in determining the requirements to which the installation of pressurization explosion-protected apparatus shall comply.

T7 Enclosures for dusts (Ex 'tD') - explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the techniques for dusts (Examples of characteristics and design features are for enclosures; pressurization; encapsulation; and intrinsic safety).

☐ Typical situations where the each dust explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the each dust technique;

☐ The use of Standards in determining the requirements to which the installation of dust explosion-protected apparatus shall comply.

T8 Common characteristics of explosion-protection techniques encompassing:

☐ The purposes of 'temperature classification' and 'gas grouping/apparatus grouping'.

☐ Compliance plate markings.

☐ Limitations of non-metallic or specific alloy enclosures.

☐ The purpose of conformity and certification/approval for equipment used in hazardous areas.

☐ Environmental conditions that may impact on explosion-protection techniques.

☐ The principles and applications of other and mixed explosion-protection techniques (Other techniques include encapsulation Ex 'm'; oil-immersion Ex 'o'; powder-filling Ex 'q', ventilation Ex 'v' and special protection Ex 's').

☐ Features and purpose of conduit seals and cable termination devices designed for use in hazardous areas (These include conduit seals and barrier and compression glands for cables with or without armouring, screening and/or

drain wires).

T9 Preparation to install and maintain explosion-protected equipment in hazardous areas encompassing:

- ☐ OHS procedures to be followed when working in a hazardous area;
- the significance of information provided on the certification documentation and schedules for a given item of explosion-protected equipment;
- ☐ the typical contents of a verification dossier and their purpose; and
- ☐ limitations in the use of tools and testing devices in hazardous areas.

T10 The relationship between explosion-protected equipment, their certification documents and required locations given in specifications and layout drawings and/or written instructions encompassing:

- ☐ the purpose of markings on the compliance plate and certification documents for a given item of explosion-protected equipment;
- ☐ matching explosion-protected equipment with certification documents and the equipment specified for an installation; and
- ☐ the location the items of explosion-protected equipment for an installation from specifications and layout drawings and/or instructions.

T11 Installation Standards and requirements applicable to hazardous encompassing:

- ☐ the wiring systems permitted and not permitted in or above hazardous areas;
- ☐ equipment not permitted in or above hazardous areas;
- ☐ the regulations and Standards to which explosion-protected equipment and wiring must be installed in a hazardous area and how these are applied; and
- ☐ the documentation required as a record of the installation process, including certification documentation.

T12 Maintenance procedures in hazardous areas that will ensure the integrity of the explosion-protection technique encompassing:

- ☐ the purpose of a maintenance schedule;
- ☐ the purpose and extent of 'close', 'sample' and 'periodic' inspections;
- ☐ the features of each explosion-protection techniques that should be included in a maintenance schedule;
- ☐ the impact of environmental conditions on explosion-protected equipment, including corrosion and frequency of maintenance;
- ☐ the documentation requirements for recording the maintenance process and results;
- ☐ the use of Standards in determining the requirements with which the design of explosion-protected apparatus shall comply.

T13 Cable termination types suitable for use in hazardous areas encompassing:

- ☐ explosion protection features of cable terminations devices.
- ☐ selecting compliant cable termination devices.

T14 Terminating cables suitable for use in hazardous areas encompassing:

- ☐ installing conduit systems, where applicable, including seals to meet hazardous areas requirements. (Gases only.)
- ☐ terminating a cable with a barrier gland. (Gases only.)
- ☐ terminating a multipair, SWA, overall screened, individual screened cable into an enclosure.
- ☐ testing termination/connections of installed cables/circuits.

UEENEEM029A Maintain equipment in hazardous areas - dust

Atmospheres

KS01-EM029

A

Explosion protection installation and maintenance requirements

Evidence shall show an understanding of explosion protection installation and maintenance requirements to an extent indicated by the following aspects:

T1 Explosion-protection equipment — Ex certification schemes encompassing:

- ☐ Purpose and scope of certification schemes.
- ☐ Schemes accepted in Australia and New Zealand.
- ☐ Schemes commonly used in countries other than Australia and New Zealand.
- ☐ Processes for having equipment certified under the acceptable Ex schemes — scheme procedures; quality management requirements; conformance testing and assessment; and requirements for ongoing certification.

T2 Flameproof (Ex 'd') explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the flameproof (Ex 'd') technique. (Examples of characteristics and design features are flame paths, integrity under pressure, pressure piling, and enclosure entries).

Typical situations where the flameproof explosion-protection technique is used;

- ☐ Actions or conditions that would void the protection provided the Flameproof technique;
- ☐ The use of Standards in determining the requirements to which the installation of flameproof explosion-protected apparatus shall comply.

T3 Increased safety (Ex 'e') explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Increased safety (Ex 'e') technique (Examples of characteristics and design features are temperature rise, maximum power dissipation, protection devices, certified components, creepage and clearance distances, absence of sparking contacts and enclosure entries).
- ☐ Typical situations where the Increased safety explosion-protection technique is used;
- ☐ Actions or conditions that would void the protection provided the Increased

safety technique;

☐ The use of Standards in determining the requirements to which the installation of Increased safety explosion-protected apparatus shall comply.

T4 Non-sparking (Ex 'n') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Non-sparking (Ex 'n') technique (Examples of characteristics and design features are creepage and clearance distances and restricted breathing).

☐ Typical situations where the Non-sparking explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Non-sparking technique; and

☐ The use of Standards in determining the requirements to which the installation of Non-sparking explosion-protected apparatus shall comply.

T5 Intrinsic safety (Ex 'i') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Intrinsic safety (Ex 'i') technique (Examples of characteristics and design features are field devices, cables, safe area devices, earthing, entity versus integrated system concept, simple devices and interface devices and their parameters, segregation, infallible components, current and voltage limiting, creepage and clearance distances).

☐ Typical situations where the Intrinsic safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Intrinsic safety;

☐ The use of Standards in determining the requirements to which the installation of Intrinsic safety explosion-protected apparatus shall comply.

T6 Pressurization (Ex 'p') explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Pressurization (Ex 'p') technique (Examples of characteristics and design features are exclusion and dilution; purge periods, controlled shut down, monitoring and sources of internal release).
- ☐ Typical situations where the pressurization explosion-protection technique is used;
- ☐ Actions or conditions that would void the protection provided the pressurization technique;
- ☐ The use of Standards in determining the requirements to which the installation of pressurization explosion-protected apparatus shall comply.

T7 Enclosures for dusts (Ex 'tD') - explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the techniques for dusts (Examples of characteristics and design features are for enclosures; pressurization; encapsulation; and intrinsic safety).
- ☐ Typical situations where the each dust explosion-protection technique is used;
- ☐ Actions or conditions that would void the protection provided the each dust technique;
- ☐ The use of Standards in determining the requirements to which the installation of dust explosion-protected apparatus shall comply.

T8 Common characteristics of explosion-protection techniques encompassing:

- ☐ The purposes of 'temperature classification' and 'gas grouping/apparatus grouping'.
- ☐ Compliance plate markings.
- ☐ Limitations of non-metallic or specific alloy enclosures.
- ☐ The purpose of conformity and certification/approval for equipment used in hazardous areas.

☐ Environmental conditions that may impact on explosion-protection techniques.

☐ The principles and applications of other and mixed explosion-protection techniques (Other techniques include encapsulation Ex 'm'; oil-immersion Ex 'o'; powder-filling Ex 'q', ventilation Ex 'v' and special protection Ex 's').

☐ Features and purpose of conduit seals and cable termination devices designed for use in hazardous areas (These include conduit seals and barrier and compression glands for cables with or without armouring, screening and/or drain wires).

T9 Preparation to install and maintain explosion-protected equipment in hazardous areas encompassing:

☐ OHS procedures to be followed when working in a hazardous area; the significance of information provided on the certification documentation and schedules for a given item of explosion-protected equipment;

☐ the typical contents of a verification dossier and their purpose; and

☐ limitations in the use of tools and testing devices in hazardous areas.

T10 The relationship between explosion-protected equipment, their certification documents and required locations given in specifications and layout drawings and/or written instructions encompassing:

☐ the purpose of markings on the compliance plate and certification documents for a given item of explosion-protected equipment;

☐ matching explosion-protected equipment with certification documents and the equipment specified for an installation; and

☐ the location the items of explosion-protected equipment for an installation from specifications and layout drawings and/or instructions.

T11 Installation Standards and requirements applicable to hazardous encompassing:

☐ the wiring systems permitted and not permitted in or above hazardous areas;

- ☐ equipment not permitted in or above hazardous areas;
- ☐ the regulations and Standards to which explosion-protected equipment and wiring must be installed in a hazardous area and how these are applied; and
- ☐ the documentation required as a record of the installation process, including certification documentation.

T12 Maintenance procedures in hazardous areas that will ensure the integrity of the explosion-protection technique encompassing:

- ☐ the purpose of a maintenance schedule;
- ☐ the purpose and extent of 'close', 'sample' and 'periodic' inspections;
- ☐ the features of each explosion-protection techniques that should be included in a maintenance schedule;
- ☐ the impact of environmental conditions on explosion-protected equipment, including corrosion and frequency of maintenance;
- ☐ the documentation requirements for recording the maintenance process and results;
- ☐ the use of Standards in determining the requirements with which the design of explosion-protected apparatus shall comply.

T13 Cable termination types suitable for use in hazardous areas encompassing:

- ☐ explosion protection features of cable terminations devices.
- ☐ selecting compliant cable termination devices.

T14 Terminating cables suitable for use in hazardous areas encompassing:

- ☐ installing conduit systems, where applicable, including seals to meet hazardous areas requirements. (Gases only.)
- ☐ terminating a cable with a barrier gland. (Gases only.)
- ☐ terminating a multipair, SWA, overall screened, individual screened cable into an enclosure.
- ☐ testing termination/connections of installed cables/circuits.

UEENEEM030A Maintain equipment in hazardous areas – pressurisation

KS01-EM030A Explosion protection installation and maintenance requirements

Evidence shall show an understanding of explosion protection installation and maintenance requirements to an extent indicated by the following aspects:

T1 Explosion-protection equipment — Ex certification schemes encompassing:

- ☐ Purpose and scope of certification schemes.
- ☐ Schemes accepted in Australia and New Zealand.
- ☐ Schemes commonly used in countries other than Australia and New Zealand.
- ☐ Processes for having equipment certified under the acceptable Ex schemes — scheme procedures; quality management requirements; conformance testing and assessment; and requirements for ongoing certification.

T2 Flameproof (Ex 'd') explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the flameproof (Ex 'd') technique. (Examples of characteristics and design features are flame paths, integrity under pressure, pressure piling, and enclosure entries).
- ☐ Typical situations where the flameproof explosion-protection technique is used;

Actions or conditions that would void the protection provided the Flameproof technique;

- ☐ The use of Standards in determining the requirements to which the installation of flameproof explosion-protected apparatus shall comply.

T3 Increased safety (Ex 'e') explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Increased safety (Ex 'e') technique (Examples of characteristics and design features are temperature rise, maximum power dissipation, protection devices, certified components, creepage and clearance

distances, absence of sparking contacts and enclosure entries).

☐ Typical situations where the Increased safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Increased safety technique;

☐ The use of Standards in determining the requirements to which the installation of Increased safety explosion-protected apparatus shall comply.

T4 Non-sparking (Ex 'n') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Non-sparking (Ex 'n') technique (Examples of characteristics and design features are creepage and clearance distances and restricted breathing).

☐ Typical situations where the Non-sparking explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Non-sparking technique; and

☐ The use of Standards in determining the requirements to which the installation of Non-sparking explosion-protected apparatus shall comply.

T5 Intrinsic safety (Ex 'i') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Intrinsic safety (Ex 'i') technique (Examples of characteristics and design features are field devices, cables, safe area devices, earthing, entity versus integrated system concept, simple devices and interface devices and their parameters, segregation, infallible components, current and voltage limiting, creepage and clearance distances).

☐ Typical situations where the Intrinsic safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Intrinsic safety;

☐ The use of Standards in determining the requirements to which the installation of Intrinsic safety explosion-protected apparatus shall comply.

REQUIRED SKILLS AND KNOWLEDGE

T6 Pressurization (Ex 'p') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Pressurization (Ex 'p') technique (Examples of characteristics and design features are exclusion and dilution; purge periods, controlled shut down, monitoring and sources of internal release).

☐ Typical situations where the pressurization explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the pressurization technique;

☐ The use of Standards in determining the requirements to which the installation of pressurization explosion-protected apparatus shall comply.

T7 Enclosures for dusts (Ex 'tD') - explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the techniques for dusts (Examples of characteristics and design features are for enclosures; pressurization; encapsulation; and intrinsic safety).

☐ Typical situations where the each dust explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the each dust technique;

☐ The use of Standards in determining the requirements to which the installation of dust explosion-protected apparatus shall comply.

T8 Common characteristics of explosion-protection techniques encompassing:

☐ The purposes of 'temperature classification' and 'gas grouping/apparatus

grouping’.

- ☐ Compliance plate markings.

- ☐ Limitations of non-metallic or specific alloy enclosures.

- ☐ The purpose of conformity and certification/approval for equipment used in hazardous areas.

- ☐ Environmental conditions that may impact on explosion-protection techniques.

- ☐ The principles and applications of other and mixed explosion-protection techniques (Other techniques include encapsulation Ex ‘m’; oil-immersion Ex ‘o’; powder-filling Ex ‘q’, ventilation Ex ‘v’ and special protection Ex ‘s’).

- ☐ Features and purpose of conduit seals and cable termination devices designed for use in hazardous areas (These include conduit seals and barrier and compression glands for cables with or without armouring, screening and/or drain wires).

T9 Preparation to install and maintain explosion-protected equipment in hazardous areas encompassing:

- ☐ OHS procedures to be followed when working in a hazardous area;

- ☐ the significance of information provided on the certification documentation and schedules for a given item of explosion-protected equipment;

- ☐ the typical contents of a verification dossier and their purpose; and

- ☐ limitations in the use of tools and testing devices in hazardous areas.

T10 The relationship between explosion-protected equipment, their certification documents and required locations given in specifications and layout drawings and/or written instructions encompassing:

- ☐ the purpose of markings on the compliance plate and certification documents for a given item of explosion-protected equipment;

- ☐ matching explosion-protected equipment with certification documents and the equipment specified for an installation; and

☐ the location the items of explosion-protected equipment for an installation from specifications and layout drawings and/or instructions.

T11 Installation Standards and requirements applicable to hazardous encompassing:

- ☐ the wiring systems permitted and not permitted in or above hazardous areas;
- ☐ equipment not permitted in or above hazardous areas;
- ☐ the regulations and Standards to which explosion-protected equipment and wiring must be installed in a hazardous area and how these are applied; and
- ☐ the documentation required as a record of the installation process, including certification documentation.

T12 Maintenance procedures in hazardous areas that will ensure the integrity of the explosion-protection technique encompassing:

- ☐ the purpose of a maintenance schedule;
- ☐ the purpose and extent of 'close', 'sample' and 'periodic' inspections;
- ☐ the features of each explosion-protection techniques that should be included in a maintenance schedule;
- ☐ the impact of environmental conditions on explosion-protected equipment, including corrosion and frequency of maintenance;
- ☐ the documentation requirements for recording the maintenance process and results;
- ☐ the use of Standards in determining the requirements with which the design of explosion-protected apparatus shall comply.

T13 Cable termination types suitable for use in hazardous areas encompassing:

- ☐ explosion protection features of cable terminations devices.
- ☐ selecting compliant cable termination devices.

T14 Terminating cables suitable for use in hazardous areas encompassing:

- ☐ installing conduit systems, where applicable, including seals to meet hazardous

areas requirements. (Gases only.)

terminating a cable with a barrier gland. (Gases only.)

☐ terminating a multipair, SWA, overall screened, individual screened cable into an enclosure.

☐ testing termination/connections of installed cables/circuits.

UEENEEM047A Develop and manage maintenance programs for hazardous areas electrical equipment - coal mining

KS01-EM047

A

Hazardous areas maintenance management

Evidence shall show an understanding of hazardous areas maintenance management to an extent indicated by the following aspects:

T1 Explosion-protection equipment — Ex certification schemes encompassing:

☐ Purpose and scope of certification schemes.

☐ Schemes accepted in Australia and New Zealand.

☐ Schemes commonly used in countries other than Australia and New Zealand.

☐ Processes for having equipment certified under the acceptable Ex schemes — scheme procedures; quality management requirements; conformance testing and assessment; and requirements for ongoing certification.

T2 Flameproof (Ex 'd') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the flameproof (Ex 'd') technique. (Examples of characteristics and design features are flame paths, integrity under pressure, pressure piling, and enclosure entries).

☐ Typical situations where the flameproof explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Flameproof

technique;

☐ The use of Standards in determining the requirements to which the installation of flameproof explosion-protected apparatus shall comply.

T3 Increased safety (Ex 'e') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Increased safety (Ex 'e') technique (Examples of characteristics and design features are temperature rise, maximum power dissipation, protection devices, certified components, creepage and clearance distances, absence of sparking contacts and enclosure entries).

☐ Typical situations where the Increased safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Increased safety technique;

☐ The use of Standards in determining the requirements to which the installation of Increased safety explosion-protected apparatus shall comply.

T4 Non-sparking (Ex 'n') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Non-sparking (Ex 'n') technique (Examples of characteristics and design features are creepage and clearance distances and restricted breathing).

☐ Typical situations where the Non-sparking explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Non-sparking technique; and

☐ The use of Standards in determining the requirements to which the installation of Non-sparking explosion-protected apparatus shall comply.

T5 Intrinsic safety (Ex 'i') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Intrinsic safety (Ex 'i') technique (Examples of characteristics and design features are field devices, cables, safe area devices, earthing, entity versus integrated system concept, simple devices and interface devices and their parameters, segregation, infallible components, current and voltage limiting, creepage and clearance distances).

☐ Typical situations where the Intrinsic safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Intrinsic safety;

☐ The use of Standards in determining the requirements to which the installation of Intrinsic safety explosion-protected apparatus shall comply.

T6 Pressurization (Ex 'p') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Pressurization (Ex 'p') technique (Examples of characteristics and design features are exclusion and dilution; purge periods, controlled shut down, monitoring and sources of internal release).

☐ Typical situations where the pressurization explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the pressurization technique;

☐ The use of Standards in determining the requirements to which the installation of pressurization explosion-protected apparatus shall comply.

T7 Enclosures for dusts (Ex 'tD') - explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the techniques for dusts (Examples of characteristics and design features are for enclosures; pressurization; encapsulation; and intrinsic safety).

- ☐ Typical situations where the each dust explosion-protection technique is used;
- ☐ Actions or conditions that would void the protection provided the each dust technique;
- ☐ The use of Standards in determining the requirements to which the installation of dust explosion-protected apparatus shall comply.

T8 Common characteristics of explosion-protection techniques encompassing:

- ☐ The purposes of 'temperature classification' and 'gas grouping/apparatus grouping'.
- ☐ Compliance plate markings.
- ☐ Limitations of non-metallic or specific alloy enclosures.

The purpose of conformity and certification/approval for equipment used in hazardous areas.

- ☐ Environmental conditions that may impact on explosion-protection techniques.
- ☐ The principles and applications of other and mixed explosion-protection techniques (Other techniques include encapsulation Ex 'm'; oil-immersion Ex 'o'; powder-filling Ex 'q', ventilation Ex 'v' and special protection Ex 's').
- ☐ Features and purpose of conduit seals and cable termination devices designed for use in hazardous areas (These include conduit seals and barrier and compression glands for cables with or without armouring, screening and/or drain wires).

T9 Maintenance procedures in hazardous areas that will ensure the integrity of the explosion-protection technique encompassing:

- ☐ the purpose of a maintenance schedule;
- ☐ the purpose and extent of 'close', 'sample' and 'periodic' inspections;
- ☐ the features of each explosion-protection techniques that should be included in a maintenance schedule;
- ☐ the impact of environmental conditions on explosion-protected equipment,

including corrosion and frequency of maintenance;

- ▣ the documentation requirements for recording the maintenance process and results; and

- ▣ the use of Standards in determining the requirements with which the design of explosion-protected apparatus shall comply.

T10 The responsibilities of a person managing activities or a site related to a hazardous area, encompassing:

- ▣ OHS procedures that are to be established;

- ▣ responsibilities for ensuring that a hazardous area is safe; and

- ▣ responsibilities and processes for establishing and maintaining a verification dossier.

T11 Explosion-protection strategies in relation to a hazardous area, encompassing:

- ▣ the process of classifying a hazardous area;

- ▣ various ways in which electrical systems /apparatus can be treated to prevent them from becoming an ignition source; and

- ▣ the cost of the different ways of treating electrical systems/apparatus associated with hazardous areas.

T12 Requirements for the maintenance of electrical systems associated with hazardous areas, encompassing:

- ▣ the type and grades of inspection of hazardous areas;

- ▣ maintenance programs for electrical explosion-protected systems/apparatus;

And documentation requirements associated with maintenance procedures.

BAE 632 Electrical Wiring in Hazardous Areas

UEENEEM023A Install explosion-protected equipment and wiring systems

- coal mining

KS01-EM023

A

Explosion protection installation and maintenance requirements

Evidence shall show an understanding of explosion protection installation and maintenance requirements to an extent indicated by the following aspects:

T1 Explosion-protection equipment — Ex certification schemes encompassing:

- ☐ Purpose and scope of certification schemes.
- ☐ Schemes accepted in Australia and New Zealand.
- ☐ Schemes commonly used in countries other than Australia and New Zealand.
- ☐ Processes for having equipment certified under the acceptable Ex schemes — scheme procedures; quality management requirements; conformance testing and assessment; and requirements for ongoing certification.

T2 Flameproof (Ex 'd') explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the flameproof (Ex 'd') technique. (Examples of characteristics and design features are flame paths, integrity under pressure, pressure piling, and enclosure entries).
- ☐ Typical situations where the flameproof explosion-protection technique is used;
- ☐ Actions or conditions that would void the protection provided the Flameproof technique;
- ☐ The use of Standards in determining the requirements to which the installation of flameproof explosion-protected apparatus shall comply.

T3 Increased safety (Ex 'e') explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Increased safety (Ex 'e') technique (Examples of characteristics and design features are temperature rise, maximum power dissipation, protection devices, certified components, creepage and clearance distances, absence of sparking contacts and enclosure entries).

☐ Typical situations where the Increased safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Increased safety technique;

☐ The use of Standards in determining the requirements to which the installation of Increased safety explosion-protected apparatus shall comply.

T4 Non-sparking (Ex 'n') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Non-sparking (Ex 'n') technique (Examples of characteristics and design features are creepage and clearance distances and restricted breathing).

☐ Typical situations where the Non-sparking explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Non-sparking technique; and

☐ The use of Standards in determining the requirements to which the installation of Non-sparking explosion-protected apparatus shall comply.

T5 Intrinsic safety (Ex 'i') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Intrinsic safety (Ex 'i') technique (Examples of characteristics and design features are field devices, cables, safe area devices, earthing, entity versus integrated system concept, simple devices and interface devices and their parameters, segregation, infallible components, current and voltage limiting, creepage and clearance distances).

☐ Typical situations where the Intrinsic safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Intrinsic

safety;

☐ The use of Standards in determining the requirements to which the installation of Intrinsic safety explosion-protected apparatus shall comply.

T6 Pressurization (Ex 'p') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Pressurization (Ex 'p') technique (Examples of characteristics and design features are exclusion and dilution; purge periods, controlled shut down, monitoring and sources of internal release).

☐ Typical situations where the pressurization explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the pressurization technique;

The use of Standards in determining the requirements to which the installation of pressurization explosion-protected apparatus shall comply.

T7 Enclosures for dusts (Ex 'tD') - explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the techniques for dusts (Examples of characteristics and design features are for enclosures; pressurization; encapsulation; and intrinsic safety).

☐ Typical situations where the each dust explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the each dust technique;

☐ The use of Standards in determining the requirements to which the installation of dust explosion-protected apparatus shall comply.

T8 Common characteristics of explosion-protection techniques encompassing:

☐ The purposes of 'temperature classification' and 'gas grouping/apparatus grouping'.

☐ Compliance plate markings.

- ☐ Limitations of non-metallic or specific alloy enclosures.
- ☐ The purpose of conformity and certification/approval for equipment used in hazardous areas.
- ☐ Environmental conditions that may impact on explosion-protection techniques.
- ☐ The principles and applications of other and mixed explosion-protection techniques (Other techniques include encapsulation Ex 'm'; oil-immersion Ex 'o'; powder-filling Ex 'q', ventilation Ex 'v' and special protection Ex 's').
- ☐ Features and purpose of conduit seals and cable termination devices designed for use in hazardous areas (These include conduit seals and barrier and compression glands for cables with or without armouring, screening and/or drain wires).

T9 Preparation to install and maintain explosion-protected equipment in hazardous areas encompassing:

- ☐ OHS procedures to be followed when working in a hazardous area;
- ☐ the significance of information provided on the certification documentation and schedules for a given item of explosion-protected equipment;
- ☐ the typical contents of a verification dossier and their purpose; and
- ☐ limitations in the use of tools and testing devices in hazardous areas.

T10 The relationship between explosion-protected equipment, their certification documents and required locations given in specifications and layout drawings and/or written instructions encompassing:

- ☐ the purpose of markings on the compliance plate and certification documents for a given item of explosion-protected equipment;
- ☐ matching explosion-protected equipment with certification documents and the equipment specified for an installation; and
- ☐ the location the items of explosion-protected equipment for an installation from specifications and layout drawings and/or instructions.

T11 Installation Standards and requirements applicable to hazardous

encompassing:

- ☐ the wiring systems permitted and not permitted in or above hazardous areas;
- ☐ equipment not permitted in or above hazardous areas;
- ☐ the regulations and Standards to which explosion-protected equipment and wiring must be installed in a hazardous area and how these are applied; and
- ☐ the documentation required as a record of the installation process, including certification documentation.

T12 Maintenance procedures in hazardous areas that will ensure the integrity of the explosion-protection technique encompassing:

- ☐ the purpose of a maintenance schedule;
- ☐ the purpose and extent of 'close', 'sample' and 'periodic' inspections;
- ☐ the features of each explosion-protection techniques that should be included in a maintenance schedule;
- ☐ the impact of environmental conditions on explosion-protected equipment, including corrosion and frequency of maintenance;
- ☐ the documentation requirements for recording the maintenance process and results;
- ☐ the use of Standards in determining the requirements with which the design of explosion-protected apparatus shall comply.

T13 Cable termination types suitable for use in hazardous areas encompassing:

- ☐ explosion protection features of cable terminations devices.
- ☐ selecting compliant cable termination devices.

T14 Terminating cables suitable for use in hazardous areas encompassing:

- ☐ installing conduit systems, where applicable, including seals to meet hazardous areas requirements. (Gases only.)
- ☐ terminating a cable with a barrier gland. (Gases only.)

☐ terminating a multipair, SWA, overall screened, individual screened cable into an enclosure.

☐ testing termination/connections of installed cables/circuits.

UEENEEM025A Install explosion-protected equipment and wiring systems

- dust atmospheres

KS01-EM02

5A

Explosion protection installation and maintenance requirements

Evidence shall show an understanding of explosion protection installation and maintenance requirements to an extent indicated by the following aspects:

T1 Explosion-protection equipment — Ex certification schemes encompassing:

☐ Purpose and scope of certification schemes.

☐ Schemes accepted in Australia and New Zealand.

☐ Schemes commonly used in countries other than Australia and New Zealand.

☐ Processes for having equipment certified under the acceptable Ex schemes — scheme procedures; quality management requirements; conformance testing and assessment; and requirements for ongoing certification.

T2 Flameproof (Ex 'd') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the flameproof (Ex 'd') technique. (Examples of characteristics and design features are flame paths, integrity under pressure, pressure piling, and enclosure entries).

☐ Typical situations where the flameproof explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Flameproof technique;

☐ The use of Standards in determining the requirements to which the installation

of flameproof explosion-protected apparatus shall comply.

T3 Increased safety (Ex 'e') explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Increased safety (Ex 'e') technique (Examples of characteristics and design features are temperature rise, maximum power dissipation, protection devices, certified components, creepage and clearance distances, absence of sparking contacts and enclosure entries).
- ☐ Typical situations where the Increased safety explosion-protection technique is used;
- ☐ Actions or conditions that would void the protection provided the Increased safety technique;
- ☐ The use of Standards in determining the requirements to which the installation of Increased safety explosion-protected apparatus shall comply.

T4 Non-sparking (Ex 'n') explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Non-sparking (Ex 'n') technique (Examples of characteristics and design features are creepage and clearance distances and restricted breathing).
- ☐ Typical situations where the Non-sparking explosion-protection technique is used;
- ☐ Actions or conditions that would void the protection provided the Non-sparking technique; and
- ☐ The use of Standards in determining the requirements to which the installation of Non-sparking explosion-protected apparatus shall comply.

T5 Intrinsic safety (Ex 'i') explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Intrinsic safety (Ex 'i') technique (Examples of characteristics

and design features are field devices, cables, safe area devices, earthing, entity versus integrated system concept, simple devices and interface devices and their parameters, segregation, infallible components, current and voltage limiting, creepage and clearance distances).

☐ Typical situations where the Intrinsic safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Intrinsic safety;

☐ The use of Standards in determining the requirements to which the installation of Intrinsic safety explosion-protected apparatus shall comply.

T6 Pressurization (Ex 'p') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Pressurization (Ex 'p') technique (Examples of characteristics and design features are exclusion and dilution; purge periods, controlled shut down, monitoring and sources of internal release).

☐ Typical situations where the pressurization explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the pressurization technique;

The use of Standards in determining the requirements to which the installation of pressurization explosion-protected apparatus shall comply.

T7 Enclosures for dusts (Ex 'tD') - explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the techniques for dusts (Examples of characteristics and design features are for enclosures; pressurization; encapsulation; and intrinsic safety).

☐ Typical situations where the each dust explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the each dust

technique;

☐ The use of Standards in determining the requirements to which the installation of dust explosion-protected apparatus shall comply.

T8 Common characteristics of explosion-protection techniques encompassing:

☐ The purposes of 'temperature classification' and 'gas grouping/apparatus grouping'.

☐ Compliance plate markings.

☐ Limitations of non-metallic or specific alloy enclosures.

☐ The purpose of conformity and certification/approval for equipment used in hazardous areas.

☐ Environmental conditions that may impact on explosion-protection techniques.

☐ The principles and applications of other and mixed explosion-protection techniques (Other techniques include encapsulation Ex 'm'; oil-immersion Ex 'o'; powder-filling Ex 'q', ventilation Ex 'v' and special protection Ex 's').

☐ Features and purpose of conduit seals and cable termination devices designed for use in hazardous areas (These include conduit seals and barrier and compression glands for cables with or without armouring, screening and/or drain wires).

T9 Preparation to install and maintain explosion-protected equipment in hazardous areas encompassing:

☐ OHS procedures to be followed when working in a hazardous area;

☐ the significance of information provided on the certification documentation and schedules for a given item of explosion-protected equipment;

☐ the typical contents of a verification dossier and their purpose; and

☐ limitations in the use of tools and testing devices in hazardous areas.

T10 The relationship between explosion-protected equipment, their certification documents and required locations given in specifications and layout drawings and/or

written instructions encompassing:

- ☐ the purpose of markings on the compliance plate and certification documents for a given item of explosion-protected equipment;
- ☐ matching explosion-protected equipment with certification documents and the equipment specified for an installation; and
- ☐ the location the items of explosion-protected equipment for an installation from specifications and layout drawings and/or instructions.

T11 Installation Standards and requirements applicable to hazardous encompassing:

- ☐ the wiring systems permitted and not permitted in or above hazardous areas;
- ☐ equipment not permitted in or above hazardous areas;
- ☐ the regulations and Standards to which explosion-protected equipment and wiring must be installed in a hazardous area and how these are applied; and
- ☐ the documentation required as a record of the installation process, including certification documentation.

T12 Maintenance procedures in hazardous areas that will ensure the integrity of the explosion-protection technique encompassing:

- ☐ the purpose of a maintenance schedule;
- ☐ the purpose and extent of 'close', 'sample' and 'periodic' inspections;
- ☐ the features of each explosion-protection techniques that should be included in a maintenance schedule;
- ☐ the impact of environmental conditions on explosion-protected equipment, including corrosion and frequency of maintenance;
- ☐ the documentation requirements for recording the maintenance process and results;
- ☐ the use of Standards in determining the requirements with which the design of explosion-protected apparatus shall comply.

T13 Cable termination types suitable for use in hazardous areas encompassing:

- ☐ explosion protection features of cable terminations devices.
- ☐ selecting compliant cable termination devices.

T14 Terminating cables suitable for use in hazardous areas encompassing:

- ☐ installing conduit systems, where applicable, including seals to meet hazardous areas requirements. (Gases only.)
- ☐ terminating a cable with a barrier gland. (Gases only.)
- ☐ terminating a multipair, SWA, overall screened, individual screened cable into an enclosure.
- ☐ testing termination/connections of installed cables/circuits.

UEENEEM026A Install explosion-protected equipment and wiring systems
- pressurisation

KS01-EM02

6A

Explosion protection installation and maintenance requirements

Evidence shall show an understanding of explosion protection installation and maintenance requirements to an extent indicated by the following aspects:

T1 Explosion-protection equipment — Ex certification schemes encompassing:

- ☐ Purpose and scope of certification schemes.
- ☐ Schemes accepted in Australia and New Zealand.
- ☐ Schemes commonly used in countries other than Australia and New Zealand.
- ☐ Processes for having equipment certified under the acceptable Ex schemes — scheme procedures; quality management requirements; conformance testing and assessment; and requirements for ongoing certification.

T2 Flameproof (Ex 'd') explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the flameproof (Ex 'd') technique. (Examples of characteristics

and design features are flame paths, integrity under pressure, pressure piling, and enclosure entries).

☐ Typical situations where the flameproof explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Flameproof technique;

☐ The use of Standards in determining the requirements to which the installation of flameproof explosion-protected apparatus shall comply.

T3 Increased safety (Ex 'e') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Increased safety (Ex 'e') technique (Examples of characteristics and design features are temperature rise, maximum power dissipation, protection devices, certified components, creepage and clearance distances, absence of sparking contacts and enclosure entries).

Typical situations where the Increased safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Increased safety technique;

☐ The use of Standards in determining the requirements to which the installation of Increased safety explosion-protected apparatus shall comply.

T4 Non-sparking (Ex 'n') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Non-sparking (Ex 'n') technique (Examples of characteristics and design features are creepage and clearance distances and restricted breathing).

☐ Typical situations where the Non-sparking explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the

Non-sparking technique; and

☐ The use of Standards in determining the requirements to which the installation of Non-sparking explosion-protected apparatus shall comply.

T5 Intrinsic safety (Ex 'i') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Intrinsic safety (Ex 'i') technique (Examples of characteristics and design features are field devices, cables, safe area devices, earthing, entity versus integrated system concept, simple devices and interface devices and their parameters, segregation, infallible components, current and voltage limiting, creepage and clearance distances).

☐ Typical situations where the Intrinsic safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Intrinsic safety;

☐ The use of Standards in determining the requirements to which the installation of Intrinsic safety explosion-protected apparatus shall comply.

T6 Pressurization (Ex 'p') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Pressurization (Ex 'p') technique (Examples of characteristics and design features are exclusion and dilution; purge periods, controlled shut down, monitoring and sources of internal release).

☐ Typical situations where the pressurization explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the pressurization technique;

☐ The use of Standards in determining the requirements to which the installation

of pressurization explosion-protected apparatus shall comply.

T7 Enclosures for dusts (Ex 'tD') - explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the techniques for dusts (Examples of characteristics and design features are for enclosures; pressurization; encapsulation; and intrinsic safety).
- ☐ Typical situations where the each dust explosion-protection technique is used;
- ☐ Actions or conditions that would void the protection provided the each dust technique;
- ☐ The use of Standards in determining the requirements to which the installation of dust explosion-protected apparatus shall comply.

T8 Common characteristics of explosion-protection techniques encompassing:

- ☐ The purposes of 'temperature classification' and 'gas grouping/apparatus grouping'.
- ☐ Compliance plate markings.
- ☐ Limitations of non-metallic or specific alloy enclosures.
- ☐ The purpose of conformity and certification/approval for equipment used in hazardous areas.
- ☐ Environmental conditions that may impact on explosion-protection techniques.
- ☐ The principles and applications of other and mixed explosion-protection techniques (Other techniques include encapsulation Ex 'm'; oil-immersion Ex 'o'; powder-filling Ex 'q', ventilation Ex 'v' and special protection Ex 's').
- ☐ Features and purpose of conduit seals and cable termination devices designed for use in hazardous areas (These include conduit seals and barrier and compression glands for cables with or without armouring, screening and/or drain wires).

T9 Preparation to install and maintain explosion-protected equipment in hazardous areas encompassing:

- ☐ OHS procedures to be followed when working in a hazardous area;
- ☐ the significance of information provided on the certification documentation and schedules for a given item of explosion-protected equipment;
- ☐ the typical contents of a verification dossier and their purpose; and
- ☐ limitations in the use of tools and testing devices in hazardous areas.

T10 The relationship between explosion-protected equipment, their certification documents and required locations given in specifications and layout drawings and/or written instructions encompassing:

- ☐ the purpose of markings on the compliance plate and certification documents for a given item of explosion-protected equipment;
- ☐ matching explosion-protected equipment with certification documents and the equipment specified for an installation; and
- the location the items of explosion-protected equipment for an installation from specifications and layout drawings and/or instructions.

T11 Installation Standards and requirements applicable to hazardous encompassing:

- ☐ the wiring systems permitted and not permitted in or above hazardous areas;
- ☐ equipment not permitted in or above hazardous areas;
- ☐ the regulations and Standards to which explosion-protected equipment and wiring must be installed in a hazardous area and how these are applied; and
- ☐ the documentation required as a record of the installation process, including certification documentation.

T12 Maintenance procedures in hazardous areas that will ensure the integrity of the explosion-protection technique encompassing:

- ☐ the purpose of a maintenance schedule;
- ☐ the purpose and extent of 'close', 'sample' and 'periodic' inspections;
- ☐ the features of each explosion-protection techniques that should be included in

a maintenance schedule;

- ☐ the impact of environmental conditions on explosion-protected equipment, including corrosion and frequency of maintenance;
- ☐ the documentation requirements for recording the maintenance process and results;
- ☐ the use of Standards in determining the requirements with which the design of explosion-protected apparatus shall comply.

T13 Cable termination types suitable for use in hazardous areas encompassing:

- ☐ explosion protection features of cable terminations devices.
- ☐ selecting compliant cable termination devices.

T14 Terminating cables suitable for use in hazardous areas encompassing:

- ☐ installing conduit systems, where applicable, including seals to meet hazardous areas requirements. (Gases only.)
- ☐ terminating a cable with a barrier gland. (Gases only.)
- ☐ terminating a multipair, SWA, overall screened, individual screened cable into an enclosure.
- ☐ testing termination/connections of installed cables/circuits.

BAE633 Safety Audit in Hazardous Areas

UEENEEM036A Conduct a conformity assessment of explosion-protected equipment - gas atmospheres

KS01-EM036

A

Explosion-protected equipment conformity assessment

Evidence shall show an understanding of explosion-protected equipment conformity assessment to an extent indicated by the following aspects:

T1 Occupational Health and Safety responsibilities related to hazardous areas encompassing:

- ☐ the main features and purpose of a 'clearance to work' system (includes hot work permit systems).
- ☐ typical safety procedures that should be followed before entering a hazardous area;
- ☐ the purpose of gas detectors and their limitations;
- ☐ effects of temperature on gas and vapour detection;
- ☐ frequency of monitoring for presence of gas or vapours, i.e. effects of temperature rise;
- ☐ factors affecting the accuracy of gas detectors, for example, contamination, condensation, temperature;
- ☐ safety in use of gas detectors, for example, 'read and run concept'
- ☐ the safety precautions to be taken when working in a hazardous area.

T2 The roles of the parties involved in the safety of hazardous areas encompassing:

- ☐ common Acts and Regulations related to the safety of hazardous areas and the Authorities responsible for their implementation;
- ☐ where assistance and further information can be obtained to assist persons with hazardous area responsibilities, for example, Standard bodies, experienced consultants; and
- ☐ the hazardous area responsibilities of the owner of premises in which a hazardous area exists; the occupier of premises in which a hazardous area exists; enterprises and personnel engaged in installation and/or maintenance of explosion-protection systems; enterprises and personnel engaged in the classification of hazardous areas and/or design of explosion-protection systems; enterprises and personnel engaged in the overhaul, modification and/or assessment of explosion-protected equipment; enterprises and personnel engaged in the inspection of explosion-protection installations; manufacturers

of explosion-protected equipment; designated authorities; insurers.

T3 Properties of combustible substances and their potential to create an explosive hazard encompassing:

- ☐ condition in the workplace that will lead to an explosion;
- ☐ the terms 'combustion', 'ignition' and 'propagation';
- ☐ explosive range of substances encountered in the workplace i.e. LEL/UEL;
- ☐ explosive parameters of substances as given in tables of substance properties
- ☐ Note: Combustible materials are gases, vapours (from liquids), and dusts; flash point.
- ☐ the difference between gases and vapours; and
- ☐ the toxic nature of gases and vapours and potential harmful consequences.

T4 The nature of hazardous areas encompassing:

- ☐ the Standards definition of a 'hazardous area';
- ☐ the recommended methods for classifying the type and degree of explosion hazard in an area;
- ☐ hazardous area classifications as defined by Standards; and
- ☐ factors that are considered when a hazardous area is classified.
- ☐ the basics of how explosion-protection is achieved by the methods of exclusion, containment, energy limitation, dilution, avoidance of ignition source.

T5 Explosive-protected equipment encompassing:

- ☐ The principles of each explosion-protection technique, the methods used and how each technique works (Flameproof (Ex 'd'); Increased safety (Ex 'e'); Non-sparking (Ex 'n'); Intrinsic safety (Ex 'i') and Pressurization (Ex 'p') for gas atmospheres and Dust-exclusion enclosures (Ex 'tD'); Pressurization (Ex 'pD'); Encapsulation (Ex 'mD'); and Intrinsic safety (Ex 'iD') for dusts)
- ☐ How explosion-protected equipment is identified by the 'Ex' symbol marked

on the equipment, including old equipment and equipment certified in another country.

☐ Visible conditions or actions that would void the explosion-protection provided by a particular technique.

T6 Explosion-protection equipment — Ex certification schemes encompassing:

☐ Purpose and scope of certification schemes.

☐ Schemes accepted in Australia and New Zealand.

☐ Schemes commonly used in countries other than Australia and New Zealand.

☐ Processes for having equipment certified under the acceptable Ex schemes — scheme procedures; quality management requirements; conformance testing and assessment; and requirements for ongoing certification.

T7 Flameproof (Ex 'd') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the flameproof (Ex 'd') technique. (Examples of characteristics and design features are flame paths, integrity under pressure, pressure piling, and enclosure entries).

☐ Typical situations where the flameproof explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Flameproof technique;

☐ The use of Standards in determining the requirements to which the installation of flameproof explosion-protected apparatus shall comply.

T8 Increased safety (Ex 'e') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Increased safety (Ex 'e') technique (Examples of characteristics and design features are temperature rise, maximum power dissipation, protection devices, certified components, creepage and clearance

distances, absence of sparking contacts and enclosure entries).

☐ Typical situations where the Increased safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Increased safety technique;

☐ The use of Standards in determining the requirements to which the installation of Increased safety explosion-protected apparatus shall comply.

T9 Non-sparking (Ex 'n') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Non-sparking (Ex 'n') technique (Examples of characteristics and design features are creepage and clearance distances and restricted breathing).

☐ Typical situations where the Non-sparking explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Non-sparking technique; and

☐ The use of Standards in determining the requirements to which the installation of Non-sparking explosion-protected apparatus shall comply.

T10 Intrinsic safety (Ex 'i') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Intrinsic safety (Ex 'i') technique (Examples of characteristics and design features are field devices, cables, safe area devices, earthing, entity versus integrated system concept, simple devices and interface devices and their parameters, segregation, infallible components, current and voltage limiting, creepage and clearance distances).

☐ Typical situations where the Intrinsic safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Intrinsic safety;

☐ The use of Standards in determining the requirements to which the installation of Intrinsic safety explosion-protected apparatus shall comply.

T11 Pressurization (Ex 'p') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Pressurization (Ex 'p') technique (Examples of characteristics and design features are exclusion and dilution; purge periods, controlled shut down, monitoring and sources of internal release).

☐ Typical situations where the pressurization explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the pressurization technique;

☐ The use of Standards in determining the requirements to which the installation of pressurization explosion-protected apparatus shall comply.

T12 Enclosures for dusts (Ex 'tD') - explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the techniques for dusts (Examples of characteristics and design features are for enclosures; pressurization; encapsulation; and intrinsic safety).

☐ Typical situations where the each dust explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the each dust technique;

☐ The use of Standards in determining the requirements to which the installation of dust explosion-protected apparatus shall comply.

T13 Common characteristics of explosion-protection techniques encompassing:

☐ The purposes of 'temperature classification' and 'gas grouping/apparatus grouping'.

- ☐ Compliance plate markings.
- ☐ Limitations of non-metallic or specific alloy enclosures.
- ☐ The purpose of conformity and certification/approval for equipment used in hazardous areas.
- ☐ Environmental conditions that may impact on explosion-protection techniques.
- ☐ The principles and applications of other and mixed explosion-protection techniques (Other techniques include encapsulation Ex 'm'; oil-immersion Ex 'o'; powder-filling Ex 'q', ventilation Ex 'v' and special protection Ex 's').
- ☐ Features and purpose of conduit seals and cable termination devices designed for use in hazardous areas (These include conduit seals and barrier and compression glands for cables with or without armouring, screening and/or drain wires).

T14 The compliance certification and the 'Ex' scheme for recognition of certification encompassing:

- ☐ the purposes of certification of explosion-protected equipment;
- ☐ the parties involved in the assessment/testing and certification of explosion-protected equipment and their responsibilities; and
- ☐ the process for recognition of assessment/testing and certification of explosion-protected equipment from other countries.

T15 The preparation required to assess explosion-protected equipment for compliance with Standards encompassing:

- ☐ the special safety measures that should be taken when assessing/testing explosion-protected equipment;
- ☐ documentation required prior to conducting conformity assessment;
- ☐ tests necessary to establish that an item of explosion-protected equipment conforms with relevant Standards; and
- ☐ situations where testing is not applicable or required.

T16 Assessing and testing explosion-protected equipment encompassing:

- ☐ assessment and test requirements; and
- ☐ procedures for conducting a conformity assessment.

T17 Documentation used in assessing explosion-protected equipment for conformance to accepted Standards encompassing:

- ☐ The documentation and Standard(s) required to begin an assessment.
- ☐ The differences between the test requirements of Standards from other countries and the compliant/acceptable Standards against which the equipment is being assessed.
- ☐ Results given in equipment test reports.
- ☐ Conformity assessment processes and procedures.

T18 Assessing to a current acceptable Standard existing equipment that has been certified to previously acceptable Standards encompassing:

- ☐ processes and procedures used; and
- ☐ possible outcomes.

T19 A clause by clause assessment between the equipment manufacturing Standard(s) and the current acceptable Ex Standards encompassing:

- ☐ processes and procedures used; and
- ☐ differences between the Standards that may be detected.

UEENEEM057A Design explosion-protected electrical systems and installations - gas atmospheres

KS01-EM05

7A

Hazardous area electrical systems design

Evidence shall show an understanding of hazardous area electrical systems design to an extent indicated by the following aspects:

T1 Occupational Health and Safety responsibilities related to hazardous areas

encompassing:

- ☐ the main features and purpose of a 'clearance to work' system (includes hot work permit systems).
- ☐ typical safety procedures that should be followed before entering a hazardous area;
- ☐ the purpose of gas detectors and their limitations;
- ☐ effects of temperature on gas and vapour detection;
- ☐ frequency of monitoring for presence of gas or vapours, i.e. effects of temperature rise;
- ☐ factors affecting the accuracy of gas detectors, for example, contamination, condensation, temperature;
- ☐ safety in use of gas detectors, for example, 'read and run concept'
- ☐ the safety precautions to be taken when working in a hazardous area.

T2 The roles of the parties involved in the safety of hazardous areas

encompassing:

- ☐ common Acts and Regulations related to the safety of hazardous areas and the Authorities responsible for their implementation;
- ☐ where assistance and further information can be obtained to assist persons with hazardous area responsibilities, for example, Standard bodies, experienced

UEENEEM068A Assess the fitness-for-purpose of hazardous areas

explosion-protected equipment - gas atmospheres

KS01-EM068

A

Explosion-protected equipment fitness-for-purpose

Evidence shall show an understanding of explosion-protected equipment

fitness-for-purpose to an extent indicated by the following aspects:

T1 Preparation to install and maintain explosion-protected equipment in

hazardous areas encompassing:

- ☐ OHS procedures to be followed when working in a hazardous area;
- ☐ the significance of information provided on the certification documentation and schedules for a given item of explosion-protected equipment;
- ☐ the typical contents of a verification dossier and their purpose; and
- ☐ limitations in the use of tools and testing devices in hazardous areas.

T2 The relationship between explosion-protected equipment, their certification documents and required locations given in specifications and layout drawings and/or written instructions encompassing:

the purpose of markings on the compliance plate and certification documents for a given item of explosion-protected equipment;

- ☐ matching explosion-protected equipment with certification documents and the equipment specified for an installation; and
- ☐ the location the items of explosion-protected equipment for an installation from specifications and layout drawings and/or instructions.

T3 Installation Standards and requirements applicable to hazardous encompassing:

- ☐ the wiring systems permitted and not permitted in or above hazardous areas;
- ☐ equipment not permitted in or above hazardous areas;
- ☐ the regulations and Standards to which explosion-protected equipment and wiring must be installed in a hazardous area and how these are applied; and
- ☐ the documentation required as a record of the installation process, including certification documentation.

T4 Maintenance procedures in hazardous areas that will ensure the integrity of the explosion-protection technique encompassing:

- ☐ the purpose of a maintenance schedule;
- ☐ the purpose and extent of 'close', 'sample' and 'periodic' inspections;

- ☐ the features of each explosion-protection techniques that should be included in a maintenance schedule;
- ☐ the impact of environmental conditions on explosion-protected equipment, including corrosion and frequency of maintenance;
- ☐ the documentation requirements for recording the maintenance process and results;
- ☐ the use of Standards in determining the requirements with which the design of explosion-protected apparatus shall comply.

T5 Cable termination types suitable for use in hazardous areas encompassing:

- ☐ explosion protection features of cable terminations devices.
- ☐ selecting compliant cable termination devices.

T6 The relationship between the documentation held in a verification dossier and the installed equipment encompassing:

- ☐ consistency between the location and type of equipment with the area classification details in the verification dossier; and
- ☐ equipment certification and any attached conditions that relate to the equipment as it is installed.

T7 Inspecting a hazardous area installation encompassing:

- ☐ typical processes for undertaking the inspection of a hazardous area installation;
- ☐ requirements applicable to a given installation; and
- ☐ reporting of an inspection of a hazardous area installation.

T8 Documentation used in assessing explosion-protected equipment for conformance to accepted Standards encompassing:

- ☐ The documentation and Standard(s) required to begin an assessment.
- ☐ The differences between the test requirements of Standards from other countries and the compliant/acceptable Standards against which the equipment

is being assessed.

- ☐ Results given in equipment test reports.

- ☐ Conformity assessment processes and procedures.

T9 Assessing to a current acceptable Standard existing equipment that has been certified to previously acceptable Standards encompassing:

- ☐ processes and procedures used; and

- ☐ possible outcomes.

T10 A clause by clause assessment between the equipment manufacturing Standard(s) and the current acceptable Ex Standards encompassing:

- ☐ processes and procedures used; and

- ☐ differences between the Standards that may be detected.

T11 Techniques used in fitness-for purpose assessment of equipment for use in hazardous areas encompassing:

- ☐ Processes for verifying that a design specification meets the integrity of the equipment, showing the equipment is fit-for-purpose and is safe to use:

- ☐ Standards against which fitness-for-purpose assessment is made;

- ☐ the need to maintain the accuracy/calibration of measuring/test devices/tools;

- ☐ assessment and measurements/tests requirements for determining that an item of explosion-protected equipment complies with the relevant Standards and meets the certification requirements;

- ☐ testing that is/is not required to determine compliance of the equipment being assessed; and

- ☐ development of different tests to those given in Standards and justification as to how they achieve the same result.

- ☐ Typical specification for the equipment to be assessed as fit-for-purpose.

T12 Processes used in auditing hazardous areas encompassing:

☐ Requirements to retain hazardous areas documentation on site.

☐ Components of an audit:

☐ authenticity of documentation;

hazardous areas delineations shown in site diagrams;

☐ location and operating parameters of equipment shown in certification documents;

☐ compliance of equipment location;

☐ compliance of wiring systems; and

☐ alignment of hazardous areas documentation to as- built installation.

☐ Reporting non-conformance of an installation.

BAE 634 Explosion Protection Equipments & Methods

UEENEEM080A Report on the integrity of explosion-protected equipment in a hazardous area

KS01-EM080A Hazardous areas and explosion-protection principles

Evidence shall show an understanding of hazardous areas and explosion-protection principles (including working safely in hazardous areas), principles of the following explosion-protection techniques and visible conditions of explosion-protection equipment that indicate the protection is void and changes in the nature of the explosion hazard that may render the explosion-protection unsafe. to an extent indicated by the following aspects:

T1 Occupational Health and Safety responsibilities related to hazardous areas encompassing:

the main features and purpose of a 'clearance to work' system (includes hot work permit systems).

☐ typical safety procedures that should be followed before entering a hazardous area;

☐ the purpose of gas detectors and their limitations;

- ☐ effects of temperature on gas and vapour detection;
- ☐ frequency of monitoring for presence of gas or vapours, i.e. effects of temperature rise;
- ☐ factors affecting the accuracy of gas detectors, for example, contamination, condensation, temperature;
- ☐ safety in use of gas detectors, for example, 'read and run concept'
- ☐ the safety precautions to be taken when working in a hazardous area.

T2 The roles of the parties involved in the safety of hazardous areas encompassing:

- ☐ common Acts and Regulations related to the safety of hazardous areas and the Authorities responsible for their implementation;
- ☐ where assistance and further information can be obtained to assist persons with hazardous area responsibilities, for example, Standard bodies, experienced consultants; and
- ☐ the hazardous area responsibilities of the owner of premises in which a hazardous area exists; the occupier of premises in which a hazardous area exists; enterprises and personnel engaged in installation and/or maintenance of explosion-protection systems; enterprises and personnel engaged in the classification of hazardous areas and/or design of explosion-protection systems; enterprises and personnel engaged in the overhaul, modification and/or assessment of explosion-protected equipment; enterprises and personnel engaged in the inspection of explosion-protection installations; manufacturers of explosion-protected equipment; designated authorities; insurers.

T3 Properties of combustible substances and their potential to create an explosive hazard encompassing:

- ☐ condition in the workplace that will lead to an explosion;
- ☐ the terms 'combustion', 'ignition' and 'propagation';

- ☐ explosive range of substances encountered in the workplace i.e. LEL/UEL;

- ☐ explosive parameters of substances as given in tables of substance properties

Note: Combustible materials are gases, vapours (from liquids), and dusts; flash point.

- ☐ the difference between gases and vapours; and

- ☐ the toxic nature of gases and vapours and potential harmful consequences.

T4 The nature of hazardous areas encompassing:

- ☐ the Standards definition of a 'hazardous area';

- ☐ the recommended methods for classifying the type and degree of explosion hazard in an area;

- ☐ hazardous area classifications as defined by Standards; and

factors that are considered when a hazardous area is classified.

- ☐ the basics of how explosion-protection is achieved by the methods of exclusion, containment, energy limitation, dilution, avoidance of ignition source.

T5 Explosive-protected equipment encompassing:

- ☐ The principles of each explosion-protection technique, the methods used and how each technique works (Flameproof (Ex 'd'); Increased safety (Ex 'e');

Non-sparking (Ex 'n'); Intrinsic safety (Ex 'i') and Pressurization (Ex 'p') for gas atmospheres and Dust-exclusion enclosures (Ex 'tD'); Pressurization (Ex 'pD');

Encapsulation (Ex 'mD'); and Intrinsic safety (Ex 'iD') for dusts)

- ☐ How explosion-protected equipment is identified by the 'Ex' symbol marked on the equipment, including old equipment and equipment certified in another country.

- ☐ Visible conditions or actions that would void the explosion-protection provided by a particular technique.

T6 Explosion-protection visual checks encompassing:

- ☐ occupational, health and safety procedures to be followed before entering hazardous areas; and while conducting visual inspection.

- ☐ Visible defects in explosion-protected equipment and wiring.
- ☐ Conditions that may indicate a change in a given explosion hazard.
- ☐ Reporting defects in explosion-protected equipment and wiring - the purpose of a verification dossier; and various ways for reporting defects in explosion-protected equipment and wiring.
- ☐ procedures to be followed in the event of a change in the explosion hazard.

UEENEEM065A Conduct audit of hazardous areas installations - gas

Atmospheres

KS01-EM065

A

Hazardous areas installation auditing

Evidence shall show an understanding of hazardous areas installation auditing to an extent indicated by the following aspects:

T1 Occupational Health and Safety responsibilities related to hazardous areas encompassing:

- ☐ the main features and purpose of a 'clearance to work' system (includes hot work permit systems).
- ☐ typical safety procedures that should be followed before entering a hazardous area;
- ☐ the purpose of gas detectors and their limitations;
- ☐ effects of temperature on gas and vapour detection;
- ☐ frequency of monitoring for presence of gas or vapours, i.e. effects of temperature rise;
- ☐ factors affecting the accuracy of gas detectors, for example, contamination, condensation, temperature;
- ☐ safety in use of gas detectors, for example, 'read and run concept'

☐ the safety precautions to be taken when working in a hazardous area.

T2 The roles of the parties involved in the safety of hazardous areas

encompassing:

☐ common Acts and Regulations related to the safety of hazardous areas and the Authorities responsible for their implementation;

☐ where assistance and further information can be obtained to assist persons with hazardous area responsibilities, for example, Standard bodies, experienced consultants; and

☐ the hazardous area responsibilities of the owner of premises in which a hazardous area exists; the occupier of premises in which a hazardous area exists; enterprises and personnel engaged in installation and/or maintenance of explosion-protection systems; enterprises and personnel engaged in the classification of hazardous areas and/or design of explosion-protection systems; enterprises and personnel engaged in the overhaul, modification and/or assessment of explosion-protected equipment; enterprises and personnel engaged in the inspection of explosion-protection installations; manufacturers of explosion-protected equipment; designated authorities; insurers.

T3 Properties of combustible substances and their potential to create an explosive hazard encompassing:

☐ condition in the workplace that will lead to an explosion;

☐ the terms 'combustion', 'ignition' and 'propagation';

☐ explosive range of substances encountered in the workplace i.e. LEL/UEL;

☐ explosive parameters of substances as given in tables of substance properties

☐ Note: Combustible materials are gases, vapours (from liquids), and dusts; flash point.

☐ the difference between gases and vapours; and

☐ the toxic nature of gases and vapours and potential harmful consequences.

T4 The nature of hazardous areas encompassing:

- ☐ the Standards definition of a 'hazardous area';
- ☐ the recommended methods for classifying the type and degree of explosion hazard in an area;
- ☐ hazardous area classifications as defined by Standards; and
- ☐ factors that are considered when a hazardous area is classified.
- ☐ the basics of how explosion-protection is achieved by the methods of exclusion, containment, energy limitation, dilution, avoidance of ignition source.

T5 Explosive-protected equipment encompassing:

- ☐ The principles of each explosion-protection technique, the methods used and how each technique works (Flameproof (Ex 'd'); Increased safety (Ex 'e'); Non-sparking (Ex 'n'); Intrinsic safety (Ex 'i') and Pressurization (Ex 'p') for gas atmospheres and Dust-exclusion enclosures (Ex 'tD'); Pressurization (Ex 'pD'); Encapsulation (Ex 'mD'); and Intrinsic safety (Ex 'iD') for dusts)
- ☐ How explosion-protected equipment is identified by the 'Ex' symbol marked on the equipment, including old equipment and equipment certified in another country.
- ☐ Visible conditions or actions that would void the explosion-protection provided by a particular technique.

T6 Explosion-protection equipment — Ex certification schemes encompassing:

- ☐ Purpose and scope of certification schemes.
- ☐ Schemes accepted in Australia and New Zealand.
- ☐ Schemes commonly used in countries other than Australia and New Zealand.
- ☐ Processes for having equipment certified under the acceptable Ex schemes — scheme procedures; quality management requirements; conformance testing and assessment; and requirements for ongoing certification.

T7 Flameproof (Ex 'd') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the flameproof (Ex 'd') technique. (Examples of characteristics and design features are flame paths, integrity under pressure, pressure piling, and enclosure entries).

☐ Typical situations where the flameproof explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Flameproof technique;

☐ The use of Standards in determining the requirements to which the installation of flameproof explosion-protected apparatus shall comply.

T8 Increased safety (Ex 'e') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Increased safety (Ex 'e') technique (Examples of characteristics and design features are temperature rise, maximum power dissipation, protection devices, certified components, creepage and clearance distances, absence of sparking contacts and enclosure entries).

☐ Typical situations where the Increased safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Increased safety technique;

☐ The use of Standards in determining the requirements to which the installation of Increased safety explosion-protected apparatus shall comply.

T9 Non-sparking (Ex 'n') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Non-sparking (Ex 'n') technique (Examples of characteristics and design features are creepage and clearance distances and restricted

breathing).

☐ Typical situations where the Non-sparking explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Non-sparking technique; and

☐ The use of Standards in determining the requirements to which the installation of Non-sparking explosion-protected apparatus shall comply.

T10 Intrinsic safety (Ex 'i') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Intrinsic safety (Ex 'i') technique (Examples of characteristics and design features are field devices, cables, safe area devices, earthing, entity versus integrated system concept, simple devices and interface devices and their parameters, segregation, infallible components, current and voltage limiting, creepage and clearance distances).

☐ Typical situations where the Intrinsic safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Intrinsic safety;

☐ The use of Standards in determining the requirements to which the installation of Intrinsic safety explosion-protected apparatus shall comply.

T11 Pressurization (Ex 'p') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Pressurization (Ex 'p') technique (Examples of characteristics and design features are exclusion and dilution; purge periods, controlled shut down, monitoring and sources of internal release).

☐ Typical situations where the pressurization explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the pressurization technique;

☐ The use of Standards in determining the requirements to which the installation of pressurization explosion-protected apparatus shall comply.

T12 Enclosures for dusts (Ex 'tD') - explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the techniques for dusts (Examples of characteristics and design features are for enclosures; pressurization; encapsulation; and intrinsic safety).

☐ Typical situations where the each dust explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the each dust technique;

☐ The use of Standards in determining the requirements to which the installation of dust explosion-protected apparatus shall comply.

T13 Common characteristics of explosion-protection techniques encompassing:

☐ The purposes of 'temperature classification' and 'gas grouping/apparatus grouping'.

☐ Compliance plate markings.

☐ Limitations of non-metallic or specific alloy enclosures.

☐ The purpose of conformity and certification/approval for equipment used in hazardous areas.

☐ Environmental conditions that may impact on explosion-protection techniques.

☐ The principles and applications of other and mixed explosion-protection techniques (Other techniques include encapsulation Ex 'm'; oil-immersion Ex 'o'; powder-filling Ex 'q', ventilation Ex 'v' and special protection Ex 's').

☐ Features and purpose of conduit seals and cable termination devices designed or use in hazardous areas (These include conduit seals and barrier and compression glands for cables with or without armouring, screening and/or

drain wires).

T14 Preparation to install and maintain explosion-protected equipment in hazardous areas encompassing:

- ☐ OHS procedures to be followed when working in a hazardous area;
- ☐ the significance of information provided on the certification documentation and schedules for a given item of explosion-protected equipment;
- ☐ the typical contents of a verification dossier and their purpose; and
- ☐ limitations in the use of tools and testing devices in hazardous areas.

T15 The relationship between explosion-protected equipment, their certification documents and required locations given in specifications and layout drawings and/or written instructions encompassing:

- ☐ the purpose of markings on the compliance plate and certification documents for a given item of explosion-protected equipment;
- ☐ matching explosion-protected equipment with certification documents and the equipment specified for an installation; and
- ☐ the location the items of explosion-protected equipment for an installation from specifications and layout drawings and/or instructions.

T16 Installation Standards and requirements applicable to hazardous encompassing:

- ☐ the wiring systems permitted and not permitted in or above hazardous areas;
- ☐ equipment not permitted in or above hazardous areas;
- ☐ the regulations and Standards to which explosion-protected equipment and wiring must be installed in a hazardous area and how these are applied; and
- ☐ the documentation required as a record of the installation process, including certification documentation.

T17 Processes used in auditing hazardous areas encompassing:

- ☐ Requirements to retain hazardous areas documentation on site.

☐ Components of an audit:

☐ authenticity of documentation;

☐ hazardous areas delineations shown in site diagrams;

☐ location and operating parameters of equipment shown in certification documents;

☐ compliance of equipment location;

☐ compliance of wiring systems; and

☐ alignment of hazardous areas documentation to as-built installation.

☐ Reporting non-conformance of an installation.

BAE 635 Testing in Hazardous Areas

UEENEEM039A Conduct testing of hazardous areas installations - gas

Atmospheres

KS01-EM03

9A

Hazardous area installations testing

Evidence shall show an understanding of hazardous area installations testing to an extent indicated by the following aspects:

T1 Explosion-protection equipment — Ex certification schemes encompassing:

☐ Purpose and scope of certification schemes.

☐ Schemes accepted in Australia and New Zealand.

☐ Schemes commonly used in countries other than Australia and New Zealand.

☐ Processes for having equipment certified under the acceptable Ex schemes — scheme procedures; quality management requirements; conformance testing and assessment; and requirements for ongoing certification.

T2 Flameproof (Ex 'd') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits

protected by the flameproof (Ex 'd') technique. (Examples of characteristics and design features are flame paths, integrity under pressure, pressure piling, and enclosure entries).

☐ Typical situations where the flameproof explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Flameproof technique;

☐ The use of Standards in determining the requirements to which the installation of flameproof explosion-protected apparatus shall comply.

T3 Increased safety (Ex 'e') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Increased safety (Ex 'e') technique (Examples of characteristics and design features are temperature rise, maximum power dissipation, protection devices, certified components, creepage and clearance distances, absence of sparking contacts and enclosure entries).

Typical situations where the Increased safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Increased safety technique;

☐ The use of Standards in determining the requirements to which the installation of Increased safety explosion-protected apparatus shall comply.

T4 Non-sparking (Ex 'n') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Non-sparking (Ex 'n') technique (Examples of characteristics and design features are creepage and clearance distances and restricted breathing).

☐ Typical situations where the Non-sparking explosion-protection technique is

used;

☐ Actions or conditions that would void the protection provided the

Non-sparking technique; and

☐ The use of Standards in determining the requirements to which the installation of Non-sparking explosion-protected apparatus shall comply.

T5 Intrinsic safety (Ex 'i') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Intrinsic safety (Ex 'i') technique (Examples of characteristics and design features are field devices, cables, safe area devices, earthing, entity versus integrated system concept, simple devices and interface devices and their parameters, segregation, infallible components, current and voltage limiting, creepage and clearance distances).

☐ Typical situations where the Intrinsic safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Intrinsic safety;

☐ The use of Standards in determining the requirements to which the installation of Intrinsic safety explosion-protected apparatus shall comply.

T6 Pressurization (Ex 'p') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Pressurization (Ex 'p') technique (Examples of characteristics and design features are exclusion and dilution; purge periods, controlled shut down, monitoring and sources of internal release).

☐ Typical situations where the pressurization explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the pressurization technique;

☐ The use of Standards in determining the requirements to which the installation of pressurization explosion-protected apparatus shall comply.

T7 Enclosures for dusts (Ex 'tD') - explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the techniques for dusts (Examples of characteristics and design features are for enclosures; pressurization; encapsulation; and intrinsic safety).

☐ Typical situations where the each dust explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the each dust technique;

☐ The use of Standards in determining the requirements to which the installation of dust explosion-protected apparatus shall comply.

T8 Common characteristics of explosion-protection techniques encompassing:

☐ The purposes of 'temperature classification' and 'gas grouping/apparatus grouping'.

☐ Compliance plate markings.

☐ Limitations of non-metallic or specific alloy enclosures.

☐ The purpose of conformity and certification/approval for equipment used in hazardous areas.

☐ Environmental conditions that may impact on explosion-protection techniques.

☐ The principles and applications of other and mixed explosion-protection techniques (Other techniques include encapsulation Ex 'm'; oil-immersion Ex 'o'; powder-filling Ex 'q', ventilation Ex 'v' and special protection Ex 's').

☐ Features and purpose of conduit seals and cable termination devices designed for use in hazardous areas (These include conduit seals and barrier and compression glands for cables with or without armouring, screening and/or drain wires).

T9 Preparation to install and maintain explosion-protected equipment in

hazardous areas encompassing:

- ☐ OHS procedures to be followed when working in a hazardous area;
- ☐ the significance of information provided on the certification documentation and schedules for a given item of explosion-protected equipment;
- ☐ the typical contents of a verification dossier and their purpose; and
- ☐ limitations in the use of tools and testing devices in hazardous areas.

T10 The relationship between explosion-protected equipment, their certification documents and required locations given in specifications and layout drawings and/or written instructions encompassing:

- ☐ the purpose of markings on the compliance plate and certification documents for a given item of explosion-protected equipment;
- ☐ matching explosion-protected equipment with certification documents and the equipment specified for an installation; and
- the location the items of explosion-protected equipment for an installation from specifications and layout drawings and/or instructions.

T11 Installation Standards and requirements applicable to hazardous encompassing:

- ☐ the wiring systems permitted and not permitted in or above hazardous areas;
- ☐ equipment not permitted in or above hazardous areas;
- ☐ the regulations and Standards to which explosion-protected equipment and wiring must be installed in a hazardous area and how these are applied; and
- ☐ the documentation required as a record of the installation process, including certification documentation.

T12 Cable termination types suitable for use in hazardous areas encompassing:

- ☐ explosion protection features of cable terminations devices.
- ☐ selecting compliant cable termination devices.

T13 Terminating cables suitable for use in hazardous areas encompassing:

☐ installing conduit systems, where applicable, including seals to meet hazardous areas requirements. (Gases only.)

☐ terminating a cable with a barrier gland. (Gases only.)

☐ terminating a multipair, SWA, overall screened, individual screened cable into an enclosure.

☐ testing termination/connections of installed cables/circuits.

T14 Preparation for conducting installation testing in a hazardous area encompassing:

☐ OHS procedures to be followed for working in a hazardous area; and

☐ procedures for determining whether a given hazardous area is safe to conduct electrical testing.

T15 Characteristics and limitations of testing equipment used to test installation in hazardous areas encompassing:

☐ testing devices required to test an installation in a hazardous area; and

☐ the suitability of testing device for use in a hazardous area.

T16 Documentation of results of hazardous area installation tests encompassing:

☐ test results that should be recorded in a verification dossier; and

☐ procedures and options for dealing with test results that show non-conformance.

UEENEEM052A Classify hazardous areas - gas atmospheres

KS01-EM052A Hazardous areas classification

Evidence shall show an understanding of processes involved in gathering and analysing technical data to classify non-specific hazardous areas. The following aspects indicate the extent of understanding required.

T1 Occupational Health and Safety responsibilities related to hazardous areas encompassing:

- ☐ the main features and purpose of a 'clearance to work' system (includes hot work permit systems).
- ☐ typical safety procedures that should be followed before entering a hazardous area;
- ☐ the purpose of gas detectors and their limitations;
- ☐ effects of temperature on gas and vapour detection;
- ☐ frequency of monitoring for presence of gas or vapours, i.e. effects of temperature rise;
- ☐ factors affecting the accuracy of gas detectors, for example, contamination, condensation, temperature;
- ☐ safety in use of gas detectors, for example, 'read and run concept'
- ☐ the safety precautions to be taken when working in a hazardous area.

T2 The roles of the parties involved in the safety of hazardous areas encompassing:

- ☐ common Acts and Regulations related to the safety of hazardous areas and the Authorities responsible for their implementation;
- ☐ where assistance and further information can be obtained to assist persons with hazardous area responsibilities, for example, Standard bodies, experienced consultants; and
- ☐ the hazardous area responsibilities of the owner of premises in which a hazardous area exists; the occupier of premises in which a hazardous area exists; enterprises and personnel engaged in installation and/or maintenance of explosion-protection systems; enterprises and personnel engaged in the classification of hazardous areas and/or design of explosion-protection systems; enterprises and personnel engaged in the overhaul, modification and/or assessment of explosion-protected equipment; enterprises and personnel engaged in the inspection of explosion-protection installations; manufacturers of explosion-protected equipment; designated authorities; insurers.

T3 Properties of combustible substances and their potential to create an explosive hazard encompassing:

- ☐ condition in the workplace that will lead to an explosion;
- ☐ the terms 'combustion', 'ignition' and 'propagation';
- ☐ explosive range of substances encountered in the workplace i.e. LEL/UEL;
- ☐ explosive parameters of substances as given in tables of substance properties

Note: Combustible materials are gases, vapours (from liquids), and dusts; flash point.

- ☐ the difference between gases and vapours; and
- ☐ the toxic nature of gases and vapours and potential harmful consequences.

T4 The nature of hazardous areas encompassing:

- ☐ the Standards definition of a 'hazardous area';
- ☐ the recommended methods for classifying the type and degree of explosion hazard in an area;
- ☐ hazardous area classifications as defined by Standards; and
- ☐ factors that are considered when a hazardous area is classified.
- ☐ the basics of how explosion-protection is achieved by the methods of exclusion, containment, energy limitation, dilution, avoidance of ignition source.

T5 The process of classifying hazardous areas encompassing:

- ☐ methods by which an area can be classified;
- ☐ the characteristics/attributes of an area that should be considered in the classification process, for example, type of process, nature of plant, source and nature of release;
- ☐ the requirements and Standards for classifying a hazardous area; and
- ☐ the responsibilities of the owner/occupiers for classification of a hazardous area.

T6 The likelihood (zoning) or risk assessment method of an explosive hazard encompassing:

- ☐ ignition properties of materials relevant to determining the likelihood and extent of

an explosive hazard;

☐ sources for obtaining data on ignition properties of materials under the conditions in which they could be present in a given process;

☐ methods for assessment and calculation of factors such as release rate , ventilation and dispersion characteristics; and and

☐ means for reducing hazard risk.

T7 The extent of an explosive hazard and classifying an area accordingly encompassing:

☐ the extent of zones for an area given data on the likelihood of the explosive hazard for that area;

☐ requirements for documenting the classification of a hazardous area; and

☐ the extent of the zones, temperature classes and gas groups on site drawings in a hazardous area.

BAE 636 Inspection in Hazardous Area

UEENEEM078A Manage compliance of hazardous areas

KS01-EM078A Hazardous areas compliance requirements

Evidence shall show an understanding of hazardous areas compliance requirements to an extent indicated by the following aspects:

T1 Occupational Health and Safety responsibilities related to hazardous areas encompassing:

☐ the main features and purpose of a 'clearance to work' system (includes hot work permit systems).

☐ typical safety procedures that should be followed before entering a hazardous area;

☐ the purpose of gas detectors and their limitations;

☐ effects of temperature on gas and vapour detection;

☐ frequency of monitoring for presence of gas or vapours, i.e. effects of temperature

rise;

- ▣ factors affecting the accuracy of gas detectors, for example, contamination, condensation, temperature;

- ▣ safety in use of gas detectors, for example, 'read and run concept' the safety precautions to be taken when working in a hazardous area.

T2 The roles of the parties involved in the safety of hazardous areas encompassing:

- ▣ common Acts and Regulations related to the safety of hazardous areas and the Authorities responsible for their implementation;

- ▣ where assistance and further information can be obtained to assist persons with hazardous area responsibilities, for example, Standard bodies, experienced consultants; and

- ▣ the hazardous area responsibilities of the owner of premises in which a hazardous area exists; the occupier of premises in which a hazardous area exists; enterprises and personnel engaged in installation and/or maintenance of explosion-protection systems; enterprises and personnel engaged in the classification of hazardous areas and/or design of explosion-protection systems; enterprises and personnel engaged in the overhaul, modification and/or assessment of explosion-protected equipment; enterprises and personnel engaged in the inspection of explosion-protection installations; manufacturers of explosion-protected equipment; designated authorities; insurers.

T3 Properties of combustible substances and their potential to create an explosive hazard encompassing:

- ▣ condition in the workplace that will lead to an explosion;

- ▣ the terms 'combustion', 'ignition' and 'propagation';

- ▣ explosive range of substances encountered in the workplace i.e. LEL/UEL;

- ▣ explosive parameters of substances as given in tables of substance properties

Note: Combustible materials are gases, vapours (from liquids), and dusts; flash point.

- ☐ the difference between gases and vapours; and

- ☐ the toxic nature of gases and vapours and potential harmful consequences.

T4 The nature of hazardous areas encompassing:

- ☐ the Standards definition of a 'hazardous area';

- ☐ the recommended methods for classifying the type and degree of explosion hazard in an area;

- ☐ hazardous area classifications as defined by Standards; and

- ☐ factors that are considered when a hazardous area is classified.

- ☐ the basics of how explosion-protection is achieved by the methods of exclusion, containment, energy limitation, dilution, avoidance of ignition source.

T5 The responsibilities of a person managing activities or a site related to a hazardous area, encompassing:

- ☐ OHS procedures that are to be established;

- ☐ responsibilities for ensuring that a hazardous area is safe; and

- ☐ responsibilities and processes for establishing and maintaining a verification dossier.

T6 Explosion-protection strategies in relation to a hazardous area, encompassing:

- ☐ the process of classifying a hazardous area;

- ☐ various ways in which electrical systems /apparatus can be treated to prevent them from becoming an ignition source; and

- ☐ the cost of the different ways of treating electrical systems/apparatus associated with hazardous areas.

T7 Requirements for the maintenance of electrical systems associated with hazardous areas, encompassing:

- ☐ the type and grades of inspection of hazardous areas;

- ☐ maintenance programs for electrical explosion-protected systems/apparatus; and

documentation requirements associated with maintenance procedures.

UEENEEM042A Conduct visual inspection of hazardous areas installations

KS01-EM04

2A

Hazardous areas visual inspection

Evidence shall show an understanding of the purpose and process of hazardous areas visual inspections to an extent indicated by the following aspects:

T1 Occupational, health and safety procedures encompassing:

☐ occupational, health and safety procedures to be followed before entering hazardous areas; and
occupational, health and safety procedures to be followed while conducting visual inspection.

T2 Requirements for a verification dossier and relationship to as-built electrical installation.

T3 Purpose, scope and limitations of visual inspections.

T4 Documentation requirements resulting from a visual inspection.

UEENEEM044A Conduct detailed inspection of hazardous areas installations - gas atmospheres

KS01-EM044

A

Hazardous areas detailed inspection techniques

Evidence shall show an understanding of hazardous areas detailed inspection techniques to an extent indicated by the following aspects:

T1 Explosion-protection equipment — Ex certification schemes encompassing:

☐ Purpose and scope of certification schemes.

☐ Schemes accepted in Australia and New Zealand.

☐ Schemes commonly used in countries other than Australia and New Zealand.

☐ Processes for having equipment certified under the acceptable Ex schemes — scheme procedures; quality management requirements; conformance testing and assessment; and requirements for ongoing certification.

T2 Flameproof (Ex 'd') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the flameproof (Ex 'd') technique. (Examples of characteristics and design features are flame paths, integrity under pressure, pressure piling, and enclosure entries).

☐ Typical situations where the flameproof explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Flameproof technique;

☐ The use of Standards in determining the requirements to which the installation of flameproof explosion-protected apparatus shall comply.

T3 Increased safety (Ex 'e') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Increased safety (Ex 'e') technique (Examples of characteristics and design features are temperature rise, maximum power dissipation, protection devices, certified components, creepage and clearance distances, absence of sparking contacts and enclosure entries).

☐ Typical situations where the Increased safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Increased safety technique;

☐ The use of Standards in determining the requirements to which the installation

of Increased safety explosion-protected apparatus shall comply.

T4 Non-sparking (Ex 'n') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Non-sparking (Ex 'n') technique (Examples of characteristics and design features are creepage and clearance distances and restricted breathing).

☐ Typical situations where the Non-sparking explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Non-sparking technique; and

☐ The use of Standards in determining the requirements to which the installation of Non-sparking explosion-protected apparatus shall comply.

T5 Intrinsic safety (Ex 'i') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Intrinsic safety (Ex 'i') technique (Examples of characteristics and design features are field devices, cables, safe area devices, earthing, entity versus integrated system concept, simple devices and interface devices and their parameters, segregation, infallible components, current and voltage limiting, creepage and clearance distances).

☐ Typical situations where the Intrinsic safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Intrinsic safety;

☐ The use of Standards in determining the requirements to which the installation of Intrinsic safety explosion-protected apparatus shall comply.

T6 Pressurization (Ex 'p') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits

protected by the Pressurization (Ex 'p') technique (Examples of characteristics and design features are exclusion and dilution; purge periods, controlled shut down, monitoring and sources of internal release).

- ☐ Typical situations where the pressurization explosion-protection technique is used;

- ☐ Actions or conditions that would void the protection provided the pressurization technique;

- ☐ The use of Standards in determining the requirements to which the installation of pressurization explosion-protected apparatus shall comply.

T7 Enclosures for dusts (Ex 'tD') - explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the techniques for dusts (Examples of characteristics and design features are for enclosures; pressurization; encapsulation; and intrinsic safety).

- ☐ Typical situations where the each dust explosion-protection technique is used;

- ☐ Actions or conditions that would void the protection provided the each dust technique;

- ☐ The use of Standards in determining the requirements to which the installation of dust explosion-protected apparatus shall comply.

REQUIRED SKILLS AND KNOWLEDGE

T8 Common characteristics of explosion-protection techniques encompassing:

- ☐ The purposes of 'temperature classification' and 'gas grouping/apparatus grouping'.

- ☐ Compliance plate markings.

- ☐ Limitations of non-metallic or specific alloy enclosures.

- ☐ The purpose of conformity and certification/approval for equipment used in hazardous areas.

- ☐ Environmental conditions that may impact on explosion-protection techniques.

☐ The principles and applications of other and mixed explosion-protection techniques (Other techniques include encapsulation Ex 'm'; oil-immersion Ex 'o'; powder-filling Ex 'q', ventilation Ex 'v' and special protection Ex 's').

☐ Features and purpose of conduit seals and cable termination devices designed for use in hazardous areas (These include conduit seals and barrier and compression glands for cables with or without armouring, screening and/or drain wires).

T9 Preparation to install and maintain explosion-protected equipment in hazardous areas encompassing:

- ☐ OHS procedures to be followed when working in a hazardous area;
- ☐ the significance of information provided on the certification documentation and schedules for a given item of explosion-protected equipment;
- ☐ the typical contents of a verification dossier and their purpose; and
- ☐ limitations in the use of tools and testing devices in hazardous areas.

T10 The relationship between explosion-protected equipment, their certification documents and required locations given in specifications and layout drawings and/or written instructions encompassing:

- ☐ the purpose of markings on the compliance plate and certification documents for a given item of explosion-protected equipment;
- ☐ matching explosion-protected equipment with certification documents and the equipment specified for an installation; and
- ☐ the location the items of explosion-protected equipment for an installation from specifications and layout drawings and/or instructions.

T11 Installation Standards and requirements applicable to hazardous encompassing:

- ☐ the wiring systems permitted and not permitted in or above hazardous areas;
- ☐ equipment not permitted in or above hazardous areas;

- ☐ the regulations and Standards to which explosion-protected equipment and wiring must be installed in a hazardous area and how these are applied; and
- ☐ the documentation required as a record of the installation process, including certification documentation.

T12 Maintenance procedures in hazardous areas that will ensure the integrity of the explosion-protection technique encompassing:

- ☐ the purpose of a maintenance schedule;
- ☐ the purpose and extent of 'close', 'sample' and 'periodic' inspections;
- ☐ the features of each explosion-protection techniques that should be included in a maintenance schedule;
- ☐ the impact of environmental conditions on explosion-protected equipment, including corrosion and frequency of maintenance;
- ☐ the documentation requirements for recording the maintenance process and results;
- ☐ the use of Standards in determining the requirements with which the design of explosion-protected apparatus shall comply.

T13 Cable termination types suitable for use in hazardous areas encompassing:

- ☐ explosion protection features of cable terminations devices.
- ☐ selecting compliant cable termination devices.

T14 Terminating cables suitable for use in hazardous areas encompassing:

- ☐ installing conduit systems, where applicable, including seals to meet hazardous areas requirements. (Gases only.)
- ☐ terminating a cable with a barrier gland. (Gases only.)
- ☐ terminating a multipair, SWA, overall screened, individual screened cable into an enclosure.
- ☐ testing termination/connections of installed cables/circuits.

T15 The relationship between the documentation held in a verification dossier and

the installed equipment encompassing:

☐ consistency between the location and type of equipment with the area

classification details in the verification dossier; and

☐ equipment certification and any attached conditions that relate to the equipment as it is installed.

T16 Inspecting a hazardous area installation encompassing:

☐ typical processes for undertaking the inspection of a hazardous area installation;

☐ requirements applicable to a given installation; and

☐ reporting of an inspection of a hazardous area installation.

BAE 637 Chemical Hazardous Management

1. INTRODUCTION.....	
1.1 What are hazardous chemicals?	
1.2 Who has health and safety duties in relation to hazardous chemicals?	
1.3 What is required to manage the risks associated with hazardous chemicals?	
1.4 Prohibited and restricted hazardous chemicals	
1.5 Exposure standards	
1.6 Preparing a register and manifest of hazardous chemicals.....	
2. IDENTIFYING HAZARDS.....	
2.1 How to identify which chemicals are hazardous.....	
2.2 Safety Data Sheets (SDS)	
2.3 Labels	
2.4 Other sources of information	
3. ASSESSING RISKS	
3.1 Decide who should do the assessment	
3.2 Decide what sort of risk assessment is appropriate	
3.3 Things to consider in assessing health risks.....	
3.4 How to assess physicochemical risks.....	
4. CONTROLLING RISKS.....	
4.1 The hierarchy of control.....	
4.2 <i>Specific control</i> measures	
4.3 Maintaining control measures.....	
4.4 Providing information, training, instruction and supervision	
5. MONITORING AND REVIEW	
5.1 Health monitoring	
5.2 Reviewing control measures.....	
6. EMERGENCY PREPAREDNESS	
6.1 Emergency plan	
6.2 Emergency equipment and safety equipment.....	

6.3	Fire protection systems
6.4	Monitors and alarms
6.5	Automatic sprinkler systems
6.6	Water supply

BAE 638 Environmental Engineering in Hazardous Areas

HAZARDOUS MATERIALS AND HAZARDOUS WASTE MANAGEMENT

NOISE

SOCIOECONOMICS

TRANSPORTATION

UTILITIES

ENVIRONMENTAL JUSTICE

SUBSISTENCE

Mercury in the Environment

Health Hazards

MINE HEALTH AND SAFETY ACT

PIPELINE SAFETY REGULATIONS

Diploma in Renewable Energy Engineering

This course provides the necessary knowledge and skills required to assess, plan, select and design the renewable energy engineering.

It integrates renewable energy principles, electrical/ mechanical and civil engineering principles in renewable contexts.

The program will equip graduates with the knowledge and ability to design and apply a range of technologies in the renewable energy spectrum, with specialisation in either electrical and mechanical/civil engineering. These specialisations reflect the diverse opportunities within the industry, from the process of conversion and storage of energy to infrastructure and associated civil engineering activities. The program will provide educational and career pathways to students from multiple industry backgrounds across a range of different career aspirations.

Pre-requisites

- AGTI, BE Degree in any discipline
- B.Sc Degree
- B C Sc, B C Tech degrees

List of subjects

RE001- Foundation Studies in Renewable Energy and Sustainability

RE002- Grid Connected Photovoltaic Power Systems

RE003- Solar and Thermal Energy Systems

RE004- Energy Storage Systems

RE005- Renewable Energy Resource Analysis

RE006- Wind Energy Conversion Systems

RE007- Energy System Efficiency

Duration of the course

(A) Publics Seminar Mode

Part 1-

Day 1 Morning

RE001- Foundation Studies in Renewable Energy and Sustainability

Day 1 Afternoon

RE002- Grid Connected Photovoltaic Power Systems

Day 2 Morning

RE003- Solar and Thermal Energy Systems

Day 2 Afternoon

RE004- Energy Storage Systems

Part 2-**Day 3 Morning**

RE005- Renewable Energy Resource Analysis

Day 3 Afternoon

RE006- Wind Energy Conversion Systems

RE007- Energy System Efficiency

The participants who attends the session will receive the Certificate of Attendances

(B) Formal Attendance Mode

One year

RE001- Foundation Studies in Renewable Energy and Sustainability

In this subject you will learn about the areas of renewable energy technologies and sustainability. On completing this subject you will be able to:

- ☐ ☐ investigate the factual basis behind climate change and its impact on Earth;
- ☐ ☐ utilise Engineering Principles to evaluate both non-renewable and renewable energy systems;
- ☐ ☐ analyse the principles and benefits of renewable energy technologies; and
- ☐ ☐ propose principles of sustainable living and how society can move to a sustainable post-carbon economy.

RE002- Grid Connected Photovoltaic Power Systems

In this subject you will learn the basics about photovoltaics and grid design. On completing this subject you will be able to:

- ☐ ☐ perform calculations relating to solar geometry and available solar energy;

□□ design and cost a grid connected photovoltaic power system to suit a client's load requirement, location and budget, in accordance with workplace health and safety, Australian and industry standards; and

□□ provide advice to clients on selection of a grid connect photovoltaic power system.

RE003- Solar and Thermal Energy Systems

In this subject you will learn about solar and thermal energy systems. On completing this subject you will be able to:

□□ analyse relevant background issues in solar and waste heat based heating, cooling and mechanical power generation systems;

□□ perform heating load calculations for domestic, commercial and industrial applications;

□□ identify the solar/-thermal environment for any terrestrial location;

□□ examine the various generic types of solar thermal collectors, together with limitations and typical applications of each type;

□□ identify various methods of thermal energy storage, together with typical applications;

□□ identify various methods of cooling and mechanical power generation using solar and/or waste heat, together with typical applications; and

□□ perform calculations aimed at sizing components of heating, cooling and mechanical power generation systems powered from solar or waste heat.

RE004- Energy Storage Systems

In this subject you will learn about energy storage systems. On completing this subject you will be able to:

□□ establish a rationale for energy storage technology in energy systems;

□□ investigate the application of energy storage in renewable and non-renewable energy systems;

□□ relate physical principles associated with energy storage systems;

□□ perform calculations related to development of energy storage systems;

□□ assess the environmental impacts and benefits of energy storage; and

□□ design and cost a small-scale energy storage system to suit a given engineering requirement.

RE005- Renewable Energy Resource Analysis

In this subject you will learn about renewable energy resource analysis. On completing this subject you will be able to:

□□ undertake calculations on energy generation and consumption, and relate findings to behavioural trends;

□□ explain contemporary thermodynamic power cycles and relate scope of fossil fuel consumption;

□□ investigate renewable energy initiatives and technologies, including solar, wind, hydro and biomass initiatives and technologies;

□□ investigate regional approaches to using renewable energy sources, including geo-thermal and ocean energy; and

□□ analyse and critique concepts related to the hydrogen economy, and explain physical and political constraints associated with its practical operation.

RE006- Wind Energy Conversion Systems

In this subject you will learn about wind energy conversion systems. On completing this subject you will be able to:

□□ undertake various kinematic, power, wind and site related calculations;

□□ use instruments, internet resources, site features to undertake wind energy calculations;

□□ analyse WECS turbine construction and characteristics;

□□ select and position a tower to suit anemometer and turbine and undertake basic DC wiring of a system;

□□ use site and turbine data to fully design and evaluate energy yield with payback; and

□□ identify workplace health and safety considerations related to the design and construction of wind conversion systems.

RE007- Energy System Efficiency

In this subject you will learn about the efficiency of energy systems. On completing this subject you will be able to:

- perform calculations related to energy conversion and energy auditing, and outline their underlying principles;
- outline the economic and environmental benefits of energy efficiency; explain current methods employed to improve energy efficiency in all areas of the energy supply sector; and
- explain the principles of distributed generation systems in relationship efficiency and renewable energy systems.

Advanced Diploma in Electro-Mechanical Engineering (Renewable Energy Construction) (International)

The program will provide broad trans-disciplinary knowledge and skills across the range of Engineering disciplines required to design and implement complex custom distributed energy generation solutions. At the same time students will have an opportunity to acquire in-depth knowledge and skills in either Electrical, Mechanical/Civil Engineering through the selection of a specialisation.

Semester (1)

RE008-Mathematics & Physics (I)

RE009-Mathematics & Physics (II)

RE010-Engineering Materials

RE011-Civil & Mechanical Engineering

Semester (2)

RE012-Electrical Engineering

RE013-Electrical Machines

RE014-Electronics Control

RE015-Electrical Project

Final Project

RE016-Design & Management

RE008-Mathematics & Physics (I)

In this subject you will learn basic principles of mathematics and physics for engineer
You will develop knowledge relating to:

Mathematics:

- Essential algebra
- The number system
- Functions and relations
- Introductory Calculus

Physics:

- Common topics:
- SI units (International System of Units)
- Vectors and scalars

Statics:

- Equilibrium of static forces

Kinematics:

- Motion in one-dimension
- Motion in two-dimensions
- Newton's Laws of Motion
- Work and energy
- Momentum and collisions
- Rotational mechanics

Wave Mechanics:

- Types of waves
 - Sound waves
 - Oscillations
 - Water waves.
-

Mathematics:

- Ordinary differential equations
- Techniques of integration
- Optimisation
- Riemann integral
- Lines and planes
- Vectors and scalars
- Graphs illustrating various functions

Physics:

- Thermal physics
- Fluid mechanics and hydrostatics
- Electrostatics

Electromagnetism:

- Current electricity.
-

RE009 Mathematics & Physics (II)

In this subject you will build upon previous study and gain further knowledge and expertise in applied mathematics and physics. You will develop specific knowledge and skills relating to:

Mathematics:

- Sequences, series and approximations
- Statistics
- Partial Differential Equations
- Matrices

Physics:

- Particle physics and cosmology
 - Electromagnetic waves and the EM Spectrum
 - Nature of light
 - Reflection, refraction and diffraction of light and lenses.
-

In this subject you will gain advanced skills in mathematics and physics. You will develop specialised knowledge and skills relating to:

Mathematics

- Functions and Coordinates
- Eigenvectors and Eigenvalues
- Introduction to Comsol Simulation Program

Physics

- Elements and compounds
 - Quantum Mechanics
 - Nuclear Physics.
-

RE012-Electrical Engineering

In this subject you will learn about basic principles of electrical engineering. You will develop a range of foundation knowledge and skills relating to:

- Notation and units
- Circuit topologies

Direct current (DC) circuit principles:

- Voltage, current, power, resistance, conductance
- Ohm's Law; Kirchhoff voltage and current laws
- Series and parallel configurations
- Linearity and Superposition
- Thévenin and Norton equivalent circuits (simple cases)
- Nodal and mesh analysis (simple cases)
- Maximum power transfer
- Capacitors
- Passive and switched resistor-capacitor (RC) circuits
- Inductors
- Passive and switched resistor-inductor (RL) circuits
- Diodes

Alternating current (AC) circuit principles:

- Amplitude, frequency and phase
 - Voltage
 - Current and power in resistors, inductors & capacitors
 - Time domain analysis of ac circuits
 - Review of complex numbers
 - Phasors and phasor notation
 - Complex impedance and admittance
 - Thévenin and Norton equivalents (simple cases)
 - AC power (real, reactive, complex)
 - Root-mean-square (RMS) values
 - Maximum power transfer.
-

In this subject you will build on basic engineering knowledge gained in previous and develop further knowledge and skills relating to electrical engineering:

Circuit analysis:

- DC and AC Network theorems (Kirchhoff's, Superposition)
- Resonance
- Magnetically coupled circuits

Communications and signalling processing and applications:

- Analogue and digital communications principles
- Filters
- Amplifiers and attenuators
- Communication protocols

Analogue and digital communication systems and control circuits:

- Telemetry and monitoring systems
 - Control systems and applications.
-

RE010-Engineering Materials

In this subject you will learn about the structure, properties and usage of a variety of materials used in engineering applications. You will develop specialised knowledge relating to:

- Material structure and properties
 - Mechanical properties
 - Metals - ferrous and non-ferrous
 - Polymers
 - Ceramics
 - Composites, concrete, other
 - Basic destructive testing
 - Steel – FeC (Iron/Carbon), heat treatment
 - Casting - perm/non-perm
 - Forming - hot, cold
 - Processes - PowderM, welding, Rapid Proto
 - Polymer processes - IM, BM, extrus, thermoset, composites
 - Joining - fasteners, weld, non-fusion
 - Corrosion
 - Surface treatments - plating, coatings, peening, anodising
 - Non-destructive testing
 - Quality assurance and control, certified testing, safety, materials safety data sheets (MSDS)
 - Economic and environmental issues - production/recycling.
-

RE011-Civil & Mechanical Engineering

In this subject you will learn the basics about mechanical and civil engineering principles. You will develop knowledge and applied skills relating to:

- Reactions at beam supports
 - Force couples
 - Shear and bending in beams
 - Analysis of trusses
 - Axial tension and compression
 - Direct shear
 - Bolted connections
 - Welded connections
 - Concrete structures
 - Torsion
 - Thermal stresses
 - Basic properties of fluids
 - Fluid system components (friction and losses)
 - Fluid statics (storage of energy)
 - Fluid flow (hydro systems)
 - Fluid power (wind and wave)
 - Forces developed by flowing fluids (turbines).
-

In this subject you will learn about advanced mechanical and civil engineering principles. You will develop specialised knowledge and skills relating to:

- Dynamics of motion
 - Momentum, Energy and Power
 - Mechanical Vibration
 - Balance and reaction of rotating masses
 - Stress and Strain
 - Strain Energy and dynamic loads
 - Centroid and second moment of area
 - Bending and sheer in beams and shafts
 - Combined Stress
 - Beam Deflection
 - Concrete Structures
 - Reynolds number and flow regime
 - Head loss in pipes and fittings
 - Pipe flow series and parallel
 - Fluid machinery (Wind and wave energy)
 - Pumping Systems (Hydro energy storage systems).
-

RE013 Electrical Machines

In this subject you will learn basic principles of electrical machinery. You will develop specialised knowledge and skills relating to:

Transformers:

- Transformer Principles and Construction
- Efficiency
- Impedance
- Equivalent circuit
- Polarity
- Vector groups
- Parallel operations
- Special Transformers (Auto and Instrument etc)

Induction Motors:

- Principle of Induction Motor
- Construction and operation of Squirrel Cage Induction Motors (SCIM) and Wound Rotor Induction Motors (WRIM)
- Operation and characteristics
- Induction Generator
- Single Phase Induction Motor

Synchronous Machines:

- Principles of operation
- Characteristics
- Motors
- Alternators

DC Machines:

- Principles of operation
- Shunt Series Compound Machines
- Characteristics

Single Phase and Special Motors:

- Split Phase motor
 - Capacitor Start/Run motor
-

- Shaded Pole motor
- Universal motor
- Hysteresis motor
- Stepper motors
- Brushless DC motors
- Permanent magnet motors
- Variable reluctance motors
- Stepper motors
- Brushless DC motors

Electronic Control of Motors

- DC Motors
 - AC Motors.
-

RE014-Electronics Control

In this subject you will learn about electronics and power control. You will develop specialised knowledge and skills relating to:

Semiconductors, diodes, transistors and integrated circuits:

- Semiconductor materials and junctions
- Diode construction, operation, ratings and applications
- Transistor construction, operation, ratings and applications
- Integrated circuit construction, operation, ratings and applications especially as related to operational amplifiers

Linear regulated dc power supplies:

- Basic power supplies (ac to dc and dc to dc), circuits and applications
- Regulation requirements and applications

Switching power control circuits:

- Basic types, operation
- Critical issues, solutions and applications

Digital electronics

- Digital logic, circuits and power control applications

Power Inverters (DC to AC):

- Basic types, operation
 - Critical issues, solutions and applications.
-

RE015-Electrical Practice

In this subject you will learn about the practices of an engineering professional within a multidisciplinary framework. You will develop basic knowledge and skills relating to electrical and other engineering specialisations, including:

Introduction to the Regulatory System:

- Electricity Act
- Electricity Regulation Australian
- Standards State Regulators
- Workplace Health and Safety
- Engineers Code of Ethics

Drawings And Specifications:

- Drawing Interpretation
- Overview of Computer Aided Design (CAD)
- Writing a Specification

Generation and Distribution:

- Generating Plant
- Transmission Grid
- Substations

Fasteners and Fastening Methods:

- Methods of securing electrical equipment to various surfaces

Wiring Systems:

- Load Calculations
- Max. Demand
- Cables and Systems
- AS3008

Control and Protection:

- Earthing
- Protection for safety
- Faults and overloads
- Protective devices and methods

Illumination:

- Basic Lighting Concepts
- Vision and Colour
- Lamps and luminaires
- Control
- Photometric calculations

Emergency Systems:

- Batteries
 - Emergency Lighting
 - Fire/Smoke detection systems.
-

RE016-Design & Management

In this subject you will learn the fundamentals of engineering management. You will develop foundation knowledge and skills relating to:

Foundation Engineering Management:

- Management past and present
- Management versus leadership
- Managing technology
- Management processes
- Management decision making / problem solving

Engineering in society:

- Role and social responsibilities of engineering
- Engineering ethics / professional practice
- Sustainability management
- Managing innovation
- Engineers in business
- People and organisations:
- Leadership
- Culture in organisations
- Human resource management
- Building interpersonal and communication skills
- Workplace health and safety
- Organisational structures

Managing projects:

- Project team dynamics
 - Project lifecycle and phases
 - Client management and contracts
 - Project scoping and planning
 - Project resources (human, financial, physical etc.)
 - Project task analysis and budgeting
 - Project task control
 - Project finalisation
-

Advanced Study

Bachelor of Engineering (Renewable Energy Engineering)

Associate Degree in Applied Engineering (Renewable Energy Engineering)

(4 points / unit x 15 units = 60 points)

Year 1	BE (RE)Units of UNSW
RE101	Mathematics 1A (MATH1131)
RE102	Mathematics 1B (MATH1231)
RE103	Physics 1A (PHYS1121)
RE104	Physics 1B (PHYS1221)
RE105	Engineering Design (ENGG1000)
RE106	Electronics & Telecomm Engineering (1) (ELEC1111)
RE107	Sustainable Energy (SOLA1070)

Year 2	BE (RE)Units of UNSW
RE201	Electronics & Telecomm Engineering (2) (ELEC1111)
RE202	Numerical Methods & Statistics (MATH2089)
RE203	Engineering Materials and Chemistry (MATS1101)
RE204	Project in PV and Solar Energy (SOLA2051)
RE205	Sustainable & Renewable. Energy. Technology (SOLA2053)
RE206	Introduction to Electronics Devices (SOLA2060)
RE207	Applied Photo Voltaics (SOLA2540)
RE208	Project Presentation

Bachelor of Applied Engineering (Renewable Energy Engineering)

(4 points / unit x 15 units = 60 points+ Thesis)

Year 3	BE (RE)Units of UNSW
RE301	Low Energy Buildings and PV (SOLA3010)
RE302	PV Technology & Manufacturing (SOLA3020)
RE303	Software Engineering (COMP3111)
RE304	Analogue Electronics (ELEC2133)
RE305	Power Electronics (ELEC4614)

RE306	Electromagnetic Engineering (ELEC3115)
RE307	Circuits and Signals (ELEC2134)
RE308	Control Systems (ELEC3114)

Year 4	BE (RE)Units of UNSW
RE401	Fluid Mechanics (MMAN2600)
RE402	Thermodynamics (MMAN2700)
RE403	Computational Fluid Dynamics (MECH9620)
RE404	Strategic Leadership & Ethics (ELEC4122)
RE405	Grid-Connect PV System (SOLA4012)
RE406	Wind Energy Converters (SOLA5053)
RE407	Semiconductor Devices (SOLA5055)
RE408	Thesis

Total 120 Points + Thesis for award of Bachelor of Engineering (Renewable Energy Engineering)

PATHWAY (1)

PUBLIC SEMINAR + ASSIGNMENT ---Diploma in Renewable Energy Engineering-
-----then continue ---- BE (RE)

OR

Diploma in Renewable Energy Engineering (International)

-----then continue ---- BE (RE)

PATHWAY (2)

PUBLIC SEMINAR + ASSIGNMENT --- Diploma in Renewable Energy Engineering

OR

Diploma in Renewable Energy Engineering (International)

Then continue to do Advanced Diploma in Electro-Mechanical Engineering
(Renewable Energy Construction)

Then do the advanced units in BE (RE) & complete BE (RE)

Detailed description of subjects in BE (Renewable Energy Engineering)

RE101-Mathematics 1A - MATH1131

Description

- Complex numbers, vectors and vector geometry, linear equations, matrices and matrix algebra, determinants. Functions, limits, continuity and differentiability, integration, polar coordinates, logarithms and exponentials, hyperbolic functions. Introduction to computing and the Maple symbolic algebra package.

Assumed knowledge: HSC Mathematics Extension 1. Students will be expected to have achieved a combined mark of at least 100 in Mathematics and Mathematics Extension 1

RE102-Mathematics 1B - MATH1231.

Description

- Vector spaces, linear transformations, eigenvalues and eigenvectors. Introduction to probability and statistics. Integration techniques, solution of ordinary differential equations, sequences, series, applications of integration.

RE103-Physics 1A - PHYS1121.

Description

- This course provides an introduction to Physics. It is a calculus based course. The course is examined at two levels, with Physics 1A being the lower of the two levels.
Mechanics: particle kinematics in one dimension, motion in two and three dimensions, particle dynamics, work and energy, momentum and collisions.
Thermal physics: temperature, kinetic theory and the ideal gas, heat and the first law of thermodynamics. Waves: oscillations, wave motion, sound waves.

RE104-Physics 1B - PHYS1221

Description

- This is the second of the two introductory courses in Physics. It is a calculus based course. The course is examined at two levels, with Physics 1A being the lower of the two levels.

Electricity and Magnetism: electrostatics, Gauss's law, electric potential, capacitance and dielectrics, magnetic fields and magnetism, Ampere's and Biot-Savart law, Faraday's law,

induction and inductance. Physical Optics: light, interference, diffraction, gratings and spectra, polarization. Introductory quantum theory and the wave nature of matter. Introductory solid state and semiconductor physics: simple energy band picture.

RE105-Introduction to Engineering Design and Innovation - ENGG1000

Description

- In this course, students will experience first hand one of the major things that engineers do: designing and building creative solutions to problems. They will learn to think the way that engineers think, coming up with good solutions to problems despite being limited by budget, time and resources, the requirement to also meet environmental and social objectives and of course the limitations of the laws of physics. This will help them to appreciate the central ideas of engineering design as an on-time, on-budget and fit for purpose solution to a poorly specified, open-ended problem. They will be assigned to a team to work over a ten week period to solve a practical problem. The projects on offer change from year to year. In doing all this they will start to build key skills for engineers that will be called upon repeatedly in their academic and professional lives, including concept development, critical thinking and evaluation skills, clear communication, research and information literacy skills and the skills involved in successfully functioning within a team environment to complete a given task.

RE106-Electrical and Telecommunications Engineering - ELEC1111

Description

- An introduction to the art and science of Electrical Engineering and Telecommunications, and the systems approach to engineering design. Examples of electrical and electronic devices, circuits and analogue and digital systems. Analogue circuit analysis. Digital electronics and combinatorial logic. Transformers, power sources and electrical energy systems including DC and AC motors. Feedback control. Telecommunications systems, including frequency, spectra, modulation and Internet systems. Safety standards.

RE107-Sustainable Energy - SOLA1070

Description

- Students will be introduced to the concept of energy in its different forms through a range of lectures and demonstrations. These demonstrations will also introduce the concepts of energy storage, energy efficiency, energy conversion and sustainability. An overview is given of issues surrounding sustainable energy for future generations. The status and impact of

present day sources of energy are covered, including the sustainability of fossil fuel reserves and the impact of pollution and greenhouse gas emissions on the environment. Energy efficiency, as an important way to conserve our natural fuel reserves and reduce environmental and financial costs, is covered. Building design, appliance efficiency and other issues related to the smart and efficient use of energy are covered. Trends in the renewable energy industry are considered. An overview is given of renewable energy sources, their harnessing and their conversion into electricity via various technologies. In particular, an overview is given of solar cells and their applications with emphasis on visual presentations and interesting case histories, including some fascinating mistakes and disasters. Students will also explore the design and fabrication of silicon solar cells while working as engineers on the "Virtual Solar Cell Production Line".

RE201-Electrical and Telecommunications Engineering (2)- ELEC1111

Description

- An introduction to the art and science of Electrical Engineering and Telecommunications, and the systems approach to engineering design. Examples of electrical and electronic devices, circuits and analogue and digital systems. Analogue circuit analysis. Digital electronics and combinatorial logic. Transformers, power sources and electrical energy systems including DC and AC motors. Feedback control. Telecommunications systems, including frequency, spectra, modulation and Internet systems. Safety standards.

RE202-Numerical Methods and Statistics - MATH2089

Description

- Numerical Methods: Numerical differentiation, integration, interpolation and curve fitting (regression analysis). Solution of linear and non-linear algebraic equations. Matrix operations, and applications to solution of systems of linear equations, elimination and tridiagonal matrix algorithms. Introduction to numerical solution of ordinary and partial differential equations.
Statistics: Exploratory data analysis. Probability and distribution theory including binomial, Poisson and normal. Large sample theory including the Central Limit Theorem. Statistical inference including estimation, confidence intervals and hypothesis testing. One-sample and two-sample tests. Linear regression. Analysis of variance. Design and analysis of experiments. Applications will be drawn from mechanical, mining, photovoltaic and chemical engineering and surveying. Matlab will be used in this course.

RE203-Engineering Materials and Chemistry - MATS1101

Description

- The course covers: stoichiometry, atomic and molecular structure, states of matter, equilibrium, oxidation and reduction, electrochemistry; an introduction to organic chemistry and polymers; microstructure and structure-property relationships of the main types of engineering materials (metals, ceramics, polymers and composites); micromechanisms of elastic and plastic deformation; fracture mechanisms for ductile, brittle, creep and fatigue modes of failure in service; corrosion; metal forming by casting and wrought processes; phase equilibria of alloys; microstructural control by thermomechanical processing and application to commercial engineering materials.

RE204-Project in Photovoltaics and Solar Energy 1 - SOLA2051

Description

- .The main emphasis of the second year group project course is hands-on project engineering. The course has a lecture component covering project engineering, report writing, presentation skills, occupational health and safety, and theoretical principles specific to the project work to be undertaken. The project comprises a research component, a planning and design component, a significant hands-on component, and a presentation/reporting component.

RE205-Sustainable & Renewable Energy Technologies - SOLA2053

Description

- This course includes an introduction to issues in sustainable and renewable energy, including environmental impact, resource depletion, basic engineering economic analysis, embodied energy, payback times and the integration of renewable energy sources with conventional infrastructure. The course reviews key concepts such as basic thermodynamics, heat transfer and fluid dynamics to allow analysis of the physical operation of energy generation systems, with key renewable energy sources and generation systems examined including wind, biomass, solar thermal, hydroelectric, geothermal, tidal and wave energy. The course emphasises engineering problem solving, design skills and creative thinking.

RE206-Introduction to Electronic Devices - SOLA2060

Description

- Operation, circuit characteristics, basic design principles and applications of a range of semiconductor devices. Material covered includes pn junction theory, bipolar junction transistors, avalanche diodes, MOSFET's, basic digital circuits, solar cells, light emitting diodes, semiconducting lasers and photodetectors.

RE207-Applied Photovoltaics - SOLA2540

Description

- Photovoltaic (PV) devices convert sunlight directly to electricity with low levels of greenhouse gas emissions per kWh of electricity produced. This course covers factors important to the operation, design and construction of solar cells and PV system design. Students will learn principle of operation of solar cells, loss mechanisms and design features to improve efficiency of solar cells and modules. In addition, students are introduced to application and design of PV systems. System design is focused on stand-alone PV systems but other specific applications such as Remote Area Power Supply systems and Grid-Connected PV systems are also discussed. Importantly, simulation and laboratory exercises are used to reinforce an understanding of modelling and characterisation of solar cells and PV modules.

RE301-Low Energy Buildings and Photovoltaics - SOLA3010

Description

- There is currently significant interest in reducing energy use and greenhouse gas production in buildings by designing buildings that are climate-appropriate, implementing energy efficiency measures and producing energy from renewable sources. Prediction of building thermal, lighting performance and solar access, and techniques for energy efficient design will be introduced, with a focus on residential buildings. A competency in the use of building energy simulation software will be developed.

Photovoltaics (PV) is one of the few renewable electricity generation options that can be readily used in urban areas and has no environmental impacts at the site. This course will examine the integration of PV modules into the building envelope. Technical issues associated with the use of PV in buildings and the urban environment, such as heat transfer

processes, partial shading, and mismatch and system siting, sizing and configuration will be investigated. System performance assessment and prediction will be introduced.

RE302-Photovoltaic Technology and Manufacturing - SOLA3020

Description

- Sufficient theory relating to the operating principles of solar cells is covered to give an appreciation of the strengths and weaknesses of the dominant commercial cell technologies. Trends in commercial cell technology and the corresponding manufacturing processes and environment are considered. The impact of various processing and device parameters on performance, yields and product reliability are studied. Insight is given into complete production processes for both screen-printed solar cells and buried contact solar cells. In-line quality control techniques are studied with laboratory classes used to give students first-hand experience in their use as well as exposing them to manufacturing processes. Students will also be given the opportunity to take control of the "virtual production line" to adjust the equipment controls and processing parameters to try and optimize performance and maximize yields, etc. In-line quality control procedures are available to the student to aid in this optimization and will prove to be particularly useful in identifying and rectifying computer generated faults associated with the production. Other laboratory work focuses on the use, measurement and analysis of encapsulated modules of cells. Modules with a range of faults are examined and techniques for fault diagnosis developed.
- Solar cells harness the energy of sunlight and convert it directly into electricity. This course covers factors important in the understanding, design and characterisation of solar cells. It will extend students' existing semiconductor device understanding and provide a sound basis in key practical processes such as solid state diffusion and device contacting. Students are introduced to a range of laboratory-based and commercial solar cell technologies in this course including silicon (wafer-based) technologies, thin film technologies, multi-junction, concentrator and third generation concepts and technologies. Simulation exercises, using the PC1D program, are used to reinforce an understanding of device physics and the different solar cell technologies. In addition, students will learn about characterisation techniques that will enable them to study solar cells with regard to their effects on spectral response, temperature sensitivity, resistive losses, current generation and open-circuit voltages.

RE303-Software Construction: Techniques and Tools - COMP2041

Description

- Software system decomposition and design. Overview of the software development life-cycle. Command languages. Version control and configuration management, programming for reliability. Testing and debugging techniques. Profiling and code improvement techniques. Practical work involving programming-in-the-large.

RE304-Analogue Electronics - ELEC2133

Description

- Device physics of diodes, BJTs and MOSFETs. Nonlinear transistor models: Ebers-Moll, transport. Full and simplified models of BJTs and MOSFETs (inc. small-signal models). Zener and Schottky diodes. DC biasing, biasing using current sources, operating point, large-signal analysis. Linearisation, small-signal analysis. Input- and output impedances, power gain. Two-ports. Feed-back, effects of feed-back; stability and compensation techniques. Circuits with non-ideal op-amps. Common base, emitter and collector amplifiers; differential pairs. Multistage amplifiers, cascades, cascodes. AC response of 1-stage amplifiers, Miller effect. Non-linear circuits: oscillator, Schmitt trigger. A-D and D-A converter principles
- Non-ideal effects in electronic circuits and systems: Noise; device noise, external noise, CMRR, PSRR, mixed A/D. Distortion; non-linearity, dynamic range, saturation. Stability and performance sensitivity to parameter variations. Some simple design for stability and performance. Design optimisation. Power-supply distribution and decoupling. Mixed analogue/digital system design, including grounding and shielding. Device modelling in SPICE. Data sheet interpretation. Design of analogue and digital circuits and system components: Non-linear circuits; oscillators, PLLs, multipliers, AGCs, schmitt triggers. Introduction to filter design; active filters; op-amp. Sensors and actuators, PTAT; instrumentation amplifiers and signal conditioning. Low-level design and optimisation of digital CMOS gates. Gate delay, power dissipation, noise margins, fan-out. Introduction to integrated circuit design. Thermal consideration, power supplies, reliability, uC watchdogs

RE305-Power Electronics - ELEC4614

Description

- Power semiconductor switching devices and their limitations; Switching characteristics, protection and limitations of various types of power semiconductor switches; Elementary concepts in power electronics; Application of power electronic converters in energy conversion, utility applications and power supplies and utilizations; Diode rectifier circuits, multi-pulse rectifiers, input and output waveform characterization, filter design. Non isolated DC-DC converters, circuits topologies, characteristics with continuous and discontinuous conduction, circuit design and control considerations, Quadrant operation; Isolated DC-DC converters, transformer design issues, core resetting; Single-phase and three-phase DC-AC inverters, modulation strategies, output waveform analysis and filter design; Utility interfaces; High power applications; Converter system implementation

RE306-Electromagnetic Engineering - ELEC3115

Description

- Review of vector calculus, Electric Fields: Coulomb's and Gauss's laws and Maxwell's equations, Electric potential, Laplace's and Poisson's equations; Magnetic Fields: Biot-Savart law, Vector potential and Ampere's law and Maxwell's equations; Application of Gauss's law; Solution of Poisson's and Laplace's equations for electric field; Boundary value problems and method of images; Dielectric materials, capacitance, electrostatic energy and forces, losses; Field and current density, conductance; Application of Ampere's law; Magnetic materials, inductance, coupling in magnetic circuits; Magnetic energy and forces. Application of Faraday's law, transformers; Skin effect and skin depth, hysteresis and eddy current losses. Electromagnetic spectrum. Time-varying fields and Maxwell's equations: forms, boundary conditions. Plane electromagnetic waves in lossless/lossy media: polarization, group velocity dispersion, energy flows, Poynting vector, reflection/refraction at boundary. Transmission lines: wave characteristics, impedance and matching. Waveguides: modal analysis of rectangular metallic waveguides. Antennas: antenna patterns and parameters, linear dipole, antenna array.

RE307-Circuits and Signals - ELEC2134

Description

- Circuit elements - energy storage and dynamics. Ohm's Law, Kirchhoff's Laws, simplifying networks of series/parallel circuit elements. Nodal analysis. Thivenin and Norton equivalents, superposition. Operational amplifiers. Transient response in first-order RLC circuits. Solutions via solving differential equations. Transient response in second-order RLC circuits. State equations, zero input response, zero state response. Using MATLAB to solve state equations. Sinusoidal signal: frequency, angular frequency, peak value, RMS value, and phase. DC vs AC, average vs RMS values. AC circuits with sinusoidal inputs in steady state. Use of phasor and complex impedance in AC circuit analysis. AC power (real, reactive, apparent), power factor, leading/lagging. Resonance. Transformers and coupled coils. Laplace transforms of signals and circuits. Network functions and frequency response. Periodic signals and Fourier series. Introduction to filter design. Introduction to nonlinear circuits and small signal analysis.

RE308-Control Systems - ELEC3114

Description

- Recognition of what a control system is, and the distinction between simple and complex control systems. Analysis and design tools for dealing with simple control systems up to second order: Differential equations, Laplace transforms, transfer functions, poles and zeros, state space models, modeling, first and second order systems, stability, steady-state errors, root locus, Bode and Nyquist plots, transient response analysis and design, PID control, lead-lag compensation, simple frequency response techniques. Stabilising feedback control for transfer function and state-space models.

RE401-Fluid Mechanics - MMAN2600

Description

- Fluid properties. Fluids in static equilibrium. Buoyancy. Pressures in accelerating fluid systems. Steady flow energy equations. Flow measurement. Momentum analysis. Dimensional analysis and similarity. Pipe flow. Incompressible laminar and turbulent flow in pipes; friction factor. Laminar flow between parallel plates and in ducts. Elementary boundary layer flow; skin friction and drag. Pumps and turbines. Pump and pipeline system characteristics.

RE402-Thermodynamics - MMAN2700

Description

- Thermodynamic concepts, systems, property, state, path, process. Work and heat. Properties of pure substances, tables of properties and equations of state. First law of thermodynamics. Analysis of closed and open systems. Second law of thermodynamics, Carnot cycle, Clausius inequality, entropy, irreversibility, isentropic efficiencies. Air-standard cycles. Vapour cycles.

RE403-Computational Fluid Dynamics - MECH9620

Description

- Incompressible flow: primitive equations, stream function, vorticity equations. The conservative property. Stability analysis. Explicit, implicit methods. Upwind differences. SOR methods. Fourier series methods. Pressure, temperature solutions. Solving the primitive equations.

RE404-Strategic Leadership & Ethics - ELEC4122

Description

- Theories of leadership; leadership of teams. Organisational behaviour. Strategic planning. Uncertainty and risk. The interaction of laws with engineering projects and innovations. The role of engineering in society; assessment of innovation in processes and products. Engineering ethics principles and practice: an introduction to ethical systems; the application of ethical frameworks to engineering practice with particular reference to electrical engineering and computing; codes of ethics in the professions; social, political, environmental and economic considerations.

RE405-Grid-Connected Photovoltaic Systems - SOLA4012

Description

- This course familiarizes students with issues relevant to the use of photovoltaics in systems connected to the electricity distribution network with the aim of attaining competency in design and specification. The types of systems considered include residential, building

integrated, distributed grid-support and central station. System components, design, operation, safety, standards and economics are addressed making extensive use of past field experience and site visits where appropriate.

RE406-Wind Energy Converters - SOLA5053

Description

- This course will cover the principles of wind energy and wind power, as well as the design and operation of different types of wind energy converters. It will include machines for water pumping, remote area power supply and grid electricity generation. It will cover issues of site selection, monitoring and analysing wind data, estimating output from wind generators, integrating wind generators into hybrid power systems or the grid, economics, standards and environmental impacts.

RE407-Semiconductor Devices - SOLA5055

.Description

- This course describes the operating principles of modern semiconductor devices, relates terminal properties to their internal structure, and gives an understanding of how terminal properties will change with operating conditions. Devices covered include p-n junction diodes, solar cells, bipolar junction transistors, field effect transistors (MOSFETs), light-emitting diodes and semiconductor lasers, with emphasis on photovoltaic (semiconductor solar cells) and photonic (semiconductor LEDs and lasers) applications. This course may be taught concurrently with SOLA9005.

MASTER OF SCIENCE (RENEWABLE ENERGY) LEARNING SUPPORT WEBSITE

www.mongroupsdney1.com/redegree.pdf

Part (1) Preliminary Course

ENEGY101A FOUNDATION STUDIES IN RENEWABLE ENERGY AND SUSTAINABILITY

RE001 Audio.zip (398.77MB)

http://www.filefactory.com/file/bivi3ahp1dj/n/RE001_Audio.zip

RE001+ENERGY 101A.pptx (209.26MB)

http://www.filefactory.com/file/2uf9ao1a2vlb/n/RE001+ENERGY_101A.pptx

AEEGY202A RENEWABLE ENERGY RESOURCES ANALYSIS

AEEGY202A+RE005 Part 1.ppt (53.86MB)

http://www.filefactory.com/file/77y5i78hdzcn/n/AEEGY202A+RE005_Part_1.ppt

AEEGY202A+RE005 Part 1 Audio.zip (41.66MB)

http://www.filefactory.com/file/3bpvzmy8xbzd/n/AEEGY202A+RE005_Part_1_Audio.zip

AEEGY202A+RE005 Part 2.pptx (39.15MB) (A)

http://www.filefactory.com/file/64zy2zn488hz/n/AEEGY202A+RE005_Part_2.pptx

AEEGY202A+RE005 Part 2 Audio.zip (45.64MB) (A)

http://www.filefactory.com/file/28ezfxr81nrd/n/AEEGY202A+RE005_Part_2_Audio.zip

AEEGY202A+RE005 Part 2B.pptx (93.09MB)

http://www.filefactory.com/file/64klwvxw0ihr/n/AEEGY202A+RE005_Part_2B.pptx

AEEGY202A+RE005 Part 2B Audio.zip (81.25MB)

http://www.filefactory.com/file/5bj0lat5uj9n/n/AEEGY202A+RE005_Part_2B_Audio.zip

AEEGY202A+RE005 Part 3.pptx (118.93MB)

http://www.filefactory.com/file/2p5ermf05afl/n/AEEGY202A+RE005_Part_3.pptx

AEEGY202A+RE005 Part 3 Audio.zip (64.72MB)

http://www.filefactory.com/file/4i49w8o1jl9h/n/AEEGY202A+RE005_Part_3_Audio.zip

AEEGY202A+RE005 Part 4.pptx (123.38MB)

http://www.filefactory.com/file/sbvdq1ehtr9/n/AEEGY202A+RE005_Part_4.pptx

AEEGY202A+RE005 Part 4 Audio.zip (59.74MB)

http://www.filefactory.com/file/9y5u1pmai6v/n/AEEGY202A+RE005_Part_4_Audio.zip

AEEGY202A+RE005 Part 5.pptx (198.14MB)

http://www.filefactory.com/file/56apturehrt/n/AEEGY202A+RE005_Part_5.pptx

AEEGY202A+RE005 Part 5 Audio.zip (109.2MB)

http://www.filefactory.com/file/4ta6mux5uzk7/n/AEEGY202A+RE005_Part_5_Audio.zip

AEEGY202A+RE005 Part 5a.pptx (181.83MB)

http://www.filefactory.com/file/4o9g6qr2xr0r/n/AEEGY202A+RE005_Part_5a.pptx

AEEGY202A+RE005 Part 5a Audio.zip (82.43MB)

http://www.filefactory.com/file/13akyrzczg9tf/n/AEEGY202A+RE005_Part_5a_Audio.zip

AEEGY202A+RE005 Part 6.pptx (140.55MB)

http://www.filefactory.com/file/6ecfxxbaih11/n/AEEGY202A+RE005_Part_6.pptx

AEEGY202A+RE005 Part 7.pptx (37.26MB)

http://www.filefactory.com/file/6kw4yv0yd4lh/n/AEEGY202A+RE005_Part_7.pptx

AEEGY202A+RE005 Part 7 Audio.zip (12.28MB)

http://www.filefactory.com/file/44xii255egpr/n/AEEGY202A+RE005_Part_7_Audio.zip

AEEGY202A+RE005 Part 6 Audio.zip (56.4MB)

http://www.filefactory.com/file/31cfsc70cgn7/n/AEEGY202A+RE005_Part_6_Audio.zip

AEEGY 203A WIND ENERGY CONVERSION SYSTEM

AEEGY202A+RE005 Part 4.pptx (123.38MB)

http://www.filefactory.com/file/sbvdq1ehtr9/n/AEEGY202A+RE005_Part_4.pptx

AEEGY 201A ENERGY STORAGE SYSTEM

AEEGY201A-RE004 Part 1.pptx (84.17MB)

http://www.filefactory.com/file/3zjf4agidtd1/n/AEEGY201A-RE004_Part_1.pptx

AEEGY201A-RE004 Part 1 Audio.zip (98.34MB)

http://www.filefactory.com/file/2cq8kk74lcch/n/AEEGY201A-RE004_Part_1_Audio.zip

AEEGY201A-RE004 Part 2 Audio.zip (78.24MB)

http://www.filefactory.com/file/59f24emes5d5/n/AEEGY201A-RE004_Part_2_Audio.zip

AEEGY201A-RE004 Part 2.pptx (81.12MB)

http://www.filefactory.com/file/593fqr2l92gl/n/AEEGY201A-RE004_Part_2.pptx

AEEGY201A-RE004 Part 3.pptx (122.11MB)

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AEEGY201A-RE004 Part 3 Audio.zip (54.66MB)

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AEEGY 102A SOLAR AND THERMAL ENERGY SYSTEM

AEEGY102A-Solar & Thermal Energy System-RE003 Part 1.pptx (86.74MB)

[http://www.filefactory.com/file/4pfhys6r4f5v/n/AEEGY102A-Solar & Thermal Energy System-RE003 Part 1.pptx](http://www.filefactory.com/file/4pfhys6r4f5v/n/AEEGY102A-Solar_&_Thermal_Energy_System-RE003_Part_1.pptx)

AEEGY102A Solar & thermal Energy system-RE003 Audio Part 1.zip (78.57MB)

[http://www.filefactory.com/file/3g7xyhh758iv/n/AEEGY102A Solar & thermal Energy system-RE003 Audio Part 1.zip](http://www.filefactory.com/file/3g7xyhh758iv/n/AEEGY102A_Solar_&_thermal_Energy_system-RE003_Audio_Part_1.zip)

AEEGY102A Solar & thermal Energy system-RE003 Audio Part 2.zip (114.71MB)

[http://www.filefactory.com/file/6jd6ba68kmt/n/AEEGY102A Solar & thermal Energy system-RE003 Audio Part 2.zip](http://www.filefactory.com/file/6jd6ba68kmt/n/AEEGY102A_Solar_&_thermal_Energy_system-RE003_Audio_Part_2.zip)

AEEGY102A Solar & thermal Energy system-RE003 Audio Part 3.zip (101.76MB)

[http://www.filefactory.com/file/6fpzm5yhalkb/n/AEEGY102A Solar & thermal Energy system-RE003 Audio Part 3.zip](http://www.filefactory.com/file/6fpzm5yhalkb/n/AEEGY102A_Solar_&_thermal_Energy_system-RE003_Audio_Part_3.zip)

AEEGY 101A GRID CONNECTED PHOTOVOLTAICS POWER SYSTEM

AEEGY101A Grid Connected Inverter-RE001 Part 1.pptx (200.1MB)

[http://www.filefactory.com/file/7gj00wjnbhgl/n/AEEGY101A Grid Connected Inverter-RE001 Part 1.pptx](http://www.filefactory.com/file/7gj00wjnbhgl/n/AEEGY101A_Grid_Connected_Inverter-RE001_Part_1.pptx)

AEEGY101A Grid Connected Inverter-RE001 Part 2.pptx (42.84MB)

[http://www.filefactory.com/file/2inbe45j7daf/n/AEEGY101A Grid Connected Inverter-RE001 Part 2.pptx](http://www.filefactory.com/file/2inbe45j7daf/n/AEEGY101A_Grid_Connected_Inverter-RE001_Part_2.pptx)

AEEGY101A Grid Connected PV Power System-RE002 Audio 1.zip (87.52MB)

[http://www.filefactory.com/file/zugaz0yoa7z/n/AEEGY101A Grid Connected PV Power System-RE002 Audio 1.zip](http://www.filefactory.com/file/zugaz0yoa7z/n/AEEGY101A_Grid_Connected_PV_Power_System-RE002_Audio_1.zip)

AEEGY101A Grid Connected PV Power System-RE002 Audio 2.zip (146.66MB)

[http://www.filefactory.com/file/3rnl5ra5u1yp/n/AEEGY101A Grid Connected PV Power System-RE002 Audio 2.zip](http://www.filefactory.com/file/3rnl5ra5u1yp/n/AEEGY101A_Grid_Connected_PV_Power_System-RE002_Audio_2.zip)

AEEGY101A Grid Connected PV Power System-RE002 Audio 3.zip (37.72MB)

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AEEGY 204 A ENERGY EFFICIENCY

AEEGY204A-Energy Efficcy.pptx (308.2MB)

[http://www.filefactory.com/file/4m2zxs94ooyh/n/AEEGY204A-Energy Efficcy.pptx](http://www.filefactory.com/file/4m2zxs94ooyh/n/AEEGY204A-Energy_Efficcy.pptx)

AEEGY204A-Energy Syst Efficcy-RE007 Audio.zip (283.59MB)

[http://www.filefactory.com/file/64pi797xv52t/n/AEEGY204A-Energy Syst Efficcy-RE007 Audio.zip](http://www.filefactory.com/file/64pi797xv52t/n/AEEGY204A-Energy_Syst_Efficcy-RE007_Audio.zip)

ENERGY101A FOUNDATION STUDIES IN RENEWABLE ENERGY AND SUSTAINABILITY

Course Outline

In this subject you will learn about the areas of renewable energy technologies and sustainability. You will develop foundation knowledge relating to:

- Defining sustainability and renewable energy
- Non-technical issues in sustainability and renewable energy
- Energy basics efficiency and calculations
- Solar energy systems
- Wind energy systems
- Hydro energy systems
- Biomass energy systems
- Ocean energy systems
- Principles of sustainable living
- Moving to a sustainable economy.

Prescribed Texts:

Mackay, D.J.C. 2008, *Sustainable Energy without the Hot Air*, UIT, Cambridge, England

Study Guide

WEEK NO:	TOPICS AND ACTIVITIES
Orientation Week	Orientation activities Review of syllabus and assessment activities.
Week 1	<ul style="list-style-type: none"> • Introduction to the Subject. • The cause of Climate Change. • Global and Australian Figures. • Climate Change - The Impacts and the imperative for change. Reading List: <ul style="list-style-type: none"> • <i>Sustainable Energy Without the Hot air</i>, pp. 5-18 • <i>ZCA Stationary Energy Plan</i>, pp. 2-3
Week 2	<ul style="list-style-type: none"> • Energy use in Australia. • Energy conversion and efficiency. • Primary, Secondary and End Use energy. Reading List: <ul style="list-style-type: none"> • Dept. of Energy Resources and Tourism, <i>Energy in Australia 2012</i>, pp. 15-28
Week 3	<ul style="list-style-type: none"> • Coal, Oil, Gas and Nuclear Energy Systems. Reading List: <ul style="list-style-type: none"> • Course notes
Week 4	<ul style="list-style-type: none"> • Solar Energy Systems – The Solar Resource – Photovoltaics. Reading List: <ul style="list-style-type: none"> • <i>Sustainable Energy Without the Hot air</i>, pp. 38-49
Week 5	Field Trip <ul style="list-style-type: none"> • Solar Energy Systems - Solar Hot Water, Solar Air conditioning and Solar Thermal Electricity. Reading List: <ul style="list-style-type: none"> • <i>Sustainable Energy Without the Hot air</i>, pp. 38-49 • <i>ZCA Solar Thermal Power Basics and Solar Thermal Power fact sheets</i>
Week 6	<ul style="list-style-type: none"> • Wind Energy Systems – size of the resource, principles of operation, World and Australian wind energy. Reading List: <ul style="list-style-type: none"> • <i>Sustainable Energy Without the Hot air</i>, pp. 32-34, 186-189 • <i>Clean Energy Council Fact sheet on Wind Energy</i> Assessment 1 due: Individual written report - 10%
Week 7	
Week 8	<ul style="list-style-type: none"> • Hydro Energy Systems – size of the resource, principles of operation, World and Australian Hydro energy. Reading List:

WEEK NO:	TOPICS AND ACTIVITIES
	<ul style="list-style-type: none"> • <i>Sustainable Energy Without the Hot air</i>, pp. 55-56 and pp. 190-194 • <i>Clean Energy Council Fact sheet on Hydro Electricity</i> Assessment 2 due: Written report on field trip - 5%
Week 9	<ul style="list-style-type: none"> • Biomass • Geothermal Reading List <ul style="list-style-type: none"> • <i>Clean Energy Council Fact sheet on Geothermal Energy</i> • <i>Clean Energy Council Fact sheet on Bio Energy</i> • <i>Sustainable Energy Without the Hot air</i>, pp. 96-99
Week 10	<ul style="list-style-type: none"> • Ocean Energy – Wave and tidal Reading List: <ul style="list-style-type: none"> • <i>Sustainable Energy Without the Hot air</i>, pp. 73-75; pp. 81-87; pp. 307-321 • <i>Clean Energy Council Fact sheet on Marine Energy</i>
Week 11	<ul style="list-style-type: none"> • The imperative for Sustainability • Moving to Renewable Energy Reading List: <ul style="list-style-type: none"> • <i>Less is More</i>, pp. 205-235
Week 12	<ul style="list-style-type: none"> • Sustainable Building Design • Sustainable Food and Farming Reading List: <ul style="list-style-type: none"> • <i>Sustainable Energy Without the Hot air</i>, pp. 76-80 • www.yourhome.gov.au <i>Technical Manual</i>, pp. 69-127
Week 13	<ul style="list-style-type: none"> • Sustainable Transport • Sustainable Mining and Manufacturing Reading List: <ul style="list-style-type: none"> • <i>Sustainable Energy Without the Hot air</i>, pp. 29-31; 35-37; 118-139; 88-95 and 322-326 • <i>ZCA Stationary Energy Plan</i>, pp. 16-19 Assessment 3 due: Collaborative written report – 30% Assessment 4: Presentation based on collaborative written report – 10%
Week 14	Study Week
Week 15	Examination Week B: Assessment 5: Written examination - 45%

Lesson Power Points

<http://www.filefactory.com/file/29b5cgy28f4p/RE001%2BENERGY%20101A.pdf>

Password- Joe2013

Textbook

Prescribed Texts:

Mackay, D.J.C. 2008, *Sustainable Energy without the Hot Air*, UIT, Cambridge, England

http://www.filefactory.com/file/1ptdekissa69/Sustainable_energy_without_hot_air_pdf

Password- Joe2013

Tutorial Exercises

Further Readings

[K131](#)

http://www.filefactory.com/file/7hvv22gtz2lx/n/K131_zip

http://www.filefactory.com/file/1mr75xfm92ux/n/K032_zip

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AEEGY 101A Grid Connected Photovoltaics Power System

Course

Outline

In this subject you will learn the basics about photovoltaics and grid design. You will develop knowledge and applied skills relating to:

- Solar geometry
- Solar radiation terms and measurements
- Photovoltaic cell and module characteristics
- Manufacture of photovoltaic modules
- Photovoltaic array design and characteristics
- Effects of tilt, orientation, temperature and shading
- Workplace health and safety standards, Australian and industry standards
- Inverter principles and requirements for grid-connected inverters in Australia
- Inverter and Array matching
- Wiring, Protection and Earthing
- Metering and Tariff arrangements
- Installation and Commissioning
- Maintenance.

Study Guide

Lesson Power Points

<http://www.filefactory.com/file/5u2urjc3d0hx/AEEGY101A%20Grid%20Connected%20Inverter-RE001%20Part%201.pdf>

Password- Joe2013

Textbook

Prescribed Texts:

Stapleton G & Neill S 2012, *Grid-Connected Solar Electric Systems*, Earthscan, Abingdon, Oxon

http://www.filefactory.com/file/14nwysld3g7t/Grid_Connected_Electrical_System_Te xtbook_pdf

http://www.filefactory.com/file/4lmpmse2xmp1/Applied_Photovoltaics_pdf

http://www.filefactory.com/file/55cxpfou1kwt/Control_of_Power_Inverters_in_Renewable_Energy_and_Smart_Grid_Integration_pdf

Password- Joe2013

Tutorial Exercises

http://www.filefactory.com/file/59rpcqog18ux/n/K035_Answer_sheet_doc

http://www.filefactory.com/file/6uye10nst3ad/n/K035_Test_pdf

Password- joe2013

Further Readings

K035Inverter K035PV_Inverter

Stage 4 Part 17.zip

http://www.filefactory.com/file/c0cc76b/n/Stage_4_Part_17.zip

K035_Tutorials.zip

Stage 4 Part 16.zip

http://www.filefactory.com/file/c0cc703/n/Stage_4_Part_16.zip

Renewable Energy-K025+K035.zip

http://www.filefactory.com/file/c0b7c5e/n/Renewable_Energy-K025_K035.zip

Video Lessons

[K035 Lesson 1-Inverter principle.zip](#)

http://www.filefactory.com/file/c0b6a01/n/K035_Lesson_1-Inverter_principle.zip

[K035 Lesson 2-Modified sine wave inverter.zip](#)

http://www.filefactory.com/file/c0b6a26/n/K035_Lesson_2-Modified_sine_wave_inverter.zip

[K035 Lesson 3-Pulse width modulation.zip](#)

http://www.filefactory.com/file/c0b6a33/n/K035_Lesson_3-Pulse_width_modulation.zip

[K035 Lesson 4-PV Inverter.zip](#)

http://www.filefactory.com/file/c0b6a6c/n/K035_Lesson_4-PV_Inverter.zip

[K035 Lesson-5 MOSFET Driver.zip](#)

http://www.filefactory.com/file/c0b5978/n/K035_Lesson-5_MOSFET_Driver.zip

[K035 Lesson-6 PWM Inverter.zip](#)

http://www.filefactory.com/file/c0b6ac2/n/K035_Lesson-6_PWM_Inverter.zip

[K035 Lesson-7 Grid Connected Inverter.zip](#)

http://www.filefactory.com/file/c108253/n/K035_Lesson-7_Grid_Connected_Inverter.zip

[K035 Lesson-8 Inverter Power Flow Model.zip](#)

http://www.filefactory.com/file/c0b6aff/n/K035_Lesson-8_Inverter_Power_Flow_Model.zip

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Online Practicals

Practicals Work performance and practical instruction

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OTHER RESOURCES

K025 Resources

[Stage 2 Part 5.zip](#)

http://www.filefactory.com/file/c0cc187/n/Stage_2_Part_5.zip

Protection_1

Protection_2

PV_System_installation_Overview_-_PV_Power_Systems

PVSoftware

Regulatory_Requirement

SPS_Components

[Stage 2 Part 2A.zip](#)

http://www.filefactory.com/file/c0cca4a/n/Stage_2_Part_2A.zip

Electrical_safe_working

Electrical_trade_review_questions_and_answers

ELV_Accessories_-_SPS_Components

ELV_Cable_termination

[Stage 3 Part 1B.zip](#)

http://www.filefactory.com/file/c0ccc42/n/Stage_3_Part_1B.zip

Cable_CktProt_E_Accessories

Cable_Conduit_E_Accessories

AEEGY 102A Solar and Thermal Energy Systems

Course Outline

In this subject you will learn about solar and thermal energy systems. You will develop specialised knowledge and applied skills relating to:

- Solar energy utilisation - introduction and overview
- Heating load calculations
- Thermal environment – solar radiation, shading and energy conservation
- Solar collectors
- Collector requirements for some specific applications
- Thermal energy storage
- Solar cooling
- Mechanical Power generation
- Sizing of heating, cooling and mechanical power generation components
- Ancillary equipment
- Equipment specification and installation
- Performance analysis.

Study Guide

Lesson Power Points

Part 1

<http://www.filefactory.com/file/c9acnzqhs13/AEEGY102A%2BRE003%20Part%202-ME108.pdf>

Part 2

http://www.filefactory.com/file/2i3h1v6qqkuv/AEEGY102A%2BRE003%20Part%203-Fact_sheet_-_Geothermal_Energy.pdf

Part 3

<http://www.filefactory.com/file/57k90jem46f/AEEGY102A-Solar%20%26amp%3B%20Thermal%20Energy%20System-RE003%20Part%201.pdf>

Password- Joe2013

Textbook

Prescribed Texts

The German Solar Energy Society, 2009 *Planning and Installing Solar Thermal Systems*, Earthscan (UK) All Chapters

http://www.filefactory.com/file/39q0d0rb9t7h/185936187-Planning-and-Installing-Solar-Thermal-Systems_pdf

Password- Joe2013

Tutorial Exercises

Password- joe2013

Further Readings

K025_Note_1

K025_Note_2

Stage 2 Part 4.zip

http://www.filefactory.com/file/c0ccb53/n/Stage_2_Part_4.zip

K025 Resources

ELV_Accessories_-_SPS_Components

ELV_Cable_termination

Stage 2 Part 2A.zip

http://www.filefactory.com/file/c0cca4a/n/Stage_2_Part_2A.zip

PV_System_installation_Overview_-_PV_Power_Systems

SPS_Components

PVSoftware

Stage 2 Part 5.zip

http://www.filefactory.com/file/c0cc187/n/Stage_2_Part_5.zip

System_Installation_Examples_-_NUER02_version

Stage 2 Part 6.zip

http://www.filefactory.com/file/c0cccc0/n/Stage_2_Part_6.zip

[Renewable Energy-K025+K035.zip](#)

http://www.filefactory.com/file/c0b7c5e/n/Renewable_Energy-K025_K035.zip

Lesson 1	Lesson 2	Lesson 3	Lesson 4	Lesson 5	Lesson 6
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Password- joe2013

Online Practicals

Practicals Work performance and practical instruction

Click [HERE](#) to download practicals

Password- joe2013

AEEGY 201A Energy Storage System

Course Outline

In this subject you will learn about energy storage systems. You will develop specialised knowledge and skills relating to:

- The need for and benefits of energy storage technologies
 - Current energy storage technologies and their application
 - Environmental impacts and benefits of energy storage systems
 - Designing an energy storage system for specific engineering applications
 - Costing and payback of energy storage systems
 - Designing and building a small scale energy storage system.
-

Study Guide

Lesson Power Points

Part 1

<http://www.filefactory.com/file/68whdsdbwtfh/AEEGY201A-RE004%20Part%201.pdf>

Part 2

<http://www.filefactory.com/file/gh1dls7edlp/AEEGY201A-RE004%20Part%202.pdf>

Part 3

<http://www.filefactory.com/file/48jt93opz4b5/AEEGY201A-RE004%20Part%203.pdf>

Password- Joe2013

Textbook

Prescribed Texts:

Brunet, Y, 2010, *Energy Storage*, John Wiley & Sons UK.

<http://www.filefactory.com/file/56ymtb4pptz1/Energy%20Storage.pdf>

Other Related book

http://www.filefactory.com/file/2wpc2idmobv9/Energy_Stroage_pdf

http://www.filefactory.com/file/3poecuxu7yxb/energy-in-australia-2012_pdf

Password- Joe2013

Tutorial Exercises

Password- joe2013

Further Readings

Password- joe2013

Online Practicals

Password- joe2013

AEEGY202A Renewable Energy Resources Analysis

Course Outline

In this subject you will learn about renewable energy resource analysis. You will develop specialised knowledge and skills relating to:

- National and international trends in renewable energy resource analysis
- Energy history
- Australian Renewable Energy reserves
- Energy and power conversion
- Behavioural trends and misconceptions
- Power Cycles
- Oil, coal and natural gas
- Solar photovoltaics
- Solar thermal
- Wind Energy
- Hydro-power
- Bio-mass
- Geo-thermal
- Ocean energy
- Hydrogen Economy
- Limitations in existing infrastructure.

Study Guide

Lesson Power Points

Part 1

<http://www.filefactory.com/file/2248bo0gcbor/AEEGY202A%2BRE005%20Part%201.pdf>

Part 2

<http://www.filefactory.com/file/5us491ooh1cl/AEEGY202A%2BRE005%20Part%201.pdf>

Part 3

<http://www.filefactory.com/file/5e3gt7cv1rid/AEEGY202A%2BRE005%20Part%202.pdf>

Part 4

<http://www.filefactory.com/file/5ld0bqgs3049/AEEGY202A%2BRE005%20Part%202.pdf>

Part 5

<http://www.filefactory.com/file/47m4fhje9k73/AEEGY202A%2BRE005%20Part%203.pdf>

Part 6

<http://www.filefactory.com/file/5mfsxsln72ll/AEEGY202A%2BRE005%20Part%203.pdf>

Part 7

<http://www.filefactory.com/file/26efv2p36hpf/AEEGY202A%2BRE005%20Part%204.pdf>

Part 8

<http://www.filefactory.com/file/4szjlkhva34t/AEEGY202A%2BRE005%20Part%204.pdf>

Part 9

<http://www.filefactory.com/file/5n4ixwsih1vb/AEEGY202A%2BRE005%20Part%205.pdf>

Part 10

<http://www.filefactory.com/file/7jb0atgu4xst/AEEGY202A%2BRE005%20Part%205.pdf>

Part 11

<http://www.filefactory.com/file/3vix5oofhjex/AEEGY202A%2BRE005%20Part%205a.pdf>

Part 12

<http://www.filefactory.com/file/4jt03kopqyhp/AEEGY202A%2BRE005%20Part%205a.pdf>

Part 13

<http://www.filefactory.com/file/23v9r0ymiy8n/AEEGY202A%2BRE005%20Part%206.pdf>

Part 14

<http://www.filefactory.com/file/2yyceyvo1knh/AEEGY202A%2BRE005%20Part%206.pdf>

Part 15

<http://www.filefactory.com/file/2qiuhz8imqjf/AEEGY202A%2BRE005%20Part%207.pdf>

Part 16

<http://www.filefactory.com/file/33va2juvew5b/AEEGY202A%2BRE005%20Part%207.pdf>

Password- Joe2013

Textbook

Prescribed Text:

Boyle, G 2004, *Renewable Energy: Power for a sustainable future* 2nd or latest edition Oxford University Press

<http://www.filefactory.com/file/11jwo86pxn0j/Renewable%20Energy-Power%20for%20sustainable%20Future.pdf>

Password- Joe2013

Tutorial Exercises

Password- joe2013

Further Readings

[K131](#) + EE 308

http://www.filefactory.com/file/7hvv22gtz2lx/n/K131_zip

[Additional 3.zip](#)

http://www.filefactory.com/file/c0cb6a8/n/Additional_3.zip

[Additional 1.zip](#)

http://www.filefactory.com/file/c0cc0f7/n/Additional_1.zip

http://www.filefactory.com/file/1mr75xfm92ux/n/K032_zip

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Online Practicals

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AEEGY 203A Wind Energy Conversion System

Course Outline

In this subject you will learn about wind energy conversion systems. You will develop specialised knowledge and skills relating to:

- Introduction to wind as a natural resource
- Energy, power and wind
- Wind characteristics
- Data acquisition methods
- Site characteristics
- Correlation, wind and site
- Predicting energy output
- Turbines, types and construction
- Wind Energy Conversion Systems (WECS) sizing
- Retrospective performance.

Study Guide

Lesson Power Points

<http://www.filefactory.com/file/3hyoby6eqe3p/AEEGY%20203A%20%20Wind%20Energy-RE006.pdf>

Password- Joe2013

Textbook

Prescribed Texts:

Boyle, G, 2004, *Renewable Energy: Power for a sustainable future*. 2nd edition, Oxford University Press

<http://www.filefactory.com/file/11jwo86pxn0j/Renewable%20Energy-Power%20for%20sustainable%20Future.pdf>

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Tutorial Exercises

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Further Readings

ME 202 Introduction to Aero Dynamics

http://www.filefactory.com/file/401s96o982uf/n/ME_202_Introduction_to_Aero_Dynamics_pdf

ME 234 Wind Turbines

http://www.filefactory.com/file/30w0u2u36a19/n/ME_234_wind-turbines_pdf

[Aerodynamics Part 1](#)

http://www.filefactory.com/file/7axzc9j37g91/n/ME202_Part_1_zip

[Aerodynamics Part 2](#)

http://www.filefactory.com/file/2tlei8t6e4xn/n/ME202_Part_2_zip

[Aerodynamics Part 3](#)

http://www.filefactory.com/file/6mt5m5wi6dfn/n/ME202_Part_3_zip

[Wind Turbine Part 1](#)

http://www.filefactory.com/file/1f2dio8ik4zd/n/ME_234_Part_1_zip

[Wind Turbine Part 2](#)

http://www.filefactory.com/file/olr2lwjdpc5/n/ME_234_Part_2_zip

[Wind Turbine Part 3](#)

http://www.filefactory.com/file/117k3a3shh4f/n/ME_234_Part_3_zip

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Online Practicals

Password- joe2013

AEEGY 204 A Energy Efficiency

Course Outline

In this subject you will learn about the efficiency of energy systems. You will develop specific knowledge and skills relating to:

- Energy conversion efficiencies of conventional and renewable energy systems
- Energy auditing
- Economic and environmental benefits of energy efficiency
- Energy efficiency of various energy loads
- Cogeneration (CHP)
- Pros and cons of distributed generation in terms of energy efficiency
- Ways to improve energy efficiency at the generation point and in the distribution system
- Ways to improve energy efficiency at the load points.

Study Guide

Lesson Power Points

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Textbook

Password- Joe2013

Tutorial Exercises

Password- joe2013

Further Readings

1	Building Design+Material Science-K041+E047.zip http://www.filefactory.com/file/c0b645d/n/Building_Design_Material_Science-K041_E047.zip
2	Stage 3 Part 7.zip http://www.filefactory.com/file/c0ccfc7/n/Stage_3_Part_7.zip HazardLightingPanel K041 Building Design 1 K041 Building Design 2 K041Airconditioning K041Energy Management Textbook Stage 3 Part 3.zip http://www.filefactory.com/file/c0ccd44/n/Stage_3_Part_3.zip E047 Mech
3	As 1

4	As 2
5	<p><u>Renewable Energy+ Energy Efficiency</u></p> <p><u>K041 Lesson 1-Solar Design.zip</u></p> <p>http://www.filefactory.com/file/c0b6a9f/n/K041_Lesson_1-Solar_Design.zip</p> <p><u>K041 Lesson 2-Basic psychrometric chart.zip</u></p> <p>http://www.filefactory.com/file/c0b6bc9/n/K041_Lesson_2-Basic_psychrometric_chart.zip</p> <p><u>K041 Lesson 3-Total heat resistance.zip</u></p> <p>http://www.filefactory.com/file/c0b6b18/n/K041_Lesson_3-Total_heat_resistance.zip</p> <p><u>K041 Lesson 4-U value Heat conductance calculation.zip</u></p> <p>http://www.filefactory.com/file/c0b6b57/n/K041_Lesson_4-U_value_Heat_conductance_calculation.zip</p> <p><u>K041 Lesson 5-Glazing+Net Heat gain heat loss.zip</u></p> <p>http://www.filefactory.com/file/c0b6cc2/n/K041_Lesson_5-Glazing_Net_Heat_gain_heat_loss.zip</p> <p><u>K041 Lesson 6-Shading.zip</u></p> <p>http://www.filefactory.com/file/c0b6cd7/n/K041_Lesson_6-Shading.zip</p> <p><u>K041 Lesson 7-Insulation+ Thermal mass.zip</u></p> <p>http://www.filefactory.com/file/c0b6c06/n/K041_Lesson_7-</p>

Insulation_Thermal_mass.zip

[K041 Lesson 8-Thermal mass insulation.zip](#)

http://www.filefactory.com/file/c0b6c30/n/K041_Lesson_8-Thermal_mass_insulation.zip

[K041 Lesson 9-Airconditioning load calculation.zip](#)

http://www.filefactory.com/file/c0b6dc8/n/K041_Lesson_9-Airconditioning_load_calculation.zip

[K041 Lesson 10-Heat gain per day.zip](#)

http://www.filefactory.com/file/c0b6dfe/n/K041_Lesson_10-Heat_gain_per_day.zip

[K041 Lesson 11-Ventilation.zip](#)

http://www.filefactory.com/file/c0b6d13/n/K041_Lesson_11-Ventilation.zip

[K041 Lesson 12-Building heating load](#)

http://www.filefactory.com/file/c0b6d47/n/K041_Lesson_12-Building_heating_load_calculation.zip

[K041 Lesson 14-Design for Australian climate.zip](#)

http://www.filefactory.com/file/c0b6d76/n/K041_Lesson_14-Design_for_Australian_climate.zip

[K041 Lesson 15-Domestic solar hot water system.zip](#)

http://www.filefactory.com/file/c0b6eaf/n/K041_Lesson_15-

	<p>Domestic_solar_hot_water_system.zip</p> <p>K041 Lesson 16-Energy efficiency+Lighting.zip</p> <p>http://www.filefactory.com/file/c0b6e0f/n/K041_Lesson_16-Energy_efficiency_Lighting.zip</p> <p>K041 Lesson 17-Illumination+Smoke alarm.zip</p> <p>http://www.filefactory.com/file/c0b6fc5/n/K041_Lesson_17-Illumination_Smoke_alarm.zip</p> <p>K041 Lesson 18-Water supply.zip</p> <p>http://www.filefactory.com/file/c0b61ec/n/K041_Lesson_18-Water_supply.zip</p> <p>K041 Lesson 19-Ventilation+Lighting control.zip</p> <p>http://www.filefactory.com/file/c0b6058/n/K041_Lesson_19-Ventilation+Lighting_control.zip</p> <p>K041 Lesson 20-Electrical system design.zip</p> <p>http://www.filefactory.com/file/c0b6085/n/K041_Lesson_20-Electrical_system_design.zip</p> <p>K041 Lesson 21-Building materials.zip</p> <p>http://www.filefactory.com/file/c0b61b8/n/K041_Lesson_21-Building_materials.zip</p>
6	Click HERE to download other Exercises
7	EE07 & EE011 units mapping for Theory study & Exercises

	UEENEEK041B_E047B_Tutorials Energy_survey_assignment in Stage 3 Part 8.zip http://www.filefactory.com/file/c0ccf09/n/Stage_3_Part_8.zip
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf
9	E07 & EE011 units mapping for Theory study & Exercises Assignment + Project work
10	K041 Text book http://www.filefactory.com/file/61dmv976e7tl/n/K041Textbook1_zip http://www.filefactory.com/file/4lsx0pk00guj/n/K041Textbook2_zip http://www.filefactory.com/file/2kwcxkrnasyf/n/K041Textbook3_zip

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Online Practicals

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Part (2) Qualified (1) Course

ENMAT 101A Engineering Materials & Processes

Course Outline

In this subject you will learn about the structure, properties and usage of a variety of materials used in engineering applications. You will develop specialised knowledge relating to:

- Material structure and properties
- Mechanical properties
- Metals - ferrous and non-ferrous
- Polymers
- Ceramics
- Composites, concrete, other
- Basic destructive testing
- Steel – FeC (Iron/Carbon), heat treatment
- Casting - perm/non-perm
- Forming - hot, cold
- Processes - PowderM, welding, Rapid Proto
- Polymer processes - IM, BM, extrus, thermoset, composites
- Joining - fasteners, weld, non-fusion
- Corrosion
- Surface treatments - plating, coatings, peening, anodising
- Non-destructive testing
- Quality assurance and control, certified testing, safety, materials safety data sheets (MSDS)
- Economic and environmental issues - production/recycling.

Study Guide

WEEK	LECTURES / EXAMINATIONS	LABORATORY	QUIZ
Orientation Week	Orientation activities Review of syllabus and assessment activities. Laboratory orientation. Academic Foundations: Note taking; study skills; introduction to conducting research.		
Week 1	Lecture (2 hrs): Readings: Ch 1: Engineering materials; Ch 2: Properties of materials.	Laboratory 1 (2 hrs): Hardness test	
Week 2	Lecture (2 hrs): Readings: Ch 3: Mechanical testing; Ch 4: The crystal structure of metals.	Laboratory 2 (2 hrs): Tensile Test	
Week 3	Lecture (2 hrs): Readings: Ch 5: Casting process; Ch 6: Mechanical deformation of metals; Ch 7: The mechanical shaping of metals.	Laboratory 3 (2 hrs): Metal Casting	10101
Week 4	Lecture (2 hrs): Readings: Ch 8: Alloys; Ch 9: Equilibrium diagrams; Ch 10: Practical microscopy	Laboratory 4 (2 hrs): Microscopy, Weld samples	10102
Week 5	Lecture (2hrs): Readings: Ch 11: Iron and steel; Ch 12: The heat-treatment of plain-carbon steels	Laboratory 5 (2 hrs): Torsion, Bending Tests	10103
Week 6	Lecture (2hrs): Readings: Ch 13: Alloy steels; Ch 14: The surface hardening of steels; Ch 15: Cast iron.	Laboratory 6 (2 hrs): Heat Treatment	
Week 7	Examination Week A: Assessment 2: Short answer test on content from weeks 1 to 5 (Ch 1 to Ch 15) 15%.	Assessment 3 due: Portfolio of Laboratory Reports 1, 2, 3 & 4 - 15%	
Week 8	Lecture (2hrs): Readings: Ch 16: Copper and its alloys; Ch 17: Aluminium and its alloys; Ch 18: Other non-ferrous metals and their alloys.	Laboratory 7 (2 hrs): Polymer tensile test,	10105

WEEK	LECTURES / EXAMINATIONS	LABORATORY	QUIZ
Week 9	Lecture (2hrs): Readings: Ch 19: Plastics materials and rubbers; Ch 20: Properties of plastics.	Site Visit: e.g. Rolling Mill, Materials process/testing	
Week 10	Lecture (2hrs): Readings: Ch 21: Ceramics; Ch 22: Glasses; Ch 23: Composite materials.	Demo: Epoxy FRC, thermoforming	10106
Week 11	Lecture (2hrs): Readings: Ch 24: Fibre-reinforced composite materials; Ch 25: Methods of joining materials.	Laboratory 8 (2 hrs): Dye, Mag, Ultrasound	10104
Week 12	Lecture (2hrs): Readings: Ch 26: Causes of failure; NDT; Material Standards.	Laboratory 9 (2 hrs): Product Study	10107
Week 13	Lecture (2 hrs): Readings: Ch 27 Choice of Materials and Processes; Design. Economic, Environmental, Social Issues.	Assessment 4 due: Collaborative Report (Product Study) 15%	10108
Week 14	Study Week		
Week 15	Examination Week B: Assessment 5: Written examination: 30%	Assessment 3 due: Portfolio of Laboratory Reports 5, 6, 7, 8 & 9 - 15%	

Lesson Power Points

E081 Material Science

http://www.filefactory.com/file/pq2r36bvgnv/n/E081_Material_Science1_pdf

Non Metallic Materials

http://www.filefactory.com/file/2czhyovkn32x/n/Materials_ppt

Password- Joe2013

Textbook

Prescribed Text:

Higgins, R. & Bolton, W., 2010, *Materials for Engineers and Technicians*, 5th Edition, Butterworth Heinemann, Oxford UK. ISBN 9781856177696.

http://www.filefactory.com/file/724kx95f2ayf/27767685-Materials-Engineers-Technicians_pdf

Password- Joe2013

Tutorial Exercises

Password- joe2013

Further Readings

Engineering Mechanics

http://www.filefactory.com/file/63sqtnrqf55/n/ME_103_Engineering_Mechanics_zip

Chemical Thermodynamics

http://www.filefactory.com/file/5ussq0pnpi4t/n/ME_207_Chemical_thermodynamics_pdf

Introduction-to-polymer-science-and-technology

http://www.filefactory.com/file/6epib0ijvbjt/n/ME_209_Introduction-to-polymer-science-and-technology_pdf

http://www.filefactory.com/file/7dhamrs5c3z7/n/ME207_zip

ME 305+ ME 209

http://www.filefactory.com/file/76fbf48z2h7j/n/ME305_ME209_zip

Password- joe2013

Online Practicals

Password- joe2013

ENELE 101A Principle of Electrical Engineering

Course Outline

In this subject you will learn about basic principles of electrical engineering. You will develop a range of foundation knowledge and skills relating to:

- Notation and units
- Circuit topologies

Direct current (DC) circuit principles:

- Voltage, current, power, resistance, conductance
- Ohm's Law; Kirchhoff voltage and current laws
- Series and parallel configurations
- Linearity and Superposition
- Thévenin and Norton equivalent circuits (simple cases)
- Nodal and mesh analysis (simple cases)
- Maximum power transfer
- Capacitors
- Passive and switched resistor-capacitor (RC) circuits
- Inductors
- Passive and switched resistor-inductor (RL) circuits
- Diodes

Alternating current (AC) circuit principles:

- Amplitude, frequency and phase
- Voltage
- Current and power in resistors, inductors & capacitors
- Time domain analysis of ac circuits
- Review of complex numbers
- Phasors and phasor notation
- Complex impedance and admittance
- Thévenin and Norton equivalents (simple cases)
- AC power (real, reactive, complex)
- Root-mean-square (RMS) values
- Maximum power transfer.

Study Guide

WEEK NO:	TOPICS AND ACTIVITIES
Orientation Week	Orientation activities Review of syllabus and assessment activities.
Week 1	Introduction to DC Circuits Reading List: Chapter 1 Sections: 1.1 – 1.5 Chapter 2 Sections: 2.1 – 2.6 & 2.9 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 2	Kirchhoff Voltage & Current Laws Reading List: Chapter 3 Sections: 3.1 – 3.6 & 3.10 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 3	Node & Mesh Analysis Reading List: Chapter 4 Sections: 4.1 – 4.3, 4.5, 4.6, 4.8, 4.13 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 4	Superposition Principle & Source Transformation Thévenin & Norton Equivalent DC Circuits Reading List: Chapter 5 Sections: 5.1 – 5.6 & 5.11 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 5	Capacitors & Inductors Reading List: Chapter 7 Sections: 7.1 – 7.8 & 7.13 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 6	Passive & Switched RL & RC Circuits Reading List: Chapter 8 Sections: 8.1 – 8.4, 8.6 & 8.12 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 7	Examination Week A: Assessment 1: Written examination - 25%

WEEK NO:	TOPICS AND ACTIVITIES
Week 8	Diodes in DC Circuits Introduction to AC Circuits Reading List: Chapter 10 Sections: 10.1 & 10.2 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 9	AC Steady-State Analysis Reading List: Chapter 10 Sections: 10.3 & 10.4 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 10	Complex Numbers & Phasor Notation Reading List: Chapter 10 Sections: 10.5 – 10.6 & 10.11 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 11	Impedance & Admittance Thevenin & Norton Equivalent AC Circuits Reading List: Chapter 10 Section: 10.7 & 10.10 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ. Assessment 2 Due: Portfolio and/or written report on practicum work and experiments (Laboratory Workbook) – 25%
Week 12	AC Power Reading List: Chapter 11 Sections: 11.1 – 11.6 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 13	Power Superposition & Maximum Power Reading List: Chapter 11 Sections: 11.7 – 11.8 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 14	Study Week
Week 15	Examination Week B: Assessment 3: Written examination – 50%

[Lesson Power Points](#)

[Week 1 Lesson](#)

[Week 2 Lesson](#)

[Week 3 Lesson](#)

Week 3A Lesson

Video- <http://www.filefactory.com/file/cf8739b/n/E003+E004.zip>

Circuit Analysis

Advanced Circuit Analysis

Electro-magnetics+Electronics

Advanced Circuits+Electromagnetics+Electronics

Electrical Circuits 1

Engineering Circuit Analysis

Electrical Measurement

Folder				Electrical Circuit
				<u>Instruction</u> Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	27	to	52	Circuit theorem
	54	to	71	Sinusoids & phasors
	73	to	81	Frequency response

Folder				Engineering Circuit Analysis
				<u>Instruction</u> Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
2/ 3				Basic circuits Examples 2.2, 2.3, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9, 3.10, 3.11, 3.12
4				Basic Nodal and Mesh analysis Example 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 4.9, 4.10, 4.11, 4.12
5				Linear and Superposition/ Source

				Transformation Example 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7, 5.8, 5.9, 5.10, 5.11
8				RL/ RC Circuits Example 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, 8.8, 8.9, 8.10, 8.11
9				RLC Circuits Example 9.1, 9.2, 9.3, 9.4, 9.5, 9.6, 9.7, 9.8, 9.9
10				Sinusoidal steady state analysis Example 10.1, 10.2, 10.3, 10.4, 10.5, 10.6, 10.7, 10.8
11				AC Power Circuit Analysis Example 11.1, 11.2, 11.3, 11.4, 11.5
12				Polyphase Circuits Example 12.1, 12.2, 12.3, 12.4, 12.5, 12.6
13				Magnetically coupled circuits Example 13.1, 13.2, 13.3, 13.4, 13.5, 13.6, 13.7, 13.8
14				Complex Frequency / Laplace Transform Example 14.1, 14.2, 14.3, 14.4, 14.5, 14.6, 14.7, 14.8, 14.11
				Laplace Transform Table 14.1, 14.2
15				Circuit analysis in “ S “ domain Example 15.1, 15.2, 15.3, 15.4, 15.5, 15.6, 15.7 Pole/ Zero constellation Example 15.12, 15.13
16				Frequency Response Example 16.1, 16.2
17				Two ports network Example 17.1, 17.2, 17.3, 17.4, 17.5
18				Fourier Circuit Analysis Example 18.1 Use of symmetry theory Table 18.1 Example 18.2, 18.3
Exercise	Q328	to	Q367	of Assignment Number (23)

Folder				EE404 Electrical Measurement
				<u>Instruction</u> Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary

6	197			Measurement of inductance and capacitance
7	270			Measurement of resistance
9	352			Magnetic measurement
11	437			High voltage measurement and tesating
12	480			Location of cable fault
20	730			Measurement of power
21	771			Measurement of energy

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Textbook

Prescribed Text:

Dorf, R & Svoboda, J 2010, *Introduction to Electric Circuits*, 8th or latest edition, John Wiley & Sons, Hoboken, NJ.

http://www.filefactory.com/file/626gk4lkg37z/Introduction_to_Electric_Circuits_8th_Edition_by_Richard_C_Dorf_amp_James_A_Svoboda_pdf

http://www.filefactory.com/file/7kaiz26cy6vf/LabView_pdf

http://www.filefactory.com/file/2rrdma1udpkv/Principles_and_Applications_of_Electrical_Engineering_pdf

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Tutorial Exercises

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Further Readings

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ENELE201A Advanced Electrical Engineering

Course Outline

In this subject you will build on basic engineering knowledge gained in previous sub and develop further knowledge and skills relating to electrical engineering:

Circuit analysis:

- DC and AC Network theorems (Kirchhoff's, Superposition)
- Resonance
- Magnetically coupled circuits

Communications and signalling processing and applications:

- Analogue and digital communications principles
- Filters
- Amplifiers and attenuators
- Communication protocols

Analogue and digital communication systems and control circuits:

- Telemetry and monitoring systems
- Control systems and applications.

Study Guide

Lesson Power Points

Electromagnetics

Electromagnetics 1

http://www.filefactory.com/file/f8hx3kz5gd1/n/BAE407_Wk_1_zip

Electromagnetics 2

http://www.filefactory.com/file/40r0fd3sta2p/n/BAE407_Wk_2_zip

Electromagnetics 3

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Circuits

Circuit 1

http://www.filefactory.com/file/65j9pisrtg0j/n/BAE405_Wk_1_zip

Circuit 2

http://www.filefactory.com/file/1o71eepje7up/n/BAE405_Wk_2_zip

Circuit 3

http://www.filefactory.com/file/1mm2f82zqhix/n/BAE405_Wk_3_zip

http://www.filefactory.com/file/3spcgz270krb/BAE405_Wk_3a.zip

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Textbook

Prescribed Texts:

Rizzoni, G & Hartley, T 2007, *Principles and Applications of Electrical Engineering*, 5th or latest edition, McGraw-Hill Companies Inc. USA

Recommended Readings:

Nahvi, M (Ed) & Edminister, J (Ed) 2011, *Schaum's Outline of Electric Circuits*, McGraw-Hill Companies Inc. USA

All About Circuits 2012, viewed 8 May 2012, <http://www.allaboutcircuits.com/>

http://www.filefactory.com/file/70zpg419d9mf/_Rizzoni_G_Principles_and_Applications_of_Electr_Bookos_org_pdf

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Tutorial Exercises

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Further Readings

Stage 2 Part 3.zip

http://www.filefactory.com/file/c0ccb1f/n/Stage_2_Part_3.zip

E025_Circuits_1 E025_Circuits_2

Stage 3 Part 2.zip

http://www.filefactory.com/file/c0ccdbc/n/Stage_3_Part_2.zip

E025_Tutorial

Stage 2 Part 2A.zip

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ENELE202A Principle of Electrical Machines

Course Outline

In this subject you will learn basic principles of electrical machinery. You will develop specialised knowledge and skills relating to:

Transformers:

- Transformer Principles and Construction
- Efficiency
- Impedance
- Equivalent circuit
- Polarity
- Vector groups
- Parallel operations
- Special Transformers (Auto and Instrument etc)

Induction Motors:

- Principle of Induction Motor
- Construction and operation of Squirrel Cage Induction Motors (SCIM) and Wound Rotor Induction Motors (WRIM)
- Operation and characteristics
- Induction Generator
- Single Phase Induction Motor

Synchronous Machines:

- Principles of operation
- Characteristics
- Motors
- Alternators

DC Machines:

- Principles of operation
- Shunt Series Compound Machines
- Characteristics

Single Phase and Special Motors:

- Split Phase motor
- Capacitor Start/Run motor

- Shaded Pole motor
- Universal motor
- Hysteresis motor
- Stepper motors
- Brushless DC motors
- Permanent magnet motors
- Variable reluctance motors
- Stepper motors
- Brushless DC motors

Electronic Control of Motors

- DC Motors
- AC Motors.

Study Guide

Lesson Power Points

AC MACHINES

[Elect Machine-G043+G044+G045.zip](#)

http://www.filefactory.com/file/c0b6668/n/Elect_Machine-G043_G044_G045.zip

[G043 G045 7762AF Notes](#)

[G043 G045 Part 1 7762AF Notes](#)

Induction and synchronous machines & control

[G043+G045 Lesson 1 AC Machine Introduction.zip](#)

http://www.filefactory.com/file/c0bf660/n/G043_G045_Lesson_1_AC_Machine_Introduction.zip

[G043+G045 Lesson 2 Slip+Equivalent Ckt.zip](#)

http://www.filefactory.com/file/c0bf7b9/n/G043_G045_Lesson_2_Slip_Equivalent_Ckt.zip

[G043+G045 Lesson 3 Power Transfer.zip](#)

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[G043+G045 Lesson 4 Test for equivalent ckt.zip](#)

http://www.filefactory.com/file/c0b03f9/n/G043_G045_Lesson_4_Test_for_equivalent_ckt.zip

[G043+G045 Lesson 5 Equivalent Ckt Problems.zip](#)

http://www.filefactory.com/file/c0bf842/n/G043_G045_Lesson_5_Equivalent_Ckt_Problems.zip

[G043+G045 Lesson 6 Motor starting and control.zip](#)

http://www.filefactory.com/file/c0bf90e/n/G043_G045_Lesson_6_Motor_starting_and_control.zip

[G043+G045 Lesson 7 Synchronous machine introduction.zip](#)

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[G043+G045 Lesson 8 Synchronous machine ckt problems.zip](#)

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[G043+G045 Lesson 9 Synchronous machine starting.zip](#)

http://www.filefactory.com/file/c0b0342/n/G043_G045_Lesson_9_Synchronous_machine_starting.zip

[G043+G045 Lesson 10 Single phase motor.zip](#)

http://www.filefactory.com/file/c0b0362/n/G043_G045_Lesson_10_Single_phase_motor.zip

[G043+G045 Lesson 11 Factors affecting motor operation.zip](#)

http://www.filefactory.com/file/c0b037b/n/G043_G045_Lesson_11_Factors_affecting_motor_operation.zip

[Induction and synchronous machines & control](#)

DC MACHINES

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[Elect Machine-G043+G044+G045.zip](#)

http://www.filefactory.com/file/c0b6668/n/Elect_Machine-G043_G044_G045.zip

2	E029 Motor Control 1 E029 Motor Control 2 E047Mech G044 7762AC1 G044 7762AC2
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TRANSFORMERS

Power Transformer+Line-G040.zip http://www.filefactory.com/file/c0b7bd2/n/Power_Transformer_Line-G040.zip
G040 7762AD Notes
As 1
As 2
G040 Lesson 1 Power transformer rating 1.zip http://www.filefactory.com/file/c0bcff1/n/G040_Lesson_1_Power_transformer_rating_1.zip G040 Lesson 1 Power transformer rating 2.zip http://www.filefactory.com/file/c0bcf9b/n/G040_Lesson_1_Power_transformer_rating_2.zip G040 Lesson 2 Open circuit short circuit test.zip http://www.filefactory.com/file/c0bc0b9/n/G040_Lesson_2_Open_circuit_short_circuit_test.zip G040 Lesson 3 Transformer regulation.zip http://www.filefactory.com/file/c0bc0d1/n/G040_Lesson_3_Transformer_regulation.zip G040 Lesson 4 Power transformer connection.zip http://www.filefactory.com/file/c0bc09a/n/G040_Lesson_4_Power_transformer_connection.zip G040 Lesson 5 Maximum efficiency.zip http://www.filefactory.com/file/c0bc1db/n/G040_Lesson_5_Maximum_efficiency.zip G040 Lesson 6 Transformer parallel operation.zip http://www.filefactory.com/file/c0bc164/n/G040_Lesson_6_Transformer_parallel_operation.zip G040 Lesson 7 Harmonic in transformer.zip http://www.filefactory.com/file/c0bc2ab/n/G040_Lesson_7_Harmonic_in_transformer.zip G040 Lesson 8 Transformer problem + auto transformer.zip http://www.filefactory.com/file/c0bc2cb/n/G040_Lesson_8_Transformer_problem_auto_transformer.zip

[G040 Lesson 9 Transformer rating cooling connection tap changing.zip](#)

http://www.filefactory.com/file/c0bc294/n/G040_Lesson_9_Transformer_rating_cooling_connection_tap_changing.zip

[G040 Lesson 10 Phase shift transformer.zip](#)

http://www.filefactory.com/file/c0bc2f5/n/G040_Lesson_10_Phase_shift_transformer.zip

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Textbook

Prescribed Texts:

Wildi, T 2006, *Electrical Machines, Drives and Power Systems* 6th or latest edition. Pearson Prentice Hall, Australia

http://www.filefactory.com/file/7hcvfk7cai6b/Electrical_Machines_drive_power_system.pdf

http://www.filefactory.com/file/2ua3qpynkv43/ENELE202A-Principle_of_Elect_Machine.pdf

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Tutorial Exercises

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Further Readings

Subjects	Points	Competency Units
Advanced Electro-magnetics Field & Materials		Electromagnetism

[Advanced Electro-magnetics](#)

[Field & Materials](#)

Readings

[Electro-magnetics Field](#)

[Electromagnetism](#)

[Electro-magnetism
Examples](#)

Electro-mechanics (2 pt)

Part (1) Overview Knowledge of the subject

Folder					Advanced Engineering Mathematics
					Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
File name		Chapter		Page	Topics
					Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
Theory					
chap01_emd.pdf				All	Electro-mechanic - 1.0.1 Scope of application <ul style="list-style-type: none"> Electro-magnetic theory 1.1.1a Magnetic field system, Table 1.1 1.1.1.b Electric field system Table 1.2
chap02_emd.pdf				All	Lumped electro-mechanical elements
chap03_sec_emd.pdf				All	Lumped parameter-electro-mechanic
chap04_sec_emd.pdf				All	Rotating machines
chap05_sec_emd.pdf				All	Lumped parameter-electro mechanical dynamics
Problems					
chap02_prb_emd.pdf				All	Example problems
chap03_prb_emd.pdf				All	Example problems
chap04_prb_emd.pdf				All	Example problems
chap05_prb_emd.pdf				All	Example problems
emdsoln_01.pdf				All	Solutions for all example problems

Electrical Machines Machine Principle

Folder				Electrical Machines
File				Electrical Machines
				Instruction

				Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	45			DC Generator, Example problems
	58			DC Motors, Example problems
	121			Efficiency & heating of electrical machines, Example problems
	131			Three phase transformer, Example problems
	142			Three phase induction motors, Example problems
	177			Synchronous generators, Example problems
	194			Synchronous motors, Example problems
	229			Basic of industrial motor control, Example problems

Machine Principle

Folder				Machine Principle
				<u>Instruction</u> Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
2	114			Rotating machines
3	116			Machinery mounting
4	118			Balancing
6	124			Bearing
7	139			Power transmission

Advanced Electro-magnetics Field & Materials

Folder					Advanced Electro-magnetic Field & Materials
File					
					<u>Instruction</u> Study the notes, calculate the example problems then do the exercises numbers as indicated
File name		Chapter		Page	Topics

				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
Pre-readings				
em01.pdf	1		All	Electric field
em02.pdf	2		All	Electrostatic potential
em03.pdf	3		All	Dipole and quadrature pole movements
em04.pdf	4		All	Batteries, resistors, ohm laws
em05.pdf	5		All	Capacitors
em06.pdf	6		All	Magnetic effect of an electric current
em07.pdf	7		All	Force on current in a magnetic field
em08.pdf	8		All	Electro-dynamics of moving bodies
em09.pdf	9		All	Magnetic potential
em10.pdf	10		All	Electro-magnetic Induction
em11.pdf	11		All	Dimensions
em12.pdf	12		All	Properties of magnetic materials
em13.pdf	13		All	Alternating current
em14.pdf	14		All	Laplace transform
em15.pdf	15		All	Maxwell Equation
em16.pdf	16		All	CGS Electricity & Magnetism
em17.pdf	17		All	Magnetic dipole movement
Highlight Points				
Lecture1.pdf			All	Outlines
Lecture 2.pdf			All	Electric field
Lecture 3.pdf			All	Electrostatic Energy
Lecture 4.pdf			All	Laplace's equation (1)
Lecture 5.pdf			All	Laplace's equation (2)
Lecture 6.pdf			All	Remarks on units
Lecture 7.pdf			All	Green's functions
Lecture 8.pdf			All	Multipole expansion
Lecture 9.pdf			All	Electro-static in matter
Lecture 10.pdf			All	Boundary condition
Lecture 11.pdf			All	Magneto statics (1)
Lecture 12.pdf			All	Magneto statics (2)
Lecture 13.pdf			All	Macroscopic magneto statics

Lecture 14.pdf		All	Maxwell's equation
Lecture 15.pdf		All	DISC movement
Lecture 16.pdf		All	Electro-magnetic plane waves
Lecture 17.pdf		All	Reflection & refraction
Lecture 18.pdf		All	Casual relation between D & E
Lecture 19.pdf		All	Wave guides and load cavities
Lecture 20.pdf		All	Electromagnetic radiation and scattering (1)
Lecture 21.pdf		All	Electromagnetic radiation and scattering (2)
Lecture 22.pdf		All	Scattering by small di-electric sphere
Lecture 27.pdf		All	Electro-magnetism
Lecture 28.pdf		All	Electro magnetic fields and moving charges
Formulas			
CW950212_1.pdf		All	Multipole expansion
CW950320_1.pdf		All	Magnetic constants and materials
CW950329_1.pdf		All	Ampere law
CW950128_3.pdf		All	Brief history of electro magnetism
CW950219_2.pdf		All	Gauss's law
CW950313_2.pdf		All	Numerical solutions to Laplace's equation
CW960430_2.pdf		All	Small current loop
CW970129_3.pdf		All	Curvilinear co-ordinate system
CW970210_1.pdf		All	Problems
CW970303_1.pdf		All	Dielectric tensors and constants
CW970317_2.pdf		All	Analytic solution to Laplace equation
CW970606_1.pdf		All	Magnetostatic boundary condition
CW970606_1.pdf		All	Electrostatic boundary condition
Symbols			
CW970606_3.pdf		All	Electromagnetic field
CW980205_2.pdf		All	The gradient vector
Di-electric.pdf		All	Maxwell's equation
Propagation.pdf		All	Electro-magnetic wave propagation

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Online Practicals

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ENELE 203A Electronics and Power Control

Course Outline

In this subject you will learn about electronics and power control. You will develop specialised knowledge and skills relating to:

Semiconductors, diodes, transistors and integrated circuits:

- Semiconductor materials and junctions
- Diode construction, operation, ratings and applications
- Transistor construction, operation, ratings and applications
- Integrated circuit construction, operation, ratings and applications especially as related to operational amplifiers

Linear regulated dc power supplies:

- Basic power supplies (ac to dc and dc to dc), circuits and applications
- Regulation requirements and applications

Switching power control circuits:

- Basic types, operation
- Critical issues, solutions and applications

Digital electronics

- Digital logic, circuits and power control applications

Power Inverters (DC to AC):

- Basic types, operation
- Critical issues, solutions and applications.

Study Guide

Lesson Power Points

POWER ELECTRONICS

[Power Electronics -H025+H026.zip](#)

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H025_Operational_Amplifier
H026_3_Ph_Power_Control_Electronics_1
H026_3_Ph_Power_Control_Electronics_2
H026_3_Ph_Power_Control_Electronics_3
H026_3_Ph_Power_Control_Electronics_4
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[H025_Lesson_1-Differential_Amplifier.zip](#)

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[H025_Lesson_2-Comparator.zip](#)

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[H025_Lesson_3-Timer_IC.zip](#)

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[H025_Lesson_4-Op_Amp_Circuit_1_2.zip](#)

http://www.filefactory.com/file/c0b08c8/n/H025_Lesson_4-Op_Amp_Circuit_1_2.zip

[H025_Lesson_5-Op_amp_characteristics+Band_widthe_compensation.zip](#)

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[H025_Lesson_6-Op_amp_diode_characteristics.zip](#)

http://www.filefactory.com/file/c0b09e1/n/H025_Lesson_6-Op_amp_diode_characteristics.zip

[H025_Lesson_7-Sine_&_square_wave_oscillators.zip](#)

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[H025_Lesson_9-Active_filter.zip](#)

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[H025_Lesson_10-Multistage_Op_amp_ckt.zip](#)

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[H025 Lesson 11-Transducers.zip](#)

http://www.filefactory.com/file/c0b0978/n/H025_Lesson_11-Transducers.zip

[H025 Lesson 12-Introduction to control.zip](#)

http://www.filefactory.com/file/c0b0986/n/H025_Lesson_12-Introduction_to_control.zip

[Operational amplifier+ single phase power control equipments](#)

[**Power Electronics -H025+H026.zip**](#)

[**http://www.filefactory.com/file/c0b6857/n/Power_Electronics_-H025_H026.zip**](http://www.filefactory.com/file/c0b6857/n/Power_Electronics_-H025_H026.zip)

[Three phase power control equipments](#)

[H026 Lesson 1-Single &Three phase power control.zip](#)

[**http://www.filefactory.com/file/c0b1ac9/n/H026_Lesson_1-Single_Three_phase_power_control.zip**](http://www.filefactory.com/file/c0b1ac9/n/H026_Lesson_1-Single_Three_phase_power_control.zip)

[H026 Lesson 2-Solid state switching devices.zip](#)

[**http://www.filefactory.com/file/c0b1af2/n/H026_Lesson_2-Solid_state_switching_devices.zip**](http://www.filefactory.com/file/c0b1af2/n/H026_Lesson_2-Solid_state_switching_devices.zip)

[H026 Lesson 3-Inverter Converter.zip](#)

[**http://www.filefactory.com/file/c0b1a59/n/H026_Lesson_3-Inverter_Converter.zip**](http://www.filefactory.com/file/c0b1a59/n/H026_Lesson_3-Inverter_Converter.zip)

[H026 Lesson 4-Power Diodes.zip](#)

[**http://www.filefactory.com/file/c0b1a8f/n/H026_Lesson_4-Power_Diodes.zip**](http://www.filefactory.com/file/c0b1a8f/n/H026_Lesson_4-Power_Diodes.zip)

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[H026 Lesson 6-Current fed inverter.zip](#)

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[Three phase power control equipments](#)

ANALOG ELECTRONICS

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http://www.filefactory.com/file/c0b1b5b/n/H045_Lesson_2_DC_Non_idealities.zip

[H045 Lesson 3 Bias compensation.zip](#)

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[H045 Lesson 5 AC Noise](#)

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[H045 Lesson 7 Signal to noise ratio.zip](#)

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[H045 Lesson 8 Frequency compensation.zip](#)

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[H045 Lesson 9 Stability analysis.zip](#)

http://www.filefactory.com/file/c0b1c95/n/H045_Lesson_9_Stability_analysis.zip

[H045 Lesson 10 Feedforward compensation.zip](#)

http://www.filefactory.com/file/c0b1c56/n/H045_Lesson_10_Feedforward_compensation.zip

[Analogue Electronics](#)

[H045 Lesson 1 Op-amp.zip](#)

http://www.filefactory.com/file/c0b1b3a/n/H045_Lesson_1_Op-amp.zip

[H045 Lesson 2 DC Non idealities.zip](#)

http://www.filefactory.com/file/c0b1b5b/n/H045_Lesson_2_DC_Non_idealities.zip

[H045 Lesson 3 Bias compensation.zip](#)

http://www.filefactory.com/file/c0b1b86/n/H045_Lesson_3_Bias_compensation.zip

[H045 Lesson 4 Slew rate.zip](#)

http://www.filefactory.com/file/c0b1ca0/n/H045_Lesson_4_Slew_rate.zip

[H045 Lesson 5 AC Noise.zip](#)

http://www.filefactory.com/file/c0b1cb2/n/H045_Lesson_5_AC_Noise.zip

[H045 Lesson 6 Source noise resistance.zip](#)

http://www.filefactory.com/file/c268af2/n/H045_Lesson_6_Source_noise_resistance.zip

[H045 Lesson 7 Signal to noise ratio.zip](#)

http://www.filefactory.com/file/c0b1cff/n/H045_Lesson_7_Signal_to_noise_ratio.zip

[H045 Lesson 8 Frequency compensation.zip](#)

http://www.filefactory.com/file/c0b1c0e/n/H045_Lesson_8_Frequency_compensation.zip

[H045 Lesson 9 Stability analysis.zip](#)

http://www.filefactory.com/file/c0b1c95/n/H045_Lesson_9_Stability_analysis.zip

[H045 Lesson 10 Feedforward compensation.zip](#)

http://www.filefactory.com/file/c0b1c56/n/H045_Lesson_10_Feedforward_compensation.zip

AMPLIFIER

http://www.filefactory.com/file/c0cb6a8/n/Additional_3.zip

DC Power Supply

<http://www.filefactory.com/file/4f92zgjjzg7j/DC%20Power%20Supply.pdf>

Password- Joe2013

Textbook

Prescribed Texts:

Meade, R, Diffenderfer, R 2006, *Foundations of Electronics: Circuits and Devices* (Conventional Flow), 5th or latest edition, Delmar Cengage Learning, USA

<http://www.filefactory.com/file/2yu0qvkoqppn/Electronic%20Devices.pdf>

Password- Joe2013

Tutorial Exercises

Password- joe2013

Further Readings

Analog & Digital Electronics 1

<http://www.filefactory.com/file/27alnx6skg2x/BAE408Wk1.zip>

Analog & Digital Electronics 2

http://www.filefactory.com/file/3vpyub43h53p/n/BAE408Wk2_zip

Analog & Digital Electronics 3

http://www.filefactory.com/file/4c6snjh05cel/n/BAE408Wk3_zip

Control 1

http://www.filefactory.com/file/4lahmzh0qf3b/n/BAE502_Wk_1_zip

Control 2

http://www.filefactory.com/file/46t9zbh859rl/BAE502_Wk_2.zip

Control 3

http://www.filefactory.com/file/15qea45hhvxx/n/BAE502_Wk_3_zip

Control 4

http://www.filefactory.com/file/22cy88iyi78f/n/BAE503Wk1PPT_zip

Control 5

http://www.filefactory.com/file/2d82bvgvzgx3/n/BAE503Wk2PPT_zip

Control 6

http://www.filefactory.com/file/3v7x6hmksvnf/n/BAE503Wk3PPT_zip

Password- joe2013

Online Practicals

Practicals Work performance and practical instruction

Click HERE to download practicals

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ENPRA101A Engineering Practice

Course Outline

In this subject you will learn about the practices of an engineering professional within a multidisciplinary framework. You will develop basic knowledge and skills relating to electrical and other engineering specialisations, including:

Introduction to the Regulatory System:

- Electricity Act
- Electricity Regulation Australian
- Standards State Regulators
- Workplace Health and Safety
- Engineers Code of Ethics

Drawings And Specifications:

- Drawing Interpretation
- Overview of Computer Aided Design (CAD)
- Writing a Specification

Generation and Distribution:

- Generating Plant
- Transmission Grid
- Substations

Fasteners and Fastening Methods:

- Methods of securing electrical equipment to various surfaces

Wiring Systems:

- Load Calculations
- Max. Demand
- Cables and Systems
- AS3008

Control and Protection:

- Earthing
- Protection for safety
- Faults and overloads
- Protective devices and methods

Illumination:

Study Guide

Lesson Power Points

AUSTRALIAN ELECTRICIAN TRAINING

G033+G063+G107 (Week 1 to 6 Lessons)(G033)

G106 Cable Termination

G106+G033 Practical

G063 Wk 7+8

http://www.filefactory.com/file/423vowj4o34b/G063_Wk_7_8_zip

G033+G063+G107 Week 10 to 15

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study	Main exercise		Additional exercises		
EE07 Unit	EE011 Unit	For EE07+EE011+Video	Study Option (1) EE-07	Study Option (2) EE-07	for EE011		
UEENE EE005B Fix and secure equipment	UEENEEE 105A Fix and secure electrotec hnology equipmen t	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1						
See 1	See 3		EE0	=	EE07	Addit	

below	below		11		+	ional	
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
2	
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
4	
5	<p>Video-- Electrical workshop Lesson 1 OHS.zip http://www.filefactory.com/file/c0adbfa/n/Electrical_workshop_Lesson_1_OHS.zip Electrical workshop Lesson 2 Workplace hazard+Fix & secure equipment.zip http://www.filefactory.com/file/c0adca2/n/Electrical_workshop_Lesson_2_Workplace_hazard_Fix_secure_equipment.zip Electrical workshop Lesson 3 Mechanical fixing.zip http://www.filefactory.com/file/c0adc1d/n/Electrical_workshop_Lesson_3_Mechanical_fixing.zip Electrical workshop Lesson 4 Basic electrical wiring.zip http://www.filefactory.com/file/c0add65/n/Electrical_workshop_Lesson_4_Basic_electrical_wiring.zip Electrical workshop Lesson 5 Wiring circuits.zip http://www.filefactory.com/file/c0ade9b/n/Electrical_workshop_Lesson_5_Wiring_circuits.zip Electrical workshop Lesson 6 Electrical safety testing.zip http://www.filefactory.com/file/c0adf90/n/Electrical_workshop_Lesson_6_Electrical_safety_testing.zip Electrical workshop Lesson 7 Testing insulation and polarity.zip http://www.filefactory.com/file/c0ad031/n/Electrical_workshop_Lesson_7_Testing_insulation_and_polarity.zip Electrical workshop Lesson 8 Testing lighting polarity.zip http://www.filefactory.com/file/c0ad1d8/n/Electrical_workshop_Lesson_8_Testing_lighting_polarity.zip</p>
6	(2) Click HERE to download other Exercises

7	EE07 & EE011 units mapping for Theory study & Exercises	
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf	
9	Stage_1_Electrical_workshop_practicals.pdf Wiring_Equipments_to_purchase IN THE LINK INDICATED IN ROLL 11	
10	Fixing Equipments E002_E005.zip IN THE LINK INDICATED IN ROLL 11	
11	BACK UP FOR 9 & 10 Stage 1 Part 1.zip http://www.filefactory.com/file/c0cb8ab/n/Stage_1_Part_1.zip Stage 1 Part 5.zip http://www.filefactory.com/file/c0cb9b3/n/Stage_1_Part_5.zip	

Study Guide EE07 & EE011

What to study			Which exercises to do		What practical to do	Resources	
Main study		Additional study	Main exercise		Additional exercises		
EE07 Unit	EE011 Unit	For EE07+ EE011 +Video	Study Option (1) EE-07	Study Option (2) EE-07	for EE011		
UEENE EE007B Use drawings, diagrams, schedules and manuals	UEENEE E107A Use drawings, diagrams, schedules, standards, codes and specifications	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below

Study Option 1	Study Option 1						
See 1 below	See 3 below		EE011	=	EE07+	Additional	
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
2	<p>ElectricalDrawing1</p> <p>ElectricalDrawing2</p> <p>ElectricalDrawing3</p> <p>Stage 1 Part 3.zip http://www.filefactory.com/file/c0cb8f5/n/Stage_1_Part_3.zip</p> <p>GeneralDrawing1</p> <p>GeneralDrawing2</p> <p>Stage 1 Part 4.zip http://www.filefactory.com/file/c0cc1cd/n/Stage_1_Part_4.zip</p>
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
4	<p>ElectricalDrawing1</p> <p>ElectricalDrawing2</p> <p>ElectricalDrawing3</p> <p>Stage 1 Part 3.zip http://www.filefactory.com/file/c0cb8f5/n/Stage_1_Part_3.zip</p> <p>GeneralDrawing1</p> <p>GeneralDrawing2</p> <p>Stage 1 Part 4.zip http://www.filefactory.com/file/c0cc1cd/n/Stage_1_Part_4.zip</p>
5	<p>Video-- Electrical workshop Lesson 1 OHS.zip http://www.filefactory.com/file/c0adbfa/n/Electrical_workshop_Lesson_1_OHS.zip</p> <p>Electrical workshop Lesson 2 Workplace hazard+Fix & secure equipment.zip http://www.filefactory.com/file/c0adca2/n/Electrical_workshop_Lesson_2_Workplace_hazard_Fix_secure_equipment.zip</p>

	<p>Electrical workshop Lesson 3 Mechanical fixing.zip http://www.filefactory.com/file/c0adc1d/n/Electrical_workshop_Lesson_3_Mechanical_fixing.zip</p> <p>Electrical workshop Lesson 4 Basic electrical wiring.zip http://www.filefactory.com/file/c0add65/n/Electrical_workshop_Lesson_4_Basic_electrical_wiring.zip</p> <p>Electrical workshop Lesson 5 Wiring circuits.zip http://www.filefactory.com/file/c0ade9b/n/Electrical_workshop_Lesson_5_Wiring_circuits.zip</p> <p>Electrical workshop Lesson 6 Electrical safety testing.zip http://www.filefactory.com/file/c0adf90/n/Electrical_workshop_Lesson_6_Electrical_safety_testing.zip</p> <p>Electrical workshop Lesson 7 Testing insulation and polarity.zip http://www.filefactory.com/file/c0ad031/n/Electrical_workshop_Lesson_7_Testing_insulation_and_polarity.zip</p> <p>Electrical workshop Lesson 8 Testing lighting polarity.zip http://www.filefactory.com/file/c0ad1d8/n/Electrical_workshop_Lesson_8_Testing_lighting_polarity.zip</p>
6	(2) Click HERE to download other Exercises
7	Stage 1 Electrical workshop practicals.pdf
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf
9	<p>EE07 & EE011 units mapping for Theory study & Exercises Attend the face to face session</p> <p>Stage_1_Electrical_workshop_practicals.pdf Wiring_Equipments_to_purchase in Stage 1 Part 3.zip http://www.filefactory.com/file/c0cb8f5/n/Stage_1_Part_3.zip</p>
10	<p>ElectricalDrawing1</p> <p>ElectricalDrawing2</p> <p>ElectricalDrawing3</p> <p>Stage 1 Part 3.zip http://www.filefactory.com/file/c0cb8f5/n/Stage_1_Part_3.zip</p> <p>GeneralDrawing1</p> <p>GeneralDrawing2</p>

	Stage 1 Part 4.zip http://www.filefactory.com/file/c0cc1cd/n/Stage_1_Part_4.zip
1 1	<u>BACK UP FOR 9 & 10</u> Stage 1 Part 3.zip http://www.filefactory.com/file/c0cb8f5/n/Stage_1_Part_3.zip

Study Guide EE07 & EE011

What to study	study		Which exercises to do		What practical to do	Resources
Main	study	Additional study	Main exercise		Additional exercises	
EE07 Unit	EE011 Unit	For EE07+EE011 +Video	Study Option (1) EE-07	Study Option (2) EE-07	for EE011	
UEENEEE008B Lay wiring/cabling and terminate accessories for extra-low voltage circuits	UEENEEE108A Lay wiring/cabling and terminate accessories for extra-low voltage (ELV) circuits	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below
Study Option 1	Study Option 1					
See 1 below	See 3 below		EE011	=	EE07 +	Additional
Study Option 2	Study Option 2					
See 2 below	See 4 below					

1	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop
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	_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
2	
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
4	
5	<p>Video-- Electrical workshop Lesson 1 OHS.zip http://www.filefactory.com/file/c0adbfa/n/Electrical_workshop_Lesson_1_OHS.zip Electrical workshop Lesson 2 Workplace hazard+Fix & secure equipment.zip http://www.filefactory.com/file/c0adca2/n/Electrical_workshop_Lesson_2_Workplace_hazard_Fix_secure_equipment.zip Electrical workshop Lesson 3 Mechanical fixing.zip http://www.filefactory.com/file/c0adc1d/n/Electrical_workshop_Lesson_3_Mechanical_fixing.zip Electrical workshop Lesson 4 Basic electrical wiring.zip http://www.filefactory.com/file/c0add65/n/Electrical_workshop_Lesson_4_Basic_electrical_wiring.zip Electrical workshop Lesson 5 Wiring circuits.zip http://www.filefactory.com/file/c0ade9b/n/Electrical_workshop_Lesson_5_Wiring_circuits.zip Electrical workshop Lesson 6 Electrical safety testing.zip http://www.filefactory.com/file/c0adf90/n/Electrical_workshop_Lesson_6_Electrical_safety_testing.zip Electrical workshop Lesson 7 Testing insulation and polarity.zip http://www.filefactory.com/file/c0ad031/n/Electrical_workshop_Lesson_7_Testing_insulation_and_polarity.zip Electrical workshop Lesson 8 Testing lighting polarity.zip http://www.filefactory.com/file/c0ad1d8/n/Electrical_workshop_Lesson_8_Testing_lighting_polarity.zip</p>
6	2) Click HERE to download other Exercises
7	EE07 & EE011 units mapping for Theory study & Exercises
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011.pdf
9	<p>EE07 & EE011 units mapping for Theory study & Exercises Attend the face to face session Stage_1_Electrical_workshop_practicals.pdf Wiring_Equipments_to_purchase IN THE LINK INDICATED IN ROLL 11</p>
10	<p>Wiring_Notes_1. Wiring_Notes_2 Switchboard_Wiring 1Wiring_E033_E008 2Wiring_E033_E008 IN THE LINK INDICATED IN ROLL 11</p>
11	<p>BACK UP for 9 & 10 Stage 1 Part 5.zip http://www.filefactory.com/file/c0cb9b3/n/Stage_1_Part_5.zip</p>

	Stage 1 Part 1.zip http://www.filefactory.com/file/c0cb8ab/n/Stage_1_Part_1.zip
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Study Guide EE07 & EE011

What to study	study		Which exercises to do		What practical to do	Resources
Main	study	Additional study	Main exercise		Additional exercises	
EE07 Unit	EE011 Unit	For EE07+EE011 +Video	Study Option (1) EE-07	Study Option (2) EE-07	for EE011	
UEENEEE033B Document occupational hazards and risks in electrical work <table border="1" style="width: 100px; height: 20px; margin-top: 5px;"></table>	UEENEEE137A Document and apply measures to control OHS risks associated with electrotechnology work	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below See 10 below
Study Option 1	Study Option 1					
See 1 below	See 3 below		EE011	=	EE07 +	Additional
Study Option 2	Study Option 2					
See 2 below	See 4 below					

1	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
2	
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
4	
5	Video-- Electrical workshop Lesson 1 OHS.zip http://www.filefactory.com/file/c0adbfa/n/Electrical_workshop_Lesson_1_OHS.zip Electrical workshop Lesson 2 Workplace hazard+Fix & secure equipment.zip

	http://www.filefactory.com/file/c0adca2/n/Electrical_workshop_Lesson_2_Workplace_hazard_Fix_secure_equipment.zip Electrical workshop Lesson 3 Mechanical fixing.zip http://www.filefactory.com/file/c0adc1d/n/Electrical_workshop_Lesson_3_Mechanical_fixing.zip Electrical workshop Lesson 4 Basic electrical wiring.zip http://www.filefactory.com/file/c0add65/n/Electrical_workshop_Lesson_4_Basic_electrical_wiring.zip Electrical workshop Lesson 5 Wiring circuits.zip http://www.filefactory.com/file/c0ade9b/n/Electrical_workshop_Lesson_5_Wiring_circuits.zip Electrical workshop Lesson 6 Electrical safety testing.zip http://www.filefactory.com/file/c0adf90/n/Electrical_workshop_Lesson_6_Electrical_safety_testing.zip Electrical workshop Lesson 7 Testing insulation and polarity.zip http://www.filefactory.com/file/c0ad031/n/Electrical_workshop_Lesson_7_Testing_insulation_and_polarity.zip Electrical workshop Lesson 8 Testing lighting polarity.zip http://www.filefactory.com/file/c0ad1d8/n/Electrical_workshop_Lesson_8_Testing_lighting_polarity.zip
6	2) Click HERE to download other Exercises
7	EE07 & EE011 units mapping for Theory study & Exercises
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011.pdf
9	EE07 & EE011 units mapping for Theory study & Exercises Attend the face to face session Stage_1_Electrical_workshop_practicals.pdf Wiring_Equipments_to_purchase IN THE LINK INDICATED IN ROLL 11
10	Electrical_safe_working.zip NREL_Disconnect_Reconnect.zip IN THE LINK INDICATED IN ROLL 11
11	BACK UP for 9 & 10 Stage 1 Part 5.zip http://www.filefactory.com/file/c0cb9b3/n/Stage_1_Part_5.zip Stage 1 Part 1.zip http://www.filefactory.com/file/c0cb8ab/n/Stage_1_Part_1.zip

Study Guide EE07 & EE011

What to study	study		Which	exercises to do		What practical to do	Resources
Main	study	Additional study	Main exercise		Additional exercises	do	
EE07 Unit	EE011 Unit	For EE07+EE011 +Video	Study Option (1) EE-07	Study Option (2) EE-07	for EE011		
	UEENEEG106A Terminate cables, cords and accessories for low voltage circuits	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1						
See 1 below	See 3 below		EE011	=	EE07 +	Additional	
Study Option 2	Study Option 2						
See 2 below	See 4 below						

4	ELV_Cable_termination in Stage 2 Part 2A.zip http://www.filefactory.com/file/c0cca4a/n/Stage_2_Part_2A.zip
5	Video-- Electrical workshop Lesson 1 OHS.zip http://www.filefactory.com/file/c0adbfa/n/Electrical_workshop_Lesson_1_OHS.zip Electrical workshop Lesson 2 Workplace hazard+Fix & secure equipment.zip

	http://www.filefactory.com/file/c0adca2/n/Electrical_workshop_Lesson_2_Workplace_hazard_Fix_secure_equipment.zip Electrical workshop Lesson 3 Mechanical fixing.zip http://www.filefactory.com/file/c0adc1d/n/Electrical_workshop_Lesson_3_Mechanical_fixing.zip Electrical workshop Lesson 4 Basic electrical wiring.zip http://www.filefactory.com/file/c0add65/n/Electrical_workshop_Lesson_4_Basic_electrical_wiring.zip Electrical workshop Lesson 5 Wiring circuits.zip http://www.filefactory.com/file/c0ade9b/n/Electrical_workshop_Lesson_5_Wiring_circuits.zip Electrical workshop Lesson 6 Electrical safety testing.zip http://www.filefactory.com/file/c0adf90/n/Electrical_workshop_Lesson_6_Electrical_safety_testing.zip Electrical workshop Lesson 7 Testing insulation and polarity.zip http://www.filefactory.com/file/c0ad031/n/Electrical_workshop_Lesson_7_Testing_insulation_and_polarity.zip Electrical workshop Lesson 8 Testing lighting polarity.zip http://www.filefactory.com/file/c0ad1d8/n/Electrical_workshop_Lesson_8_Testing_lighting_polarity.zip
6	
7	Only practical assessment in class
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011.pdf
9	Attend face to face class http://www.filefactory.com/file/2f8e3fph9trr/n/G106_G033_Practical.zip
10	ELV_Cable_termination Wiring_Notes_1. Wiring_Notes_2 Switchboard_Wiring 1Wiring_E033_E008 2Wiring_E033_E008 ElectricalDrawing1.zip ElectricalDrawing2.zip ElectricalDrawing3.pdf IN THE LINK INDICATED IN ROLL 11
11	BACK UP Stage 2 Part 2A.zip http://www.filefactory.com/file/c0cca4a/n/Stage_2_Part_2A.zip

Study Guide EE07 & EE011

What to study	study		Which exercises to do		What practical to do	Resources
Maintain	study	Additional	Main		Additio	

n		l study	exerci se		nal exercise s		
EE07 Unit	EE011 Unit	For EE07+EE 011 +Video	Study Optio n (1) EE- 07	Study Optio n (2) EE-07	for EE011		
	UEENEEG063A Arrange circuits, control and protection for general electrical installations	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Stud y Opti on 1	Study Option 1						
See 1 below	See 3 below		EE01 1	=	EE07 +	Additio nal	
Stud y Opti on 2	Study Option 2						
See 2 below	See 4 below						

1	
2	
3	
4	
5	<u>Electrical wiring + Electrical Installation requirement</u> <u>G003+G004+G007 Lesson 1 Electrical installation protection.zip</u> <u>http://www.filefactory.com/file/c35d2f2/n/G003_G004_G007_L</u>

esson_1_Electrical_installation_protection.zip

[G003+G004+G007 Lesson 2 Electrical system safety.zip](#)

http://www.filefactory.com/file/cf937ac/n/G003_G004_G007_Lesson_2_Electrical_system_safety.zip

[G003+G004+G007 Lesson 3 Heating+Cable](#) ckt protection exercise.zip

http://www.filefactory.com/file/c0abfe8/n/G003_G004_G007_Lesson_3_Heating_Cable_ckt_protection_exercise.zip

[G003+G004+G007 Lesson 4 Wiring system.zip](#)

http://www.filefactory.com/file/cf939f0/n/G003_G004_G007_Lesson_4_Wiring_system.zip

[G003+G004+G007 Lesson 5 Hazardous area electrical system.zip](#)

http://www.filefactory.com/file/cf94af8/n/G003_G004_G007_Lesson_5_Hazardous_area_electrical_system.zip

[G003+G004+G007 Lesson 6 Overload protection RCD.zip](#)

http://www.filefactory.com/file/cf94bcf/n/G003_G004_G007_Lesson_6_Overload_protection_RCD.zip

[G003+G004+G007 Lesson 7 RCD + Metering.zip](#)

http://www.filefactory.com/file/cf94cae/n/G003_G004_G007_Lesson_7_RCD_Metering.zip

[G003+G004+G007 Lesson 8 Switch board installation.zip](#)

http://www.filefactory.com/file/cf94c40/n/G003_G004_G007_Lesson_8_Switch_board_installation.zip

	<p>G003+G004+G007 Lesson 9 Cable selection+Maximum demand.zip</p> <p>http://www.filefactory.com/file/cf94dbb/n/G003_G004_G007_Lesson_9_Cable_selection_Maximum_demand.zip</p> <p>G003+G004+G007 Lesson 10 Electrical installation safety testing.zip</p> <p>http://www.filefactory.com/file/cf94123/n/G003_G004_G007_Lesson_10_Electrical_installation_safety_testing.zip</p>
6	
7	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p>Only face to face class assessment</p>
8	Only face to face class assessment
9	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p>Attend face to face class</p> <p>PRACTICAL</p> <p>Workshop 2+3</p> <p>WorkShop_Part_2_Practical_1_to_6_.zip</p> <p>WorkShop_Part_2_Practical_7_to_12_.zip</p> <p>WorkShop_Part_2_Practical_13_to_17_.zip</p> <p>WorkShop_Part_2_Practical_18_to_21_.zip</p> <p>ElectricalWorkshopPart3_G008_Group1Machine_.zip</p> <p>ElectricalWorkshopPart3_G008_Group2LineProtection_.zip</p> <p>ElectricalWorkshopPart3_G008_Group3InstrumentsDevices_.zip</p> <p>OTHER PRACTICALS</p> <p>ELECTRICAL_WORKSHOP_PART_2_G003_G004_G009_.zip</p> <p>Electrical_Workshop_Part_2_Practical_1_to_18.zip</p> <p>Electrical_Workshop_Part_2_Practical_19_to_21.zip</p> <p>G003_G004_G009Practicals.pdf IN THE LINK INDICATED IN ROLL 11</p>
10	<p>Construction ElectricalSafety.zip</p> <p>InserviceTesting.zip</p> <p>Wiring_Notes_1. Wiring_Notes_2 Switchboard_Wiring</p> <p>1Wiring_E033_E008 2Wiring_E033_E008</p>

	IN THE LINK INDICATED IN ROLL 11
1 1	<p><u>BACK UP FOR 9 & 10</u></p> <p><u>Stage 2 Part 1B.zip</u> http://www.filefactory.com/file/c0ccac0/n/Stage_2_Part_1B.zip</p> <p><u>Stage 2 Part 3.zip</u> http://www.filefactory.com/file/c0ccb1f/n/Stage_2_Part_3.zip</p> <p><u>Stage 2 Part 6.zip</u> http://www.filefactory.com/file/c0cccc0/n/Stage_2_Part_6.zip</p> <p><u>Stage 3 Part 3.zip</u> http://www.filefactory.com/file/c0ccd44/n/Stage_3_Part_3.zip</p> <p><u>Stage 3 Part 4.zip</u> http://www.filefactory.com/file/c0ccd9a/n/Stage_3_Part_4.zip</p> <p><u>Stage 4 Part 8.zip</u> http://www.filefactory.com/file/c0cc5a1/n/Stage_4_Part_8.zip</p> <p><u>Stage 4 Part 9.zip</u> http://www.filefactory.com/file/c0cc5db/n/Stage_4_Part_9.zip</p> <p><u>Stage 4 Part 10.zip</u> http://www.filefactory.com/file/c0cc5f8/n/Stage_4_Part_10.zip</p> <p><u>Stage 3 Part 5.zip</u> http://www.filefactory.com/file/c0ccefd/n/Stage_3_Part_5.zip</p> <p><u>Stage 3 Part 8.zip</u> http://www.filefactory.com/file/c0ccf09/n/Stage_3_Part_8.zip</p> <p><u>Stage 3 Part 9.zip</u> http://www.filefactory.com/file/c0ccf48/n/Stage_3_Part_9.zip</p>

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study	Main exercise		Additional exercises		
EE07 Unit	EE011 Unit	For EE07+EE011 +Video	Study Option (1) EE-07	Study Option (2) EE-07	for EE011		
UEENEEG 007A Select wiring systems and cables for	UEENEEG 107A Select wiring systems and cables for	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below

low voltage general electrical installations	low voltage general electrical installations						
Study Option 1	Study Option 1						
See 1 below	See 3 below		EE01 1	=	EE07 +	Addi onal	
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
2	<p>AS3000-2007Overview.zip</p> <p>AS3000_AS3008TablesExtract.zip</p> <p>WiringRules.zip</p> <p>Part (1) Study the following notes</p> <p>Installation_Requirement_1-A.zip</p> <p>Installation_Requirement_1-B.zip</p> <p>Installation_Requirement_2-A.zip</p> <p>Installation_Requirement_2-B.zip</p> <p>Stage_2_Wiring.zip</p> <p>In</p> <p>Stage 2 Part 3.zip http://www.filefactory.com/file/c0ccb1f/n/Stage_2_Part_3.zip</p> <p>Stage 2 Part 6.zip http://www.filefactory.com/file/c0cccc0/n/Stage_2_Part_6.zip</p> <p>Stage 3 Part 1B.zip http://www.filefactory.com/file/c0ccc42/n/Stage_3_Part_1B.zip</p> <p>Stage 3 Part 3.zip http://www.filefactory.com/file/c0ccd44/n/Stage_3_Part_3.zip</p> <p>Stage 3 Part 4.zip http://www.filefactory.com/file/c0ccd9a/n/Stage_3_Part_4.zip</p> <p>Stage 3 Part 5.zip http://www.filefactory.com/file/c0ccefd/n/Stage_3_Part_5.zip</p> <p>Stage 3 Part 6.zip http://www.filefactory.com/file/c0cce63/n/Stage_3_Part_6.zip</p> <p>Stage 3 Part 9.zip http://www.filefactory.com/file/c0ccf48/n/Stage_3_Part_9.zip</p>

	Stage 4 Part 7.zip Stage 4 Part 8.zip Stage 4 Part 9.zip Stage 4 Part 14.zip
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
4	AS3000-2007Overview.zip AS3000_AS3008TablesExtract.zip WiringRules.zip Part (1) Study the following notes Installation_Requirement_1-A.zip Installation_Requirement_1-B.zip Installation_Requirement_2-A.zip Installation_Requirement_2-B.zip Stage_2_Wiring.zip in www.electricaldiploma2013.zoomshare.com AUSTRALIAN ELECTRICIAN TRAINING
5	<u>G007</u> G007 Lesson 1 AS3000 Wiring rule overview.zip http://www.filefactory.com/file/cf94220/n/G007_Lesson_1_AS3000_Wiring_rule_overview.zip G007 Lesson 2 Maximum Demand calculation.zip http://www.filefactory.com/file/cf9456f/n/G007_Lesson_2_Maximum_Demand_calculation.zip G007 Lesson 3 Cable selection.zip

	<p>http://www.filefactory.com/file/cf9465c/n/G007_Lesson_3_Cable_selection.zip</p> <p>G007 Lesson 4 Cable voltage drop calculation.zip</p> <p>http://www.filefactory.com/file/cf9479e/n/G007_Lesson_4_Cable_voltage_drop_calculation.zip</p> <p>G007 Lesson 5 Derating of cable part 1.zip</p> <p>http://www.filefactory.com/file/cf95acb/n/G007_Lesson_5_Derating_of_cable_part_1.zip</p> <p>G007 Lesson 6 Derating of cable part 2.zip</p> <p>http://www.filefactory.com/file/cf95a6b/n/G007_Lesson_6_Derating_of_cable_part_2.zip</p> <p>G007 Lesson 7 Derating of cable for HRC fuse protection.zip</p> <p>http://www.filefactory.com/file/cf95cd7/n/G007_Lesson_7_Derating_of_cable_for_HRC_fuse_protection.zip</p> <p>G007 Lesson 8 Final subcircuit fault loop impedance.zip</p> <p>http://www.filefactory.com/file/cf95dd1/n/G007_Lesson_8_Final_subcircuit_fault_loop_impedance.zip</p> <p><u>Electrical Installation requirement</u></p>
6	Click HERE to download the other exercises
7	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p>Do the assignments from the following book & submit the assignment (1) Cable Installation.zip</p> <p>Do the assignments from the following book & submit the assignment (2) Regulatory Requirement.zip</p>
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf
9	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p>PRACTICAL</p> <p>Workshop 2+3</p> <p>WorkShop_Part_2_Practical_1_to_6_.zip</p> <p>WorkShop_Part_2_Practical_7_to_12_.zip</p> <p>WorkShop_Part_2_Practical_13_to_17_.zip</p> <p>WorkShop_Part_2_Practical_18_to_21_.zip</p> <p>ElectricalWorkshopPart3_G008_Group1Machine_.zip</p>

	<p>ElectricalWorkshopPart3_G008_Group2LineProtection_.zip</p> <p>ElectricalWorkshopPart3_G008_Group3InstrumentsDevices_.zip</p> <p>OTHER PRACTICALS</p> <p>ELECTRICAL_WORKSHOP_PART_2_G003_G004_G009_.zip</p> <p>Electrical_Workshop_Part_2_Practical_1_to_18.zip</p> <p>Electrical_Workshop_Part_2_Practical_19_to_21.zip</p> <p>G003_G004_G009Practicals.pdf</p> <p>In</p> <p>www.electricaldiploma2013.zoomshare.com</p> <p>AUSTRALIAN ELECTRICIAN TRAINING</p>
10	
11	<p><u>BACK UP FOR 9 & 10</u></p> <p>Stage 2 Part 1B.zip http://www.filefactory.com/file/c0ccac0/n/Stage_2_Part_1B.zip</p> <p>Stage 2 Part 3.zip http://www.filefactory.com/file/c0ccb1f/n/Stage_2_Part_3.zip</p> <p>Stage 2 Part 6.zip http://www.filefactory.com/file/c0cccc0/n/Stage_2_Part_6.zip</p> <p>Stage 3 Part 3.zip http://www.filefactory.com/file/c0ccd44/n/Stage_3_Part_3.zip</p> <p>Stage 3 Part 4.zip http://www.filefactory.com/file/c0ccd9a/n/Stage_3_Part_4.zip</p> <p>Stage 3 Part 5.zip http://www.filefactory.com/file/c0ccefd/n/Stage_3_Part_5.zip</p> <p>Stage 3 Part 8.zip http://www.filefactory.com/file/c0ccf09/n/Stage_3_Part_8.zip</p> <p>Stage 3 Part 9.zip http://www.filefactory.com/file/c0ccf48/n/Stage_3_Part_9.zip</p> <p>Stage 4 Part 7.zip http://www.filefactory.com/file/c0cc479/n/Stage_4_Part_7.zip</p> <p>Stage 4 Part 8.zip http://www.filefactory.com/file/c0cc5a1/n/Stage_4_Part_8.zip</p> <p>Stage 4 Part 9.zip http://www.filefactory.com/file/c0cc5db/n/Stage_4_Part_9.zip</p> <p>Stage 4 Part 10.zip http://www.filefactory.com/file/c0cc5f8/n/Stage_4_Part_10.zip</p>

Study Guide EE07 & EE011

What to study		Which exercises		What practicals	Resources
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				to do		cal to	
Main	study	Addition al study	Main exerc ise		Additi onal exercis es	do	
EE07 Unit	EE011 Unit	For EE07+E E011 +Video	Stud y Opti on (1) EE- 07	Study Optio n (2) EE- 07	for EE011		
UEENEEG 003A Install low voltage wiring and accessori es	UEENEEG 103A Install low voltage wiring and accessori es	See 5 below	See 6 belo w	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1						
See 1 below	See 3 below		EE01 1	=	EE07 +	Additi onal	
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
2	
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip <u>G103+104 Notes+Lessons</u> http://www.filefactory.com/file/2bg8qift6nzh/n/G103_G104_zip
4	Wiring_Notes_1. Wiring_Notes_2 Switchboard_Wiring 1Wiring_E033_E008 2Wiring_E033_E008 Fixing Equipments

	<p>E002_E005.zip Lighting.zip</p> <p>E_trade_1.zip</p> <p>E_trade_2.zip</p> <p>E_trade_3.zip</p> <p>E_trade_4.zip</p> <p>G008_General_Notes_1.zip</p> <p>G008_General_Notes_2.zip</p> <p>Hazard_Identification.zip</p> <p>G003_G004_Wiring_2_Part_1.zip</p> <p>G003_G004_Wiring_2_Part_2.zip</p> <p>Cable_CktProt_E_Accessories.zip</p> <p>Cable_Conduit_E_Accessories.zip</p> <p>Elect_Installation_Protection_Method_Devices.zip</p> <p>Elect_Installation_Requirement_1.zip</p> <p>Elect_Installation_Requirement_1.zip</p> <p>Elect_Installation_Requirement_2.zip</p> <p>ElectricInstallationDesign.zip</p> <p>ElectSystSafety1.zip</p> <p>ElectSystSafety2.zip</p> <p>FireProtHeatingTestingEarthing.zip</p> <p>GeneralWiring.zip</p> <p>HazardLightingPanel.zip</p> <p>PanelRCDWireSpecial_Installation.zip</p> <p>ProtectionMethods.zip</p> <p>in</p> <p>www.electricaldiploma2013.zoomshare.com</p> <p>AUSTRALIAN ELECTRICIAN TRAINING</p>
5	<p><u>Electrical wiring + Electrical Installation requirement</u></p> <p>G003+G004+G007 Lesson 1 Electrical installation protection.zip</p> <p>http://www.filefactory.com/file/c35d2f2/n/G003_G004_G007_Lesson_1_Electrical_installation_protection.zip</p> <p>G003+G004+G007 Lesson 2 Electrical system safety.zip</p> <p>http://www.filefactory.com/file/cf937ac/n/G003_G004_G007_Lesson_2_Electrical_system_safety.zip</p> <p>G003+G004+G007 Lesson 3 Heating+Cable ckt protection exercise.zip</p> <p>http://www.filefactory.com/file/c0abfe8/n/G003_G004_G007_Lesson_3_Heating_Cable_ckt_protection_exercise.zip</p>

	<p>G003+G004+G007 Lesson 4 Wiring system.zip http://www.filefactory.com/file/cf939f0/n/G003_G004_G007_Lesson_4_Wiring_system.zip</p> <p>G003+G004+G007 Lesson 5 Hazardous area electrical system.zip http://www.filefactory.com/file/cf94af8/n/G003_G004_G007_Lesson_5_Hazardous_area_electrical_system.zip</p> <p>G003+G004+G007 Lesson 6 Overload protection RCD.zip http://www.filefactory.com/file/cf94bcf/n/G003_G004_G007_Lesson_6_Overload_protection_RCD.zip</p> <p>G003+G004+G007 Lesson 7 RCD + Metering.zip http://www.filefactory.com/file/cf94cae/n/G003_G004_G007_Lesson_7_RCD_Metering.zip</p> <p>G003+G004+G007 Lesson 8 Switch board installation.zip http://www.filefactory.com/file/cf94c40/n/G003_G004_G007_Lesson_8_Switch_board_installation.zip</p> <p>G003+G004+G007 Lesson 9 Cable selection+Maximum demand.zip http://www.filefactory.com/file/cf94dbb/n/G003_G004_G007_Lesson_9_Cable_selection_Maximum_demand.zip</p> <p>G003+G004+G007 Lesson 10 Electrical installation safety testing.zip http://www.filefactory.com/file/cf94123/n/G003_G004_G007_Lesson_10_Electrical_installation_safety_testing.zip</p>
6	<p>Click HERE to download the other exercises</p>
7	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p>Assessment Read the above notes files and do the assignments for the following tutorial file.</p> <p>WiringPracticals.zip G003G004Tutorial.zip in www.electricaldiploma2013.zoomshare.com AUSTRALIAN ELECTRICIAN TRAINING</p>
8	<p>http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011.pdf</p>
9	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p>Attend the face to face class</p> <p>PRACTICAL</p> <p>http://www.filefactory.com/file/54l4d5rif1z3/n/Advanced_Wiring_Part_1.zip</p> <p><u>Advanced Wiring Part 1+2—G103</u></p> <p>http://www.filefactory.com/file/1xb18xg1gaz1/n/Advanced_Wiring_Part_1_and_2.zip</p> <p><u>Electrical Installation Safety Testing</u></p> <p>http://www.filefactory.com/file/5mv9s6dx174h/n/Electrical_Installation_Safety_Testing.zip</p>

	Workshop 2+3 WorkShop_Part_2_Practical_1_to_6_.zip WorkShop_Part_2_Practical_7_to_12_.zip WorkShop_Part_2_Practical_13_to_17_.zip WorkShop_Part_2_Practical_18_to_21_.zip ElectricalWorkshopPart3_G008_Group1Machine_.zip ElectricalWorkshopPart3_G008_Group2LineProtection_.zip ElectricalWorkshopPart3_G008_Group3InstrumentsDevices_.zip OTHER PRACTICALS ELECTRICAL_WORKSHOP_PART_2_G003_G004_G009_.zip Electrical_Workshop_Part_2_Practical_1_to_18.zip Electrical_Workshop_Part_2_Practical_19_to_21.zip G003_G004_G009Practicals.pdf
1 0	Stage 3 Part 8.zip http://www.filefactory.com/file/c0ccf09/n/Stage_3_Part_8.zip Power Distribution Trade Power_Distribution_Trade.zip Metering Metering.zip
1 1	<u>BACK UP FOR 9 & 10</u> Stage 2 Part 1B.zip http://www.filefactory.com/file/c0ccac0/n/Stage_2_Part_1B.zip Stage 2 Part 3.zip http://www.filefactory.com/file/c0ccb1f/n/Stage_2_Part_3.zip Stage 2 Part 6.zip http://www.filefactory.com/file/c0cccc0/n/Stage_2_Part_6.zip Stage 3 Part 3.zip http://www.filefactory.com/file/c0ccd44/n/Stage_3_Part_3.zip Stage 3 Part 4.zip http://www.filefactory.com/file/c0ccd9a/n/Stage_3_Part_4.zip Stage 3 Part 5.zip http://www.filefactory.com/file/c0ccefd/n/Stage_3_Part_5.zip Stage 3 Part 8.zip http://www.filefactory.com/file/c0ccf09/n/Stage_3_Part_8.zip Stage 3 Part 9.zip http://www.filefactory.com/file/c0ccf48/n/Stage_3_Part_9.zip Stage 4 Part 7.zip http://www.filefactory.com/file/c0cc479/n/Stage_4_Part_7.zip Stage 4 Part 8.zip http://www.filefactory.com/file/c0cc5a1/n/Stage_4_Part_8.zip Stage 4 Part 9.zip http://www.filefactory.com/file/c0cc5db/n/Stage_4_Part_9.zip Stage 4 Part 10.zip http://www.filefactory.com/file/c0cc5f8/n/Stage_4_Part_10.zip

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional	Main		Additional		

n		l study	exerci se		nal exercise s		
EE07 Unit	EE011 Unit	For EE07+EE011 +Video	Study Option (1) EE-07	Study Option (2) EE-07	for EE011		
	UEENEEG033A Solve problems in single and three phase low voltage electrical apparatus and circuits	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1						
See 1 below	See 3 below		EE011	=	EE07 +	Additional	
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1		
2		
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip <u>G033</u> http://www.filefactory.com/file/1b2utxydvcx7/n/G033_zip	
4	Wiring_Notes_1. Wiring_Notes_2 Switchboard_Wiring 1Wiring_E033_E008 2Wiring_E033_E008	

	<p>Fixing Equipments</p> <p>E002_E005.zip Lighting.zip</p> <p>E_trade_1.zip</p> <p>E_trade_2.zip</p> <p>E_trade_3.zip</p> <p>E_trade_4.zip</p> <p>G008_General_Notes_1.zip</p> <p>G008_General_Notes_2.zip</p> <p>Hazard_Identification.zip</p> <p>G003_G004_Wiring_2_Part_1.zip</p> <p>G003_G004_Wiring_2_Part_2.zip</p> <p>Cable_CktProt_E_Accessories.zip</p> <p>Cable_Conduit_E_Accessories.zip</p> <p>Elect_Installation_Protection_Method_Devices.zip</p> <p>Elect_Installation_Requirement_1.zip</p> <p>Elect_Installation_Requirement_1.zip</p> <p>Elect_Installation_Requirement_2.zip</p> <p>ElectricInstallationDesign.zip</p> <p>ElectSystSafety1.zip</p> <p>ElectSystSafety2.zip</p> <p>FireProtHeatingTestingEarthing.zip</p> <p>GeneralWiring.zip</p> <p>HazardLightingPanel.zip</p> <p>PanelRCDWireSpecial_Installation.zip</p> <p>ProtectionMethods.zip</p> <p>In</p> <p>www.electricaldiploma2013.zoomshare.com</p> <p>AUSTRALIAN ELECTRICIAN TRAINING</p>
5	<p><u>Electrical wiring + Electrical Installation requirement</u></p> <p> <u>G003+G004+G007 Lesson 1 Electrical installation protection.zip</u></p> <p> http://www.filefactory.com/file/c35d2f2/n/G003_G004_G007_Lesson_1_Electrical_installation_protection.zip</p> <p> <u>G003+G004+G007 Lesson 2 Electrical system safety.zip</u></p> <p> http://www.filefactory.com/file/cf937ac/n/G003_G004_G007_Lesson_2_Electrical_system_safety.zip</p> <p> <u>G003+G004+G007 Lesson 3 Heating+Cable</u> ckt protection exercise.zip</p> <p> http://www.filefactory.com/file/c0abfe8/n/G003_G004_G007_Lesson_3</p>

	<p>_Heating_Cable_ckt_protection_exercise.zip</p> <p>G003+G004+G007 Lesson 4 Wiring system.zip</p> <p>http://www.filefactory.com/file/cf939f0/n/G003_G004_G007_Lesson_4_Wiring_system.zip</p> <p>G003+G004+G007 Lesson 5 Hazardous area electrical system.zip</p> <p>http://www.filefactory.com/file/cf94af8/n/G003_G004_G007_Lesson_5_Hazardous_area_electrical_system.zip</p> <p>G003+G004+G007 Lesson 6 Overload protection RCD.zip</p> <p>http://www.filefactory.com/file/cf94bcf/n/G003_G004_G007_Lesson_6_Overload_protection_RCD.zip</p> <p>G003+G004+G007 Lesson 7 RCD + Metering.zip</p> <p>http://www.filefactory.com/file/cf94cae/n/G003_G004_G007_Lesson_7_RCD_Metering.zip</p> <p>G003+G004+G007 Lesson 8 Switch board installation.zip</p> <p>http://www.filefactory.com/file/cf94c40/n/G003_G004_G007_Lesson_8_Switch_board_installation.zip</p> <p>G003+G004+G007 Lesson 9 Cable selection+Maximum demand.zip</p> <p>http://www.filefactory.com/file/cf94dbb/n/G003_G004_G007_Lesson_9_Cable_selection_Maximum_demand.zip</p> <p>G003+G004+G007 Lesson 10 Electrical installation safety testing.zip</p> <p>http://www.filefactory.com/file/cf94123/n/G003_G004_G007_Lesson_10_Electrical_installation_safety_testing.zip</p> <p>Electrical wiring + Electrical Installation requirement</p>	
6	Click HERE to download the other exercises	
7	<p>EE07 & EE011 units mapping for Theory study & Exercises Assessment</p> <p>Read the above notes files and do the assignments for the following tutorial file.</p> <p>WiringPracticals.zip</p> <p>G003G004Tutorial.zip</p>	

	www.electricaldiploma2013.zoomshare.com AUSTRALIAN ELECTRICIAN TRAINING	
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011.pdf	
9	Attend the face to face class http://www.filefactory.com/file/2f8e3fph9trr/n/G106_G033_Practical.zip	
10	Power Distribution Trade Power_Distribution_Trade.zip Metering Metering.zip PRACTICAL Workshop 2+3 WorkShop_Part_2_Practical_1_to_6_.zip WorkShop_Part_2_Practical_7_to_12_.zip WorkShop_Part_2_Practical_13_to_17_.zip WorkShop_Part_2_Practical_18_to_21_.zip ElectricalWorkshopPart3_G008_Group1Machine_.zip ElectricalWorkshopPart3_G008_Group2LineProtection_.zip ElectricalWorkshopPart3_G008_Group3InstrumentsDevices_.zip OTHER PRACTICALS ELECTRICAL_WORKSHOP_PART_2_G003_G004_G009_.zip Electrical_Workshop_Part_2_Practical_1_to_18.zip Electrical_Workshop_Part_2_Practical_19_to_21.zip G003_G004_G009Practicals.pdf In www.electricaldiploma2013.zoomshare.com AUSTRALIAN ELECTRICIAN TRAINING	
11	<u>BACK UP FOR 9 & 10</u> <u>Stage 2 Part 1B.zip</u> http://www.filefactory.com/file/c0ccac0/n/Stage_2_Part_1B.zip <u>Stage 2 Part 3.zip</u> http://www.filefactory.com/file/c0ccb1f/n/Stage_2_Part_3.zip <u>Stage 2 Part 6.zip</u> http://www.filefactory.com/file/c0cccc0/n/Stage_2_Part_6.zip <u>Stage 3 Part 3.zip</u> http://www.filefactory.com/file/c0ccd44/n/Stage_3_Part_3.zip <u>Stage 3 Part 4.zip</u> http://www.filefactory.com/file/c0ccd9a/n/Stage_3_Part_4.zip <u>Stage 3 Part 5.zip</u> http://www.filefactory.com/file/c0ccefd/n/Stage_3_Part_5.zip <u>Stage 3 Part 8.zip</u> http://www.filefactory.com/file/c0ccf09/n/Stage_3_Part_8.zip	

Stage 3 Part 9.zip	http://www.filefactory.com/file/c0ccf48/n/Stage_3_Part_9.zip
Stage 4 Part 7.zip	http://www.filefactory.com/file/c0cc479/n/Stage_4_Part_7.zip
Stage 4 Part 8.zip	http://www.filefactory.com/file/c0cc5a1/n/Stage_4_Part_8.zip
Stage 4 Part 9.zip	http://www.filefactory.com/file/c0cc5db/n/Stage_4_Part_9.zip
Stage 4 Part 10.zip	http://www.filefactory.com/file/c0cc5f8/n/Stage_4_Part_10.zip

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Textbook

Prescribed Texts:

TAFE NSW Higher Education 2012, *Engineering Practices (ENPRA101A) Lecture Notes and Workbook*, lecture notes distributed in Engineering Practices

Recommended Readings:

Hampson, J 2006, *Electrical Trade Principles*, Pearson Education Australia (Chapter 6)

Pethebridge, K & Neeson I 2009, *Electrical Wiring Practice Vol 1*, 7th or latest edition, McGraw Hill, Australia (Chapters 1, 4 and 7)

Pethebridge, K & Neeson I 2002, *Electrical Wiring Practice Vol 2*, 6th or latest edition, McGraw Hill, Australia (Section 22.6)

Standards Australia AS/NZS 3000: *Electrical installations (Wiring Rules)*

Standards Australia AS/NZS 3008 *Electrical installations—Selection of cables*

Password- Joe2013

Tutorial Exercises

Password- joe2013

Further Readings

Password- joe2013

Online Practicals

Password- joe2013

Text Books for

ENEMP101A Introduction to Engineering Mathematics and Physics
ENEMP102A Foundation Engineering Mathematics and Physics
ENEMP201A Intermediate Engineering Mathematics and Physics
ENEMP202A Advanced Engineering Mathematics and Physics

Giancoli, DC, 2000, Physics For Scientists And Engineers, 4th or latest edition, Volumes 1,2,3, ISBN: 9780132273596.

http://www.filefactory.com/file/7c514m4yw0ov/Giancoli_-_Physics_6th_Solutions_pdf

http://www.filefactory.com/file/1588szswdljx/Giancoli_-_Physics_6th_pdf

Bird, J, 2007, Engineering Mathematics, 4th or latest edition, Newnes Publishing, ISBN: 0-7506-5776-6,

http://www.filefactory.com/file/2z1jzorebdwx/2-john-bird-higher-engineering-mathematics_pdf

http://www.filefactory.com/file/2z1jzorebdwx/2-john-bird-higher-engineering-mathematics_pdf

http://www.filefactory.com/file/6oh03k3msqv1/Basics_of_MATLAB_and_Beyond_pdf

http://www.filefactory.com/file/28cbwzhk6ral/Engineering_Mathematics_4E_pdf

http://www.filefactory.com/file/6uizsgnh2snp/Essentials_of_MATLAB_Programming_pdf

http://www.filefactory.com/file/2z1jzorebdwx/2-john-bird-higher-engineering-mathematics_pdf

http://www.filefactory.com/file/4ljoibd9h6dv/Learning_MATLAB_pdf

http://www.filefactory.com/file/45ftpkh77jsf/MATLAB_Programming_For_Engineers_pdf

http://www.filefactory.com/file/729l3my8kcsp/matlab_quickref_pdf

http://www.filefactory.com/file/2179ehd9p9g5/MatlabNotes_pdf

Text Books for

ENMCC 101A Foundation Mechanical & Civil Engineering Principle
ENMCC 201A Advanced Mechanical & Civil Engineering Principle

http://www.filefactory.com/file/724kx95f2ayf/27767685-Materials-Engineers-Technicians_pdf

http://www.filefactory.com/file/7analtqujo7z/59446893-A-Textbook-of-Engineering-Mechanics-by-R-K-Bansal_pdf

http://www.filefactory.com/file/4k7yvsvt47jr/123974244-strength-of-material-by-r-k-bansal_pdf

http://www.filefactory.com/file/3h4q2snf4kgd/Fluid_Mechanics_and_Thermodynamics_of_Turbomachinery_4E_pdf

<http://www.filefactory.com/file/4can70505quj/RE001%20BENERGY%20101A.pdf>

<http://www.filefactory.com/file/4f92zgjjzg7j/DC%20Power%20Supply.pdf>

Part (3) Qualified (2) Course

RE 501-Control of Solar Energy System

RE502- Biomass Gasification

RE503- Energy Management in Industrial and Commercial Facilities

RE504- Engineering Solution for Sustainability

RE505- Green Building Design

RE506- Low Emission Power Generation Technologies

RE507- Offshore Wind Turbines

RE508- Solar Hydrogen Energy System

RE509- Applied Photovoltaics

RE510- Water Conservation

RE511- Sustaining Earth Energy resources

A written report between 10,000 – 12,000 words that covers both theory & practical knowledges of the above units.

RE 501-Control of Solar Energy System.pdf (13.93MB)

http://www.filefactory.com/file/16zy6ploevjp/n/RE_501-Control_of_Solar_Energy_System.pdf

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RE507- Offshore Wind Turbines.pdf (9.4MB)

<http://www.filefactory.com/file/2mtdemeyzub/n/RE507- Offshore Wind Turbines.pdf>

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RE511- Sustaining Earth Energy resources.pdf (8.43MB)

http://www.filefactory.com/file/38jctruglh59/n/RE511-Sustaining_Earth_Energy_resources.pdf

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RE503- Energy Management in Industrial and Commercial Facilities.pdf (2.89MB)

[http://www.filefactory.com/file/3elg8jedxa4l/n/RE503-
_Energy_Management_in_Industrial_and_Commercial_Facilities.pdf](http://www.filefactory.com/file/3elg8jedxa4l/n/RE503-_Energy_Management_in_Industrial_and_Commercial_Facilities.pdf)

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RE502- Biomass Gasification.pdf (9.76MB)

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RE510- Water Conservation.pdf (10.19MB)

[http://www.filefactory.com/file/4xhmdkdc9y1x/n/RE510- Water Conversation.pdf](http://www.filefactory.com/file/4xhmdkdc9y1x/n/RE510-_Water_Conversation.pdf)

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RE505- Green Building Design.pdf (13.06MB)

[http://www.filefactory.com/file/5e245s2iqyu3/n/RE505- Green Building Design.pdf](http://www.filefactory.com/file/5e245s2iqyu3/n/RE505-_Green_Building_Design.pdf)

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RE509- Applied Photovoltaics.pdf (5.06MB)

[http://www.filefactory.com/file/5gksowteu2ul/n/RE509- Applied Photovoltaics.pdf](http://www.filefactory.com/file/5gksowteu2ul/n/RE509-_Applied_Photovoltaics.pdf)

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RE504- Engineering Solution for Sustainability.pdf (4.72MB)

[http://www.filefactory.com/file/5ifk2mm5tz1r/n/RE504-
_Engineering_Solution_for_Sustainability.pdf](http://www.filefactory.com/file/5ifk2mm5tz1r/n/RE504-_Engineering_Solution_for_Sustainability.pdf)

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RE508- Solar Hydrogen Energy System.pdf (1.85MB)

[http://www.filefactory.com/file/6d3qf2lc2zu1/n/RE508-
_Solar_Hydrogen_Energy_System.pdf](http://www.filefactory.com/file/6d3qf2lc2zu1/n/RE508-_Solar_Hydrogen_Energy_System.pdf)

[Download now!](#)

RE506- Low Emission Power Generation Technologies.pdf (22.75MB)

[http://www.filefactory.com/file/6o1sfltodgc7/n/RE506-
_Low_Emission_Power_Generation_Technologies.pdf](http://www.filefactory.com/file/6o1sfltodgc7/n/RE506-_Low_Emission_Power_Generation_Technologies.pdf)

[Download now!](#)

Part (4) Final Thesis

Res 601 Research Method

MAE 602 Thesis

[http://www.filefactory.com/file/1l1r1k0ftawt/n/11.Research+Thesis_\(ICT_605\).zip](http://www.filefactory.com/file/1l1r1k0ftawt/n/11.Research+Thesis_(ICT_605).zip)

This course guides the student, step by step, through the research process, from problem selection through writing up results. It provides all of the basics necessary to complete a research project in any discipline.

Outline. The following aspects are reflected in this course:

- What is research?

- Tools of research

- The problem: the heart of the research process

- Review of the related literature

- Planning your research design

- Writing the research proposal

- Qualitative research

- Historical research

- Descriptive research

- Experimental and causal - comparative designs

- Statistical techniques for analyzing quantitative data

- Technical details: style, format, and organization of the research report

Masters Research Proposal

Synopsis: Research students are expected to present a written research proposal within three months after commencement. The proposal is handed in to the study leader. Assessors of this proposal are selected by the faculty for their understanding of the field and the research involved. The purpose of a research is to set out a plan for conducting the research and writing the dissertation within the available time. It should take account of the availability and guidance of the study leader. The starting point for a research proposal is the topic, which is the field of interest in which the research is to be carried out. In introducing the topic, the proposal should clarify the field that it falls into and the specific part that field which the research will explore. It should clarify why the topic is of interest and importance, and how the proposed research will contribute to the field of knowledge or profession. The proposal should clarify the research questions, ensuring that these are specific and answerable. It is important to show how these questions relate to the topic are, and how they will advance the student's contribution. The proposal should detail the research to be carried out, and clarify the research methods, the timeframe and the reasons for selecting particular methods. Where a period of literature review or research should

precede any empirical research, this should be factored in as part of the research. It is important to estimate any periods of field research and to flag their duration and cost in your research proposal.

MAE 601 Professional Engineering Practice

MENG6003 Selective I: management subject (45 hrs) 3 credits

MENG6004 Selective II: management subject (45 hrs) 3 credits

Res 601 Research Method

MENG6005 Quantitative Methods and Statistics (45 hrs) 3 credits

MAE 602 Thesis

Engineering Project/Thesis 24 credits

Candidates need to complete a 60000-words engineering dissertation (in Myanmar or English) and a 3000-words executive portfolio (in English).

This program requires the candidates to complete a dissertation as part of the assessment for the MSc (RE) degree. Doing a thesis means that instead of knowledge and information being presented and following a prescribed route for answering questions, candidates are thrust into an active role of managing an investigation into a topic area. This means researching and discovering things for themselves. They will have to set their own targets and parameters, pose their own central research questions and decide on the appropriate sources of information to support the research. It therefore requires the use of the higher-level cognitive skills of analysis, synthesis and evaluation. Candidates may choose an area of particular interest to them within the scope of course title. A dissertation is an individual effort and the candidate, academic tutor and the course professor will work together on constructing an approved topic (research question) and methodologies.

Engineering Dissertation Defense 9 credits

It is expected of Master's candidates to defend their thesis by means of a colloquium doctum (academic discussion). The purpose of the meeting is for the candidates to convince a panel of experts in the field of the dissertation how well they have done in the conducting of their research study and the preparation of their dissertation

Program Total Credits 48 credits

Candidates need to complete all course assessments with the results of Grade B+

or above.

[Renewable Energy Engineering Public Seminar + Diploma& Bachelor of Engineering \(Renewable Energy\)](#)

[**Master of Science \(Renewable Energy Engineering\)**](#)

[Master of Science \(Renewable Energy\) Learning Support Website](#)

Professional Diploma in Structural Engineering (120 Credits)

Master of Science (Structural Engineering) (240 Credits)

Pre requisite

Advanced Diploma in Civil Engineering or Equivalent with 60 credits advanced standing

Subjects (Totalling 60 Credits)

- CE113 Structure 1 (3 credits)
- CE114 Structure 2 (2 Credits)
- BAE404S Engineering Materials & Strength of Materials (10 credits)
- BAE 403S Engineering Mechanics (10 credits)
- RE010 Engineering Materials (5 credits)
- BAE621S Structural Engineering (Civil) (10 credits)
- BAE424S Reinforced Concrete (Civil) (10 credits)
- BAE 701 Engineering Fundamental (10 credits)

(BAE403S, BAE404S, BAE621S and BAE424S are more intensive version of BAE403, BAE404, BAE621 and BAE424)

Master Course (120 Credits transfer + 120 Credits of study = 240 credits)

- BAE 708 Engineering Knowledge (10 Credits)
- BAE 705 Engineering Competency Development (10 Credits)
- BAE 706 Engineering Report Writing Development (10 Credits)
- BAE 707 Engineering Ethics (10 Credits)
- BAE 709 Design Project (40 Credits)
- BAE 709S Structural Design Project (20 Credits)

(BAE706, BAE709 and BAE709S can be concurrently presented)

Advanced Diploma of Construction Studies

RIGGING

Scaffolding

<http://www.highlightcomputer.com/CivilDegreeInstruction.pdf>

<http://www.highlightcomputer.com/CivilDegreeInstruction1.pdf>

<http://www.highlightcomputer.com/CivilDiplomaInstruction.pdf>

Written Lessons References+ Text Books

<http://www.filefactory.com/file/6wu38l73pdhv/B%20App%20Eng%20%28Building%20Service%29%2CDip%20Civil%20Engg%20Study%20Guide.pdf>

Advanced Diploma of Construction Studies

	GE+IE UNITS	TRAINING PACKAGE UNITS	
GE1	Electrical Wiring (EE)	MEM18049C	Disconnect/reconnect fixed wired equipment up to 1000 volts a.c./1500 volts d.c.
		MEM18050C	Disconnect/reconnect fixed wired equipment over 1000 volts a.c./1500 volts d.c.
		MEM18051B	Fault find and repair/rectify complex electrical circuits
		MEM18070C	Modify complex electrical circuits and systems
		MEM18073A	Perform advanced equipment testing and diagnostics on mobile plant and equipment
GE2	Electrical Machine (EE)		
GE3	Electrical Distribution (EE)		
GE4	Power System Operation (EE)		
GE5	Power System Protection		
GE6	Occupational Health & Safety	MEM30008A	Apply basic economic and ergonomic concepts to evaluate engineering applications
		BSBWHS506A	Contribute to developing, implementing and maintaining WHS management systems
		MEM13002B	Undertake occupational health and safety activities in the workplace
		MSS403032A	Analyse manual handling processes
		MEM13010A	Supervise occupational health and safety in an industrial work environment.
		BSBOHS504B	* Apply principles of OHS risk management
		BSBPMG505A	Manage project quality
		BSBPMG508A	Manage project risk
		CPCCBC5014A	Conduct asbestos assessment associated with removal
		CPCCOHS1001A	Work safely in the construction industry
GE7	Project Management (EE/CE/ME)	MEM22012A	Coordinate resources for an engineering project or operation
		MEM22013A	Coordinate engineering projects
		CPCCBC5005A	Select and manage building and construction contractors
		CPCCBC5007B	Administer the legal obligations of a building or construction contractor
		CPCCBC5013A	Develop professional technical and legal reports on building and construction projects
		CPCCBC4009B	Apply legal requirements to building and construction projects
GE8	Electronics (EE)		
GE9	Process Control (EE/ME)	MEM23112A	Investigate electrical and electronic controllers in engineering applications
		MEM10007C	Modify control systems
GE10	Industrial Electronics (EE)	MEM30026A	Select and test components for simple electronic switching and timing circuits
GE11	Programmable Logic Controller (EE/ME)	MEM23003A	Operate and program computers and/or controllers in engineering situations
		MEM30027A	Prepare basic programs for programmable logic controllers
		MEM23116A	Evaluate programmable logic controller and related control system component applications
		MSS402061A	Use SCADA systems in operations
		MSS404061A	Facilitate the use of SCADA systems in a team or work area
GE12	Photovoltaic Solar Electrical System		

GE13	<u>Principle of Engine(ME)</u>		
GE14	<u>Fitting & Machining (ME)</u>	MEM14005A MEM15004B MEM15005B MEM16010A MEM18002B MEM18003C MEM18006C MEM18010C MEM18055B MEM12003B MEM12023A MEM12005B MEM12022B MEM12003B MEM12004B MEM12005B	Plan a complete activity Perform inspection Select and control inspection processes and procedures Write reports Use power tools/hand held operations Use tools for precision work Repair and fit engineering components Perform equipment condition monitoring and recording Dismantle, replace and assemble engineering components Perform precision mechanical measurement Perform engineering measurements Calibrate measuring equipment Program coordinate measuring machines (advanced) Perform precision mechanical measurement Perform precision electrical/electronic measurement Calibrate measuring equipment
GE15	<u>Building Construction (CE)</u>	CPCCBC4001A	* Apply building codes and standards to the construction process for low rise building projects
		CPCCBC5004A	Supervise and apply quality standards to the selection of building and construction materials
		CPCCBC4005A	Produce labour and material schedules for ordering
		CPCCBC4006B	Select, procure and store construction materials for low rise projects
GE16	<u>Engineering Drawing I (EE/CE/ME)</u>	MEM30031A MEM30032A MEM30033A MEM09153A MEM09155A MEM09156A MEM09157A MEM09158A MEM09204A MEM09205A MEM09002B MEM09004B MEM09006B MEM09007B MEM09008B MEM09009C MEM09010C MEM09023A	Operate computer-aided design (CAD) system to produce basic drawing elements Produce basic engineering drawings Use computer-aided design (CAD) to create and display 3-D models Apply CAD modelling and data management techniques to aeronautical engineering designs Prepare mechanical models for computer-aided engineering (CAE) Prepare mechatronic models for computer-aided engineering (CAE) Perform mechanical engineering design drafting Perform mechatronics engineering design drafting Produce basic engineering detail drawings Produce electrical schematic drawings Interpret technical drawing Perform electrical/electronic detail drafting Perform advanced engineering detail drafting Perform advanced mechanical detail drafting Perform advanced structural detail drafting Create 2D drawings using computer aided design system Create 3D models using computer aided design system Create 3D code files using computer aided manufacturing system
		CPCCBC4014A	Prepare simple building sketches and drawings
GE17	<u>Pipe Fitting (CE/ME)</u>		
GE18	<u>Air-conditioning & Refrigeration (ME)</u>	MEM23144A MEM23146A MEM23147A MEM23149A MEM23150A MEM23153A MEM23140A MEM23142A	Contribute to the design of a commercial refrigeration system Contribute to the design of industrial refrigeration systems Contribute to the design of hydronic systems Contribute to the design of commercial and industrial exhaust systems Contribute to the design of heating systems Contribute to the design of heat exchanger systems Determine operational parameters for building HVAC hydronic systems Determine psychrometric processes and system performance

		MEM23129A MEM23130A MEM18091B MEM18092B MEM18093B	Evaluate thermal loads for heating, ventilation, air conditioning and refrigeration Coordinate servicing and fault-finding of HVACR control systems Maintain and repair multi stage, cascade and/or ultra-cold industrial refrigeration systems Maintain and repair commercial and/or industrial refrigeration and/or air conditioning controls Maintain and repair integrated industrial refrigeration and/or large air handling system controls
GE19	Computer Programming (EE/CE/ME)		
GE20	Computer Networking (EE)		
GE21	Welding (ME)	MEM05024B MEM05025C MEM05026C MEM05042B MEM05043B MEM05044B MEM05045B MEM05046B	Perform welding supervision Perform welding/fabrication inspection Apply welding principles Perform welds to code standards using flux core arc welding process Perform welds to code standards using gas metal arc welding process Perform welds to code standards using gas tungsten arc welding process Perform pipe welds to code standards using manual metal arc welding process Perform welds to code standards using manual metal arc welding process
GE22	Painting & Decoration (CE)		
GE23	Pneumatics (CE/ME)	MEM30011A	Set up basic pneumatic circuits
GE24	Manufacturing Management (ME)	MEM14002B MSS405075A MEM14003B	Undertake basic process planning Facilitate the development of a new product Undertake basic production scheduling
ME 205	Manufacturing Processes-and-Materials		
Mgt 503	Production & Operation Management	MEM14087A	Apply manufactured product design techniques
Mgt 505	Quality Management and Manufacturing Engineering	MEM15007B MEM15008B MEM14091A MEM15011B MEM15012B MEM22014A MEM22015A MEM22017A MEM22018A MEM30013A MEM30014A MEM30015A MEM30016A MEM30017A MEM30018A MEM30019A MEM30020A MEM30021A MEM30022A MEM30023A MEM30024A MEM15001B MEM23123A MEM23131A MEM23132A MEM14001B MEM14002B MEM14003B	Conduct product and/or process capability studies Perform advanced statistical quality control Integrate manufacturing fundamentals into an engineering task Exercise external quality assurance Maintain/supervise the application of quality procedures Coordinate engineering-related manufacturing operations Source and estimate engineering materials requirements Coordinate continuous improvement and technical development Coordinate sales and promotion of engineering-related products or services Assist in the preparation of a basic workplace layout Apply basic just in time systems to the reduction of waste Develop recommendations for basic set up time improvements Assist in the analysis of a supply chain Use basic preventative maintenance techniques and tools Undertake basic process planning Use resource planning software systems in manufacturing Develop and manage a plan for a simple manufacturing related project Prepare a simple production schedule Undertake supervised procurement activities Prepare a simple cost estimate for a manufactured product Participate in quality assurance techniques Perform basic statistical quality control Evaluate manufacturing processes Evaluate rapid prototyping applications Evaluate rapid manufacturing processes Schedule material deliveries Undertake basic process planning Undertake basic production scheduling

ME 303	Computer Aided Design and Manufacturing	MEM30009A	Contribute to the design of basic mechanical systems
ME 534	Numerical Control	MEM23122A MEM05053A MEM05054A MEM07016C MEM07018C MEM07019C MEM07020C MEM07022C MEM07023C MEM07039A	Evaluate computer integrated manufacturing systems Set and edit computer controlled thermal cutting machines Write basic NC/CNC programs for thermal cutting machines Set and edit computer controlled machines/processes Write basic NC/CNC programs Program NC/CNC machining centre Program multiple spindle and/or multiple axis NC/CNC machining centre Program CNC wire cut machines Program and set up CNC manufacturing cell Write programs for industrial robots
ME 434	Mechtronics-Robotics	MEM23126A MEM23064A	Evaluate industrial robotic applications Select and test mechatronic engineering materials
GE25	Surveying (CE)	CPCCBC5006B	Apply site surveys and set-out procedures to medium rise building projects
		CPCCBC4018A	Apply site surveys and set-out procedures to building and construction projects
GE26	Energy Efficient Building Design	MEM23141A	Complete a building thermal performance survey
		CPCCBC5009A	Identify services layout and connection methods to medium rise construction projects
		CPCCBC5011A	Manage environmental management practices and processes in building and construction
		CPCSUS5002A	Develop action plans to retrofit existing buildings for energy efficiency
		CPCSUS5003A	Manage energy efficient building methods and strategies
		CPCCBC4020A	Build thermally efficient and sustainable structures
GE28	Hydraulic (CE/ME)	MEM30010A	Set up basic hydraulic circuits
GE29	Materials & Corrosion Prevention (CE/ME)	MEM30007A	Select common engineering materials
GE32	Electronic Security Installation		
GE33	Explosion Protection		
GE34	Engineering Business Management	MSAENV672B MSS402030A MSS403001A MSS403002A MSS403010A MSS403021A MSS403023A MSS403030A MSS403040A MSS403051A MSS404050A MSS404052A MSS404060A MSS405001A MSS405002A MSS405003A MSS405004A MSS405005A	Develop workplace policy and procedures for sustainability Apply cost factors to work practices Implement competitive systems and practices Ensure process improvements are sustained Facilitate change in an organisation implementing competitive systems and practices Facilitate a Just in Time system Monitor a levelled pull system of operations Improve cost factors in work practices Facilitate and improve implementation of 5S Mistake proof an operational process Undertake process capability improvements Apply statistics to operational processes Facilitate the use of planning software systems in a work area or team Develop competitive systems and practices for an organisation Analyse and map a value stream Manage a value stream Develop business plans in an organisation implementing competitive systems and practices Manage competitive systems and practices responding to individual and unique customer orders

		MSS405010A MSS405011A MSS405012A MSS405020A MSS405021A MSS405022A MSS405023A MSS405030A MSS405031A MSS405040A MSS405050A MSS405052A MSS405060A MSS405061A MEM23119A MEM30028A MEM14005A MEM15002A MEM16006A MEM17003A	Manage relationships with non-customer external organisations Manage people relationships Manage workplace learning Develop quick changeover procedures Develop a Just in Time system Design a process layout Develop a levelled pull system for operations and processes Optimise cost of a product or service Undertake value analysis of product or process costs in terms of customer requirements Manage 5S system in an organisation Determine and improve process capability Design an experiment Develop the application of enterprise control systems in an organisation Determine and establish information collection requirements and processes Evaluate continuous improvement processes Assist in sales of technical products/systems Plan a complete activity Apply quality systems Organise and communicate information Assist in the provision of on the job training
		BSBCUS501C	* Manage quality customer service
		BSBFIM501A	* Manage budgets and financial plans
		BSBHRM509A	* Manage rehabilitation or return to work programs
		BSBINN502A	Build and sustain an innovative work environment
		BSBITA401A	Design databases
		BSBITU402A	Develop and use complex spreadsheets
		BSBITU404A	Produce complex desktop published documents
		BSBLED502A	* Manage programs that promote personal effectiveness
		BSBMGT502B	* Manage people performance
		BSBMGT515A	* Manage operational plan
		BSBR5K501B	* Manage risk
		BSBSLS502A	* Lead and manage a sales team
		BSBWOR501B	* Manage personal work priorities and professional development
		BSBWOR502B	* Ensure team effectiveness
		CPCCBC4024A	Resolve business disputes
		CPPDSM5022A	Implement asset management plan
IE1	Engineering Mathematics	MEM23007A MEM23008A MEM23004A MEM23005A MEM12025A MEM12024A MEM12025A	Apply calculus to engineering tasks Apply advanced algebra and numerical methods to engineering tasks Apply technical mathematics Apply statistics and probability techniques to engineering tasks Use graphical techniques and perform simple statistical computations Perform computations Use graphical techniques and perform simple statistical computations
IE2	Engineering Physics		
IE3	Material Science	MEM24001B MEM24003B MEM24005B MEM24007B MEM24009B MEM14001B MEM23063A	Perform basic penetrant testing Perform basic magnetic particle testing Perform basic eddy current testing Perform ultrasonic thickness testing Perform basic radiographic testing Schedule material deliveries Select and test mechanical engineering materials
GE30 GE31 IE5	Bricklaying (CE) Sprouting & Guttering (CE) Mechanical Science		

		MEM23138A	Evaluate suitability of materials for engineering-related applications
IE4	Advanced Engineering Mathematics		
IE6	Principle of Electricity	MEM23111A	Select electrical equipment and components for engineering applications
IE7	Electrical Circuit I (EE)	MEM30025A	Analyse a simple electrical system circuit
IE8	Electrical Circuit II (EE)		
IE9	Advanced Building Construction (CE)		
IE10	Transmission Line (EE)		
IE11	Electrical & Mechanical Engineering Work Experience		
IE12	Civil Engineering Work Experience		
IE13	Workshop	MEM18001C MEM23133A MEM23134A MEM23135A MEM23136A MEM23137A MEM30029A	Use hand tools Evaluate rapid tooling applications Evaluate jigs and fixtures Evaluate moulding tools and processes Evaluate stamping and forging tools Evaluate rolling tools and processes Use workshop equipment and processes to complete an engineering project
IE15	Advanced Engineering Design & Project Work	CPCCBC4003A	* Select and prepare a construction contract
		CPCCBC5010B	* Manage construction work
CE115	Estimating & Specification	CPCCBC4004A	* Identify and produce estimated costs for building and construction projects
		CPCCBC4013A	* Prepare and evaluate tender documentation
		CPCCBC4013A	* Prepare and evaluate tender documentation
		CPCCBC5002A	* Monitor costing systems on medium rise building and construction projects
		CPCCBC5003A	* Supervise the planning of on-site medium rise building or construction work
		CPCCBC4012B	Read and interpret plans and specifications
IE16	Power System Analysis-Fault Calculation		
IE17	Power Line Design		
IE18	Building services		
IE19	PCB Design		
IE20	Maths References		
IE21	Electrical Principle		
IE22	Co-generation		
IE23	Industrial Computer System	MSS402060A	Use planning software systems in operations
		MEM16008A	Interact with computing technology
IE24	Microprocessor	MEM23117A MEM23118A	Evaluate microcontroller applications Apply production and service control techniques
IE25	Power System Fundamental		
IE26	Electrical Communication Fundamental		
IE27	Control Concept		
IE28	Electronic Signal & System		
IE29	Electrical Estimating		
IE30	Electronic Workbench		
IE31	Introduction to Renewable Energy Technology	MSS405070A	Develop and manage sustainable energy practices
		MSAENV472B	Implement and monitor environmentally sustainable work practices
		MSAENV272B	Participate in environmentally sustainable work practices
		CPCSUS5001A	Develop workplace policies and procedures for sustainability

IE32	Telecommunication Cabling & Installation		
IE33	Hybrid Energy System		
IE34	Electricity Supply Industrial Skills		
ME 101 ME 103	Applied Mathematics Engineering Mechanics	MEM30005A MEM30006A MEM23109A	Calculate force systems within simple beam structures Calculate stresses in simple structures Apply engineering mechanics principles
ME 102 ME 107	Engineering Thermodynamics Heat Transfer	MEM23006A	Apply fluid and thermodynamics principles in engineering
ME201 ME 204 ME 301	Introduction to Fluid Mechanics Engineering Fluid Mechanics Fluid Dynamics	MEM23113A MEM23114A MEM23115A MEM18053B	Evaluate hydrodynamic systems and system components Evaluate thermodynamic systems and components Evaluate fluid power systems Modify fluid power control systems
BAE312	Design Engineering (2 pt)	MEM14085A MEM14086A MEM14089A MEM14090A	Apply mechanical engineering analysis techniques Apply mechatronic engineering analysis techniques Integrate mechanical fundamentals into an engineering task Integrate mechatronic fundamentals into an engineering task
BAE612	Engineering Metallurgy	MEM15010B MEM24002B MEM24004B MEM24006B MEM24008B MEM24010B MEM24011B MEM24012C MSATCM304A MSATCM406A MSATCM501A MSATCM504A MSATCM511A MEM04020A MEM04021A MEM04022A MEM04023A	Perform laboratory procedures Perform penetrant testing Perform magnetic particle testing Perform eddy current testing Perform ultrasonic testing Perform radiographic testing Establish non-destructive tests Apply metallurgy principles Interpret basic binary phase diagrams Apply basic chemical principles to metallurgy Calculate and predict chemical outcomes in metallurgical situations Select metal forming process Apply metallurgy principles and practice to determine metal forming and shaping processes Supervise individual ferrous melting and casting operation Supervise individual non ferrous melting and casting operation Examine appropriateness of methoding for mould design Undertake prescribed tests on foundry related materials
ME 305	Corrosion Prevention	MSATCM517A	Determine corrosion prevention strategies for metal and alloys
BAE611	Maintenance Engineering	MEM14088A MEM14092A MEM23125A MSS404081A	Apply maintenance engineering techniques to equipment and component repairs and modifications Integrate maintenance fundamentals into an engineering task Evaluate maintenance systems Undertake proactive maintenance analyses

		MSS404082A MSS405081A MSS405083A	Assist in implementing a proactive maintenance strategy Develop a proactive maintenance strategy Adapt a proactive maintenance strategy for a seasonal or cyclical business
BAE311	Plant Engineering (2 pt)	MEM18016B MEM22007A	Analyse plant and equipment condition monitoring results Manage environmental effects of engineering activities
BAE614	Machine Design	MEM23120A	Select mechanical machine and equipment components
GE27	Machine Principle(ME)	MEM23121A MEM23124A MEM10008B	Analyse loads on frames and mechanisms Measure and analyse noise and vibration Undertake commissioning procedures for plant and/or equipment
CE113	Structure 1	CPCCBC5018A	* Apply structural principles to the construction of medium rise buildings
CE114	Structure 2	CPCCBC4011B	Apply structural principles to commercial low rise constructions

GE36 RIGGING

Reference Notes Click [HERE](#)

Modules/Units	Name	Hrs	National Module(s)
CPCCCM1012A	Work effectively and sustainably in the construction industry	12	CPCCCM1012A
CPCCCM1013A	Plan and organise work	12	CPCCCM1013A
CPCCCM1014A	Conduct workplace communication	8	CPCCCM1014A
CPCCCM1015A	Carry out measurements and calculations	36	CPCCCM1015A
CPCCCM2001A	Read and interpret plans and specifications	16	CPCCCM2001A
CPCCCM2010B	Work safely at heights	16	CPCCCM2010B
CPCCCM3001C	Operate elevated work platforms	32	CPCCCM3001C
CPCCCM3003A	Work safely around power sources, services and assets	24	CPCCCM3003A
CPCCLRG3001A	Licence to perform rigging basic level	96	CPCCLRG3001A
CPCCLRG3002A	Licence to perform rigging intermediate level	24	CPCCLRG3002A
CPCCOHS2001A	Apply OHS requirements, policies and procedures in the construction industry	16	CPCCOHS2001A

Group CPC30711-01V03G02 GROUP 2 ELECTIVE UNITS LISTED IN CPC30711

Modules/Units	Name	Hrs	National Module(s)
BSBSMB301A	Investigate micro business opportunities	30	BSBSMB301A
BSBSMB406A	Manage small business finances	40	BSBSMB406A
CPCCCM2007B	Use explosive power tools	8	CPCCCM2007B
CPCCCM3002A	Operate a truck mounted loading crane	32	CPCCCM3002A
CPCCLDG3001A	Licence to perform dogging	80	CPCCLDG3001A
CPCCLHS3001A	Licence to operate a personnel and materials hoist	32	CPCCLHS3001A
CPCCLHS3002A	Licence to operate a materials hoist	24	CPCCLHS3002A
CPCCRI3001A	Operate personnel and materials hoists	16	CPCCRI3001A
CPCCRI3012A	Perform basic rigging	48	CPCCRI3012A
CPCCRI3013A	Perform intermediate rigging	60	CPCCRI3013A

CPCCRI3014A	Perform advanced structural steel erection	60	CPCCRI3014A
CPCCRI3015A	Perform advanced tilt-up slab erection	60	CPCCRI3015A
CPCCRI3016A	Perform advanced tower crane erection	60	CPCCRI3016A
CPCCSC2002A	Erect and dismantle basic scaffolding	32	CPCCSC2002A
CPCCSF2003A	Cut and bend materials using oxy-LPG equipment	18	CPCCSF2003A
RIIOHS302A	Implement traffic management plan	25	RIIOHS302A
TLILIC2001A	Licence to operate a forklift truck	40	TLILIC2001A

Group CPC30711-01V03G03 GROUP 3 UNITS FROM ANY CERT III OR CERT IV IN CPC08 OR ANY OTHER TP

Modules/Units	Name	Hrs	National Module(s)
CPCCDO3011A	Perform dogging	40	CPCCDO3011A
CPCCLRG4001A	Licence to perform rigging advanced level	24	CPCCLRG4001A
CPCCLSF2001A	Licence to erect, alter and dismantle scaffolding basic level	40	CPCCLSF2001A
TLILIC2005A	Licence to operate a boom-type elevating work platform (boom length 11 metres or more)	30	TLILIC2005A

Scaffolding

Reference Notes Click [HERE](#)

GE35	SCAFFOLDING	MEM11001C MEM11002C MEM11003B MEM11004B	Erect/dismantle scaffolding and equipment Erect/dismantle complex scaffolding and equipment Coordinate erection/dismantling of complex scaffolding/equipment Undertake dogging
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Modules/Units	Name	Hrs	National Module(s)
CPCCCM1012A	Work effectively and sustainably in the construction industry	12	CPCCCM1012A
CPCCCM1013A	Plan and organise work	12	CPCCCM1013A
CPCCCM1014A	Conduct workplace communication	8	CPCCCM1014A
CPCCCM1015A	Carry out measurements and calculations	36	CPCCCM1015A
CPCCCM2001A	Read and interpret plans and specifications	16	CPCCCM2001A
CPCCLSF2001A	Licence to erect, alter and dismantle scaffolding basic level	40	CPCCLSF2001A
CPCCLSF3001A	Licence to erect, alter and dismantle scaffolding intermediate level	40	CPCCLSF3001A
CPCCOHS2001A	Apply OHS requirements, policies and procedures in the construction industry	16	CPCCOHS2001A
CPCCSC2001A	Safely handle and use scaffolding tools and equipment	40	CPCCSC2001A

Group CPC30911-01V02G02 GROUP 2 ELECTIVE UNITS LISTED IN CPC30911

Modules/Units	Name	Hrs	National Module(s)
BSBSMB301A	Investigate micro business opportunities	30	BSBSMB301A
BSBSMB406A	Manage small business finances	40	BSBSMB406A
CPCCCM2007B	Use explosive power tools	8	CPCCCM2007B
CPCCCM2010B	Work safely at heights	16	CPCCCM2010B

CPCCCM3001C	Operate elevated work platforms	32	CPCCCM3001C
CPCCCM3002A	Operate a truck mounted loading crane	32	CPCCCM3002A
CPCCLDG3001A	Licence to perform dogging	80	CPCCLDG3001A
CPCCRI3001A	Operate personnel and materials hoists	16	CPCCRI3001A
CPCCSC2002A	Erect and dismantle basic scaffolding	32	CPCCSC2002A
CPCCSC3001A	Erect and dismantle intermediate scaffolding	48	CPCCSC3001A
CPCCSF2003A	Cut and bend materials using oxy-LPG equipment	18	CPCCSF2003A
RIIOHS302A	Implement traffic management plan	25	RIIOHS302A
TLILIC2001A	Licence to operate a forklift truck	40	TLILIC2001A

Group CPC30911-01V02G03 GROUP 3 UNITS FROM ANY CERT III OR CERT IV IN CPC08 OR ANY OTHER TP

Modules/Units	Name	Hrs	National Module(s)
BSBADM307B	Organise schedules	15	BSBADM307B
CPCCLRG3001A	Licence to perform rigging basic level	96	CPCCLRG3001A
CPCCLSF4001A	Licence to erect, alter and dismantle scaffolding advanced level	40	CPCCLSF4001A
FSKNUM14	Calculate with whole numbers and familiar fractions, decimals and percentages for work	30	FSKNUM14
FSKNUM15	Estimate, measure and calculate with routine metric measurements for work	30	FSKNUM15
TLILIC2005A	Licence to operate a boom-type elevating work platform (boom length 11 metres or more)	30	TLILIC2005A

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HYDRAULICS

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<http://www.highlightcomputer.com/MechanicalDegreeInstruction.pdf>

<http://www.highlightcomputer.com/MechanicalDiplomaInstruction.pdf>

Written Lessons References+ Text Books

<http://www.filefactory.com/file/720e13y9btpb/B%20App%20Eng%20%28Mechtronics%29%2CDip%20%26amp%3B%20Adv%20Dip%20Mech%20Engg%20Study%20Guide%20.p>

Advanced Diploma of Engineering –Mechanical

	GE+IE UNITS	TRAINING PACKAGE UNITS	
GE1	Electrical Wiring (EE)	MEM18049C MEM18050C MEM18051B MEM18070C MEM18073A MEM30025A MEM03004B MEM03005B MEM10001C MEM10011B MEM18045B MEM18046B	Disconnect/reconnect fixed wired equipment up to 1000 volts a.c./1500 volts d.c. Disconnect/reconnect fixed wired equipment over 1000 volts a.c./1500 volts d.c. Fault find and repair/rectify complex electrical circuits Modify complex electrical circuits and systems Perform advanced equipment testing and diagnostics on mobile plant and equipment Analyse a simple electrical system circuit Perform electronic/electrical assembly (production) Rework and repair (electrical/electronic production) Erect structures Terminate and connect specialist cables Fault find/repair electrical equipment/components up to 250 volts single phase supply Fault find/repair electrical equipment/components up to 1000 volts a.c./1500 volts d.c.
GE2	Electrical Machine (EE)		
GE3	Electrical Distribution (EE)		
GE4	Power System Operation (EE)		
GE5	Power System Protection		
GE6	Occupational Health & Safety	MEM30008A BSBWHS506A MEM13002B MSS403032A MEM13010A	Apply basic economic and ergonomic concepts to evaluate engineering applications Contribute to developing, implementing and maintaining WHS management systems Undertake occupational health and safety activities in the workplace Analyse manual handling processes Supervise occupational health and safety in an industrial work environment.
GE7	Project Management (EE/CE/ME)	MEM22012A MEM22013A	Coordinate resources for an engineering project or operation Coordinate engineering projects
GE8	Electronics (EE)	MEM18056B MEM18058C MEM18059B MSATCM304A	Diagnose and repair analog equipment and components Modify electronic equipment Modify electronic systems Interpret basic binary phase diagrams
GE9	Process Control (EE/ME)	MEM18054B MEM23112A MEM18060B MEM18061B MEM18062B	Fault find, test and calibrate instrumentation systems and equipment Investigate electrical and electronic controllers in engineering applications Maintain, repair control instrumentation - single and multiple loop control systems Maintain/calibrate complex control systems Install, maintain and calibrate instrumentation sensors, transmitters and final control elements
		MEM18057B	Maintain/service analog/digital electronic equipment
		MEM18063B	Terminate signal and data cables
GE10	Industrial Electronics (EE)	MEM30026A MEM18047B MEM18048B	Select and test components for simple electronic switching and timing circuits Diagnose and maintain electronic controlling systems on mobile plant Fault find and repair/rectify basic electrical circuits
GE11	Programmable Logic Controller (EE/ME)	MEM23003A MEM30027A MEM23116A MSS402061A MSS404061A	Operate and program computers and/or controllers in engineering situations Prepare basic programs for programmable logic controllers Evaluate programmable logic controller and related control system component applications Use SCADA systems in operations Facilitate the use of SCADA systems in a team or work area

		MEM10004B	Enter and change programmable controller operational parameters
		MEM10005B	Commission programmable controller programs
GE12	Photovoltaic Solar Electrical System		
GE13	Principle of Engine(ME)	MEM18001C MEM18002B MEM18003C MEM18004B MEM18005B MEM18006C MEM18007B MEM18008B MEM18009B MEM18012B MEM18013B MEM18014B MEM18015B MEM18018C MEM18020B MEM18024B MEM18025B MEM18026C MEM18027C MEM18028B MEM18029B MEM18030B MEM18031B MEM18032B MEM18033B MEM18034B MEM18035B MEM18037B MEM18038B MEM18039B MEM18040B MEM18041B MEM18042C MEM18043C MEM18044C MEM18001C MEM18002B MEM18003C MEM18004B MEM18005B MEM18006C	Use hand tools Use power tools/hand held operations Use tools for precision work Maintain and overhaul mechanical equipment Perform fault diagnosis, installation and removal of bearings Repair and fit engineering components Maintain and repair mechanical drives and mechanical transmission assemblies Balance equipment Perform levelling and alignment of machines and engineering components Perform installation and removal of mechanical seals Perform gland packing Manufacture press tools and gauges Maintain tools and dies Maintain pneumatic system components Maintain hydraulic system components Maintain engine cooling systems Service combustion engines Test compression ignition fuel systems Overhaul engine fuel system components Maintain engine lubrication systems Tune diesel engines Diagnose and rectify low voltage electrical systems Diagnose and rectify low voltage starting systems Maintain induction/exhaust systems Perform engine bottom-end overhaul Perform engine top-end overhaul Diagnose and rectify braking systems Diagnose and rectify low voltage charging systems Maintain wheels and tyres Diagnose and rectify track type undercarriage Maintain suspension systems Maintain steering systems Diagnose and rectify manual transmissions Diagnose and rectify automatic transmissions Diagnose and rectify drive line and final drives Use hand tools Use power tools/hand held operations Use tools for precision work Maintain and overhaul mechanical equipment Perform fault diagnosis, installation and removal of bearings Repair and fit engineering components
GE14	Fitting & Machining (ME)	MEM14005A MEM15004B MEM15005B MEM16010A MEM18002B MEM18003C MEM18006C MEM18010C MEM18055B MEM12003B MEM12023A MEM12005B MEM12022B MEM03001B MEM03002B MEM03003B MEM03006B MEM12001B MEM12002B MEM12006C MEM12007D	Plan a complete activity Perform inspection Select and control inspection processes and procedures Write reports Use power tools/hand held operations Use tools for precision work Repair and fit engineering components Perform equipment condition monitoring and recording Dismantle, replace and assemble engineering components Perform precision mechanical measurement Perform engineering measurements Calibrate measuring equipment Program coordinate measuring machines (advanced) Perform manual production assembly Perform precision assembly Perform sheet and plate assembly Set assembly stations Use comparison and basic measuring devices Perform electrical/electronic measurement Mark off/out (general engineering) Mark off/out structural fabrications and shapes

		MEM12019B MEM12020B MEM12021B MEM12022B MEM12001B MEM18055B	Measure components using coordinate measuring machines Set and operate coordinate measuring machines Program coordinate measuring machines Program coordinate measuring machines (advanced) Use comparison and basic measuring devices Dismantle, replace and assemble engineering components
GE15	Building Construction (CE)	CPCBC4007A CPCBC4012B CPCBC4014A CPCBC4018A CPCPDR4011B CPCPDR4012B CPCPFS4024A ICTCBL2136A PMBFIN203C PMBPROD247C PMBTECH405B	Plan building or construction work Read and interpret plans and specifications Prepare simple building sketches and drawings Apply site surveys and set-out procedures to building and construction projects Design and size sanitary drainage systems Design and size stormwater drainage systems Design residential and domestic fire sprinkler systems Install, maintain and modify customer premises communications cabling: ACMA Restricted Rule Repair product imperfections Hand lay up composites Repair damaged fibre-composites structures
GE16	Engineering Drawing I (EE/CE/ME)	MEM30031A MEM30032A MEM30033A MEM09153A MEM09155A MEM09156A MEM09157A MEM09158A MEM09204A MEM09205A MEM09002B MEM09002B MEM09003B MEM09005B MEM09011B MEM09021B MEM09022A	Operate computer-aided design (CAD) system to produce basic drawing elements Produce basic engineering drawings Use computer-aided design (CAD) to create and display 3-D models Apply CAD modelling and data management techniques to aeronautical engineering designs Prepare mechanical models for computer-aided engineering (CAE) Prepare mechatronic models for computer-aided engineering (CAE) Perform mechanical engineering design drafting Perform mechatronics engineering design drafting Produce basic engineering detail drawings Produce electrical schematic drawings Interpret technical drawing Interpret technical drawing Prepare basic engineering drawing Perform basic engineering detail drafting Apply basic engineering design concepts Interpret and produce curved 3-dimensional shapes Create 2D code files using computer aided manufacturing system
GE17	Pipe Fitting (CE/ME)	MEM10010B	Install pipework and pipework assemblies
GE18	Air-conditioning & Refrigeration (ME)	MEM23144A MEM23146A MEM23147A MEM23149A MEM23150A MEM23153A MEM23140A MEM23142A MEM23129A MEM23130A MEM18091B MEM18092B MEM18093B MEM10009B MEM10013A MEM18084A MEM18085A MEM18086B MEM18087B MEM18088B MEM18089B	Contribute to the design of a commercial refrigeration system Contribute to the design of industrial refrigeration systems Contribute to the design of hydronic systems Contribute to the design of commercial and industrial exhaust systems Contribute to the design of heating systems Contribute to the design of heat exchanger systems Determine operational parameters for building HVAC hydronic systems Determine psychrometric processes and system performance Evaluate thermal loads for heating, ventilation, air conditioning and refrigeration Coordinate servicing and fault-finding of HVACR control systems Maintain and repair multi stage, cascade and/or ultra-cold industrial refrigeration systems Maintain and repair commercial and/or industrial refrigeration and/or air conditioning controls Maintain and repair integrated industrial refrigeration and/or large air handling system controls Install refrigeration and air conditioning plant and equipment Install split air conditioning systems and associated pipework Commission and decommission split air conditioning systems Install, service and repair domestic air conditioning and refrigeration appliances Test, recover, evacuate and charge refrigeration systems Service and repair domestic and light commercial refrigeration and air conditioning equipment Maintain and repair commercial air conditioning systems and components Maintain and repair central air handling systems

		MEM18090B MEM18094B MEM18095A MEM18096A MEM18084A	Maintain and repair industrial refrigeration systems and components Service and repair commercial refrigeration Maintain and repair cooling towers/evaporative condensers and associated equipment Maintain, repair/replace and adjust refrigerant flow controls and associated equipment Commission and decommission split air conditioning systems
GE19	Computer Programming (EE/CE/ME)		
GE20	Computer Networking (EE)		
GE21	Welding (ME)	MEM05024B MEM05025C MEM05026C MEM05042B MEM05043B MEM05044B MEM05045B MEM05046B	Perform welding supervision Perform welding/fabrication inspection Apply welding principles Perform welds to code standards using flux core arc welding process Perform welds to code standards using gas metal arc welding process Perform welds to code standards using gas tungsten arc welding process Perform pipe welds to code standards using manual metal arc welding process Perform welds to code standards using manual metal arc welding process
		MEM05024B MEM05001B MEM05002B MEM05003B MEM05004C MEM05005B MEM05006C MEM05007C MEM05008C MEM05009C MEM05010C MEM05011D MEM05012C MEM05013C MEM05014C MEM05015D MEM05016C MEM05017D MEM05018C MEM05019D MEM05020C MEM05022C MEM05023C MEM05036C MEM05037C MEM05001B MEM05002B	Perform welding supervision Perform manual soldering/desoldering - electrical/electronic components Perform high reliability soldering and desoldering Perform soft soldering Perform routine oxy acetylene welding Carry out mechanical cutting Perform brazing and or silver soldering Perform manual heating and thermal cutting Perform advanced manual thermal cutting, gouging and shaping Perform automated thermal cutting Apply fabrication, forming and shaping techniques Assemble fabricated components Perform routine manual metal arc welding Perform manual production welding Monitor quality of production welding/fabrications Weld using manual metal arc welding process Perform advanced welding using manual metal arc welding process Weld using gas metal arc welding process Perform advanced welding using gas metal arc welding process Weld using gas tungsten arc welding process Perform advanced welding using gas tungsten arc welding process Perform advanced welding using oxy acetylene welding process Weld using submerged arc welding process Repair/replace/modify fabrications Perform geometric development Perform manual soldering/desoldering - electrical/electronic components Perform high reliability soldering and desoldering
		MEM05038B MEM05039B MEM05040B MEM05041B MEM05047B MEM05048B MEM05049B MEM05050B MEM05051A	Perform advanced geometric development - cylindrical/rectangular Perform advanced geometric development - conical Perform advanced geometric development - transitions Weld using powder flame spraying Weld using flux core arc welding process Perform advanced welding using flux core arc welding process Perform routine gas tungsten arc welding Perform routine gas metal arc welding Select welding processes
GE22	Painting & Decoration (CE)		
GE23	Pneumatics (CE/ME)	MEM30011A MEM18019B	Set up basic pneumatic circuits Maintain pneumatic systems
GE24	Manufacturing Management (ME)	MEM14002B	Undertake basic process planning

ME 205	Manufacturing Processes-and-Materials	MSS405075A MEM14003B	Facilitate the development of a new product Undertake basic production scheduling
Mgt 503	Production & Operation Management	MEM14087A	Apply manufactured product design techniques
Mgt 505	Quality Management and Manufacturing Engineering	MEM15007B MEM15008B MEM14091A MEM15011B MEM15012B MEM22014A MEM22015A MEM22017A MEM22018A MEM30013A MEM30014A MEM30015A MEM30016A MEM30017A MEM30018A MEM30019A MEM30020A MEM30021A MEM30022A MEM30023A MEM30024A MEM15001B MEM23123A MEM23131A MEM23132A MEM14001B MEM14002B MEM14003B MEM15001B MEM15003B MEM15004B MEM15005B	Conduct product and/or process capability studies Perform advanced statistical quality control Integrate manufacturing fundamentals into an engineering task Exercise external quality assurance Maintain/supervise the application of quality procedures Coordinate engineering-related manufacturing operations Source and estimate engineering materials requirements Coordinate continuous improvement and technical development Coordinate sales and promotion of engineering-related products or services Assist in the preparation of a basic workplace layout Apply basic just in time systems to the reduction of waste Develop recommendations for basic set up time improvements Assist in the analysis of a supply chain Use basic preventative maintenance techniques and tools Undertake basic process planning Use resource planning software systems in manufacturing Develop and manage a plan for a simple manufacturing related project Prepare a simple production schedule Undertake supervised procurement activities Prepare a simple cost estimate for a manufactured product Participate in quality assurance techniques Perform basic statistical quality control Evaluate manufacturing processes Evaluate rapid prototyping applications Evaluate rapid manufacturing processes Schedule material deliveries Undertake basic process planning Undertake basic production scheduling Perform basic statistical quality control Use improvement processes in team activities Perform inspection Select and control inspection processes and procedures
ME 303	Computer Aided Design and Manufacturing	MEM30009A	Contribute to the design of basic mechanical systems
ME 534	Numerical Control	MEM23122A MEM05053A MEM05054A	Evaluate computer integrated manufacturing systems Set and edit computer controlled thermal cutting machines Write basic NC/CNC programs for thermal cutting machines
		MEM07016C MEM07018C MEM07019C MEM07020C MEM07022C MEM07023C MEM07039A	Set and edit computer controlled machines/processes Write basic NC/CNC programs Program NC/CNC machining centre Program multiple spindle and/or multiple axis NC/CNC machining centre Program CNC wire cut machines Program and set up CNC manufacturing cell Write programs for industrial robots
ME 434	Mechtronics-Robotics	MEM23126A MEM23064A	Evaluate industrial robotic applications Select and test mechatronic engineering materials
GE25	Surveying (CE)		
GE26	Energy Efficient Building Design	MEM23141A	Complete a building thermal performance survey
GE28	Hydraulic (CE/ME)	MEM30010A MEM18021B MEM18022B MEM18023B MEM18052B MEM18071B MEM18072B	Set up basic hydraulic circuits Maintain hydraulic systems Maintain fluid power controls Modify fluid power system operation Maintain fluid power systems for mobile plant Connect/disconnect fluid conveying system components Manufacture fluid conveying conductor assemblies
GE29	Materials & Corrosion Prevention (CE/ME)	MEM30007A	Select common engineering materials
GE30	Bricklaying (CE)		
GE31	Sprouting & Guttering (CE)		
GE32	Electronic Security Installation	MEM20008A MEM20011A MEM20012A MEM20013A	Develop and implement a masterkey system Service and repair fire and security containers Service and repair mechanical automotive locking systems Service automotive transponder systems
		PRSTS202A	Install security equipment/system

		PRSTS302A PRSTS303A PRSTS304A PRSTS305A PRSTS307A	Program security equipment/system Test installed security equipment/system Commission/decommission security equipment/system Identify and diagnose electronic security equipment/system fault Maintain and service security equipment/system
GE33	Explosion Protection	MEM13001B MEM13002B MEM13003B MEM13004B MEM13006B MEM13007B MEM13010A MEM13013B	Perform emergency first aid Undertake occupational health and safety activities in the workplace Work safely with industrial chemicals and materials Work safely with molten metals/glass Collect and evaluate occupational health and safety data for an enterprise or section of an enterprise Maintain water treatment systems for cooling towers Supervise occupational health and safety in an industrial work environment. Work safely with ionizing radiation
GE34	Engineering Business Management	MSAENV672B MSS402030A MSS403001A MSS403002A MSS403010A MSS403021A MSS403023A MSS403030A MSS403040A MSS403051A MSS404050A MSS404052A MSS404060A MSS405001A MSS405002A MSS405003A MSS405004A MSS405005A MSS405010A MSS405011A MSS405012A MSS405020A MSS405021A MSS405022A MSS405023A MSS405030A MSS405031A MSS405040A MSS405050A MSS405052A MSS405060A MSS405061A MEM23119A MEM30028A MEM14001B MEM14002B MEM14003B MEM14001B MEM14002B MEM14003B MEM14001B MEM14002B MEM14003B MEM14001B MEM14002B MEM14003B MEM14001B MEM14002B MEM14003B	Develop workplace policy and procedures for sustainability Apply cost factors to work practices Implement competitive systems and practices Ensure process improvements are sustained Facilitate change in an organisation implementing competitive systems and practices Facilitate a Just in Time system Monitor a levelled pull system of operations Improve cost factors in work practices Facilitate and improve implementation of 5S Mistake proof an operational process Undertake process capability improvements Apply statistics to operational processes Facilitate the use of planning software systems in a work area or team Develop competitive systems and practices for an organisation Analyse and map a value stream Manage a value stream Develop business plans in an organisation implementing competitive systems and practices Manage competitive systems and practices responding to individual and unique customer orders Manage relationships with non-customer external organisations Manage people relationships Manage workplace learning Develop quick changeover procedures Develop a Just in Time system Design a process layout Develop a levelled pull system for operations and processes Optimise cost of a product or service Undertake value analysis of product or process costs in terms of customer requirements Manage 5S system in an organisation Determine and improve process capability Design an experiment Develop the application of enterprise control systems in an organisation Determine and establish information collection requirements and processes Evaluate continuous improvement processes Assist in sales of technical products/systems Schedule material deliveries Undertake basic process planning Undertake basic production scheduling Schedule material deliveries Undertake basic process planning Undertake basic production scheduling Schedule material deliveries Undertake basic process planning Undertake basic production scheduling Schedule material deliveries Schedule material deliveries Undertake basic process planning Undertake basic production scheduling Schedule material deliveries Schedule material deliveries Undertake basic process planning Undertake basic production scheduling

		MEM14001B MEM14002B MEM14003B MEM14001B MEM14002B MEM17001B MEM17002B MEM14005A MEM15002A MEM16006A MEM16002C MEM16004B MEM16005A MEM17003A BSBSMB404A BSBSMB406A	Schedule material deliveries Undertake basic process planning Undertake basic production scheduling Schedule material deliveries Undertake basic process planning Assist in development and deliver training in the workplace Conduct workplace assessment Plan a complete activity Apply quality systems Organise and communicate information Conduct formal interviews and negotiations Perform internal/external customer service Operate as a team member to conduct manufacturing, engineering or related activities Assist in the provision of on the job training * Undertake small business planning Manage small business finances
		MSS403001A	Implement competitive systems and practices
		MSS403002A	Ensure process improvements are sustained
		MSS403010A	Facilitate change in an organisation implementing competitive systems and practices
		MSS403021A	Facilitate a Just in Time system
		MSS403030A	Improve cost factors in work practices
IE1	Engineering Mathematics	MEM23007A MEM23008A MEM23004A MEM23005A MEM12025A MEM12024A MEM12024A MEM12025A MEM30012A	Apply calculus to engineering tasks Apply advanced algebra and numerical methods to engineering tasks Apply technical mathematics Apply statistics and probability techniques to engineering tasks Use graphical techniques and perform simple statistical computations Perform computations Perform computations Use graphical techniques and perform simple statistical computations Apply mathematical techniques in a manufacturing engineering or related environment
IE2	Engineering Physics		
IE3	Material Science	MEM24001B MEM24003B MEM24005B MEM24007B MEM24009B MEM14001B MEM23063A MEM23138A	Perform basic penetrant testing Perform basic magnetic particle testing Perform basic eddy current testing Perform ultrasonic thickness testing Perform basic radiographic testing Schedule material deliveries Select and test mechanical engineering materials Evaluate suitability of materials for engineering-related applications
IE4	Advanced Engineering Mathematics		
IE5	Mechanical Science		
IE6	Principle of Electricity	MEM23111A	Select electrical equipment and components for engineering applications
IE7	Electrical Circuit I (EE)	MEM30025A	Analyse a simple electrical system circuit
IE8	Electrical Circuit II (EE)		
IE9	Advanced Building Construction (CE)		
IE10	Transmission Line (EE)		
IE11	Electrical & Mechanical Engineering Work Experience		
IE12	Civil Engineering Work Experience		
IE13	Workshop	MEM18001C MEM23133A MEM23134A MEM23135A MEM23136A MEM23137A MEM30029A	Use hand tools Evaluate rapid tooling applications Evaluate jigs and fixtures Evaluate moulding tools and processes Evaluate stamping and forging tools Evaluate rolling tools and processes Use workshop equipment and processes to complete an engineering project
IE15	Advanced Engineering Design & Project Work		
IE16	Power System Analysis-Fault Calculation		
IE17	Power Line Design		
IE18	Building services		
IE19	PCB Design		
IE20	Maths References		
IE21	Electrical Principle		
IE22	Co-generation		
IE23	Industrial Computer System	MSS402060A	Use planning software systems in operations

		MEM16008A	Interact with computing technology
IE24	Microprocessor	MEM23117A MEM23118A MEM18065B MEM18066B MEM18067B	Evaluate microcontroller applications Apply production and service control techniques Diagnose and repair digital equipment and components Diagnose and repair microprocessor-based equipment Tune control loops - multi controller or multi element systems
IE25	Power System Fundamental		
IE26	Electrical Communication Fundamental		
IE27	Control Concept	MEM18069B	Maintain, repair instrumentation process control analysers
IE28	Electronic Signal & System		
IE29	Electrical Estimating		
IE30	Electronic Workbench		
IE31	Introduction to Renewable Energy Technology	MSS405070A MSAENV472B MSAENV272B	Develop and manage sustainable energy practices Implement and monitor environmentally sustainable work practices Participate in environmentally sustainable work practices
IE32	Telecommunication Cabling & Installation	ICTCBL2136A	Install, maintain and modify customer premises communications cabling: ACMA Restricted Rule
IE33	Hybrid Energy System		
IE34	Electricity Supply Industrial Skills		
ME 101 ME 103	Applied Mathematics Engineering Mechanics	MEM30005A MEM30006A MEM23109A	Calculate force systems within simple beam structures Calculate stresses in simple structures Apply engineering mechanics principles
ME 102 ME 107	Engineering Thermodynamics Heat Transfer	MEM23006A	Apply fluid and thermodynamics principles in engineering
ME201 ME 204 ME 301	Introduction to Fluid Mechanics Engineering Fluid Mechanics Fluid Dynamics	MEM23113A MEM23114A MEM23115A MEM18053B	Evaluate hydrodynamic systems and system components Evaluate thermodynamic systems and components Evaluate fluid power systems Modify fluid power control systems
BAE312	Design Engineering (2 pt)	MEM14085A MEM14086A MEM14089A MEM14090A	Apply mechanical engineering analysis techniques Apply mechatronic engineering analysis techniques Integrate mechanical fundamentals into an engineering task Integrate mechatronic fundamentals into an engineering task
BAE612	Engineering Metallurgy	MEM15010B MEM24002B MEM24004B MEM24006B MEM24008B MEM24010B MEM24011B MEM24012C MSATCM304A MSATCM406A MSATCM501A MSATCM504A MSATCM511A MEM04020A MEM04021A MEM04022A MEM04023A MEM21018A MEM21019A MEM21020A	Perform laboratory procedures Perform penetrant testing Perform magnetic particle testing Perform eddy current testing Perform ultrasonic testing Perform radiographic testing Establish non-destructive tests Apply metallurgy principles Interpret basic binary phase diagrams Apply basic chemical principles to metallurgy Calculate and predict chemical outcomes in metallurgical situations Select metal forming process Apply metallurgy principles and practice to determine metal forming and shaping processes Supervise individual ferrous melting and casting operation Supervise individual non ferrous melting and casting operation Examine appropriateness of methoding for mould design Undertake prescribed tests on foundry related materials Service clock escapements and oscillating systems Service and repair clock striking mechanisms Service and repair clock chiming mechanisms

		MEM21021A MEM21022A MEM21023A MEM21018A	Restore clockwork mechanisms Manufacture watch and clock components Plan, set up and operate horological workshop or service centre Service clock escapements and oscillating systems
ME 305	Corrosion Prevention	MSATCM517A	Determine corrosion prevention strategies for metal and alloys
BAE611	Maintenance Engineering	MEM14088A MEM14092A MEM23125A MSS404081A MSS404082A MSS405081A MSS405083A MEM18010C MEM18011C MEM18016B MEM18017C	Apply maintenance engineering techniques to equipment and component repairs and modifications Integrate maintenance fundamentals into an engineering task Evaluate maintenance systems Undertake proactive maintenance analyses Assist in implementing a proactive maintenance strategy Develop a proactive maintenance strategy Adapt a proactive maintenance strategy for a seasonal or cyclical business Perform equipment condition monitoring and recording Shut down and isolate machines/equipment Analyse plant and equipment condition monitoring results Modify mechanical systems and equipment
BAE311	Plant Engineering (2 pt)	MEM18016B	Analyse plant and equipment condition monitoring results
BAE614	Machine Design	MEM22007A MEM23120A	Manage environmental effects of engineering activities Select mechanical machine and equipment components
GE27	Machine Principle(ME)	MEM23121A MEM23124A MEM10008B MEM10006B	Analyse loads on frames and mechanisms Measure and analyse noise and vibration Undertake commissioning procedures for plant and/or equipment Install machine/plant
ME 208	Hydrocarbons	MEM18098A	Prepare to perform work associated with fuel system installation and servicing
	CLOCK	MEM21018A MEM21019A MEM21020A MEM21021A MEM21022A MEM21023A	Service clock escapements and oscillating systems Service and repair clock striking mechanisms Service and repair clock chiming mechanisms Restore clockwork mechanisms Manufacture watch and clock components Plan, set up and operate horological workshop or service centre
BAE513	Production Technology	MEM04001B	Operate melting furnaces
BAE614	Machine Design	MEM04002B	Perform gravity die casting
GE14	Fitting & Machining (ME)(II)	MEM04003B	Operate pressure die casting machine
ME 104	Machine Principle	MEM04004B	Prepare and mix sand for metal moulding
ME 209	Introduction-to-polymer-science-and-technology	MEM04005C	Produce moulds and cores by hand (jobbing)
ME 205	Manufacturing Processes-and-Materials	MEM04006B	Operate sand moulding and core making machines
BAE612	Engineering Metallurgy	MEM04007B MEM04008B MEM04010B MEM04011B MEM04012B MEM04013B MEM04014B MEM04015B MEM04016C MEM04017B MEM04018B MEM04019B MEM06001B MEM06002B MEM06003C MEM06004B MEM06005B MEM06006C	Pour molten metal Fettle and trim metal castings/forgings Develop and manufacture wood patterns Produce polymer patterns Assemble plated patterns Develop and manufacture polystyrene patterns Develop and manufacture production patterns Develop and manufacture vacuum forming moulds and associated equipment Develop and manufacture precision models Develop and manufacture gear, conveyor screw and propeller patterns Perform general woodworking machine operations Perform refractory installation and repair Perform hand forging Perform hammer forging Carry out heat treatment Select heat treatment processes and test finished product Perform drop and upset forging Repair springs

		MEM06007B	Perform basic incidental heat/quenching, tempering and annealing
		MEM06008A	Hammer forge complex shapes
		MEM06009A	Hand forge complex shapes
		MEM07001B	Perform operational maintenance of machines/equipment
		MEM07002B	Perform precision shaping/planing/slotting operations
		MEM07003B	Perform machine setting (routine)
		MEM07004B	Perform machine setting (complex)
		MEM07005C	Perform general machining
		MEM07006C	Perform lathe operations
		MEM07007C	Perform milling operations
		MEM07008D	Perform grinding operations
		MEM07009B	Perform precision jig boring operations
		MEM07010B	Perform tool and cutter grinding operations
		MEM07011B	Perform complex milling operations
		MEM07012B	Perform complex grinding operations
		MEM07013B	Perform machining operations using horizontal and/or vertical boring machines
		MEM07014B	Perform electro-discharge (EDM) machining operations
		MEM07015B	Set computer controlled machines/processes
		MEM07021B	Perform complex lathe operations
		MEM07024B	Operate and monitor machine/process
		MEM07025B	Perform advanced machine/process operation
		MEM07026B	Perform advanced plastic processing
		MEM07027B	Perform advanced press operations
		MEM07028B	Operate computer controlled machines/processes
		MEM07029B	Perform routine sharpening/maintenance of production tools and cutters
		MEM07030C	Perform metal spinning lathe operations (basic)
		MEM07031C	Perform metal spinning lathe operations (complex)
		MEM07032B	Use workshop machines for basic operations
		MEM07033B	Operate and monitor basic boiler
		MEM07034A	Operate and monitor intermediate class boiler
		MEM07040A	Set multistage integrated processes
		MEM18097A	Manufacture cavity dies
		MEM24001B	Perform basic penetrant testing
		MEM24003B	Perform basic magnetic particle testing
		MEM24005B	Perform basic eddy current testing
		MEM24007B	Perform ultrasonic thickness testing
		MEM24009B	Perform basic radiographic testing
		PMBPROD291B	Operate resin infusion moulding equipment
		PMBPROD294B	Operate resin transfer moulding equipment
		PMBPROD298B	Operate equipment using pre-preg material
		PMBPROD391B	Produce composites using resin infusion
		PMBPROD394B	Produce composites using resin transfer moulding
GE35	SCAFFOLDING	MEM11001C	Erect/dismantle scaffolding and equipment
		MEM11002C	Erect/dismantle complex scaffolding and equipment
		MEM11003B	Coordinate erection/dismantling of complex scaffolding/equipment
		MEM11004B	Undertake dogging
GE36	INVENTORY MANAGEMENT/ STORE OPERATION & STOCK CONTROL MATERIALS HANDLING	MEM11005B	Pick and process order
		MEM11006B	Perform production packaging
		MEM11007B	Administer inventory procedures
		MEM11008B	Package materials (stores and warehouse)
		MEM11009B	Handle/move bulk fluids/gases
		MEM11010B	Operate mobile load shifting equipment
		MEM11011B	Undertake manual handling
		MEM11012B	Purchase materials
		MEM11013B	Undertake warehouse receipt process
		MEM11014B	Undertake warehouse dispatch process
		MEM11015B	Manage warehouse inventory system
		MEM11016B	Order materials
		MEM11017B	Organise and lead stocktakes

		MEM11018B	Organise and maintain warehouse stock receiving and/or dispatch system
		MEM11019B	Undertake tool store procedures
		MEM11020B	Perform advanced warehouse computer operations
		MEM11021B	Perform advanced operation of load shifting equipment
		MEM11022B	Operate fixed/moveable load shifting equipment
		MEM11008B	Package materials (stores and warehouse)

JEWELLERY MAKING

MEM19001B	Perform jewellery metal casting
MEM19002B	Prepare jewellery illustrations
MEM19003B	Handle gem materials
MEM19004B	Handle and examine gemstone materials
MEM19005B	* Produce three-dimensional precision items
MEM19006B	Replace watch batteries
MEM19007B	Perform gemstone setting
MEM19009B	Perform investment procedures for lost wax casting process
MEM19010B	Produce rubber moulds for lost wax casting process
MEM19011B	Perform wax injection of moulds for lost wax casting process
MEM19012B	Produce jewellery wax model
MEM19014B	Perform hand engraving
MEM19015B	Perform jewellery enamelling
MEM19016B	Construct jewellery components
MEM19017B	Fabricate jewellery items
MEM19020B	Fault-find and maintain micro-mechanisms
MEM19021B	Diagnose and service micro-mechanisms

Group MEM40105-01V08G03S16

WATCH MAKING

Modules/Units	Name
MEM20001A	Produce keys
MEM20002A	Assemble and test lock mechanisms
MEM20003A	Install and upgrade locks and hardware
MEM20004A	Gain entry
MEM20005A	Install and maintain door control devices/systems
MEM20006A	Maintain and service mechanical locking devices
MEM20007A	Plan and prepare a masterkey system
MEM20009A	Gain entry and reinstate fire and security containers
MEM20010A	Gain entry and reinstate automotive locking systems
MEM20014A	Perform a site security survey

Group MEM40105-01V08G03S17

Modules/Units	Name
MEM21001A	Replace watch batteries, capacitors and bands
MEM21002A	Perform watch movement exchange
MEM21003A	Perform watch case servicing, repair and refurbishment
MEM21004A	Clean watch and clock components
MEM21005A	Diagnose faults in quartz watches
MEM21006A	Service quartz watches
MEM21007A	Service complex quartz watches

MEM21008A	Service mechanical watches
MEM21009A	Inspect, diagnose, adjust and repair mechanical watches
MEM21010A	Service watch power generating systems
MEM21011A	Service calendar and other dial indication mechanisms for watches
MEM21012A	Service and repair mechanical watch oscillating systems
MEM21013A	Service, test and adjust watch escapements
MEM21014A	Service mechanical chronograph watches
MEM21015A	Perform precision watch timing and adjustment
MEM21016A	Install and set up clocks
MEM21017A	Service and repair clock timepieces

MARINE

Modules/Units	Name
MEM25001B	Apply fibre-reinforced materials
MEM25002B	Form and integrate fibre-reinforced structures
MEM25003B	Set up marine vessel structures
MEM25004B	Fair and shape surfaces
MEM25005B	Construct and assemble marine vessel timber components
MEM25006B	Undertake marine sheathing operations
MEM25007B	Maintain marine vessel surfaces
MEM25009B	Form timber shapes using hot processes
MEM25010B	Perform fitout procedures
MEM25011B	Install marine systems
MEM25012B	Install and test operations of marine auxiliary systems
MEM25014B	Perform marine slipping operations
MEM25015A	Assemble and install equipment and accessories/ancillaries

MEM50002B	Work safely on marine craft
MEM50003B	Follow work procedures to maintain the marine environment
MEM50004B	Maintain quality of environment by following marina codes
MEM50009B	Safely operate a mechanically powered recreational boat
GE21	<div>Welding</div> <div>Welding (ME)</div>

MEM05003B	Perform soft soldering	18	MEM05003B
MEM05004C	Perform routine oxy acetylene welding	18	MEM05004C
MEM05005B	Carry out mechanical cutting	18	MEM05005B
MEM05006C	Perform brazing and or silver soldering	18	MEM05006C
MEM05007C	Perform manual heating and thermal cutting	18	MEM05007C
MEM05008C	Perform advanced manual thermal cutting, gouging and shaping	18	MEM05008C
MEM05009C	Perform automated thermal cutting	18	MEM05009C
MEM05011D	Assemble fabricated components	72	MEM05011D
MEM05012C	Perform routine manual metal arc welding	18	MEM05012C
MEM05015D	Weld using manual metal arc welding process	36	MEM05015D
MEM05017D	Weld using gas metal arc welding process	36	MEM05017D
MEM05019D	Weld using gas tungsten arc welding process	36	MEM05019D
MEM05049B	Perform routine gas tungsten arc welding	18	MEM05049B
MEM05050B	Perform routine gas metal arc welding	18	MEM05050B

MEM05051A	Select welding processes	18	MEM05051A
MEM05052A	Apply safe welding practices	36	MEM05052A

Group MEM40105-02V05G03S02

Modules/Units	Name	Hrs	National Module(s)
MEM13014A	Apply principles of occupational health and safety in the work environment	10	MEM13014A
MEM14004A	Plan to undertake a routine task	9	MEM14004A
MEM15024A	Apply quality procedures	9	MEM15024A
MEM16007A	Work with others in a manufacturing, engineering or related environment	9	MEM16007A

Group MEM40105-04V05G01S02

Modules/Units	Name	Hrs	National Module(s)
MEM12023A	Perform engineering measurements	45	MEM12023A
MEM12024A	Perform computations	27	MEM12024A
MEM14005A	Plan a complete activity	36	MEM14005A
MEM15002A	Apply quality systems	18	MEM15002A
MEM16006A	Organise and communicate information	18	MEM16006A
MEM16008A	Interact with computing technology	18	MEM16008A
MEM17003A	Assist in the provision of on the job training	18	MEM17003A
MSAENV272B	Participate in environmentally sustainable work practices	20	MSAENV272B

Group MEM40105-04V05G02 GROUP 2 GROUP A SPECIALISATION UNITS LISTED IN MEM40105

Group MEM40105-04V05G02S01

Modules/Units	Name	Hrs	National Module(s)
MEM05024B	Perform welding supervision	108	MEM05024B
MEM05025C	Perform welding/fabrication inspection	108	MEM05025C
MEM05026C	Apply welding principles	36	MEM05026C
MEM05042B	Perform welds to code standards using flux core arc welding process	54	MEM05042B
MEM05043B	Perform welds to code standards using gas metal arc welding process	54	MEM05043B
MEM05044B	Perform welds to code standards using gas tungsten arc welding process	54	MEM05044B
MEM05045B	Perform pipe welds to code standards using manual metal arc welding process	54	MEM05045B
MEM05046B	Perform welds to code standards using manual metal arc welding process	54	MEM05046B
MEM05053A	Set and edit computer controlled thermal cutting machines	36	MEM05053A
MEM05054A	Write basic NC/CNC programs for thermal cutting machines	36	MEM05054A

Group MEM40105-04V05G02S02

Modules/Units	Name	Hrs	National Module(s)
MEM07016C	Set and edit computer controlled machines/processes	36	MEM07016C
MEM07018C	Write basic NC/CNC programs	36	MEM07018C

Group MEM40105-04V05G02S03

Modules/Units	Name	Hrs	National Module(s)
MEM09006B	Perform advanced engineering detail drafting	36	MEM09006B
MEM09007B	Perform advanced mechanical detail drafting	36	MEM09007B
MEM09008B	Perform advanced structural detail drafting	36	MEM09008B
MEM09009C	Create 2D drawings using computer aided design system	80	MEM09009C
MEM09010C	Create 3D models using computer aided design system	36	MEM09010C

MEM09023A	Create 3D code files using computer aided manufacturing system	54	MEM09023A
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Group MEM40105-04V05G02S04

Modules/Units	Name	Hrs	National Module(s)
MEM14001B	Schedule material deliveries	72	MEM14001B
MEM14002B	Undertake basic process planning	72	MEM14002B
MEM14003B	Undertake basic production scheduling	72	MEM14003B

Group MEM40105-04V05G02S05

Modules/Units	Name	Hrs	National Module(s)
MEM16001B	Give formal presentations and take part in meetings	18	MEM16001B
MEM16003B	Provide advanced customer service	18	MEM16003B
MEM16009A	Research and analyse engineering information	18	MEM16009A
MEM16010A	Write reports	18	MEM16010A
MEM16011A	Communicate with individuals and small groups	18	MEM16011A
MEM16012A	Interpret technical specifications and manuals	36	MEM16012A
MEM16013A	Operate in a self-directed team	18	MEM16013A
MEM16014A	Report technical information	18	MEM16014A

Group MEM40105-04V05G02S06

Modules/Units	Name	Hrs	National Module(s)
MEM17001B	Assist in development and deliver training in the workplace	18	MEM17001B
MEM17002B	Conduct workplace assessment	18	MEM17002B

Group MEM40105-04V05G02S07

Modules/Units	Name	Hrs	National Module(s)
MEM18049C	Disconnect/reconnect fixed wired equipment up to 1000 volts a.c./1500 volts d.c.	27	MEM18049C

Group MEM40105-04V05G02S08

Modules/Units	Name	Hrs	National Module(s)
MEM24002B	Perform penetrant testing	36	MEM24002B
MEM24004B	Perform magnetic particle testing	36	MEM24004B
MEM24006B	Perform eddy current testing	54	MEM24006B
MEM24008B	Perform ultrasonic testing	54	MEM24008B
MEM24010B	Perform radiographic testing	108	MEM24010B
MEM24011B	Establish non-destructive tests	108	MEM24011B
MEM24012C	Apply metallurgy principles	54	MEM24012C

Group MEM40105-04V05G02S09

Modules/Units	Name	Hrs	National Module(s)
MEM30012A	Apply mathematical techniques in a manufacturing engineering or related environment	36	MEM30012A

Group MEM40105-04V05G03 GROUP 3 GROUP B ELECTIVE UNITS LISTED IN MEM40105

Group MEM40105-04V05G03S01

Modules/Units	Name	Hrs	National Module(s)
MEM05001B	Perform manual soldering/desoldering - electrical/electronic components	36	MEM05001B
MEM05002B	Perform high reliability soldering and desoldering	36	MEM05002B
MEM05003B	Perform soft soldering	18	MEM05003B
MEM05004C	Perform routine oxy acetylene welding	18	MEM05004C
MEM05005B	Carry out mechanical cutting	18	MEM05005B
MEM05006C	Perform brazing and or silver soldering	18	MEM05006C
MEM05007C	Perform manual heating and thermal cutting	18	MEM05007C
MEM05008C	Perform advanced manual thermal cutting, gouging and shaping	18	MEM05008C
MEM05009C	Perform automated thermal cutting	18	MEM05009C
MEM05010C	Apply fabrication, forming and shaping techniques	72	MEM05010C
MEM05011D	Assemble fabricated components	72	MEM05011D
MEM05012C	Perform routine manual metal arc welding	18	MEM05012C
MEM05013C	Perform manual production welding	18	MEM05013C
MEM05014C	Monitor quality of production welding/fabrications	18	MEM05014C
MEM05015D	Weld using manual metal arc welding process	36	MEM05015D
MEM05016C	Perform advanced welding using manual metal arc welding process	36	MEM05016C
MEM05017D	Weld using gas metal arc welding process	36	MEM05017D
MEM05018C	Perform advanced welding using gas metal arc welding process	36	MEM05018C
MEM05019D	Weld using gas tungsten arc welding process	36	MEM05019D
MEM05020C	Perform advanced welding using gas tungsten arc welding process	36	MEM05020C
MEM05022C	Perform advanced welding using oxy acetylene welding process	54	MEM05022C
MEM05023C	Weld using submerged arc welding process	36	MEM05023C
MEM05036C	Repair/replace/modify fabrications	36	MEM05036C
MEM05037C	Perform geometric development	54	MEM05037C
MEM05038B	Perform advanced geometric development - cylindrical/rectangular	18	MEM05038B
MEM05039B	Perform advanced geometric development - conical	18	MEM05039B
MEM05040B	Perform advanced geometric development - transitions	36	MEM05040B
MEM05041B	Weld using powder flame spraying	36	MEM05041B
MEM05047B	Weld using flux core arc welding process	36	MEM05047B
MEM05048B	Perform advanced welding using flux core arc welding process	36	MEM05048B
MEM05049B	Perform routine gas tungsten arc welding	18	MEM05049B
MEM05050B	Perform routine gas metal arc welding	18	MEM05050B
MEM05051A	Select welding processes	18	MEM05051A
MEM05052A	Apply safe welding practices	36	MEM05052A

Group MEM40105-04V05G03S02

Modules/Units	Name	Hrs	National Module(s)
MEM06001B	Perform hand forging	36	MEM06001B
MEM06002B	Perform hammer forging	36	MEM06002B
MEM06003C	Carry out heat treatment	54	MEM06003C
MEM06004B	Select heat treatment processes and test finished product	54	MEM06004B
MEM06005B	Perform drop and upset forging	36	MEM06005B
MEM06006C	Repair springs	36	MEM06006C
MEM06007B	Perform basic incidental heat/quenching, tempering and annealing	18	MEM06007B
MEM06008A	Hammer forge complex shapes	36	MEM06008A
MEM06009A	Hand forge complex shapes	36	MEM06009A

Modules/Units	Name	Hrs	National Module(s)
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MEM03001B	Perform manual production assembly	36	MEM03001B
MEM03003B	Perform sheet and plate assembly	36	MEM03003B
MEM05001B	Perform manual soldering/desoldering - electrical/electronic components	36	MEM05001B
MEM05003B	Perform soft soldering	18	MEM05003B
MEM05004C	Perform routine oxy acetylene welding	18	MEM05004C
MEM05005B	Carry out mechanical cutting	18	MEM05005B
MEM05006C	Perform brazing and or silver soldering	18	MEM05006C
MEM05007C	Perform manual heating and thermal cutting	18	MEM05007C
MEM05008C	Perform advanced manual thermal cutting, gouging and shaping	18	MEM05008C
MEM05009C	Perform automated thermal cutting	18	MEM05009C
MEM05010C	Apply fabrication, forming and shaping techniques	72	MEM05010C
MEM05011D	Assemble fabricated components	72	MEM05011D
MEM05012C	Perform routine manual metal arc welding	18	MEM05012C
MEM05013C	Perform manual production welding	18	MEM05013C
MEM05015D	Weld using manual metal arc welding process	36	MEM05015D
MEM05016C	Perform advanced welding using manual metal arc welding process	36	MEM05016C
MEM05017D	Weld using gas metal arc welding process	36	MEM05017D
MEM05018C	Perform advanced welding using gas metal arc welding process	36	MEM05018C
MEM05019D	Weld using gas tungsten arc welding process	36	MEM05019D
MEM05020C	Perform advanced welding using gas tungsten arc welding process	36	MEM05020C
MEM05036C	Repair/replace/modify fabrications	36	MEM05036C
MEM05037C	Perform geometric development	54	MEM05037C
MEM05049B	Perform routine gas tungsten arc welding	18	MEM05049B
MEM05050B	Perform routine gas metal arc welding	18	MEM05050B
MEM05051A	Select welding processes	18	MEM05051A
MEM05052A	Apply safe welding practices	36	MEM05052A

Group MEM40105-04V05G03S03

Modules/Units	Name	Hrs	National Module(s)
MEM07005C	Perform general machining	72	MEM07005C
MEM07015B	Set computer controlled machines/processes	18	MEM07015B
MEM07032B	Use workshop machines for basic operations	18	MEM07032B

Group MEM40105-04V05G03S04

Modules/Units	Name	Hrs	National Module(s)
MEM08002C	Pre-treat work for subsequent surface coating	36	MEM08002C
MEM08004B	Finish work using wet, dry and vapour deposition methods	36	MEM08004B
MEM08010B	Manually finish/polish materials	54	MEM08010B

Group MEM40105-04V05G03S05

Modules/Units	Name	Hrs	National Module(s)
MEM09002B	Interpret technical drawing	36	MEM09002B
MEM09003B	Prepare basic engineering drawing	72	MEM09003B
MEM09005B	Perform basic engineering detail drafting	72	MEM09005B
MEM09022A	Create 2D code files using computer aided manufacturing system	36	MEM09022A

Group MEM40105-04V05G03S06

Modules/Units	Name	Hrs	National Module(s)
MEM10001C	Erect structures	36	MEM10001C
MEM10002B	Terminate and connect electrical wiring	27	MEM10002B
MEM10010B	Install pipework and pipework assemblies	36	MEM10010B

Group MEM40105-04V05G03S07

Modules/Units	Name	Hrs	National Module(s)
MEM11001C	Erect/dismantle scaffolding and equipment	36	MEM11001C
MEM11002C	Erect/dismantle complex scaffolding and equipment	36	MEM11002C
MEM11003B	Coordinate erection/dismantling of complex scaffolding/equipment	36	MEM11003B
MEM11010B	Operate mobile load shifting equipment	36	MEM11010B
MEM11011B	Undertake manual handling	18	MEM11011B
MEM11012B	Purchase materials	54	MEM11012B
MEM11021B	Perform advanced operation of load shifting equipment	18	MEM11021B
MEM11022B	Operate fixed/moveable load shifting equipment	36	MEM11022B

Group MEM40105-04V05G03S08

Modules/Units	Name	Hrs	National Module(s)
MEM12002B	Perform electrical/electronic measurement	18	MEM12002B
MEM12007D	Mark off/out structural fabrications and shapes	36	MEM12007D

Group MEM40105-04V05G03S09

Modules/Units	Name	Hrs
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MYANMAR BUDDHIST SCHOOLS & VOLUNTARY SCHOOLS STUDY SUPPORT WEBSITE

This website contains English+ Myanmar Explanations of the tutoring lessons based on New South Wales & Western Australian school curriculum subjects.

<http://www.highlightcomputer.com/y712lessons.htm>

Year 11+12 Lessons	Year 9+10 Lessons	Certificate to Degree	Volunteer Teachers Professional Development
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The aim to develop this site is to provide the tutoring support for the students in Myanmar Buddhist Schools and Voluntary Schools including NLD Education Network Schools to acquire the international standard school education.

By studying the contents of this site, the students will acquire the following benefits

- Reading+ Listening skills in English Language
- Acquire Australian School Education
- Use of IT Skills in E- Learning
- Self learning practice

The lessons can be learnt by two ways

- Viewing the power-point lessons by using computer
- Viewing the JPEG image files and listening MP3 Audio files by using Portable DVD Players which are donated to Myanmar Buddhist Schools & Voluntary Schools

The students need to

- View the Lessons
- Copy the lessons
- Listen to both Myanmar & English Explanations of the lessons
- Do the exercises and submit the assignments
- Sit the examinations

The facilitators/ co-ordinators need to

- Download the lessons & unzip them
- Show the students which folders are to be studied on weekly basis by using computer or Portable DVD Player
- Supervise the students in their learning

The Teacher who prepares the lessons

Sayar U Kyaw Naing Ed.D (STCTU),BE(EP)RIT,AGTI(EP)Pyi, MSEE(USA),M.Sc (Science Education)Curtin University-Western Australia, Post Grad Dip Sc Ed(Curtin), Grad Dip Ed (Adult Vocational Education)(TAFE-NSW),Cert IV TAE40110, MIEAust, RPEQ

Registered Teacher (Western Australian Teacher Registration Board)

Teacher of Electrical Engineering (TAFE-NSW)

WRITTEN LESSONS+AUDIO FILES

Year 11+12

MATHEMATICS

www.iqytechnicalcollege.com/Yr1112Maths1.zip

PHYSICS

www.iqytechnicalcollege.com/Yr1112Physics.zip

CHEMISTRY

www.iqytechnicalcollege.com/Yr1112Chemistry.zip

SCIENCE

www.iqytechnicalcollege.com/Yr1112Science.zip

DESIGN & TECHNOLOGY

SOFTWARE DESIGN

www.iqytechnicalcollege.com/Yr1112SoftwareDesign.zip

VIDEOS

Year 11+12 WEEK 1

Mathematics

Yr 11+12 Maths 1-Rationals, Polynomials, Equations **Maths (001) Yr11+12 to Maths (021) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/55xktujxseqj/Yr_11_12_Maths_1_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/3lgvs31i6kpi/Yr_11_12_Maths_1_DVD_zip

Video

<https://youtu.be/afPIKAOmLrA>

Chemistry

Yr 11+12 Chemistry 1-Carbon Chemistry **Chemistry (001) Y11+12 to Chemistry (042) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/1bm26hidjc5/Yr_11_12_Chemistry_1_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/4iaet719aisx/Yr_11_12_Chemistry_1_DVD_zip

Design & Technology

Yr 11+12 Design & Technology 1-Basic Concepts **DesignTech (001) Y11+12 to Design Tech (029) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/6h2dkyic7myv/Yr_11_12_Design_Technology_1_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/7ey1mbqmqjsq1/Yr_11_12_Design_Technology_1_DVD_zip

Video

<https://youtu.be/6cnLVR3BHeg>

Physics

Yr 11+12 Physics 1-Gravity **Physics (001) Y11+12 to Physics (015) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/38ofzxy4nnh7/Yr_11_12_Physics_1_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/63rck9dfn8uz/Yr_11_12_Physics_1_DVD_zip

Video

<https://youtu.be/lxXmAfYWayc>

Science

Yr 11+12 Science 1A-Physical and chemical properties of everyday substances **Science (001) Y11+12 to Science (015) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/1o184i6a1xf/Yr_11_12_Science_1A_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/a1fhtw6u8i5/Yr_11_12_Science_1A_DVD_zip

Software Design

Yr 11+12 Software Design 1-Rights and responsibilities of software developers **Software (001) Y11+12 to Software (027) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/4i41ee7xkv87/Yr_11_12_Software_Design_1_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/33x81hahh9nf/Yr_11_12_Software_Design_1_DVD_zip

Video

<https://youtu.be/mPBjzZnjHwU>

Year 11+12 WEEK 2

Mathematics

Yr 11+12 Maths 2-Circle Geometry **Maths (022) Yr11+12 to Maths (047) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/3j9q9npbaiz3/Yr_11_12_Maths_2a_PPT_zip
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Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/5rm7n1duw4gv/Yr_11_12_Maths_2a_DVD_zip
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Video

<https://youtu.be/KxFAPQQBEEc>

Chemistry

Yr 11+12 Chemistry 2a-Industrial uses & production of Organic Compounds **Chemistry (043) Y11+12 to Chemistry (085) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/563iik1u5hn/Yr_11_12_Chemistry_2-a_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/44b4nw21thib/Yr_11_12_Chemistry_2-a_DVD_zip

Design & Technology

Yr 11+12 Design & Technology 2-Design Process **DesignTech (030) Y11+12 to Design Tech (050) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/xl5nu78y82z/Yr_11_12_Design_amp_Technology_2_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/10iaadvra71/Yr_11_12_Design_amp_Technology_2_DVD_zip

Video

<https://youtu.be/AWMHwZuza4A>

Physics

Yr 11+12 Physics 2-Projectile Motion **Physics (016) Y11+12 to Physics (058) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/peqs8n39qdl/Yr_11_12_Physics_2_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/3wjvy9yb6cyv/Yr_11_12_Physics_2_DVD_zip

Video

<https://youtu.be/QicnwF-pd9E>

Science

Yr 11+12 Science 1B- Chemical effect on body skin **Science (035) Y11+12 to Science (077) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/4k53ai7zz3al/Yr_11_12_Science_1B_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/58phr5mg5jrp/Yr_11_12_Science_1B_DVD_zip

Video

https://youtu.be/kR_9_RMpBhM

Software Design

Yr 11+12 Software Design 2A- Software Development

Link for power-points to view with computer	http://www.filefactory.com/file/31zikrytpv7/Yr11_12_Software_Design_2_A_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/3yqf54xlozgp/Yr_11_12_Software_Design_2_A_DVD_zip

Video

<https://youtu.be/ETaTh-p7S88>

Year 11+12 WEEK 3

Mathematics

Yr 11+12 Maths 3A-Plotting Graphs **Maths (048) Yr11+12 to Maths (073) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/5bg04kzpn1av/Yr_11_12_Maths_3A_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/17koswfr5yyj/Yr_11_12_Maths_3A_DVD_zip

Video

https://youtu.be/V7DdiD_XXNg

Chemistry

Yr 11+12 Chemistry 3A-Electro-Chemistry **Chemistry (0086) Y11+12 to Chemistry (110) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/6k628o9r60ml/Yr_11_12_Chemistry_3A_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/7gv7fcr0q18b/Yr_11_12_Chemistry_3A_DVD_zip

Design & Technology

Yr 11+12 Design & Technology 3-Design Professions **DesignTech (051) Y11+12 to Design Tech (0062) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/3orxdb5wacif/Yr_11_12_Design_amp_Technology_3_PPT_zip
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Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/1m2dvqt3oamn/Yr_11_12_Design_amp_Technology_3_DVD_zip
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Video

<https://youtu.be/WtpkEztrFHA>

Physics

Yr 11+12 Physics 3-Newton Law of Universal Gravitation **Physics (059) Y11+12 to Physics (078) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/3nw97wiqv44h/Yr_11_12_Physics_3_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/1wdq66z07fw3/Yr_11_12_Physics_3_DVD_zip

Video

<https://youtu.be/7naPc7nLlv8>

Science

Yr 11+12 Science 2A-Bionics **Science (078) Y11+12 to Science (130) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/2onjzls6m8l7/Yr_11_12_Science_2A_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/1bj881t4g30l/Yr_11_12_Science_2A_DVD_zip

Video

<https://youtu.be/zhUD3cC14AY>

Software Design

Yr 11+12 Software Design 3A-Defining the problem **Software (054) Y11+12 to Software (091) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/5pb1nap5gro9/Yr_11_12_Software_Design_3A_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/38iepya8p16j/Yr_11_12_Software_Design_3A_DVD_zip

Video

<https://youtu.be/L0XemUHW8Fg>

Year 11+12 WEEK 4

Mathematics

Yr 11+12 Maths 4 Quadratic equations **Maths (074) Yr11+12 to Maths (123) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/61bwkp4g7xa1/Yr_11_12_Maths_4_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/1l2f3d8fpaet/Yr_11_12_Maths_4_DVD_zip

Video

<https://youtu.be/QNzf5Qhcho8>

Chemistry

Yr 11+12 Chemistry 3B Electrical Cells **Chemistry (111) Y11+12 to Chemistry (145) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/68bkip2uhckg9/Yr_11_12_Chemistry_3B_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/3htp0siz3xxh/Yr_11_12_Chemistry_3B_DVD_zip

Video

https://youtu.be/_OhRYtxiTS0

Design & Technology

Yr 11+12 Design & Technology 4-Factors affecting design **DesignTech (141) Y11+12 to Design Tech (161) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/7kgcjihwlt1j/Yr_11_12_Design_amp_Technology_4_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/4y5wq0f0kgxb/Yr_11_12_Design_amp_Technology_4_DVD_zip

Video

<https://youtu.be/icoOEn26FZY>

Physics

Yr 11+12 Physics 4-Measurement **Physics (0079) Y11+12 to Physics (095) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/5gljw7kfdorh/Yr_11_12_Physics_4_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/1rddc0if6uf/Yr_11_12_Physics_4_DVD_zip

Video

<https://youtu.be/5ObMFCjdTXM>

Science

Yr 11+12 Science 3B-Communication system waves **Science (131) Y11+12 to Science (157) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/3nizl54swhfp/Yr_11_12_Science_3B_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/5ymx6lu4v929/Yr_11_12_Science_3B_DVD_zip

Video

<https://youtu.be/YISoC6caucE>

Software Design

Yr 11+12 Software Design 3B-Modelling **Software (092) Y11+12 to Software (128) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/6opoj6nrq1uf/Yr_11_12_Software_Design_3B_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/2b4dk1kxj6gb/Yr_11_12_Software_Design_3B_DVD_zip

Video

<https://youtu.be/GDj4FremeOc>

Year 11+12 WEEK 5

Mathematics

Yr 11+12 Maths 5–Trigo Compound angles **Maths (124) Yr11+12 to Maths (133) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/7dh9tw73vvhz/Yr_11_12_Maths-5_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/3h6gv344xwd9/Yr_11_12_Maths-5_DVD_zip

Chemistry

Yr 11+12 Chemistry 3C–Electro-chemical Cells **Chemistry (146) Y11+12 to Chemistry (175) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/2syd63ux58sv/Yr_11_12_Chemistry_3C_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/33wm75kwz0zh/Yr_11_12_Chemistry_3C_DVD_zip

Video

<https://youtu.be/KnllmfAk1a4>

Design & Technology

Yr 11+12 Design & Technology 5–Trends in Design Production **DesignTech (141) Y11+12 to Design Tech (161) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/febizarmz9z/Yr_11_12_Design_amp_Technology_5_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/7i9l28b7vbsn/Yr_11_12_Design_amp_Technology_5_DVD_zip

Video

<https://youtu.be/zO2Ll1yzvAM>

Physics

Yr 11+12 Physics 5A-Motor **Physics (096) Y11+12 to Physics (122) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/73xcfb02vnqd/Yr_11_12_physics_5A_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/6soniig57871/Yr_11_12_physics_5A_DVD_zip

Video

<https://youtu.be/nKWCKdIJpvA>

Science

Yr 11+12 Science 4A-Fibres **Science (158) Y11+12 to Science (196) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/59h5k11ibn3x/Yr_11_12_Science_4A_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/1qtz6spfhkzt/Yr_11_12_Science_4A_DVD_zip

Video

<https://youtu.be/dUPn1De2iJA>

Software Design

Yr 11+12 Software Design 4A–Design Patterns **Software (129) Y11+12 to Software (156) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/2jx1tl9q3bo3/Yr_11_12_Software_Design_4A_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/3v67gn0fc95j/Yr_11_12_Software_Design_4A_DVD_zip

Video

<https://youtu.be/QAWiURC1X1M>

Year 11+12 WEEK 6

Mathematics

Yr 11+12 Maths –6 - Half Compound Angles **Maths (134) Yr11+12 to Maths (151) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/6i33bfjxhi8p/Yr_11_12_Maths-6_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/jvxnubyijdz/Yr_11_12_Maths-6_DVD_zip

Video

<https://youtu.be/sxJcFi9JrPo>

Chemistry

Yr 11+12 Chemistry –4A- Nuclear Chemistry **Chemistry (176) Y11+12 to Chemistry (211) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/1j9qnfeuu4wn/Yr_11_12_Chemistry_4A_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/11pop4e77uu3/Yr_11_12_Chemistry_4A_DVD_zip

Video

<https://youtu.be/-pYr7fxYEDw>

Design & Technology

Yr 11+12 Design & Technology –6 - Design Techniques **DesignTech (162) Y11+12 to Design Tech (169) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/2soqe4fnwp5n/Yr_11_12_Design_amp_Technology_6_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/74ldosb9mtlr/Yr_11_12_Design_amp_Technology_6_DVD_zip

Video

<https://youtu.be/W6YSsRSe8QE>

Physics

Yr 11+12 Physics –5B--DC Machines **Physics (123) Y11+12 to Physics (163) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/7f10wt5idbrn/Yr_11_12_Physics_5B_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/6mk0jia1lmbv/Yr_11_12_Physics_5B_DVD_zip

Video

https://youtu.be/_OYvfoxZYvc

Science

Yr 11+12 Science -4B—Plastics **Science (197) Y11+12 to Science (228) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/276iqkxdxa2l/Yr_11_12_Science_4B_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/7hhnabt4z9gd/Yr_11_12_Science_4B_DVD_zip

Video

<https://youtu.be/se-3r2FdnNA>

Software Design

Yr 11+12 Software Design 4B—Program Testing **Software (157) Y11+12 to Software (191) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/1jpozv9ms1p1/Yr_11_12_Software_Design_4B_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/62d95fc55r8j/Yr_11_12_Software_Design_4B_DVD_zip

Video

<https://youtu.be/oBSGhNtW1iA>

Year 11+12 WEEK 7

Mathematics

Yr 11+12 Maths 7—Trigo Problems **Maths (152) Yr11+12 to Maths (155) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/2dewz4dd1ws9/Yr_11_12_Maths_7_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/782mayjmgrwr/Yr_11_12_Maths-7_DVD_zip

Video

<https://youtu.be/7UxTaL-DCKk>

Chemistry

Yr 11+12 Chemistry –4B--Nuclear Chemistry **Chemistry (212) Y11+12 to Chemistry (244) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/57xqitimalcf/Yr_11_12_Chemistry_4B_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/2jsc66zdhza3/Yr_11_12_Chemistry_4B_DVD_zip

Video

<https://youtu.be/f6OaLiASWfQ>

Design & Technology

Yr 11+12 Design & Technology –7--Historical Cultural Influences **DesignTech (170) Y11+12 to Design Tech (170) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/28ge6g8t95nf/Yr_11_12_Design_amp_Technology_7_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/2u221ebddzgh/Yr_11_12_Design_amp_Technology_7_DVD_zip

Video

<https://youtu.be/jwKCsOyyJ7M>

Physics

Yr 11+12 Physics 6---Generator **Physics (164) Y11+12 to Physics (174) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/6nxc3z9jx3j/Yr_11_12_Physics_6_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/77d559jdpzbh/Yr_11_12_Physics_6_DVD_zip

Video

<https://youtu.be/p-4hyJPMPMA>

Science

Yr 11+12 Science –5A--Consumers' Products, Additives, Micro-organisms **Science (229) Y11+12 to Science (251) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/v2xs46ydwqh/Yr_11_12_Science_5A_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/62yc00coouit/Yr_11_12_Science_5A_DVD_zip

Video

<https://youtu.be/dUTGrwp49uA>

Software Design

Yr 11+12 Software Design 4C -Arrays **Software (192) Y11+12 to Software (232) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/2smhczibe007/Yr_11_12_Software_Design_4C_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/578udxs1n0un/Yr_11_12_Software_Design_4C_DVD_zip

Video

<https://youtu.be/kHqLfDleww0>

Year 11+12 WEEK 8

Chemistry

Yr 11+12 Chemistry 5A--Properties of Acidic Oxides **Chemistry (245) Y11+12 to Chemistry (287) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/4lgo6pmm1zcn/Yr_11_12_Chemistry_5_A_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/6spd909w0aqn/Yr_11_12_Chemistry_5_A_DVD_zip

Design & Technology

Yr 11+12 Design & Technology –8-Creative & Collaborative Approaches in Design **DesignTech (171) Y11+12 to Design Tech (186) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/7hqbl3smv2h/Yr_11_12_Design_amp_Technology_8_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/3m8mjwl1x87/Yr_11_12_Design_amp_Technology_8_DVD_zip

Video

<https://youtu.be/8W5DBEQ4Obk>

Physics

Yr 11+12 Physics 7-Transformer **Physics (175) Y11+12 to Physics (201) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/6nztg0vhjlat/Yr_11_12_Physics_7_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/1ynwo2ihuq2r/Yr_11_12_Physics_7_DVD_zip

Video

<https://youtu.be/jLFkXvMrQQw>

Science

Yr 11+12 Science 5B--Microbes+ Natural Preservatives **Science (252) Y11+12 to Science (290) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/5db58wg2693b/Yr_11_12_Science_5B_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/v2k2dtvengf/Yr_11_12_Science_5B_DVD_zip

Video

<https://youtu.be/15YTietVnWM>

Software Design

Yr 11+12 Software Design 4D–String Processing **Software (233) Y11+12 to Software (282) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/4arzf4g1ra4n/Yr_11_12_Software_Design_4D_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/660feougxrmx/Yr_11_12_Software_Design_4D_DVD_zip

Video

<https://youtu.be/zTfltmMLLgQ>

Software Design 4E

<https://youtu.be/3H8got5LotQ>

Year 11+12 WEEK 9

Mathematics

Yr 11+12 Maths –8-Trigo Equations **Maths (156) Yr11+12 to Maths (180) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/1zydhglaw0v/Yr_11_12_Maths-8_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/cwfzpu2rxqj/Yr_11_12_Maths-8_DVD_zip

-

Chemistry

Yr 11+12 Chemistry 5B–Properties of Acidic Oxides **Chemistry (288) Y11+12 to Chemistry (302) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/4wz11twlgnrp/Yr_11_12_Chemistry_5_B_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/55f2o4jbd4aj/Yr_11_12_Chemistry_5_B_DVD_zip

Video

<https://youtu.be/dAwX6y1fYSE>

Chemistry 6

<https://youtu.be/CcgvTmll8Xq>

Chemistry 6A

https://youtu.be/_xRKf4aTIR8

Chemistry 6B

<https://youtu.be/7iWtCGIb7q4>

Design & Technology

Yr 11+12 Design & Technology 9 –Design Solutions/ Design Briefs **DesignTech (187) Y11+12 to Design Tech (221) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/4h9t8kot3vkr/Yr_11_12_Design_amp_Technology_9_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/5lhqea1xgj1x/Yr_11_12_Design_amp_Technology_9_DVD_zip

Video

<https://youtu.be/XI9svBSy0TM>

Physics

Yr 11+12 Physics -8–Magnetisms & Moving Charges **Physics (202) Y11+12 to Physics (234) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/x9thcvnunnhh/Yr_11_12_Physics_8_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/c6kc8qcchfb/Yr_11_12_Physics_8_DVD_zip

Video

<https://youtu.be/OPb0nrH6AaQ>

Science

Yr 11+12 Science 6B – Circulatory System **Science (291) Y11+12 to Science (329) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/1u11lqkdjz3b/Yr_11_12_Science_6B_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/9xue6qgim7z/Yr_11_12_Science_6B_DVD_zip

Video

Science 6A

<https://youtu.be/iQKITWfvEXQ>

Software Design

Yr 11+12 Software Design 5A–Interface Design **Software (283) Y11+12 to Software (316) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/3hh5uvmnzs7/Yr_11_12_Software_Design_5A_PPT_zip
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Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/1qsd0ucgswf5/Yr_11_12_Software_Design_5A_DVD_zip
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Video

<https://youtu.be/xLxGd21ir8Q>

Year 11+12 WEEK 10

Mathematics

Yr 11+12 Maths -9-Parabola **Maths (181) Yr11+12 to Maths (198) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/2dahlr4voikt/Yr_11_12_Maths-9_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/6wdbd5334xbr/Yr_11_12_Maths-9_DVD_zip

Video

<https://youtu.be/BJh6SRDxzVo>

Chemistry

Yr 11+12 Chemistry 7A –Application of PH **Chemistry (303) Y11+12 to Chemistry (348) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/2g98x1jgr267/Yr_11_12_Chemistry_7A_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/6g39xdlag301/Yr_11_12_Chemistry_7A_DVD_zip

Video

<https://youtu.be/VxBslUBsjTA>

Design & Technology

Yr 11+12 Design & Technology 10A–Research Data Presentation **DesignTech (222) Y11+12 to Design Tech (286) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/1rhgbjn2ycvd/Yr_11_12_Design_amp_Technology_10_A_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/33c9z3wzfofz/Yr_11_12_Design_amp_Technology_10_A_DVD_zip

Video

<https://youtu.be/ffQDLDFVs54>

Design & Technology 10B

<https://youtu.be/97Y7RNtkVjY>

Science

Yr 11+12 Science 6C–Reproduction of Bacteria **Science (330) Y11+12 to Science (357) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/rh09iwm0cef/Yr_11_12_Science_6C_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/2xyfvtun4qp/Yr_11_12_Science_6C_DVD_zip

Software Design

Yr 11+12 Software Design 5B –Random Number Generator **Software (316) Y11+12 to Software (378) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/11w5hdqhjwv/Yr_11_12_Software_Design_5B_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/5iyp2ls35tn3/Yr_11_12_Software_Design_5B_DVD_zip

Video

<https://youtu.be/kg7cnxAb4D0>

Year 11+12 WEEK 11

Chemistry

Yr 11+12 Chemistry 7B–Volumetric Analysis Titration **Chemistry (341) Y11+12 to Chemistry (373) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/79xmh8hzaf3p/Yr_11_12_Chemistry_7B_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/1i1kikiidmnh/Yr_11_12_Chemistry_7B_DVD_zip

Video

<https://youtu.be/5taFWZTGZ3I>

Design & Technology

Yr 11+12 Design & Technology 11-Marketing **DesignTech (287) Y11+12 to Design Tech (316) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/68r77gh4etyr/Yr_11_12_Design_amp_Technology_11_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/2x78i48ss479/Yr_11_12_Design_amp_Technology_11_DVD_zip

Video

<https://youtu.be/rpfdjbjlo90>

Science

Yr 11+12 Science 7A –Disasters **Science (358) Y11+12 to Science (418) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/72cbg04po41z/Yr_11_12_Science_7A_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/69lgpi78j9xp/Yr_11_12_Science_7A_DVD_zip

Software Design

Yr 11+12 Software Design 5C–Program Counter+DLL +Compilation **Software (344) Y11+12 to Software (344) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/40c35npbomr5/Yr_11_12_Software_Design_5C_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/7estdz65tyv/Yr_11_12_Software_Design_5C_DVD_zip

Video

<https://youtu.be/72CfwGKaY1s>

Year 11+12 WEEK 12

Mathematics

Yr 11+12 Maths-10 –Parametric Equations+ Permutation+ Combinations **Maths (199) Yr11+12 to Maths (224) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/rz2yo6eo8gl/Yr_11_12_Maths-10_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/3sbfzwyfzcer/Yr_11_12_Maths-10_DVD_zip

Video

<https://youtu.be/Mzfxj6lydeQ>

Maths 11

https://youtu.be/4KFCIr_MVyc

Chemistry

Yr 11+12 Chemistry-8–Titration+ Esters

Link for power-points to view with computer	http://www.filefactory.com/file/42s3rr9cilap/Yr_11_12_Chemistry_8_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/36hcofmkt1ox/Yr_11_12_Chemistry_8_DVD_zip

Video

<https://youtu.be/79ZBL1h8CBA>

Design & Technology

Yr 11+12 Design & Technology-12 –Communications **DesignTech (317) Y11+12 to Design Tech (353) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/5r9tkbo3wpd3/Yr_11_12_Design_amp_Technology_12_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/5a0ig46nb5vh/Yr_11_12_Design_amp_Technology_12_DVD_zip

Video

<https://youtu.be/drEiGJX0dsc>

Science

Yr 11+12 Science-7B –Seismic Waves+ BushFires **Science (443) Y11+12 to Science (473) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/1ro7lcm2ev9l/Yr_11_12_Science_7B_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/4mi5rm03032f/Yr_11_12_Science_7B_DVD_zip

Software Design

Yr 11+12 Software Design-5D –Optimiser **Software (379) Y11+12 to Software (410) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/5itbbkwyfif/Yr_11_12_Software_Design_5D_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/4agmfj3tfe8v/Yr_11_12_Software_Design_5D_DVD_zip

Video

<https://youtu.be/lldV4rbjv30>

Year 11+12 WEEK 13

Chemistry

Yr 11+12 Chemistry-8 -Titration+ Esters **Chemistry (374) Y11+12 to Chemistry (407) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/4htdi6foskqv/Yr_11_12_Chemistry_8_PPT_zip
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Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/52le71z8926b/Yr_11_12_Chemistry_8_DVD_zip
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Design & Technology

Yr 11+12 Design & Technology-13 –Computer Based Technologies **DesignTech (354) Y11+12 to Design Tech (392) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/387s4iyi46kl/Yr_11_12_Design_amp_Technology_13_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/issguqha78n/Yr_11_12_Design_amp_Technology_13_DVD_zip

Video

<https://youtu.be/lbZ3cwYPL9g>

<https://youtu.be/4z-CmJrepHk>

Science

Yr 11+12 Science-8A –Atmosphere + Space Craft **Science (419) Y11+12 to Science (442) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/2ghok2l7sf59/Yr_11_12_Science_8A_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/4x2muuhgmw53/Yr_11_12_Science_8A_DVD_zip

Software Design

Yr 11+12 Software Design-5E –Documentations of Software Solutions **Software (411) Y11+12 to Software (444) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/4zx501nscxf7/Yr_11_12_Software_Design_5E_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/6v65wgxqivbv/Yr_11_12_Software_Design_5E_DVD_zip

Video

<https://youtu.be/VW4fk5sV4p4>

Year 11+12 WEEK 14

Mathematics

Yr 11+12 Maths-12 –Factor Theorem + Remainder Theorem **Maths (225) Yr11+12 to Maths (240) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/136lrkqns6rx/Yr_11_12_Maths-12_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/6byom3fyza7f/Yr_11_12_Maths-12_DVD_zip

Video

<https://youtu.be/20u2Jx6xnbw>

Chemistry

Yr 11+12 Chemistry-9A –The Work of Chemist **Chemistry (408) Y11+12 to Chemistry (433) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/7laadq7nl6cf/Yr_11_12_Chemistry_9A_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/3z37l4qihde5/Yr_11_12_Chemistry_9A_DVD_zip

Video

<https://youtu.be/eepO1GLhtns>

Design & Technology

Yr 11+12 Design & Technology 14B Management **DesignTech (393) Y11+12 to Design Tech (433) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/1epo015xzn5f/Yr_11_12_Design_amp_Technology_14B_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/65lmctlgowad/Yr_11_12_Design_amp_Technology_14A_DVD_zip

Video

Design & Technology 14A

<https://youtu.be/tK545SK9Tao>

Science

Yr 11+12 Science -8B–Space Technology **Science (443) Y11+12 to Science (473) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/4ccs42931yzh/Yr_11_12_Science_8B_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/5i6aglh7uxt/Yr_11_12_Science_8B_DVD_zip

Software Design

Yr 11+12 Software Design-6A –Testing the software solution **Software (445) Y11+12 to Software (505) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/5jo5sy4fboij/Yr_11_12_Software_Design_6A_PPT_zip
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Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/7dih42xf5geh/Yr_11_12_Software_Design_6A_DVD_zip
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Video

<https://youtu.be/JwyNceTj5JI>

Year 11+12 WEEK 15

Mathematics

Yr 11+12 Maths-13 –Graphing Polynomials + Integration **Maths (241) Yr11+12 to Maths (258) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/12lwg7gx0xpj/Yr11_12_Maths-13_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/4bqy59l2rx1n/Yr_11_12_Maths-13_DVD_zip

Video

<https://youtu.be/hU00Wdtm8H0>

Chemistry

Yr 11+12 Chemistry 9A –The work of chemist **Chemistry (434) Y11+12 to Chemistry (444) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/7laadq7nl6cf/Yr_11_12_Chemistry_9A_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/1fmdmk1brnav/Yr_11_12_Chemistry_9B_DVD_zip

Design & Technology

Yr 11+12 Design & Technology -14A–Managers+ Management Styles **DesignTech (434) Y11+12 to Design Tech (439) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/4bvdm6sa3ncx/Yr_11_12_Design_amp_Technology14A_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/65lmctlgowad/Yr_11_12_Design_amp_Technology_14A_DVD_zip

Video

Design & Technology 14B

<https://youtu.be/j7DxOusOtfM>

Science

Yr 11+12 Science-8C –Optical Telescope **Science (474) Y11+12 to Science (516) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/2w2xz4cujpst/Yr_11_12_Science_8C_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/5w36sno04vxh/Yr_11_12_Science_8C_DVD_zip

Software Design

Yr 11+12 Software Design-6B –Driver Module **Software (445) Y11+12 to Software (505) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/xdk1miyf7zn/Yr_11_12_Software_6B_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/49wkhg6pwzqt/Yr_11_12_Software_6B_DVD_zip

Video

<https://youtu.be/vu3bOR9KtrU>

Year 11+12 WEEK 16

Mathematics

Yr 11+12 Maths 14 Integration Approximation **Maths (259) Yr11+12 to Maths (268) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/4jt47nx1fgwn/Yr11_12_Maths-14_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/os3n14w63zh/Yr_11_12_Maths-14_DVD_zip

Video

<https://youtu.be/BxoPyYDoSHk>

Chemistry

Yr 11+12 Chemistry 9B –Atomic Absorption+ Spectrograph **Chemistry (445) Y11+12 to Chemistry (458) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/qhvXu27le4v/Yr_11_12_Chemistry_9B_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/1fmdmk1brnav/Yr_11_12_Chemistry_9B_DVD_zip

Video

<https://youtu.be/z9efzQuNePg>

Design & Technology

Yr 11+12 Design & Technology -15–Organizational Structure **DesignTech (440) Y11+12 to Design Tech (463) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/5y5b3wqyv4f1/Yr_11_12_Design_amp_Technology_15_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/11fnlo873olx/Yr_11_12_Design_amp_Technology_15_DVD_zip

Video

<https://youtu.be/xpbDhFJrLV0>

Science

Yr 11+12 Science-6A –Central peripheral nervous system

Link for power-points to view with computer	http://www.filefactory.com/file/1fd7tm0ykurx/Yr_11_12_Science_6A_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/7koilryf62tn/Yr_11_12_Science_6A_DVD_zip

Video

Science 6B

<https://youtu.be/WzxCKpDquBI>

Science 6C

<https://youtu.be/raUa04nYcho>

Science 7A

<https://youtu.be/vhBQ7GliPSw>

Science 7B

https://youtu.be/KjO_SLcRIsQ

Science 8A

<https://youtu.be/Guv-3nThBiM>

Science 8B

https://youtu.be/8oMPx36Q_Pc

Software Design

Yr 11+12 Software Design-7 –Code Modification **Software (506) Y11+12 to Software (530) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/7fklqij5c0z3/Yr_11_12_Software_Design_7_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/5w9d4378mcct/Yr_11_12_Software_Design_7_DVD_zip

Video

<https://youtu.be/dKbdvz-vN8s>

Year 11+12 WEEK 17

Mathematics

Yr 11+12 Maths -15–Graphing Inverse Function **Maths (269) Yr11+12 to Maths (290) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/2tpasibu1e1h/Yr_11_12_Maths-15_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/m2x128nxo3/Yr_11_12_Maths-15_DVD_zip

Video

<https://youtu.be/RXmABGXM3To>

Chemistry

Yr 11+12 Chemistry -10A–Isomers+ Ozone + WaterAnalysis **Chemistry (459) Y11+12 to Chemistry (506) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/252l7enlc23j/Yr_11_12_Chemistry_10A_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/17ocelpd5eol/Yr_11_12_Chemistry_10A_DVD_zip

Video

<https://youtu.be/9lCeJpMExqU>

Design & Technology

Yr 11+12 Design & Technology-16 –Safety Issues **DesignTech (466) Y11+12 to Design Tech (488) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/5vhtwrszqhb3/Yr_11_12_Design_amp_Technology_16_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/14skzslec8a5/Yr_11_12_Design_amp_Technology_16_DVD_zip

Video

<https://youtu.be/AuYSNtmo-IM>

Year 11+12 WEEK 18

Mathematics

Yr 11+12 Maths-16 –Trigo Evaluation **Maths (291) Yr11+12 to Maths (307) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/5zb7nx7gbde1/Yr_11_12_Maths-16_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/5h29fm9lbw7v/Yr_11_12_Maths-16_DVD_zip

Video

<https://youtu.be/LGLHqnoVeS8>

Chemistry

Yr 11+12 Chemistry-10B –Heavy Metal Pollution ofWater **Chemistry (507) Y11+12 to Chemistry (541) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/3ybo7fsparon/Yr_11_12_Chemistry_10B_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/2dbgudauuujh/Yr_11_12_Chemistry_10B_DVD_zip

Video

<https://youtu.be/lhJEjJpz11s>

Design & Technology

Yr 11+12 Design & Technology 17- Evaluation **DesignTech (489) Y11+12 to Design Tech (517) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/yfisrp2mvp9/Yr_11_12_Design_amp_Technology_17_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/6wtff2utmuf/Yr_11_12_Design_amp_Technology_17_DVD_zip

Video

<https://youtu.be/98hxD-tn-Xs>

Software Design

Yr 11+12 Software Design -8A–Defining problem and solution **Software (531) Y11+12 to Software (566) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/ajj1hxfw091/Yr_11_12_Software_Design_8_A_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/1rpqkmlk6h3/Yr_11_12_Software_Design_8_A_DVD_zip

Video

https://youtu.be/tvv3Qp_2HQ8

Year 11+12 WEEK 19

Mathematics

Yr 11+12 Maths-17 –Integration + Application ofCalculus **Maths (308) Yr11+12 to Maths (328) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/1feczcpcp8rp/Yr_11_12_Maths-17_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/66zpfudn8wxp/Yr_11_12_Maths-17_DVD_zip

Video

<https://youtu.be/hD6b2SBJ0Fs>

Chemistry

Yr 11+12 Chemistry-6A –Natural & manufactured acid

Link for power-points to view with computer	http://www.filefactory.com/file/s9awfdx5zgf/Yr11_12_Chemistry_6A_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/7iid164ww3wp/Yr11_12_Chemistry_6A_DVD_zip

Video

<https://youtu.be/Fz6PeH8yokI>

Design & Technology

Yr 11+12 Design & Technology-14B –Managers and management style

Link for power-points to view with computer	http://www.filefactory.com/file/87kbzfu8rfp/Yr_11_12_Design_amp_Technology_14B_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/65lmctlgowad/Yr_11_12_Design_amp_Technology_14A_DVD_zip

Video

<https://youtu.be/9qgLkRtvWTY>

Software Design

Yr 11+12 Software Design -8–Selection of software environment / Documentdesign **Software (567) Y11+12 to Software (587) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/6mwwk40xbe5wh/Yr_11_12_Software_Design_8_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/284oyustjbrp/Yr_11_12_Software_Design_8_B_DVD_zip

Video

: <https://youtu.be/CrFG2YFFnuQ>

Year 11+12 WEEK 20

Mathematics

Yr 11+12 Maths-18 –Application of Calculus **Maths (329) Yr11+12 to Maths (330) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/14knjfbvlvz8n/Yr_11_12_Maths-18_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/65yzawq56mp5/Yr_11_12_Maths-18_DVD_zip

Video

<https://youtu.be/I5M3dwR-c-E>

Design & Technology

Yr 11+12 Design & Technology-18A –Innovation **DesignTech (518) Y11+12 to Design Tech (524) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/4iffbwlx7pp/Yr_11_12_Design_amp_Technology_18A_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/g3esevp48tt/Yr_11_12_Design_amp_Technology_18A_DVD_zip

Video

<https://youtu.be/PtzEaqUQoEQ>

Year 11+12 WEEK 21

Mathematics

Yr 11+12 Maths-19 –Simple Harmonic Oscillation **Maths (331) Yr11+12 to Maths (344) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/179d2suvngub/Yr_11_12_Maths-19_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/1z85ofskm553/Yr_11_12_Maths-19_DVD_zip

Video

https://youtu.be/_zb8d71E-QU

<https://youtu.be/OQCjs7CsMy8>

Design & Technology

Yr 11+12 Design & Technology 18B Elements of innovation **DesignTech (525) Y11+12 to Design Tech (568) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/31qxw5hqxg3b/Yr_11_12_Design_amp_Technology_18B_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/55flvrehiy9p/Yr_11_12_Design_amp_Technology_18B_DVD_zip

Video

<https://youtu.be/mqluRwTe7yA>

Software Design

Yr 11+12 Software Design-9A –Generation of programming languages **Software (588) Y11+12 to Software (593) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/660f3qzhf7cj/Yr_11_12_Software_Design_9A_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/23ia1egfwcq7/Yr_11_12_Software_Design_9A_DVD_zip

Video

<https://youtu.be/li0qJAO-CfA>

Year 11+12 WEEK 22

Mathematics

Yr 11+12 Maths 20 –Projectile Motion **Maths (344) Yr11+12 to Maths (360) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/2430m1081vp9/Yr_11_12_Maths-20_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/1f5qaf3mdmk9/Yr_11_12_Maths-20_DVD_zip

Video

<https://youtu.be/ZoFwF8xlxHA>

Design & Technology

Yr 11+12 Design & Technology -14B–Manager + Management Style

Link for power-points to view with computer	http://www.filefactory.com/file/1epo015zxn5f/Yr_11_12_Design_amp_Technology_14B_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/4ja1xmdsbcbr/Yr_11_12_Design_amp_Technology_14B_DVD_zip

Software Design

Yr 11+12 Software Design 9B History of programming languages **Software (594) Y11+12 to Software (602) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/6ejt9gs5t5wt/Yr_11_12_Software_Design_9B_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/4uirof432wzr/Yr_11_12_Software_Design_9B_DVD_zip

Video

<https://youtu.be/BMmEjoHh3fM>

Year 11+12 WEEK 23

Mathematics

Yr 11+12 Maths 21 –Binomial Theorem **Maths (361) Yr11+12 to Maths (370) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/6ornn5mjue9j/Yr_11_12_Maths-21_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/4e8i727b0hcv/Yr_11_12_Maths-21_DVD_zip

Video

<https://youtu.be/BTGRHmEG5d0>

Design & Technology

Yr 11+12 Design & Technology-19 –Emerging Technologies **DesignTech (569) Y11+12 to Design Tech (591) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/3sj0wrre1c4j/Yr_11_12_Design_amp_Technology_19_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/1d3ax76mlffp/Yr_11_12_Design_amp_Technology_19_DVD_zip

Video

<https://youtu.be/9k3wlaipqSU>

Software Design

Yr 11+12 Software Design -10A–Representation of ComputerData **Software (603) Y11+12 to Software (626) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/4c5bf6m8uh6f/n/Yr_11+12_Software_Design_10A_PPT.zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/60wacfsz8mcv/n/Yr_11+12_Software_Design_10A_DVD.zip

Year 11+12 WEEK 24

Mathematics

Yr 11+12 Maths-22 –Probability+ Binomial Distribution **Maths (371) Yr11+12 to Maths (387) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/4y86h0clohzx/Yr_11_12_Maths-22_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/70na80rd5gp7/Yr_11_12_Maths-22_DVD_zip

Video

<https://youtu.be/Lw75Cy0fzHc>

Design & Technology

Yr 11+12 Design & Technology 20A Impact of design activities on individual society &environment **DesignTech (600) Y11+12 to Design Tech (610) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/uqhntvm31ch/Yr_11_12_Design_amp_Technology_20A_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/jkqjjbp01/Yr_11_12_Design_amp_Technology_20A_DVD_zip

Video

<https://youtu.be/RbxiFlcA3Co>

Software Design

Yr 11+12 Software Design 10B –LogicGates **Software (627) Y11+12 to Software (643) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/3mcp51i5944n/n/Software_Design_10B-Yr_11+12_PPT.zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/53qryli3a6vr/Yr%2011%2B12%20Software%20Design%2010B%20DVD.zip

Year 11+12 WEEK 25

Mathematics

Yr 11+12 Maths 23–Changing Recurring Decimals in to Fractions **Maths (388) Yr11+12 to Maths (393) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/xf07txproj9/Yr_11_12_Maths-23_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/6t4t60pzt5cl/Yr_11_12_Maths-23_DVD_zip

Video

<https://youtu.be/F4jP4NVeiW0>

Yr 11+12 Maths 24 –Simplifying Algebraic Expression **Maths (394) Yr11+12 to Maths (415) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/34joaxfp0oy5/Yr_11_12_Maths-24_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/5wo1f7od9jjj/Yr_11_12_Maths-24_DVD_zip

<https://youtu.be/fvqNKi-dSyU>

Design & Technology

Yr 11+12 Design & Technology 20B –Water Pollution

Link for power-points to view with computer	http://www.filefactory.com/file/39g4tunul0kl/n/Yr_11+12_Design_&_Technology_20B_PPT.zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/3n07czpw9s6v/n/Yr_11+12_Design_&_Technology_20B_DVD-.zip

Year 11+12 WEEK 26

Mathematics

Yr 11+12 Maths 25 Solving simultaneous equations **Maths (416) Yr11+12 to Maths (434) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/4ot380b8ql61/Yr_11_12_Maths-25_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/a7cugmrmrxf/Yr_11_12_Maths-25_DVD_zip

Video

<https://youtu.be/bLRBZcM-zsk>

Design & Technology

Yr 11+12 Design & Technology 21A–Innovation Case Studies **DesignTech (612) Y11+12 to Design Tech (630) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/4z1rv9094we5/n/Yr_11+12_Design_&_Technology_21A_PPT.zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/6pjkgeddlopf/n/Yr_11+12_Design_&_Technology_21A_DVD.zip

Year 11+12 WEEK 27

Mathematics

Yr 11+12 Maths 26 –Percentage , discount **Maths (435) Yr11+12 to Maths (438) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/pk10t382sev/Yr_11_12_Maths-26_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/3fjp69sfat7p/Yr_11_12_Maths-26_DVD_zip

Video

<https://youtu.be/9DzrWJHKLbQ>

Design & Technology

Yr 11+12 Design & Technology 21B Innovation Case Studies- Designer Aspect

Link for power-points to view with computer	http://www.filefactory.com/file/3bh2uw1rzu49/Yr%2011%2B12%20Design%20%26amp%3B%20Technology%2021B%20PPT.zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/298r39a9v5c1/Yr%2011%2B12%20Design%20%26amp%3B%20Technology%2021B%20DVD.zip

Year 11+12 WEEK 28

Mathematics

Yr 11+12 Maths 27 –Geometry problems solving **Maths (439) Yr11+12 to Maths (461) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/43jcevd003p/Yr_11_12_Maths-27_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/59fpk2rabza7/Yr_11_12_Maths-27_DVD_zip

Video

<https://youtu.be/jLHR9IP5sTQ>

Design & Technology

Yr 11+12 Design & Technology 22A–Major Design Project **DesignTech (611) Y11+12 to Design Tech (635) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/4ndif2bw2ht/Yr%2011%2B12%20Design%20%26amp%3B%20Technology%2022A%20PPT.zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/72q8hgh2n9x1/Yr%2011%2B12%20Design%20%26amp%3B%20Technology%2022A%20DVD.zip

Year 11+12 WEEK 29

Mathematics

Yr 11+12 Maths 28– Trigo function values **Maths (462) Yr11+12 to Maths (485) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/65jy4gle19u7/Yr_11_12_Maths-28_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/4pokmrn7g6jd/Yr_11_12_Maths-28_DVD_zip

Video

<https://youtu.be/5iMzP3dAHs8>

Design & Technology

Yr 11+12 Design & Technology 22B-Major Design Project Development/ Evaluation **DesignTech (631) Y11+12 to Design Tech (635) Y11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/aqvihlnau3h/Yr%2011%2B12%20Design%20%26amp%3B%20Technology%2022B%20PPT.zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/3zbwoyululqt/Yr%2011%2B12%20Design%20%26amp%3B%20Technology%2022B%20DVD.zip

Year 11+12 WEEK 30

Mathematics

Yr 11+12 Maths 29–Trigo ratio values **Maths (486) Yr11+12 to Maths (498) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/18991tr7g45f/Yr_11_12_Maths-29_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/4zk5dsf70w4n/Yr_11_12_Maths-29_DVD_zip

Video

<https://youtu.be/ABEJoLGBntk>

Mathematics

Yr 11+12 Maths 30–Trigo problems, angle of elevation **Maths (499) Yr11+12 to Maths (509) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/3lmbazk8wbs5/Yr_11_12_Maths-30_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/xogavbtwwad/Yr_11_12_Maths-30_DVD_zip

Video

<https://youtu.be/UU2OO8iW2nk>

Mathematics

Yr 11+12 Maths31 – XY Linegradient **Maths (510) Yr11+12 to Maths (527) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/2aeim6pg4nh9/Yr_11_12_Maths-31_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/4el94w5jfdt1/Yr_11_12_Maths-31_DVD_zip

Video

<https://youtu.be/lwoTQF7lhSI>

Mathematics

Yr 11+12 Maths 32 – Mid points between points **Maths (528) Yr11+12 to Maths (551) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/io9ru2073ab/Yr_11_12_Maths-32_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/6yotutffllmf/Yr_11_12_Maths-32_DVD_zip

Video

https://youtu.be/FTr_FM61jwE

Year 11+12 WEEK 31

Mathematics

Yr 11+12 Maths 33 Angle of inclination / Graphs of functions **Maths (552) Yr11+12 to Maths (571) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/2s2kljhr0q81/Yr_11_12_Maths-33_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/33jle77fwobz/Yr_11_12_Maths-33_DVD_zip

Video

<https://youtu.be/uZxfV88QXlg>

Mathematics

Yr 11+12 Maths 34 Locus & Parabola **Maths (572) Yr11+12 to Maths (591) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/6pay81v88n4d/Yr_11_12_Maths_34_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/2us0hu2hfgxl/Yr_11_12_Maths_34_DVD_zip

Video

<https://youtu.be/nggwEsSMNIM>

Mathematics

Yr 11+12 Maths 35 Series **Maths (592) Yr11+12 to Maths (609) Yr 11+12**

Link for power-points to view with computer	http://www.filefactory.com/file/4hpyadfa4cwf/Yr_11_12_Maths_35_PPT_zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/31u9lg41u8ml/Yr_11_12_Maths_35_DVD_zip

Video

https://youtu.be/sj6NW_p-N-w

Mathematics

Yr 11+12 Maths 36 Tangent & Derivatives of Functions

Link for power-points to view with computer	http://www.filefactory.com/file/t4r1mdf419b/n/Yr_11+12_Maths_36_PPT.zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/5rgb9jnqt8ux/n/Yr_11+12_Maths_36_DVD.zip

Year 11+12 WEEK 32

Mathematics

Yr 11+12 Maths 37 Application of Geometrical Properties

Link for power-points to view with computer	http://www.filefactory.com/file/4ipyz5fhzeyz/Yr%2011%2B12%20Maths%2037%20PPT.zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/66ya3szp93tx/n/Yr_11+12_Maths_37_DVD.zip

Mathematics

Yr 11+12 Maths 38 –Co-ordinate Methods in Geometry

Link for power-points to view with computer	http://www.filefactory.com/file/3wfehbei6qlt/Yr%2011%2B12%20Maths%2038%20PPT.zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/5zlb4nz56baf/n/Yr_11+12_Maths_38_DVD.zip

Mathematics

Yr 11+12 Maths 39 Plotting graph/ Maxima & Minima

Link for power-points to view with computer	http://www.filefactory.com/file/43zytpqn0tet/Yr%2011%2B12%20Maths%2039%20PPT.zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/4zz8aah5h7tj/n/Maths_(39)Yr11+12_DVD.zip

Mathematics

Yr 11+12 Maths 40 Definite Integral

Link for power-points to view with computer	http://www.filefactory.com/file/72b2j2bvxtbd/Yr%2011%2B12%20Maths%2040%20PPT.zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/3fw00doi1tyr/Yr%2011%2B12%20Maths%2040%20DVD.zip

Year 11+12 WEEK 33

Mathematics

Yr 11+12 Maths 41 Exponential & Logarithmic Functions

Link for power-points to view with computer	http://www.filefactory.com/file/34u19woalnkJ/Yr%2011%2B12%20Maths%2041%20PPT.zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/27a9ajkzn3lr/Yr%2011%2B12%20Maths%2041%20DVD.zip

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Mathematics

Yr 11+12 Maths 42 Trigonometric Functions

Link for power-points to view with computer	http://www.filefactory.com/file/4tmhsqbrvivh/Yr%2011%2B12%20Maths%2042%20PPT.zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/67r8oe8b1jfl/Yr%2011%2B12%20Maths%2042%20DVD.zip

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Mathematics

Yr 11+12 Maths 43 Application of calculus to physical world

Link for power-points to view with computer	http://www.filefactory.com/file/18sumh0xp0jn/Yr%2011%2B12%20Maths%2043%20PPT.zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/16ngeyiyrk67/Yr%2011%2B12%20Maths%2043%20DVD.zip

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Mathematics

Yr 11+12 Maths 44 Probability

Link for power-points to view with computer	http://www.filefactory.com/file/cut4a2rskut/Yr%2011%2B12%20Maths%2044.zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/j8swp5ju5ih/Yr%2011%2B12%20Maths%2044%20DVD.zip

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Mathematics

Yr 11+12 Maths 45 Application of series

Link for power-points to view with computer	http://www.filefactory.com/file/numpzwt5pz/Yr%2011%2B12%20Maths%2045%20PPT.zip
Link for JPEG+MP3 to view with portable DVD Player	http://www.filefactory.com/file/1qnmy5qmjfc/Yr%2011%2B12%20Maths%2045%20DVD.zip

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EXERCISES

www.highlightcomputer.com/Y910112Exercises.pdf

IQY Technical College

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Systematic Zumba Training by Official Certified Zuma Instructor (ZIN)

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(Date of Qualified 4 November 2017)

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List

[337-Mega Mix 61 - 01 La Chica Coqueta - Merengue.mp3](#)

[337-Mega Mix 61 - 02 Peligro - Salsa.mp3](#)

[337-Mega Mix 61 - 03 Me Enamore - Cumbia.mp3](#)

[337-Mega Mix 61 - 04 Voodoo Song - Reggaeton.mp3](#)

[337-Mega Mix 61 - 05 Ataque Do Bum Bum - Funk Carioca.mp3](#)

[337-Mega Mix 61 - 06 Higher - Dancehall.mp3](#)

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[337-Mega Mix 61 - 09 Rale Pa - Soca.mp3](#)

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[337-Mega Mix 61 - 10 Chugether - Euroton.mp3](#)

[01 Tiki Tiki Babeloo \(Zumba Remix\).mp3](#)

[07 Brazilian Carnaval \(Samba\).mp3](#)

[dj malboro - new funk.mp3](#)

[dj mendez dale cuerda a la cadera prod zumba fitness - \[\] .mp3](#)

[Dom_Omar-Taboo.mp3](#)

[El_Chevo-Metela_Sacala_Zumba.mp3](#)

[MC_Kevinho_- _Olha_a_Explos_o_\(mp3.pm\).mp3](#)

[Shakira - Bamboo.mp3](#)

[Shakira - Chantaje ft. Maluma \(1\).mp3](#)

[Shaky Shaky - Daddy Yankee.mp3](#)

[Zumba_Fitness-Portunol.mp3](#)

[323-ZIN Volume 69 - 04 Que Sera - Merengue.mp3](#)

[323-ZIN Volume 69 - 05 Mi Vecina - Salsa.mp3](#)

[323-ZIN Volume 69 - 06 Manual de Trucos - Merengue](#)

[Urbano.mp3](#)

[323-ZIN Volume 69 - 07 Green Light - Dancehall.mp3](#)

[323-ZIN Volume 69 - 08 Lo Que Tienes Tu - Cumbia Villera-Tango.mp3](#)

[323-ZIN Volume 69 - 09 Baila Conmigo - Moomba Trap.mp3](#)

[323-ZIN Volume 69 - 10 Can U Keep Up - Soca.mp3](#)

[323-ZIN Volume 69 - 11 Subelo - Reggaeton.mp3](#)

[331-ZIN Volume 70 - 04 One Love-Na Na Na - Salsa.mp3](#)

[331-ZIN Volume 70 - 05 We Run The Place - Merengue Soca.mp3](#)

[331-ZIN Volume 70 - 06 Cumbia De La Gaita - Cumbia.mp3](#)

[331-ZIN Volume 70 - 07 Roxanne - Bachata.mp3](#)

[331-ZIN Volume 70 - 08 Mete Danca - Brazilian Funk.mp3](#)

[331-ZIN Volume 70 - 09 Ponteme - Dembow.mp3](#)

[331-ZIN Volume 70 - 10 Thats What I Like - Reggaeton-Trap.mp3](#)

[331-ZIN Volume 70 - 11 Bunda - Tropic Electric.mp3](#)

[331-ZIN Volume 70 - 12 Solo Tu - Merengue Urbano.mp3](#)

[319-Mega Mix 59 - 01 Tamo Happy - Merengue.mp3](#)

[319-Mega Mix 59 - 02 Candela Pura - Salsa.mp3](#)

[319-Mega Mix 59 - 03 Ta Gozando - Cumbia.mp3](#)

[319-Mega Mix 59 - 04 Piyala - Moombahton-Bachata.mp3](#)

[319-Mega Mix 59 - 05 Drop It Like That-Zeskullz and Dual Personality Remix - Tropic Electric.mp3](#)

[319-Mega Mix 59 - 06 Sadaf Iskandarani-Drum Solo - Bellydance.mp3](#)

[319-Mega Mix 59 - 07 Rumba De La Buena - Salsaton.mp3](#)

[319-Mega Mix 59 - 08 La Cintura - Merengue Urbano.mp3](#)

[319-Mega Mix 59 - 09 Lento y Awawo - Reggaeton.mp3](#)

[319-Mega Mix 59 - 10 Naked Truth - Cooldown.mp3](#)

[329-Mega Mix 60 - 01 Plakata - Electronic.mp3](#)

[329-Mega Mix 60 - 02 Guallando - Merengue.mp3](#)

[329-Mega Mix 60 - 03 Zumbea - Salsa.mp3](#)

[329-Mega Mix 60 - 04 Si No Vuelves - Reggeaton.mp3](#)

[329-Mega Mix 60 - 05 Trocitos de Madera - Cumbia.mp3](#)

[329-Mega Mix 60 - 06 Bailando Soca - Soca.mp3](#)

[329-Mega Mix 60 - 07 Heroe Favorito - Bachata.mp3](#)

[329-Mega Mix 60 - 08 Como La Manana - Champeta.mp3](#)

[329-Mega Mix 60 - 09 Booma - Kuduro.mp3](#)

[329-Mega Mix 60 - 10 No Se Pudo - Cooldown.mp3](#)

PART (1) AUSTRALIAN ELECTRICIAN TESTING SYSTEM

[Electrician Capstone unit.pdf](#)

http://www.filefactory.com/file/c392ae1/n/Electrician_Capstone_unit.pdf

Electrician Capstone Test Old Questions

[Electrician Capstone Unit Study Guide.zip](#)

http://www.filefactory.com/file/c4bbf1b/n/Electrician_Capstone_Unit_Study_Guide.zip

[Electrician Licensing Requirements.zip](#)

[SubstationEntry.zip](#)

[Construction ElectricalSafety.zip](#)

[InserviceTesting.zip](#)

[Stage 1 Part 1.zip](#)

http://www.filefactory.com/file/c0cb8ab/n/Stage_1_Part_1.zip

PART (2) AUSTRALIAN ELECTRICAL INSTALLATION STANDARDS & RULES

[Wiring Rule AS3000](#)

[Wiring Rule AS3008](#)

[Wiring Rule AS3012](#)

[Wiring Rule AS3017](#)

[Wiring Rule AS3760](#)

[Wiring Rule AS3019](#)

[Electrical Practice for Construction Work](#)

[Competent person testing & tagging](#)

PART (3) ELECTRICAL TRADE LESSONS

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
UEENEEE001B Apply OHS practices in the workplace	UEENEEE101A Apply Occupational Health and Safety regulations, codes and practices in the workplace	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1	EE011 = EE07 + Additional					
See 1 below	See 3 below						
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
2	
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
4	
5	<p>Video-- Electrical workshop Lesson 1 OHS.zip</p> <p>http://www.filefactory.com/file/c0adbfa/n/Electrical_workshop_Lesson_1_OHS.zipElectrical workshop Lesson 2 Workplace hazard+Fix & secure equipment.zip</p> <p>http://www.filefactory.com/file/c0adca2/n/Electrical_workshop_Lesson_2_Workplace_hazard_Fix_secure_equipment.zip</p> <p>Electrical workshop Lesson 3 Mechanical fixing.zip</p>

	http://www.filefactory.com/file/c0adc1d/n/Electrical_workshop_Lesson_3_Mechanical_fixing.zip Electrical workshop Lesson 4 Basic electrical wiring.zip http://www.filefactory.com/file/c0add65/n/Electrical_workshop_Lesson_4_Basic_electrical_wiring.zip Electrical workshop Lesson 5 Wiring circuits.zip http://www.filefactory.com/file/c0ade9b/n/Electrical_workshop_Lesson_5_Wiring_circuits.zip Electrical workshop Lesson 6 Electrical safety testing.zip http://www.filefactory.com/file/c0adf90/n/Electrical_workshop_Lesson_6_Electrical_safety_testing.zip Electrical workshop Lesson 7 Testing insulation and polarity.zip http://www.filefactory.com/file/c0ad031/n/Electrical_workshop_Lesson_7_Testing_insulation_and_polarity.zip Electrical workshop Lesson 8 Testing lighting polarity.zip http://www.filefactory.com/file/c0ad1d8/n/Electrical_workshop_Lesson_8_Testing_lighting_polarity.zip
6	(2) Click HERE to download other Exercises
7	EE07 & EE011 units mapping for Theory study & Exercises
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf
9	EE07 & EE011 units mapping for Theory study & Exercises Attend the face to face session Stage 1 Electrical workshop practicals.pdf Wiring Equipments to purchase
10	UEENEEE001 OHSWorkbook.zip

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
UEENEEE002B Dismantle, assemble and fabricate electrotechnology components	UEENEEE102A Fabricate, assemble and dismantle utilities industry components	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1	EE011 = EE07 + Additional					
See 1 below	See 3 below						
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
2	
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
4	
5	<p>Video-- Electrical workshop Lesson 1 OHS.zip</p> <p>http://www.filefactory.com/file/c0adbfa/n/Electrical_workshop_Lesson_1_OHS.zip</p> <p>http://www.filefactory.com/file/c0adca2/n/Electrical_workshop_Lesson_2_Workplace_hazard_Fix_secure_equipment.zip</p> <p>Electrical workshop Lesson 3 Mechanical fixing.zip</p> <p>http://www.filefactory.com/file/c0adc1d/n/Electrical_workshop_Lesson_3_Mechanical_fixing.zip</p> <p>Electrical workshop Lesson 4 Basic electrical wiring.zip</p>

	http://www.filefactory.com/file/c0add65/n/Electrical_workshop_Lesson_4_Basic_electrical_wiring.zip Electrical workshop Lesson 5 Wiring circuits.zip http://www.filefactory.com/file/c0ade9b/n/Electrical_workshop_Lesson_5_Wiring_circuits.zip Electrical workshop Lesson 6 Electrical safety testing.zip http://www.filefactory.com/file/c0adf90/n/Electrical_workshop_Lesson_6_Electrical_safety_testing.zip Electrical workshop Lesson 7 Testing insulation and polarity.zip http://www.filefactory.com/file/c0ad031/n/Electrical_workshop_Lesson_7_Testing_insulation_and_polarity.zip Electrical workshop Lesson 8 Testing lighting polarity.zip http://www.filefactory.com/file/c0ad1d8/n/Electrical_workshop_Lesson_8_Testing_lighting_polarity.zip
6	(2) Click HERE to download other Exercises
7	EE07 & EE011 units mapping for Theory study & Exercises
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf
9	EE07 & EE011 units mapping for Theory study & Exercises Attend the face to face session Stage 1 Electrical workshop practicals.pdf Wiring Equipments to purchase
10	Fixing Equipments E002_E005.zip

Study Guide EE07 & EE011

What to study		Which exercises to do				What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
UEENEEE004B Solve problems in multiple path d.c. circuits	UEENEEE104A Solve problems in d.c. circuits	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1	EE011 = EE07 + Additional					
See 1 below	See 3 below						
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
2	
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
4	
5	Video- http://www.filefactory.com/file/cf8739b/n/E003+E004.zip
6	(2) Click HERE to download other Exercises
7	EE07 & EE011 units mapping for Theory study & Exercises
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011.pdf
9	EE07 & EE011 units mapping for Theory study & Exercises Stage 1 Electrical workshop practicals.pdf Wiring Equipments to purchase
10	DC Circuit E003 E004.zip

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
UEENEEE005B Fix and secure equipment	UEENEEE105A Fix and secure electrotechnology equipment	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1	EE011 = EE07 + Additional					
See 1 below	See 3 below						
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	http://www.filefactory.com/file/c0b67b7/n/Electrical Workshop Wiring E001 2 3 4 5 7 8 33 G003 4 7.zip
2	
3	http://www.filefactory.com/file/c0b67b7/n/Electrical Workshop Wiring E001 2 3 4 5 7 8 33 G003 4 7.zip
4	
5	Video-- Electrical workshop Lesson 1 OHS.zip http://www.filefactory.com/file/c0adbfa/n/Electrical workshop Lesson 1 OHS.zip Electrical workshop Lesson 2 Workplace hazard+Fix & secure equipment.zip

	http://www.filefactory.com/file/c0adca2/n/Electrical_workshop_Lesson_2_Workplace_hazard_Fix_secure_equipment.zip Electrical workshop Lesson 3 Mechanical fixing.zip http://www.filefactory.com/file/c0adc1d/n/Electrical_workshop_Lesson_3_Mechanical_fixing.zip Electrical workshop Lesson 4 Basic electrical wiring.zip http://www.filefactory.com/file/c0add65/n/Electrical_workshop_Lesson_4_Basic_electrical_wiring.zip Electrical workshop Lesson 5 Wiring circuits.zip http://www.filefactory.com/file/c0ade9b/n/Electrical_workshop_Lesson_5_Wiring_circuits.zip Electrical workshop Lesson 6 Electrical safety testing.zip http://www.filefactory.com/file/c0adf90/n/Electrical_workshop_Lesson_6_Electrical_safety_testing.zip Electrical workshop Lesson 7 Testing insulation and polarity.zip http://www.filefactory.com/file/c0ad031/n/Electrical_workshop_Lesson_7_Testing_insulation_and_polarity.zip Electrical workshop Lesson 8 Testing lighting polarity.zip http://www.filefactory.com/file/c0ad1d8/n/Electrical_workshop_Lesson_8_Testing_lighting_polarity.zip http://uploading.com/files/f213323b/Electrical%2Bworkshop.zip/
6	(2) Click HERE to download other Exercises
7	EE07 & EE011 units mapping for Theory study & Exercises
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011.pdf
9	Stage 1 Electrical workshop practicals.pdf Wiring Equipments to purchase
10	Fixing Equipments E002 E005.zip

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
UEENEEE007B Use drawings, diagrams, schedules and manuals	UEENEEE107A Use drawings, diagrams, schedules, standards, codes and specifications	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1	EE011 = EE07 + Additional					
See 1 below	See 3 below						
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	http://www.filefactory.com/file/c0b67b7/n/Electrical Workshop Wiring E001 2 3 4 5 7 8 33 G003 4 7.zip
2	ElectricalDrawing1.zip , ElectricalDrawing2.zip , ElectricalDrawing3.pdf , GeneralDrawing1.zip , GeneralDrawing2.zip
3	http://www.filefactory.com/file/c0b67b7/n/Electrical Workshop Wiring E001 2 3 4 5 7 8 33 G003 4 7.zip
4	ElectricalDrawing1.zip , ElectricalDrawing2.zip , ElectricalDrawing3.pdf , GeneralDrawing1.zip , GeneralDrawing2.zip
5	Video-- Electrical workshop Lesson 1 OHS.zip http://www.filefactory.com/file/c0adbfa/n/Electrical workshop Lesson 1 OHS.zip Electrical workshop Lesson

	<p>2 Workplace hazard+Fix & secure equipment.zip</p> <p>http://www.filefactory.com/file/c0adca2/n/Electrical_workshop_Lesson_2_Workplace_hazard_Fix_secure_equipment.zip</p> <p>Electrical workshop Lesson 3 Mechanical fixing.zip</p> <p>http://www.filefactory.com/file/c0adc1d/n/Electrical_workshop_Lesson_3_Mechanical_fixing.zip</p> <p>Electrical workshop Lesson 4 Basic electrical wiring.zip</p> <p>http://www.filefactory.com/file/c0add65/n/Electrical_workshop_Lesson_4_Basic_electrical_wiring.zip</p> <p>Electrical workshop Lesson 5 Wiring circuits.zip</p> <p>http://www.filefactory.com/file/c0ade9b/n/Electrical_workshop_Lesson_5_Wiring_circuits.zip</p> <p>Electrical workshop Lesson 6 Electrical safety testing.zip</p> <p>http://www.filefactory.com/file/c0adf90/n/Electrical_workshop_Lesson_6_Electrical_safety_testing.zip</p> <p>Electrical workshop Lesson 7 Testing insulation and polarity.zip</p> <p>http://www.filefactory.com/file/c0ad031/n/Electrical_workshop_Lesson_7_Testing_insulation_and_polarity.zip</p> <p>Electrical workshop Lesson 8 Testing lighting polarity.zip</p> <p>http://www.filefactory.com/file/c0ad1d8/n/Electrical_workshop_Lesson_8_Testing_lighting_polarity.zip</p>
6	(2) Click HERE to download other Exercises
7	Stage 1 Electrical workshop practicals.pdf
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf
9	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p>Attend the face to face session</p>

	Stage 1 Electrical workshop practicals.pdf Wiring Equipments to purchase
10	ElectricalDrawing1.zip , ElectricalDrawing2.zip , ElectricalDrawing3.pdf , GeneralDrawing1.zip , GeneralDrawing2.zip

Study Guide EE07 & EE011

What to study		Which exercises to do				What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
UEENEEE008B Lay wiring/cabling and terminate accessories for extra-low voltage circuits	UEENEEE108A Lay wiring/cabling and terminate accessories for extra-low voltage (ELV) circuits	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1	EE011 = EE07 + Additional					
See 1 below	See 3 below						
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
2	
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
4	
5	<p>Video-- Electrical workshop Lesson 1 OHS.zip http://www.filefactory.com/file/c0adbfa/n/Electrical_workshop_Lesson_1_OHS.zip Electrical workshop Lesson 2 Workplace hazard+Fix & secure equipment.zip</p> <p>http://www.filefactory.com/file/c0adca2/n/Electrical_workshop_Lesson_2_Workplace_hazard_Fix_secure_equipment.zip</p> <p>Electrical workshop Lesson 3 Mechanical fixing.zip</p> <p>http://www.filefactory.com/file/c0adc1d/n/Electrical_workshop_Lesson_3_Mechanical_fixing.zip</p> <p>Electrical workshop Lesson 4 Basic electrical wiring.zip</p> <p>http://www.filefactory.com/file/c0add65/n/Electrical_workshop_Lesson_4_Basic_electrical_wiring.zip</p> <p>Electrical workshop Lesson 5 Wiring circuits.zip</p>

	<p>http://www.filefactory.com/file/c0ade9b/n/Electrical_workshop_Lesson_5_Wiring_circuits.zip</p> <p>Electrical workshop Lesson 6 Electrical safety testing.zip</p> <p>http://www.filefactory.com/file/c0adf90/n/Electrical_workshop_Lesson_6_Electrical_safety_testing.zip</p> <p>Electrical workshop Lesson 7 Testing insulation and polarity.zip</p> <p>http://www.filefactory.com/file/c0ad031/n/Electrical_workshop_Lesson_7_Testing_insulation_and_polarity.zip</p> <p>Electrical workshop Lesson 8 Testing lighting polarity.zip</p> <p>http://www.filefactory.com/file/c0ad1d8/n/Electrical_workshop_Lesson_8_Testing_lighting_polarity.zip</p> <p>http://uploading.com/files/f213323b/Electrical%2Bworkshop.zip/</p>
6	2) Click HERE to download other Exercises
7	EE07 & EE011 units mapping for Theory study & Exercises
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf
9	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p>Attend the face to face session</p> <p>Stage 1 Electrical workshop practicals.pdf</p> <p>Wiring Equipments to purchase</p>
10	Wiring Notes 1. Wiring Notes 2 Switchboard Wiring 1Wiring E033 E008 2Wiring E033 E008

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
UEENEEE033B Document occupational hazards and risks in electrical work	UEENEEE137A Document and apply measures to control OHS risks associated with electrotechnology work	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1	EE011 = EE07 + Additional					
See 1 below	See 3 below						
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
2	
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
4	
5	<p>Video-- Electrical workshop Lesson 1 OHS.zip</p> <p>http://www.filefactory.com/file/c0adbfa/n/Electrical_workshop_Lesson_1_OHS.zip</p> <p>http://www.filefactory.com/file/c0adca2/n/Electrical_workshop_Lesson_2_Workplace_hazard_Fix_secure_equipment.zip</p> <p>Electrical workshop Lesson 3 Mechanical fixing.zip</p> <p>http://www.filefactory.com/file/c0adc1d/n/Electrical_workshop_Lesson_3_Mechanical_fixing.zip</p> <p>Electrical workshop Lesson 4 Basic electrical wiring.zip</p>

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6	2) Click HERE to download other Exercises
7	EE07 & EE011 units mapping for Theory study & Exercises
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011.pdf
9	EE07 & EE011 units mapping for Theory study & Exercises Attend the face to face session Stage 1 Electrical workshop practicals.pdf Wiring Equipments to purchase
10	Electrical safe working.zip NREL Disconnect Reconnect.zip

Study Guide EE07 & EE011

What to study				Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011			
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07				
	UEENEEG106A Terminate cables, cords and accessories for low voltage circuits	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below	
Study Option 1	Study Option 1	EE011 = EE07 + Additional						
See 1 below	See 3 below							
Study Option 2	Study Option 2							
See 2 below	See 4 below							

1	
2	
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4	ELV Cable termination
5	<p>Video-- Electrical workshop Lesson 1 OHS.zip</p> <p>http://www.filefactory.com/file/c0adbfa/n/Electrical_workshop_Lesson_1_OHS.zipElectrical workshop Lesson 2 Workplace hazard+Fix & secure equipment.zip</p> <p>http://www.filefactory.com/file/c0adca2/n/Electrical_workshop_Lesson_2_Workplace_hazard_Fix_secure_equipment.zip</p> <p>Electrical workshop Lesson 3 Mechanical fixing.zip</p> <p>http://www.filefactory.com/file/c0adc1d/n/Electrical_workshop_Lesson_3_Mechanical_fixing.zip</p> <p>Electrical workshop Lesson 4 Basic electrical wiring.zip</p>

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6	
7	Only practical assessment in class
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011.pdf
9	Attend face to face class http://www.filefactory.com/file/2f8e3fph9trr/n/G106_G033_Practical.zip
10	ELV Cable termination Wiring Notes 1. Wiring Notes 2 Switchboard Wiring 1Wiring_E033_E008 2Wiring_E033_E008 ElectricalDrawing1.zip ElectricalDrawing2.zip ElectricalDrawing3.pdf

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
	UEENEEG063A Arrange circuits, control and protection for general electrical installations	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1	EE011 = EE07 + Additional					
See 1 below	See 3 below						
Study Option 2	Study Option 2						
See 2 below	See 4 below						

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5	<p><u>Electrical wiring + Electrical Installation requirement</u></p> <p><u>G003+G004+G007 Lesson 1 Electrical installation protection.zip</u></p> <p><u>http://www.filefactory.com/file/c35d2f2/n/G003_G004_G007_Lesson_1_Electrical_installation_protection.zip</u></p> <p><u>G003+G004+G007 Lesson 2 Electrical system safety.zip</u></p>

http://www.filefactory.com/file/cf937ac/n/G003_G004_G007_Lesson_2_Electrical_system_safety.zip

[G003+G004+G007 Lesson 3 Heating+Cable ckt protection exercise.zip](#)

http://www.filefactory.com/file/c0abfe8/n/G003_G004_G007_Lesson_3_Heating_Cable_ckt_protection_exercise.zip

[G003+G004+G007 Lesson 4 Wiring system.zip](#)

http://www.filefactory.com/file/cf939f0/n/G003_G004_G007_Lesson_4_Wiring_system.zip

[G003+G004+G007 Lesson 5 Hazardous area electrical system.zip](#)

http://www.filefactory.com/file/cf94af8/n/G003_G004_G007_Lesson_5_Hazardous_area_electrical_system.zip

[G003+G004+G007 Lesson 6 Overload protection RCD.zip](#)

http://www.filefactory.com/file/cf94bcf/n/G003_G004_G007_Lesson_6_Overload_protection_RCD.zip

	G003+G004+G007 Lesson 7 RCD + Metering.zip http://www.filefactory.com/file/cf94cae/n/G003_G004_G007_Lesson_7_RCD_Metering.zip G003+G004+G007 Lesson 8 Switch board installation.zip http://www.filefactory.com/file/cf94c40/n/G003_G004_G007_Lesson_8_Switch_board_installation.zip G003+G004+G007 Lesson 9 Cable selection+Maximum demand.zip http://www.filefactory.com/file/cf94dbb/n/G003_G004_G007_Lesson_9_Cable_selection_Maximum_demand.zip G003+G004+G007 Lesson 10 Electrical installation safety testing.zip http://www.filefactory.com/file/cf94123/n/G003_G004_G007_Lesson_10_Electrical_installation_safety_testing.zip
6	
7	EE07 & EE011 units mapping for Theory study & Exercises Only face to face class assessment
8	Only face to face class assessment
9	EE07 & EE011 units mapping for Theory study & Exercises Attend face to face class PRACTICAL

	<p><u>Workshop 2+3</u></p> <p><u>WorkShop Part 2 Practical 1 to 6 .zip</u></p> <p><u>WorkShop Part 2 Practical 7 to 12 .zip</u></p> <p><u>WorkShop Part 2 Practical 13 to 17 .zip</u></p> <p><u>WorkShop Part 2 Practical 18 to 21 .zip</u></p> <p><u>ElectricalWorkshopPart3 G008 Group1Machine .zip</u></p> <p><u>ElectricalWorkshopPart3 G008 Group2LineProtection .zip</u></p> <p><u>ElectricalWorkshopPart3 G008 Group3InstrumentsDevices .zip</u></p> <p><u>OTHER PRACTICALS</u></p> <p><u>ELECTRICAL WORKSHOP PART 2 G003 G004 G009 .zip</u></p> <p><u>Electrical Workshop Part 2 Practical 1 to 18.zip</u></p> <p><u>Electrical Workshop Part 2 Practical 19 to 21.zip</u></p> <p><u>G003 G004 G009Practicals.pdf</u></p>
10	<p><u>Construction ElectricalSafety.zip</u></p> <p><u>InserviceTesting.zip</u></p> <p><u>Wiring Notes 1.</u> <u>Wiring Notes 2</u> <u>Switchboard Wiring</u> <u>1Wiring E033 E008</u> <u>2Wiring E033 E008</u></p>

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
UEENEEG007A Select wiring systems and cables for low voltage general electrical installations	UEENEEG107A Select wiring systems and cables for low voltage general electrical installations	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1	EE011 = EE07 + Additional					
See 1 below	See 3 below						
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
2	AS3000-2007Overview.zip AS3000 AS3008TablesExtract.zip WiringRules.zip <u>Part (1) Study the following notes</u> Installation Requirement 1-A.zip Installation Requirement 1-B.zip

	Installation_Requirement_2-A.zip Installation_Requirement_2-B.zip Stage_2_Wiring.zip
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
4	AS3000-2007Overview.zip AS3000_AS3008TablesExtract.zip WiringRules.zip <u>Part (1) Study the following notes</u> Installation_Requirement_1-A.zip Installation_Requirement_1-B.zip Installation_Requirement_2-A.zip Installation_Requirement_2-B.zip Stage_2_Wiring.zip
5	<u>G007</u> G007 Lesson 1 AS3000 Wiring rule overview.zip http://www.filefactory.com/file/cf94220/n/G007_Lesson_1_AS3000_Wiring_rule_overview.zip G007 Lesson 2 Maximum Demand calculation.zip

	<p>http://www.filefactory.com/file/cf9456f/n/G007_Lesson_2_Maximum_Demand_calculation.zip</p> <p>G007 Lesson 3 Cable selection.zip</p> <p>http://www.filefactory.com/file/cf9465c/n/G007_Lesson_3_Cable_selection.zip</p> <p>G007 Lesson 4 Cable voltage drop calculation.zip</p> <p>http://www.filefactory.com/file/cf9479e/n/G007_Lesson_4_Cable_voltage_drop_calculation.zip</p> <p>G007 Lesson 5 Derating of cable part 1.zip</p> <p>http://www.filefactory.com/file/cf95acb/n/G007_Lesson_5_Derating_of_cable_part_1.zip</p> <p>G007 Lesson 6 Derating of cable part 2.zip</p> <p>http://www.filefactory.com/file/cf95a6b/n/G007_Lesson_6_Derating_of_cable_part_2.zip</p> <p>G007 Lesson 7 Derating of cable for HRC fuse protection.zip</p> <p>http://www.filefactory.com/file/cf95cd7/n/G007_Lesson_7_Derating_of_cable_for_HRC_fuse_protection.zip</p> <p>G007 Lesson 8 Final subcircuit fault loop impedance.zip</p> <p>http://www.filefactory.com/file/cf95dd1/n/G007_Lesson_8_Final_subcircuit_fault_loop_impedance.zip</p> <p><u>Electrical Installation requirement</u></p>
6	Click HERE to download the other exercises
7	EE07 & EE011 units mapping for Theory study & Exercises

	Do the assignments from the following book & submit the assignment (1) Cable Installation.zip
	Do the assignments from the following book & submit the assignment (2) Regulatory Requirement.zip
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf
9	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p>PRACTICAL</p> <p><u>Workshop 2+3</u></p> <p>WorkShop Part 2 Practical 1 to 6 .zip</p> <p>WorkShop Part 2 Practical 7 to 12 .zip</p> <p>WorkShop Part 2 Practical 13 to 17 .zip</p> <p>WorkShop Part 2 Practical 18 to 21 .zip</p> <p>ElectricalWorkshopPart3 G008 Group1Machine .zip</p> <p>ElectricalWorkshopPart3 G008 Group2LineProtection .zip</p> <p>ElectricalWorkshopPart3 G008 Group3InstrumentsDevices .zip</p> <p><u>OTHER PRACTICALS</u></p> <p>ELECTRICAL WORKSHOP PART 2 G003 G004 G009 .zip</p> <p>Electrical Workshop Part 2 Practical 1 to 18.zip</p> <p>Electrical Workshop Part 2 Practical 19 to 21.zip</p> <p>G003 G004 G009Practicals.pdf</p>
10	

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
UEENEEG003A Install low voltage wiring and accessories	UEENEEG103A Install low voltage wiring and accessories	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1	EE011 = EE07 + Additional					
See 1 below	See 3 below						
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
2	
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip <u>G103+104 Notes+Lessons</u> http://www.filefactory.com/file/2bg8qift6nzh/n/G103_G104_zip
4	<u>Wiring Notes 1.</u> <u>Wiring Notes 2</u> <u>Switchboard Wiring</u> <u>1Wiring_E033_E008</u>

2Wiring_E033_E008

Fixing Equipments

E002_E005.zip_Lighting.zip

E_trade_1.zip

E_trade_2.zip

E_trade_3.zip

E_trade_4.zip

G008_General_Notes_1.zip

G008_General_Notes_2.zip

Hazard_Identification.zip

G003_G004_Wiring_2_Part_1.zip

G003_G004_Wiring_2_Part_2.zip

Cable_CktProt_E_Accessories.zip

Cable_Conduit_E_Accessories.zip

Elect_Installation_Protection_Method_Devices.zip

Elect_Installation_Requirement_1.zip

	<u>Elect_Installation_Requirement_1.zip</u> <u>Elect_Installation_Requirement_2.zip</u> <u>ElectricInstallationDesign.zip</u> <u>ElectSystSafety1.zip</u> <u>ElectSystSafety2.zip</u> <u>FireProtHeatingTestingEarthing.zip</u> <u>GeneralWiring.zip</u> <u>HazardLightingPanel.zip</u> <u>PanelRCDWireSpecial_Installation.zip</u> <u>ProtectionMethods.zip</u>
5	<u>Electrical wiring + Electrical Installation requirement</u> <u>G003+G004+G007 Lesson 1 Electrical installation protection.zip</u> <u>http://www.filefactory.com/file/c35d2f2/n/G003_G004_G007_Lesson_1_Electrical_installation_protection.zip</u> <u>G003+G004+G007 Lesson 2 Electrical system safety.zip</u>

http://www.filefactory.com/file/cf937ac/n/G003_G004_G007_Lesson_2_Electrical_system_safety.zip

[G003+G004+G007 Lesson 3 Heating+Cable ckt protection exercise.zip](#)

http://www.filefactory.com/file/c0abfe8/n/G003_G004_G007_Lesson_3_Heating_Cable_ckt_protection_exercise.zip

[G003+G004+G007 Lesson 4 Wiring system.zip](#)

http://www.filefactory.com/file/cf939f0/n/G003_G004_G007_Lesson_4_Wiring_system.zip

[G003+G004+G007 Lesson 5 Hazardous area electrical system.zip](#)

http://www.filefactory.com/file/cf94af8/n/G003_G004_G007_Lesson_5_Hazardous_area_electrical_system.zip

[G003+G004+G007 Lesson 6 Overload protection RCD.zip](#)

http://www.filefactory.com/file/cf94bcf/n/G003_G004_G007_Lesson_6_Overload_protection_RCD.zip

	<p>G003+G004+G007 Lesson 7 RCD + Metering.zip</p> <p>http://www.filefactory.com/file/cf94cae/n/G003_G004_G007_Lesson_7_RCD_Metering.zip</p> <p>G003+G004+G007 Lesson 8 Switch board installation.zip</p> <p>http://www.filefactory.com/file/cf94c40/n/G003_G004_G007_Lesson_8_Switch_board_installation.zip</p> <p>G003+G004+G007 Lesson 9 Cable selection+Maximum demand.zip</p> <p>http://www.filefactory.com/file/cf94dbb/n/G003_G004_G007_Lesson_9_Cable_selection_Maximum_demand.zip</p> <p>G003+G004+G007 Lesson 10 Electrical installation safety testing.zip</p> <p>http://www.filefactory.com/file/cf94123/n/G003_G004_G007_Lesson_10_Electrical_installation_safety_testing.zip</p>
6	Click HERE to download the other exercises
7	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p><u>Assessment</u> Read the above notes files and do the assignments for the following tutorial file.</p> <p>WiringPracticals.zip</p> <p>G003G004Tutorial.zip</p>
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf
9	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p>Attend the face to face class</p> <p>PRACTICAL</p> <p>http://www.filefactory.com/file/54l4d5rif1z3/n/Advanced_Wiring_Part_1_zip</p>

Advanced Wiring Part 1+2—G103

[http://www.filefactory.com/file/1xb18xg1gaz1/n/Advanced Wiring Part 1 and 2 .zip](http://www.filefactory.com/file/1xb18xg1gaz1/n/Advanced+Wiring+Part+1+and+2.zip)

Electrical Installation Safety Testing

[http://www.filefactory.com/file/5mv9s6dx174h/n/Electrical Installation Safety Testing .zip](http://www.filefactory.com/file/5mv9s6dx174h/n/Electrical+Installation+Safety+Testing.zip)

Workshop 2+3

[WorkShop Part 2 Practical 1 to 6 .zip](#)

[WorkShop Part 2 Practical 7 to 12 .zip](#)

[WorkShop Part 2 Practical 13 to 17 .zip](#)

[WorkShop Part 2 Practical 18 to 21 .zip](#)

[ElectricalWorkshopPart3 G008 Group1Machine .zip](#)

[ElectricalWorkshopPart3 G008 Group2LineProtection .zip](#)

[ElectricalWorkshopPart3 G008 Group3InstrumentsDevices .zip](#)

OTHER PRACTICALS

[ELECTRICAL WORKSHOP PART 2 G003 G004 G009 .zip](#)

[Electrical Workshop Part 2 Practical 1 to 18.zip](#)

[Electrical Workshop Part 2 Practical 19 to 21.zip](#)

[G003 G004 G009Practicals.pdf](#)

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Power Distribution Trade [Power Distribution Trade.zip](#)

Metering [Metering.zip](#)

Study Guide EE07 & EE011

What to study		Which exercises to do				What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
	UEENEEG033A Solve problems in single and three phase low voltage electrical apparatus and circuits	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1	EE011 = EE07 + Additional					
See 1 below	See 3 below						
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1		
2		
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip <u>G033</u> http://www.filefactory.com/file/1b2utxydvcx7/n/G033.zip	
4	<u>Wiring Notes 1.</u> <u>Wiring Notes 2 Switchboard Wiring</u> <u>1Wiring_E033_E008 2Wiring_E033_E008</u>	

Fixing Equipments

[E002_E005.zip Lighting.zip](#)

[E_trade_1.zip](#)

[E_trade_2.zip](#)

[E_trade_3.zip](#)

[E_trade_4.zip](#)

[G008_General_Notes_1.zip](#)

[G008_General_Notes_2.zip](#)

[Hazard_Identification.zip](#)

[G003_G004_Wiring_2_Part_1.zip](#)

[G003_G004_Wiring_2_Part_2.zip](#)

[Cable_CktProt_E_Accessories.zip](#)

[Cable_Conduit_E_Accessories.zip](#)

[Elect_Installation_Protection_Method_Devices.zip](#)

[Elect_Installation_Requirement_1.zip](#)

[Elect_Installation_Requirement_1.zip](#)

	<u>Elect_Installation_Requirement_2.zip</u> <u>ElectricInstallationDesign.zip</u> <u>ElectSystSafety1.zip</u> <u>ElectSystSafety2.zip</u> <u>FireProtHeatingTestingEarthing.zip</u> <u>GeneralWiring.zip</u> <u>HazardLightingPanel.zip</u> <u>PanelRCDWireSpecial_Installation.zip</u> <u>ProtectionMethods.zip</u>	
5	<u>Electrical wiring + Electrical Installation requirement</u> <u>G003+G004+G007 Lesson 1 Electrical installation protection.zip</u> <u>http://www.filefactory.com/file/c35d2f2/n/G003_G004_G007_Lesson_1_Electrical_installation_protection.zip</u> <u>G003+G004+G007 Lesson 2 Electrical system safety.zip</u>	

http://www.filefactory.com/file/cf937ac/n/G003_G004_G007_Lesson_2_Electrical_system_safety.zip

[G003+G004+G007 Lesson 3 Heating+Cable ckt protection exercise.zip](#)

http://www.filefactory.com/file/c0abfe8/n/G003_G004_G007_Lesson_3_Heating_Cable_ckt_protection_exercise.zip

[G003+G004+G007 Lesson 4 Wiring system.zip](#)

http://www.filefactory.com/file/cf939f0/n/G003_G004_G007_Lesson_4_Wiring_system.zip

[G003+G004+G007 Lesson 5 Hazardous area electrical system.zip](#)

http://www.filefactory.com/file/cf94af8/n/G003_G004_G007_Lesson_5_Hazardous_area_electrical_system.zip

[G003+G004+G007 Lesson 6 Overload protection RCD.zip](#)

http://www.filefactory.com/file/cf94bcf/n/G003_G004_G007_Lesson_6_Overload_protection_RCD.zip

[G003+G004+G007 Lesson 7 RCD + Metering.zip](#)

	<p>http://www.filefactory.com/file/cf94cae/n/G003_G004_G007_Lesson_7_RCD_Metering.zip</p> <p>G003+G004+G007 Lesson 8 Switch board installation.zip</p> <p>http://www.filefactory.com/file/cf94c40/n/G003_G004_G007_Lesson_8_Switch_board_installation.zip</p> <p>G003+G004+G007 Lesson 9 Cable selection+Maximum demand.zip</p> <p>http://www.filefactory.com/file/cf94dbb/n/G003_G004_G007_Lesson_9_Cable_selection_Maximum_demand.zip</p> <p>G003+G004+G007 Lesson 10 Electrical installation safety testing.zip</p> <p>http://www.filefactory.com/file/cf94123/n/G003_G004_G007_Lesson_10_Electrical_installation_safety_testing.zip</p> <p><u>Electrical wiring + Electrical Installation requirement</u></p>	
6	Click HERE to download the other exercises	
7	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p><u>Assessment</u></p> <p>Read the above notes files and do the assignments for the following tutorial file.</p> <p>WiringPracticals.zip</p> <p>G003G004Tutorial.zip</p>	
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011.pdf	

9	<p>Attend the face to face class</p> <p>http://www.filefactory.com/file/2f8e3fph9trr/n/G106_G033_Practical_zip</p>	
10	<p>Power Distribution Trade Power_Distribution_Trade.zip</p> <p>Metering Metering.zip</p> <p>PRACTICAL</p> <p><u>Workshop 2+3</u></p> <p>WorkShop Part 2 Practical 1 to 6 .zip</p> <p>WorkShop Part 2 Practical 7 to 12 .zip</p> <p>WorkShop Part 2 Practical 13 to 17 .zip</p> <p>WorkShop Part 2 Practical 18 to 21 .zip</p> <p>ElectricalWorkshopPart3_G008_Group1Machine .zip</p> <p>ElectricalWorkshopPart3_G008_Group2LineProtection .zip</p> <p>ElectricalWorkshopPart3_G008_Group3InstrumentsDevices .zip</p> <p><u>OTHER PRACTICALS</u></p> <p>ELECTRICAL WORKSHOP PART 2 G003 G004 G009 .zip</p> <p>Electrical Workshop Part 2 Practical 1 to 18.zip</p> <p>Electrical Workshop Part 2 Practical 19 to 21.zip</p> <p>G003_G004_G009Practicals.pdf</p>	

Study Guide EE07 & EE011

What to study				Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011			
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07				
	UEENEEG108A Trouble-shoot and repair faults in low voltage electrical apparatus and circuits	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below	
Study Option 1	Study Option 1	EE011 = EE07 + Additional						
See 1 below	See 3 below							
Study Option 2	Study Option 2							
See 2 below	See 4 below							

1	
2	
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4	<u>G008_General_Notes_1.zip</u> <u>G008_General_Notes_2.zip</u> <u>MachineControlCkt1.zip</u> <u>MachineControlCkt2.zip</u> <u>MachineControlCkt3.zip</u>

[MachineRepair1.zip](#)

[MachineRepair2.zip](#)

[MachineRepair3.zip](#)

[ProcessControlCkt1.zip](#)

[ProcessControlCkt2.zip](#)

[ProcessControlCkt3.zip](#)

[ESI 8 Insulation 1](#)

[ESI 8 Insulation 2](#)

[ESI 9.1 Protection Relay Construction](#)

[ESI 9.2 Test Equipment](#)

[ESI 33.1 Power Quality Concept](#)

[ESI 33.2 Harmonic in capacitor](#)

[ESI 33.3 Harmonic effect on machines](#)

[ESI 3.1 HV Measurement Cable Test.zip](#)

[ESI 3.2 Magnetic measurement.zip](#)

[ESI 3.3 Power measurement.zip](#)

	<u>ESI 3.4 RLC measurement 1.zip</u> <u>ESI 3.4 RLC measurement 2.zip</u> <u>ESI 3.4 RLC measurement 3.zip</u> <u>ESI 3.5 Digital equipments.zip</u> <u>ESI 3.6 V.A.W meter.zip</u> <u>ESI 3.7T and M.zip</u> <u>ESI 3.8 Thermography.zip</u> <u>ESI 4 11 Power Transformer.zip</u> <u>ESI 5 Machinery Installation.zip</u> <u>ESI 7 Drawing Switching Diagram.zip</u> <u>ESI 7 Electrical Installation Design.zip</u> <u>ESI10.1 HV equipments.zip</u> <u>ESI10.2 Substation equipments.zip</u> <u>ESI12 14 Harmonic.zip</u> <u>ESI12 14 Reactor.zip</u> <u>ESI12 14 Syn Motor Generator.zip</u> <u>ESI 13 Voltage regulation devices.zip</u>
5	<u>Fault finding + Electrical control equipments</u> G008+G009

	G008+G009 Lesson 1 AC Machine+AC motor control.zip http://www.filefactory.com/file/c0a683c/n/G008_G009_Lesson_1_AC_Machine_AC_motor_control.zip G008+G009 Lesson 2 Synchronous machine+DC machine+Transformer.zip http://www.filefactory.com/file/c0a7ad3/n/G008+G009_Lesson_2_Synchronous_machine+DC_machine+Transformer.zip
6	
7	EE07 & EE011 units mapping for Theory study & Exercises Class test
8	PRACTICAL <u>Workshop 2+3</u> WorkShop Part 2 Practical 1 to 6 .zip WorkShop Part 2 Practical 7 to 12 .zip WorkShop Part 2 Practical 13 to 17 .zip WorkShop Part 2 Practical 18 to 21 .zip ElectricalWorkshopPart3_G008_Group1Machine .zip ElectricalWorkshopPart3_G008_Group2LineProtection .zip ElectricalWorkshopPart3_G008_Group3InstrumentsDevices .zip <u>OTHER PRACTICALS</u> ELECTRICAL WORKSHOP PART 2_G003_G004_G009 .zip Electrical Workshop Part 2 Practical 1 to 18.zip Electrical Workshop Part 2 Practical 19 to 21.zip G003_G004_G009Practicals.pdf
9	EE07 & EE011 units mapping for Theory study & Exercises Attend the face to face class
10	

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
	UEENEEG109A Develop and connect electrical control circuits	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1	EE011 = EE07 + Additional					
See 1 below	See 3 below						
Study Option 2	Study Option 2						
See 2 below	See 4 below						

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4	G009.zip G043 G045 7762AF Notes G043 G045 Part 1 7762AF Notes H085 66 I006 Note 1 Sensors 1 H085 66 I006 Note 2 Sensors 2 H085 66 I006 Note 3 Sensors 3 H085 66 I006 Note 4 Control Concept1

[H085 66 I006 Note 5 Control Concept2](#)

[H085 66 I006 Note 6 Electronics Signal](#)

[H085 66 I006 Note 8 Process Control 1](#)

[H085 66 I006 Note 9 Process Control 2](#)

[ProcessControlCkt1.zip](#)

[ProcessControlCkt2.zip](#)

[ProcessControlCkt3.zip](#)

[H026 3 Ph Power Control Electronics 1](#)

[H026 3 Ph Power Control Electronics 2](#)

[H026 3 Ph Power Control Electronics 3](#)

[H026 3 Ph Power Control Electronics 4](#)

[ESI 27 1 Relay Principle 1.zip](#)

[ESI 27 1 Relay Principle 2.zip](#)

[ESI 27 1 Relay Principle 3.zip](#)

[ESI 27.2 Element of Relay Protection.zip](#)

[ESI12 14 Syn Motor Generator.zip](#)

[ESI 19.1 Computer Control.zip](#)

	ESI 19.4 Turbine Control.zip ESI 22.2 Voltage surge control.zip
5	Fault finding + Electrical control equipments G008+G009 G008+G009 Lesson 1 AC Machine+AC motor control.zip http://www.filefactory.com/file/c0a683c/n/G008_G009_Lesson_1_AC_Machine_AC_motor_control.zip G008+G009 Lesson 2 Synchronous machine+DC machine+Transformer.zip http://www.filefactory.com/file/c0a7ad3/n/G008+G009_Lesson_2_Synchronous_machine+DC_machine+Transformer.zip
6	
7	EE07 & EE011 units mapping for Theory study & Exercises Concurrently assessed with G043+G045+I006 & relevant EE011 units
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf
9	EE07 & EE011 units mapping for Theory study & Exercises Attend face to face session PRACTICAL <u>Workshop 2+3</u> WorkShop Part 2 Practical 1 to 6 .zip WorkShop Part 2 Practical 7 to 12 .zip

	WorkShop Part 2 Practical 13 to 17 .zip WorkShop Part 2 Practical 18 to 21 .zip ElectricalWorkshopPart3 G008 Group1Machine .zip ElectricalWorkshopPart3 G008 Group2LineProtection .zip ElectricalWorkshopPart3 G008 Group3InstrumentsDevices .zip <u>OTHER PRACTICALS</u> ELECTRICAL WORKSHOP PART 2 G003 G004 G009 .zip Electrical Workshop Part 2 Practical 1 to 18.zip Electrical Workshop Part 2 Practical 19 to 21.zip G003 G004 G009Practicals.pdf
10	

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
UEENEEG001B Solve problems in electromagnetic circuits	UEENEEG101A Solve problems in electromagnetic devices and related circuits	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below

Study Option 1	Study Option 1	EE011 = EE07 + Additional
See 1 below	See 3 below	
Study Option 2	Study Option 2	
See 2 below	See 4 below	

1	http://www.filefactory.com/file/c0b6601/n/Elect_Fundamental_E029_G012_G001_G002_G060.zip
2	G001 Part 1 G001 Part 2
3	http://www.filefactory.com/file/c0b6601/n/Elect_Fundamental_E029_G012_G001_G002_G060.zip
4	G001 Part 1 G001 Part 2
5	Electro-magnetism http://www.filefactory.com/file/cf9b277/n/G001.zip
6	Click HERE to download the other exercises
7	EE07 & EE011 units mapping for Theory study & Exercises
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011.pdf
9	EE07 & EE011 units mapping for Theory study & Exercises Practicals Work performance and practical instruction Work performance + Practical Instruction Back up Click HERE to download practicals
10	

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
UEENEEG002B Solve problems in low voltage a.c. circuits	UEENEEG102A Solve problems in low voltage a.c. circuits	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below

Study Option 1	Study Option 1	EE011 = EE07 + Additional
See 1 below	See 3 below	
Study Option 2	Study Option 2	
See 2 below	See 4 below	

1	http://www.filefactory.com/file/c0b6601/n/Elect_Fundamental_E029_G012_G001_G002_G060.zip
2	G002
3	http://www.filefactory.com/file/c0b6601/n/Elect_Fundamental_E029_G012_G001_G002_G060.zip
4	G002
5	<p>G002 Lesson 1 Sine wave and it's values.zip</p> <p>http://www.filefactory.com/file/c0ad22c/n/G002_Lesson_1_Sine_wave_and_it_s_values.zip</p> <p>G002_Lesson_2_AC_RL+RC_Series_circuits.zip</p> <p>http://www.filefactory.com/file/c0ad67c/n/G002_Lesson_2_AC_RL+RC_Series_circuits.zip</p> <p>G002 Lesson 3 AC Series RLC circuits.zip</p> <p>http://www.filefactory.com/file/c0ad35d/n/G002_Lesson_3_AC_Series_RLC_circuits.zip</p> <p>G002 Lesson 4 AC Parallel circuits.zip</p> <p>http://www.filefactory.com/file/c0ad4f3/n/G002_Lesson_4_AC_Parallel_circuits.zip</p> <p>G002 Lesson 5 Three phase circuit basics.zip</p> <p>http://www.filefactory.com/file/c0ad468/n/G002_Lesson_5_Three_phase_circuit_basics.zip</p> <p>G002 Lesson 6 Balanced three phase circuit.zip</p> <p>http://www.filefactory.com/file/c0ad5d9/n/G002_Lesson_6_Balanced_three_phase_circuit.zip</p>
6	Click HERE to download the other exercises

7	EE07 & EE011 units mapping for Theory study & Exercises
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf
9	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p><u>Practicals</u> <u>Work performance and practical instruction</u> <u>Work performance + Practical Instruction Back up</u></p> <p>Click <u>HERE</u> to download practicals</p>
10	

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
UEENEEE011C Manage risk in electrotechnology activities	UEENEEE011C Manage risk in electrotechnology activities	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1	EE011 = EE07 + Additional					
See 1 below	See 3 below						
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	http://www.filefactory.com/file/c0b7b84/n/Project_specification_planning_management_Risk_OHS.G069_G070_E071_E011_E017.zip
2	RiskManagement.pdf E011E017note1 E011E017note2 E011_E017Notes3.zip
3	http://www.filefactory.com/file/c0b7b84/n/Project_specification_planning_management_Risk_OHS.G069_G070_E071_E011_E017.zip
4	RiskManagement.pdf

	E011E017note1 E011E017note2 E011_E017Notes3.zip
5	Video- http://www.filefactory.com/file/cf8750b/n/E011+E017.zip
6	Click HERE to download the other exercises
7	EE07 & EE011 units mapping for Theory study & Exercises E011_E017_Assignment
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011.pdf
9	E07 & EE011 units mapping for Theory study & Exercises
10	

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
UEENEEE071B Write specifications for electrical engineering projects	UEENEEE071B Write specifications for electrical engineering projects	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1	EE011 = EE07 + Additional					
See 1 below	See 3 below						
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	http://www.filefactory.com/file/c0b7b84/n/Project_specification_planning_management_Risk_OHS.G069_G070_E071_E011_E017.zip
2	Class Teaching Notes +Flexible study Notes References for Electrical Contracting & Estimating Est Estimating1 Estimating2 Estimating3 Week 1-Overview of NSW Electrical Service Rules E071DesiE071HVOVerheadConductors_Wk2-3 .zip

	E071LVOverheadConductor_Wk4-5 .zip E071Hazard Identification Wk6 .zip E071General Wiring Wk7-8 .zip E071UGCableSpecification Wk9-10-11 .zip E071TelecomDatacom Wk12 .zip E071Switching Wk13 .zip E071DesignStdOHDevelopment Wk14-16 .zip (2B) Flexible study Notes References for Specifications Service Rule 1 Service Rule 2 Service Rule 3 6-ElectricalDrawing 12-Specifications 13-BSpecifications 14-Specifications
3	http://www.filefactory.com/file/c0b7b84/n/Project_specification_planning_management_Risk_OHS.G069_G070_E071_E011_E017.zip
4	As in 2

5	<p><u>Project Specifications+ Project Planning +Project Management (1)</u></p> <p>E071+G069+G070Part1.zip</p> <p>http://www.filefactory.com/file/cf91ac4/n/E071_G069_G070Part1.zip</p> <p><u>Project Specifications+ Project Planning +Project Management (2)</u></p> <p>E071+G069+G070Part2.zip</p> <p>http://www.filefactory.com/file/cf91da1/n/E071+G069+G070Part2.zip</p> <hr/> <p><u>Project Specifications+ Project Planning +Project Management (1)</u></p> <p><u>http://uploading.com/files/6d26b85c/E071%252BG069%252BG070Part%2B1.zip/</u></p> <p><u>Project Specifications+ Project Planning +Project Management (2)</u></p> <p><u>http://uploading.com/files/bmf8bf9f/E071%252BG069%252BG070Part%2B2.zip/</u></p>
6	Click <u>HERE</u> to download the other exercises
7	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p><u>E071 MEM09004 Tutorial</u> <u>E071 MEM09004 Tutorial Mod.zip</u></p> <p><u>Propose strategies to identify client needs 1.pdf</u></p>
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf
9	EE07 & EE011 units mapping for Theory study & Exercises
10	<u>Costing Quotation.zip</u>

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
MEM09004B Perform electrical/electronic detail drafting	UEENEEG179A Develop detailed electrical drawings	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1	EE011 = EE07 + Additional					
See 1 below	See 3 below						
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	
2	ElectricalDrawing1.zip ElectricalDrawing2.zip ElectricalDrawing3.pdf GeneralDrawing1.zip GeneralDrawing2.zip ElectricInstallationDesign.zip ElectSystSafety1.zip ElectSystSafety2.zip

[FireProtHeatingTestingEarthing.zip](#)

[GeneralWiring.zip](#)

[HazardLightingPanel.zip](#)

[PanelRCDWireSpecial_Installation.zip](#)

[6-ElectricalDrawing](#)

[12-Specifications](#)

[13-BSpecifications](#)

[14-Specifications Propose strategies to identify client needs 1.pdf](#)

[1WiringInstallationDrawing](#)

[7MachineDriveSystems](#)

[8PowerElectronicsDevices AutoCAD 2D 3D Lessons](#)

[Symbol A](#)

[Symbol B](#)

[Symbol C](#)

[Symbol D](#)

[Symbol E](#)

	Symbol F Symbol G
3	
4	As in 2
5	
6	E071_MEM09004_Tutorial E071_MEM09004_Tutorial_Mod.zip MEM09004-Electronics Drawing Electronics_Drawing.zip
7	EE07 & EE011 units mapping for Theory study & Exercises
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf
9	EE07 & EE011 units mapping for Theory study & Exercises
10	E071DesiE071HVOverheadConductors_Wk2-3_.zip 6-ElectricalDrawing

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
UEENEEI006B Solve problems in process controllers, transmitters and converters	UEENEEI120A Provide solutions to problems in industrial control systems	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1	EE011 = EE07 + Additional					
See 1 below	See 3 below						
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	Amplifier+Power Supply+Digital H011+H012+H013.zip http://www.filefactory.com/file/c0b64d1/n/Amplifier_Power_Supply_Digital_H011_H012_H013.zip Process control-I006+I008+I020.zip http://www.filefactory.com/file/c0b7d9d/n/Process_control-I006_I008_I020.zip
2	AnalogDigitalSignalConditioning H085_66_I006_Note_1_Sensors_1 H085_66_I006_Note_2_Sensors_2 H085_66_I006_Note_3_Sensors_3 H085_66_I006_Note_4_Control_Concept1

	H085 66 I006 Note 5 Control Concept2 H085 66 I006 Note 6 Electronics Signal H085 66 I006 Note 8 Process Control 1 H085 66 I006 Note 9 Process Control 2 PID.zip
3	I020 Part 2 http://www.filefactory.com/file/7338x8vlddrj/n/I020_Part_2_zip
4	As 2
5	Process Control+ Digital Electronics +Signal Processing I006 Lesson 1 Process control Intro+Signal conditioning.zip http://www.filefactory.com/file/c0b2798/n/I006_Lesson_1_Process_control_Intro+Signal_conditioning.zip I006 Lesson 2 Op-amp in process control.zip http://www.filefactory.com/file/c0b25d5/n/I006_Lesson_2_Op-amp_in_process_control.zip I006 Lesson 3 Pnuematic.zip http://www.filefactory.com/file/c0b145a/n/I006_Lesson_3_Pnuematic.zip I006 Lesson 3+H012 Lesson 1 Digital principle+Logic gates.zip http://www.filefactory.com/file/c0b1488/n/I006_Lesson_3_H012_Lesson_1_Digital_principle_Logic_gates.zip I006 Lesson 4+H012 Lesson 2 Equivalent gate.zip http://www.filefactory.com/file/c0b16a2/n/I006_Lesson_4_H012_Lesson_2_Equivalent_gate.zip

I006 Lesson 5+H012 Lesson 3 Number system.zip

http://www.filefactory.com/file/c0b544e/n/I006_Lesson_5_H012_Lesson_3_Number_system.zip

I006 Lesson 6+H012 Lesson 4 Binary subtraction.zip

http://www.filefactory.com/file/c0b55f2/n/I006_Lesson_6_H012_Lesson_4_Binary_subtraction.zip

I006 Lesson 7+H012 Lesson 5 Encoder+Decoder.zip

http://www.filefactory.com/file/c0b18c8/n/I006_Lesson_7_H012_Lesson_5_Encoder_Decoder.zip

I006 Lesson 8+H012 Lesson 6 SR Flipflop.zip

http://www.filefactory.com/file/c27e44a/n/I006_Lesson_8_H012_Lesson_6_SR_Flipflop.zip

I006 Lesson 9+H012 Lesson 7 Shift register+Data latches.zip

http://www.filefactory.com/file/c0b1885/n/I006_Lesson_9_H012_Lesson_7_Shift_register_Data_latches.zip

I006 Lesson 10+H012 Lesson 8 Counter.zip

http://www.filefactory.com/file/c0b194c/n/I006_Lesson_10_H012_Lesson_8_Counter.zip

I006 Lesson 11+H012 Lesson 9 Display.zip

http://www.filefactory.com/file/c0b2ad0/n/I006_Lesson_11_H012_Lesson_9_Display.zip

I006 Lesson 12 Digital signal processing.zip

http://www.filefactory.com/file/c0b2b27/n/I006_Lesson_12_Digital_signal_processing.zip

I006 Lesson 13 Digital control design.zip

http://www.filefactory.com/file/c0b2cf2/n/I006_Lesson_13_Digital_control_design.zip

I006 Lesson 14 DAC.zip

http://www.filefactory.com/file/c0b2d00/n/I006_Lesson_14_DAC.zip

I006 Lesson 15 Ramp AD.zip

http://www.filefactory.com/file/c0b2d7d/n/I006_Lesson_15_Ramp_AD.zip

I006 Lesson 16 Sample and hold.zip

http://www.filefactory.com/file/c0b2548/n/I006_Lesson_16_Sample_and_hold.zip

I006 Lesson 17 Micro processor compatible DAC.zip

http://www.filefactory.com/file/c0b260b/n/I006_Lesson_17_Micro_processor_compatible_DAC.zip

I006 Lesson 18 Thermocouple.zip

http://www.filefactory.com/file/c0b2e67/n/I006_Lesson_18_Thermocouple.zip

I006 Lesson 19 Temperature measurement.zip

http://www.filefactory.com/file/c0b2fdd/n/I006_Lesson_19_Temperature_measurement.zip

I006 Lesson 20 Proportional mode.zip

http://www.filefactory.com/file/c0b2f26/n/I006_Lesson_20_Proportional_mode.zip

I006 Lesson 21 Industrial transducer.zip

http://www.filefactory.com/file/c0b2f95/n/I006_Lesson_21_Industrial_transducer.zip

I006 Lesson 22 Force measurement.zip

http://www.filefactory.com/file/c0b2673/n/I006_Lesson_22_Force_measurement.zip

I006 Lesson 23 Open loop control+Proportional control.zip

http://www.filefactory.com/file/c0b56d5/n/I006_Lesson_23_Open_loop_control_Proportional_control.zip

I006 Lesson 24 Closed loop control.zip

http://www.filefactory.com/file/c0b21e4/n/I006_Lesson_24_Closed_loop_control.zip

I006 Lesson 25 Electronics signal in process control.zip

http://www.filefactory.com/file/c0b220c/n/I006_Lesson_25_Electronics_signal_in_process_control.zip

I006 Lesson 26 PCM.zip

http://www.filefactory.com/file/c0b2255/n/I006_Lesson_26_PCM.zip

I006 Lesson 27 Control loop.zip

http://www.filefactory.com/file/c0b23bd/n/I006_Lesson_27_Control_loop.zip

I006 Lesson 28 Strain gauge+Piezo electric.zip

http://www.filefactory.com/file/c0b230b/n/I006_Lesson_28_Strain_gauge_Piezo_electric.zip

I006 Lesson 29 Light transducer.zip

http://www.filefactory.com/file/c0b237b/n/I006_Lesson_29_Light_transducer.zip

Process Control+ Digital Electronics +Signal Processing

	<p><u>PID Control</u></p> <p><u>I020 Part 1</u></p> <p>http://www.filefactory.com/file/1xq2qz7knp3z/n/I020_Part_1_zip</p> <p><u>I020 Part 2</u></p> <p>http://www.filefactory.com/file/7338x8vlldrj/n/I020_Part_2_zip</p>
6	Click <u>HERE</u> to download other Exercises
7	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p><u>I006 Tutorials.zip</u></p>
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf
9	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p><u>Practicals</u> <u>Work performance and practical instruction</u></p> <p>Click <u>HERE</u> to download practicals</p>
10	<p><u>PLC Textbook1</u></p> <p><u>PLC Textbook2</u></p> <p><u>PLC Textbook3</u></p> <p><u>PLC 6487E.zip</u></p> <p>PLC References</p> <p><u>User Manuals.zip</u></p> <p><u>TRILOGI5-purdue</u></p> <p><u>SetupTL6Edu Installation</u> <u>Installation Instruction</u> <u>F Nano-Product Sheets</u></p>

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
	UEENEEG006A Solve problems in single and three phase low voltage machines	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1	EE011 = EE07 + Additional					
See 1 below	See 3 below						
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	
2	
3	Elect Machine-G043+G044+G045.zip http://www.filefactory.com/file/c0b6668/n/Elect_Machine-G043_G044_G045.zip
4	G043_G045_7762AF_Notes G043_G045_Part_1_7762AF_Notes
5	
6	Click HERE to download other Exercises
7	EE07 & EE011 units mapping for Theory study & Exercises G015_G046_G040_G043_G045_G042Tutorials
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011.pdf
9	EE07 & EE011 units mapping for Theory study & Exercises Practicals Work performance and practical instruction Click HERE to download practicals

10	<p data-bbox="168 119 1467 167">ESI12_14_Syn_Motor_Generator.zip ESI_13_Voltage_regulation_devices.zip</p> <p data-bbox="168 207 660 255">ESI_19.4_Turbine_Control.zip</p> <p data-bbox="168 295 907 343">ESI_19.2_Generator_Control_Load_Flow.zip</p> <p data-bbox="168 383 582 430">ESI_19.3_Generator_.zip</p> <p data-bbox="168 470 560 518"><u>Synchronous Generator</u></p> <div data-bbox="168 558 1758 885"> <p data-bbox="168 566 985 614">2.Un intentional islanding in distribution grids</p> <p data-bbox="168 654 1108 702">2.Un intentional islanding in distribution grids-Part 2</p> <p data-bbox="168 742 1108 790">2.Un intentional islanding in distribution grids-Part 3</p> </div> <div data-bbox="168 885 1758 1212"> <p data-bbox="168 893 593 941">2.Distribution Network 1</p> <p data-bbox="168 981 593 1029">2.Distribution Network 2</p> <p data-bbox="168 1069 593 1117">2.Distribution Network 3</p> </div> <div data-bbox="168 1212 1758 1492"> <p data-bbox="168 1220 705 1268">3.Prime mover characteristics</p> <p data-bbox="168 1308 1243 1356">3. Requirement of mechanical thermal plant in Co-generation</p> <p data-bbox="168 1396 817 1444">3.Study for mechanical thermal plant</p> </div>
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[3. Generator Paralleling](#)

[Synchronous Generator Operation \(Power System Operation\)](#)

[Lesson 1](#)

[Lesson 3](#)

[Power System Operation \(General aspect\) Reading 1](#)

[Power System Operation \(General aspect\) Reading 2](#)

[Power System Operation \(General aspect\) Reading 3](#)

[Power System Operation \(General aspect\) Reading 4](#)

[Power System Operation \(General aspect\) Reading 5](#)

[Power System Operation \(General aspect\) Reading](#)

MACHINE CONTROL

[MachineControlCkt1.zip](#)

[MachineControlCkt2.zip](#)

[MachineControlCkt3.zip](#)

[Motor control 2](#)

[Motor control 3](#)

[Motor control 4](#)

[Motor control 5](#)

[Motor control 6](#)

[Motor control 7](#)

[Motor control 8](#)

[Motor control 9](#)

[Motor control 10](#)

[Motor control 11](#)

[Motor control 12](#)

[Motor control 13](#)

[Motor control 14](#)

[Motor control 15](#)

[Motor control 16](#)

[8273Z Variable Speed Drives](#)

Lesson 1-[Part a](#) [Part b](#) [Part c](#) [Part d](#)

Lesson 2 [Part a](#) [Part b](#) [Part c](#)

Lesson 3 [Part a](#) [Part b](#)

Lesson 4 [Part a](#) [Part b](#)

Lesson 5 [Part a](#) [Part b](#)

Lesson 6 [Part a](#) [Part b](#)

Lesson 7 [Part a](#) [Part b](#)

Lesson 8 [Part a](#) [Part b](#)

Lesson 9 [Part a](#) [Part b](#)

Lesson 10 [Part a](#) [Part b](#)

Lesson 11 [Part a](#) [Part b](#)

Lesson 12 [Part a](#) [Part b](#)

Lesson 13 [Part a](#) [Part b](#)

Lesson 14 [Part a](#) [Part b](#)

Lesson 15 [Part a](#) [Part b](#)

Lesson 16 [Part a](#) [Part b](#) [Part c](#)

Lesson 17 [Part a](#) [Part b](#) [Part c](#)

Study Guide EE07 & EE011

What to study		Which exercises to do		What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise	Additional exercises for EE011	
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07	
UEENEEH025B Provide solutions to single phase electronic power control problems	UEENEEI148A Solve problems in single phase electronic power control circuits	See 5 below	See 6 below	See 7 below	See 8 below
Study Option 1	Study Option 1	EE011 = EE07 + Additional			
See 1 below	See 3 below				
Study Option 2	Study Option 2				
See 2 below	See 4 below				

1	Power Electronics -H025+H026.zip http://www.filefactory.com/file/c0b6857/n/Power Electronics -H025 H026.zip
2	H025 Operational Amplifier H026 3 Ph Power Control Electronics 1 H026 3 Ph Power Control Electronics 2

	H026 3 Ph Power Control Electronics 3 H026 3 Ph Power Control Electronics 4
3	As 1
4	As 2
5	<p>Operational amplifier+ single phase power control equipments</p> <p>H025 Lesson 1-Differential Amplifier.zip http://www.filefactory.com/file/c20fef9/n/H025 Lesson 1-Differential Amplifier.zip</p> <p>H025 Lesson 2-Comparator.zip http://www.filefactory.com/file/c0b072e/n/H025 Lesson 2-Comparator.zip</p> <p>H025 Lesson 3-Timer IC.zip http://www.filefactory.com/file/c0b077e/n/H025 Lesson 3-Timer IC.zip</p> <p>H025 Lesson 4-Op Amp Circuit 1 & 2.zip http://www.filefactory.com/file/c0b08c8/n/H025 Lesson 4-Op Amp Circuit 1 2.zip</p> <p>H025 Lesson 5-Op amp characteristics+Band widthe compensation.zip http://www.filefactory.com/file/c0b09da/n/H025 Lesson 5-Op amp characteristics Band widthe compensation.zip</p>

H025 Lesson 6-Op amp diode characteristics.zip

http://www.filefactory.com/file/c0b09e1/n/H025_Lesson_6-Op_amp_diode_characteristics.zip

H025 Lesson 7-Sine & square wave oscillators.zip

http://www.filefactory.com/file/c0b090a/n/H025_Lesson_7-Sine_square_wave_oscillators.zip

H025 Lesson 8-Op amp ckt-Integrator+Differentiator.zip

http://www.filefactory.com/file/c0b0909/n/H025_Lesson_8-Op_amp_ckt-Integrator_Differentiator.zip

H025 Lesson 9-Active filter.zip

http://www.filefactory.com/file/c0b0916/n/H025_Lesson_9-Active_filter.zip

H025 Lesson 10-Multistage Op amp ckt.zip

http://www.filefactory.com/file/c0b0948/n/H025_Lesson_10-Multistage_Op_amp_ckt.zip

H025 Lesson 11-Transducers.zip

http://www.filefactory.com/file/c0b0978/n/H025_Lesson_11-Transducers.zip

	<p>H025 Lesson 12-Introduction to control.zip</p> <p>http://www.filefactory.com/file/c0b0986/n/H025_Lesson_12-Introduction_to_control.zip</p> <p><u>Operational amplifier+ single phase power control equipments</u></p> <p>http://uploading.com/files/983aee66/H025.zip/</p>
6	<p>Click HERE to download other Exercises</p>
7	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p>Electronics_H025_Tutorials</p>
8	<p>http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf</p>
9	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p>Practicals Work performance and practical instruction</p> <p>Click HERE to download practicals</p>
10	

Study Guide EE07 & EE011

What to study			Which exercises to do			What practical to do	Resources
Main study		Additional study For EE07+EE011 +Video	Main exercise		Additional exercises for EE011		
EE07 Unit	EE011 Unit		Study Option (1) EE-07	Study Option (2) EE-07			
UEENEEH026B Provide solutions to polyphase electronic power control problems	UEENEEI149A Solve problems in polyphase electronic power control circuits	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1	EE011 = EE07 + Additional					
See 1 below	See 3 below						
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	Power Electronics -H025+H026.zip http://www.filefactory.com/file/c0b6857/n/Power_Electronics_-H025_H026.zip
2	H026 3 Ph Power Control Electronics 1 H026 3 Ph Power Control Electronics 2 H026 3 Ph Power Control Electronics 3 H026 3 Ph Power Control Electronics 4
3	As 1
4	As 2
5	Three phase power control equipments H026 Lesson 1-Single &Three phase power control.zip

	http://www.filefactory.com/file/c0b1ac9/n/H026_Lesson_1-Single_Three_phase_power_control.zip H026 Lesson 2-Solid state switching devices.zip http://www.filefactory.com/file/c0b1af2/n/H026_Lesson_2-Solid_state_switching_devices.zip H026 Lesson 3-Inverter Converter.zip http://www.filefactory.com/file/c0b1a59/n/H026_Lesson_3-Inverter_Converter.zip H026 Lesson 4-Power Diodes.zip http://www.filefactory.com/file/c0b1a8f/n/H026_Lesson_4-Power_Diodes.zip H026 Lesson 5-AC Motor speed control.zip http://www.filefactory.com/file/c0b1ba7/n/H026_Lesson_5-AC_Motor_speed_control.zip H026 Lesson 6-Current fed inverter.zip http://www.filefactory.com/file/c0b1b0d/n/H026_Lesson_6-Current_fed_inverter.zip
6	Click HERE to download other Exercises
7	EE07 & EE011 units mapping for Theory study & Exercises
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf
9	EE07 & EE011 units mapping for Theory study & Exercises Practicals Work performance and practical instruction Click HERE to download practicals
10	

NOTE

The link in the yellow shaded cell can be accessed to download the notes if the direct link is not working

[Syllabus and Engineers Australia Competency.zip](#)

[Electrical diploma with electrician licensing program.zip](#)

Study the following units before you study any electrical units

[Electrician Licensing Requirements.zip](#)

[SubstationEntry.zip](#)

[Construction ElectricalSafety.zip](#)

[InserviceTesting.zip](#)

RECOGNITION OF PRIOR LEARNING (RPL)

Download the following references if you want to apply for RPL

[RPL Policy](#)

[Mutal Recognition/ Enrolment adjustment credit \)\(previous study\)](#)

[108 prev stud 1 1 .pdf](#)

□□□□ [Yellow Form 102 Enrolment Adjustment Credit \(Recognition of Prior Learning\)](#)

[102 yellow rpl 1 1 .pdf](#)

Gap training & assessment record for RPL [Word File](#) [PDF File](#)

STAGE 1

E001+E002+E007+E008+E005+E033+C002+C003

UEENEEE001		Apply OHS practices in the work place
UEENEEE002		Dismantle, assemble and fabricate electrotechnology components
UEENEEE005		Fix and secure equipment
UEENEEE007		Use drawings, diagrams, schedules and manuals
UEENEEE008		Lay wiring/cabling and terminate accessories for extra-low voltage circuits
UEENEEE033		Document occupational hazards and risks in electrical work

[Stage 1 Part 1.zip](#)

http://www.filefactory.com/file/c0cb8ab/n/Stage_1_Part_1.zip

E002+E005+E007+E008+E033-Wiring

Electrical safe working

1Wiring_E033_E008_

2Wiring_E033_E008_

Circuit safety

ConstructionElectricalSafety

DC_Circuit_E003_E004

E002_E005

Australian Engineering Courses

Bachelor of Applied Engineering +Advanced Diploma in
Electrical Engineering+Certificate III in Electrotechnology Electrician (Electrical
Assisting Courses)

Advanced Diploma in Electricity Supply Industry

Certificate in Aircraft Cabin Cleaning

Certificate IV in Training and Assessment

UEE30820 and any superseded training package courses -Certificate III in
Electrotechnology-Electrician (Advanced Certificate in Electrical Assisting)

UEE62220 Advanced Diploma of Electrical Engineering and any superseded
training package (Electrical Engineering Technician Diploma)+

UEE62120 Advanced of Engineering Technology and any superseded training
package (Electrical Technician Diploma)

UEE62520 Advanced Diploma of Airconditioning and Refrigeration Engineering
and any superseded training package (Airconditioning and Refrigeration
Technician Diploma)

UEE32220 Certificate III in Airconditioning and Refrigeration and any
superseded training package (Certificate in Airconditioning and Refrigeration
Assisting)

MEM60122 Advanced Diploma of Engineering and any superseded training
package (Mechanical Engineering Technician Diploma)

MEM31922 Certificate III in Engineering - Fabrication Trade and any
superseded training package courses - (Certificate in Fabrication Trade
Assisting)

UEE21920_CII Electronics and any superseded training package courses –
(Certificate in Electronics Assisting)

Bachelor of Applied Engineering (Electrical+ Electronics)
with Advanced Certificate in Electrical & Electronics Trade Studies
international degree recognized by Professional Associations in
Australia and Singapore. (Entire program by online, simulated
online practical and fulfilling practical performance with
competency guidelines)

Bachelor of Applied Engineering (Electrical+ Electronics)

with Advanced Certificate in Electrical & Electronics Trade Studies

has been designed for Electricians , Electrical Trade Persons and
Electrical Apprentices to complete Advanced Studies in Electrical and
Electronics Trade Studies and then proceed to Diploma, Advanced
Diploma and Bachelors Degree which is international degree
recognized by Singapore Institute of Engineering Technologists to use
in Singapore and ASEAN and The Society of Professional Engineers
International to issue Professional Engineer International designation.

Those who possess Professional Engineer International with 7 years
experience can then apply for APEC Engineer Certificate issued by
APEC Region Monitoring Committee of The Society of Professional
Engineers International. APEC Engineer Certificate is recognized in
Australia, New Zealand, Japan, Korea ,USA and several other APEC
Countries.

Course Outline

The following subjects with competencies units are included in Certificate in
Electrical Engineering Trade , Advanced Certificate in Electrical Electronics
Studies and Advanced Diploma in Electrical Engineering.

Course Structure

Year 1- Certificate IV in Electrical and Electronics Trades Studies

Year 2-Diploma/ Advanced Diploma in Electrical and Electronics
Engineering'

Year 3+4 Bachelor of Applied Engineering (Electrical and Electronics)

Each Years will have 2 Semesters.

Detailed Course Structure and Mapping to Competencies units can
be seen below

Year 1 Certificate in Electrical Engineering Trade (24 credits)

EEA101 Electrical Safety (2 Cp)

EEA102 Electrical Workshop (2 Cp)

EEA103 Electrical Circuits (2 Cp)

EEA104 Electrical Drawing & Control Circuit Development (2 Cp)

EEA105 Electrical Equipment (2 Cp)

EEA106 Electrical Wiring (2 Cp)

EEA107 Electrical Machines (2 Cp)

EEA108 Electrical Operation (2 Cp)

EEA109 Electrical Competency and Sustainability(2 Cp)

EEA110 Electrical Capstone (6 Cp)

Year 1-Advanced Certificate in Electrical Electronics Studies (6 Credits)

EEA201 DC Power Supply (2 Cp)

EEA202 Digital Electronics (2 Cp)

EEA203 Analogue Electronics (2 Cp)

TOTAL CREDITS FOR COMPLETION OF ADVANCED CERTIFICATE IN ELECTRICAL ELECTRONICS STUDIES IS 30 CREDITS

Year 2-Advanced Diploma in Electrical Engineering (30 credits)

EEA301 Engineering Competency Development (1 Cp)

EEA302 Engineering Materials (1 Cp)

EEA303 Engineering Physics (2 Cp)

EEA304 Engineering Project (2 Cp)

EEA305 Risk Analysis and WHS (1 Cp)

EEA306 Electrical Circuit Analysis (2 Cp)

EEA307 Engineering Mathematics (2 Cp)

EEA308 Computer Applications (1 Cp)

EEA309 Sustainability (1 Cp)

EEA310 Solar Electrical System (2 Cp)

EEA311 Power System Principle (2 Cp)

EEA312 Power System Protection (2 Cp)

EEA313 Power Transmission (2 Cp)

EEA314 Electrical Machines (2 Cp)

EEA315 Energy Efficiency (2 Cp)

Part 2-Electronics

EEA316 Power Industrial Electronics and Control (2 Cp)

EEA317 Industrial Process Control (2 Cp)

EEA318 Engineering Report Writing (1 Cp)

**TOTAL CREDITS FOR COMPLETION OF ADVANCED DIPLOMA IN
ELECTRICAL ELECTRONICS ENGINEERING IS 60 CREDITS**

Year 3+4 Bachelors Degree Studies (60 Credit Points)

Year 3-Bachelor of Applied Engineering –(Electrical Electronics) Part 1

YEAR 3 (24 credit points / 2 points per unit)

1 BAE 401 Advanced Engineering Mathematics

2 BAE 402 Calculus

3 BAE 403 Engineering Mechanics

4 BAE 404 Engineering Materials & Thermodynamics

5 RE001- Foundation Studies in Renewable Energy and Sustainability

6.RE003- Solar and Thermal Energy Systems

7.RE004- Energy Storage Systems

8 RE005- Renewable Energy Resource Analysis

9.RE006- Wind Energy Conversion Systems

10 RE010-Engineering Materials

11 RE012a-Electrical Engineering Part 1

12RE016/ BAE508-Design & Project Management

The students can get Bachelor of Technology (Electrical Electronics) by paying
(A\$300 degree award fees)

Year 4-Bachelor of Applied Engineering –(Electrical Electronics) Part 2

YEAR 4 (36 credit points / 3 points per unit)

1 BAE 601 Computer Programming

2 BAE 602 Computer Network

3 BAE 603 Software Engineering

4 RE012b-Electrical Engineering Part 2

5 RE002- Grid Connected Photovoltaic Power Systems

6 RE013-Electrical Machines

7 RE014-Electronics Control

8 RE015-Electrical Project/ Practice

9 BAE 501 Advanced Power Systems & Power Transmission Networks

10 BAE 506 Power System Stability & Protection

11 BAE 604 Telecommunication Engineering

12.RE007- Energy System Efficiency

13 BAE 608 Professional Engineer Engineering Competency Demonstration Report & BAE 605 Engineering Management (Completion Certification with no credit points) -----

TOTAL CREDITS FOR COMPLETION OF BACHELOR OF APPLIED ENGINEERING (ELECTRICAL ELECTRONICS) IS 120 CREDITS

Please see the link

Year 1 Part 1-Electrical Engineering Certificate +

<http://www.highlightcomputer.com/UEE11-20Mapping.pdf>

Certificate in Electrical Engineering will be issued on completion of the following units which are aligned with CIII Electrotechnology-Electrician (UEE30820) as we design the course independently, we do not issue with CIII Electrotechnology-Electrician (UEE30820).

Subjects and Competency Units (UEE20 and successor training package mappings)

EEA101 Electrical Safety

Electrical Engineer Workshop Practice 1/2/3

HLTAID001 Provide cardiopulmonary resuscitation

UEECD0007 Apply work health and safety regulations, codes and practices in the workplace

UEECD0016 Document and apply measures to control WHS risks associated with electrotechnology work*

EEA102 Electrical Workshop

Electrical Engineer Workshop Practice 1/2/3

UEECD0019 Fabricate, assemble and dismantle utilities industry components*

UEECD0020 Fix and secure electrotechnology equipment*

EEA103 Electrical Circuits

E104/G102

UEECD0044 Solve problems in multiple path circuits*

UEECD0046 Solve problems in single path circuits*

UEEEL0020 Solve problems in low voltage a.c. circuit

UEEEL0021 Solve problems in magnetic and electromagnetic devices

EEA104 Electrical Drawing & Control Circuit Development

Electrical Engineer Workshop Practice 1/2/3

Electrical Engineer Practice 1/2/3

G106+E107

UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications*

UEEEL0005 Develop and connect electrical control circuits*

EEA105 Electrical Equipment

Electrical Engineer Practice 1/2/3

Electrical Engineer Trade Practice 1/2/3

UEEEL0003 Arrange circuits, control and protection for electrical installations*

UEEEL0008 Evaluate and modify low voltage heating equipment and controls*

UEEEL0009 Evaluate and modify low voltage lighting circuits, equipment and controls*

EEA106 Electrical Wiring

Electrical Engineer Practice 1/2/3

Electrical Engineer Trade Practice 1/2/3

EEEL0010 Evaluate and modify low voltage socket outlets circuits*

UEEEL0012 Install low voltage wiring, appliances, switchgear and associated accessories*

UEEEL0014 Isolate, test and troubleshoot low voltage electrical circuits

UEEEL0018 Select wiring systems and select cables for low voltage electrical installations

UEEEL0023 Terminate cables, cords and accessories for low voltage circuits*

EEA107 Electrical Machines

G101+G006

UEEEL0019 Solve problems in direct current (d.c.) machines

UEEEL0024 Test and connect alternating current (a.c.) rotating machines*

UEEEL0025 Test and connect transformers*

EEA108 Electrical Operation

Electrical Engineer Practice 1/2/3

UEEEL0047 Identify, shut down and restart systems with alternate supplies*

UETDRRRF06 Perform rescue from a live LV panel*

EEA109 Electrical Competency and Sustainability

Electrical Engineer Practice 1/2/3

UEECO0023 Participate in electrical work and competency development activities

UEERE0001 Apply environmentally and sustainable procedures in the energy sector

EEA110 Electrical Capstone

Electrical Capstone

UEEEL0039 Design, install and verify compliance and functionality of general electrical installations*

Year 1 Part 2 Advanced Certificate in Electrical and Electronics Trade

EEA201 DC Power Supply

UEENEEH011B - Troubleshoot d.c. power supplies with single phase input

(UEEEEC0075 Troubleshoot single phase input d.c power supplies*)

EEA202 Digital Electronics

UEENEEH012B - Troubleshoot digital subsystems

UEEEEC0069 Troubleshoot digital sub-systems*

EEA203 Analogue Electronics

UEENEEH013B - Troubleshoot amplifiers

Year 2 Advanced Diploma in Electrical Electronics Engineering

(UEE20 and successor training package mappings)

Part 1-Electrical

<http://www.highlightcomputer.com/UEE11-20Mapping.pdf>

EEA301 Engineering Competency Development

Advanced Diploma -Engineering Competency Development Lessons

UEECD0003 Apply industry and community standards to engineering activities

UEECD0017 Establish and follow a competency development plan in an electrotechnology engineering discipline

UEECD0056 Apply methods to maintain currency of industry

EEA302 Engineering Materials

Advanced Diploma -Engineering Materials Lessons

UEECD0004 Apply material science to solving electrotechnology engineering problems

EEA303 Engineering Physics

Advanced Diploma -Engineering Physics Lessons

UEECD0005 Apply physics to solving electrotechnology engineering problems

EEA304 Engineering Project

Advanced Diploma -Engineering Project Lessons

UEECD0014 Develop design briefs for electrotechnology projects

UEEEL0015 Manage large electrical projects

UEEEL0058 Plan large electrical projects

UEECD0059 Write specifications for electrical engineering projects

EEA305 Risk Analysis and WHS

Advanced Diploma -OHS Lessons

UEECD0024 Implement and monitor energy sector WHS policies and procedures

UEECD0026 Manage risk in electrotechnology activities

EEA306 Electrical Circuit Analysis

Advanced Diploma -Electrical Circuits Lessons

UEECD0036 Provide engineering solutions for problems in complex multiple path circuits

UEEEL0062 Provide engineering solutions to problems in complex polyphase power circuits

EEA307 Engineering Mathematics

Advanced Diploma -Engineering Mathematics Lessons

UEECD0039 Provide solutions to basic engineering computational problems*

EEA308 Computer Applications

Advanced Diploma -Computer Applications Lessons

UEECS0033 Use engineering applications software on personal computers

EEA309 Sustainability

Advanced Diploma -Sustainability Lessons

UEERE0013 Develop strategies to address environmental and sustainability issues in the energy sector

EEA310 Solar Electrical System

Advanced Diploma -Solar Electrical System Lessons

UEERE0016 Install, configure and commission LV grid-connected photovoltaic power systems*

UEENEEK135A - Design grid connected photovoltaic power supply systems

EEA311 Power System Principle

Advanced Diploma -Power System/Electrical Distribution/Power System Analysis/Power System Operations Lessons

UETTDRIS67 Solve problems in energy supply network equipment*

UETTDRIS69 Diagnose and rectify faults in energy supply apparatus

EEA312 Power System Protection

Advanced Diploma -Power System Protection Lessons

UETTDRIS68 Solve problems in energy supply network protection equipment and systems

UETTDRIS74 Develop engineering solutions for energy supply system protection problems

EEA313 Power Transmission

Advanced Diploma -Power Transmission Lessons

UETTDRIS71 Diagnose and rectify faults in electrical energy supply transmission systems*

EEA314 Electrical Machines

Advanced Diploma -Electrical Machines Lessons

UEEEL0043 Develop engineering solutions for induction machine and control problems*

UETTDRIS73 Develop engineering solutions for energy supply power transformer problems*

UEEIC0017 Diagnose and rectify faults in d.c. motor drive systems*

UEEIC0016 Diagnose and rectify faults in a.c. motor drive systems*

UEEEL0043 Develop engineering solutions for induction machine and control problems*

EEA315 Energy Efficiency

Advanced Diploma -Energy Efficient Building Design Lessons

UEERE0012 Develop effective engineering strategies for energy reduction in buildings*

Also See Advanced Diploma in Electrical Engineering+ Engineering Technology Electrical

Part 2-Electronics

(UEE20 and successor training package mappings)

EEA316 Power Industrial Electronics and Control

UEEIC0040 Solve problems in polyphase electronic power control circuits*

UEEIC0042 Solve problems in single phase electronic power control

UEEIC0005 Configure and maintain industrial control system networks*

UEENEEH025B - Provide solutions to single phase electronic power control problems

UEENEEH026B - Provide solutions to polyphase electronic power control problems

EEA317 Industrial Process Control

UEENEEI006B - Solve problems in process controllers, transmitters and converters

UEENEEI124A Fault find and repair analogue circuits and components in electronic control systems

UEENEEI129A - Set up electronically controlled mechanically operated complex systems

UEENEEI148A - Solve problems in single phase electronic power control circuits

UEENEEI120A - Provide solutions to problems in industrial control systems

EEA318 Engineering Report Writing

UEECD0010 Compile and produce an energy sector detailed report

Year 3 Bachelor of Technology in Electrical & Electronics Engineering

YEAR 3 (24 credit points / 2 points per unit)

1 BAE 401 Advanced Engineering Mathematics

2 BAE 402 Calculus

3 BAE 403 Engineering Mechanics

4 BAE 404 Engineering Materials & Thermodynamics

5 RE001- Foundation Studies in Renewable Energy and Sustainability

6.RE003- Solar and Thermal Energy Systems

7.RE004- Energy Storage Systems

8 RE005- Renewable Energy Resource Analysis

9.RE006- Wind Energy Conversion Systems

10 RE010-Engineering Materials

11 RE012a-Electrical Engineering Part 1

12RE016/ BAE508-Design & Project Management

Year 4 Bachelor of Applied Engineering in Electrical & Electronics Engineering

YEAR 4 (36 credit points / 3 points per unit)

- 1 BAE 601 Computer Programming
- 2 BAE 602 Computer Network
- 3 BAE 603 Software Engineering
- 4 RE012b-Electrical Engineering Part 2
- 5 RE002- Grid Connected Photovoltaic Power Systems
- 6 RE013-Electrical Machines
- 7 RE014-Electronics Control
- 8 RE015-Electrical Project/ Practice
- 9 BAE 501 Advanced Power Systems & Power Transmission Networks
- 10 BAE 506 Power System Stability & Protection
- 11 BAE 604 Telecommunication Engineering
- 12.RE007- Energy System Efficiency
- 13 BAE 608 Professional Engineer Engineering Competency Demonstration Report & BAE 605 Engineering Management (Completion Certification with no credit points) -----

Additional Information

The course includes several self study short courses .

<http://www.highlightcomputer.com/BachelorAppliedEngg+Electrical-ElectronicsTradeResources.htm#b>

Mapping to Electrical Training Package Units

<http://www.highlightcomputer.com/BachelorAppliedEngg+Electrical-ElectronicsTradeResources.htm#c>

UEE11-UEE20 Mapping

<http://www.highlightcomputer.com/UEE11-20Mapping.pdf>

Course Design Principle

This is only type of course that combines both Electrician/ Electronic Technician Skills and Advanced Diploma and Degree.

The course design is based on Australian Electrical Training Packages UEE11 and UEE20 . The course contents include and combine the appropriate training package competency units . But to deliver the course without limitation and restriction imposed by ASQA , we do not design the course with ASQA Recognition but the course was designed to meet the accreditation of Singapore Institute of Engineering Technologists (SIET) and The Institution of Professional Engineers Myanmar which is Member of International Federation for Engineering Education Societies (IFEES-USA) as well as International Vocational Education and Training Association (IVETA-USA) and International Association of Distance Learning (IADL).

Conversion of this qualification to Australian Recognition

Although this qualification is not direct Australian qualification and the degree is not Australian degree, it can be converted to Australian qualification as follows

- On completion of 4 Years degree courses, the candidates will be issued with
 1. Professional Diploma in Engineering by IQY Technical College
Which is accredited by Singapore Institute of Engineering Technologists (SIET)
 2. Bachelor of Engineering by IPEM Technological University
which is also accredited by Singapore Institute of Engineering Technologists (SIET)
- Then the candidate can apply for Member of Singapore Institute of Engineering Technologists (MSIET) at Engineering Technologists Level
- Then apply for Technologist Member or Engineering Officer Member of The Institution of Engineers Australia by submitting Engineering Competency Demonstration Report and by submitting MSIET Certificate.
- In industry, real skills , knowledge and competencies are demanded by employers so the skills, knowledge and competencies gained in this course can be utilized in industry.

Why we design the course

There have been a lot of Electricians who can not proceed their skills to Diploma, Advanced Diploma and Degree levels.

Only competence in basic trade skills but lack of advanced training prohibits the industrial competency of Australia at International Level.

Although TAFE-NSW is main provider of Vocational Education, continuous scrapping of the courses, closures of engineering sections, large fees which is beyond the affordability of the students to study the diploma and advanced diploma in electrical engineering and frequent change of training packages causing that the students who did not complete the courses in certain time limit will find themselves what to do when they return back to the studies.

For this reason, instead of asking the TAFE to maintain the affordable training to the electricians, electrical tradespersons and electrical apprentices, designing and arranging the course for them to develop their skills and knowledge from Electrician Licence to diploma, advanced diploma and degree level.

Course Fees.

Before smart and skills, the students paid A\$750 per semester regardless of how many units they were undertaking. Now to complete the diploma courses, nearly \$30000 has to be paid.

We go back to course fees level before smart and skills.

The students will do the course by online, do simulated practical at the fees A\$750 per semester regardless of how many units they were undertaking.

For recipient of social security, A\$200 per semester is to be charged.

Year 1 Certificate in Electrical Engineering Trade (24 credits)--- Fees A\$750
(\$200 for Social Security Recipients)

Year 2-Advanced Diploma in Electrical Engineering (30 credits)--- Fees A\$750 (\$200 for Social Security Recipients)

Year 3-Bachelor of Applied Engineering –(Electrical Electronics) Part 1 --- Fees A\$750 (\$200 for Social Security Recipients)

Year 4-Bachelor of Applied Engineering –(Electrical Electronics) Part 2--- Fees A\$750 (\$200 for Social Security Recipients)

Entry Eligibility

Electrician Licence OR CIII Electrical or Electronics Trade (Completed or incomplete) OR Electrical Apprentices/Electrical Trade Assistance/Workers in Electrical Industry

RPL

RPL will be given based on previous studies

Course Designer

Dr Kyaw Naing (U kyaw Naing or Joe) MIEAust, RPEQ(Acquired in 2005), PE(NSW Acquired in 2021), NSW Electrician Licence (Acquired in 2002)

He is President of The Institution of Professional Engineers Myanmar and has worked at Teacher of Electrical Engineering and Teacher of Electrical Trades at TAFE-NSW.

Currently working in Industry as well as teaching online.

Based on his experience as both electrician and electrical engineers and has full knowledge and experience in difficulties of electrical engineering and electrical trade students of TAFE-NSW, the course has been designed by him.

Enrolment

Online Training/ Information Section

Online Enrolment Link

<https://www.emailmeform.com/builder/form/Hy0E9qedcfVa3g>

Every Saturdays at 10AM Sydney time, the prospective students can join the following Google Meeting with Dr Kyaw Naing.

<https://meet.google.com/jtx-ssag-rnu>

Bachelor of Engineering in Genetic Engineering

Graduate Entry for Graduate Diploma in Biomedical Engineering

- Biochemistry
- Cell Biology
- Enzyme Technology
- Genetics and Cytogenetics
- Immunology
- Microbiology
- Basic Molecular Techniques
- Molecular Biology
- Stoichiometry and Engineering Thermodynamics
- Bioprocess Principles
- Biostatistics
- Functional Genomics and Microarray Technology
- Momentum Transfer
- Bioprocess Engineering
- Biophysics
- Plant Tissue Culture and Transgenic Technology
- Recombinant DNA Technology
- Bioinformatics
- Chemical Reaction Engineering
- Gene Therapy
- Biosensors and Biochips
- Gene Cloning & DNA Sequencing Laboratory

- Bio-separation Technology
- Animal Cell Culture and Transgenic Technology
- Nano biotechnology in Healthcare
- Stem Cell Biology

Electives

- Human Genetics
- Protein Engineering
- Industrial Microbiology
- Industrial management
- Bioreactor Design
- Biomedical Engineering
- Genes and Diseases
- Bio-confinement of Genetically Modified Organisms
- Food Safety & Genetically Modified Food
- Pharmaco informatics
- Molecular Medicine

Bachelor of Engineering Science (BESc)

STC Technological University (Year 1 to 3) (Course 432556)

Electrical (18 units) (Year 1+2)

- GE16 Engineering Drawing I (EE/CE/ME)
- GE1 Electrical Wiring (EE)
- GE2 Electrical Machine (EE)
- GE3 Electrical Distribution (EE)
- GE4 Power System Operation (EE)
- GE5 Power System Protection
- GE6 Occupational Health & Safety
- GE7 Project Management (EE/CE/ME)
- GE8 Electronics (EE)
- GE9 Process Control (EE/ME)
- GE10 Industrial Electronics (EE)
- GE11 Programmable Logic Controller (EE/ME)
- GE12 Photovoltaic Solar Electrical System
- GE19 Computer Programming (EE/CE/ME)
- GE20 Computer Networking (EE)
- GE32 Electronic Security Installation
- GE33 Explosion Protection
- GE34 Engineering Business Management

Civil (18 units) (Year 1+2)

- GE16 Engineering Drawing I (EE/CE/ME)
- GE6 Occupational Health & Safety
- GE7 Project Management (EE/CE/ME)
- GE15 Building Construction (CE)
- GE17 Pipe Fitting (CE/ME)
- GE19 Computer Programming (EE/CE/ME)

GE22 Painting & Decoration (CE)
GE23 Pneumatics (CE/ME)
GE25 Surveying (CE)
GE26 Energy Efficient Building Design
GE28 Hydraulic (CE/ME)
GE29 Materials & Corrosion Prevention (CE/ME)
GE30 Bricklaying (CE)
GE31 Sprouting & Guttering (CE)
GE33 Explosion Protection 1
GE34 Engineering Business Management 1
GE33 Explosion Protection 2
GE34 Engineering Business Management 2

Mechanical (18 units) (Year 1+2)

GE16 Engineering Drawing I (EE/CE/ME)
GE6 Occupational Health & Safety
GE7 Project Management (EE/CE/ME)
GE9 Process Control (EE/ME)
GE11 Programmable Logic Controller (EE/ME)
GE13 Principle of Engine(ME)
GE14 Fitting & Machining (ME)

GE17 Pipe Fitting (CE/ME)
GE18 Air-conditioning & Refrigeration (ME)
GE19 Computer Programming (EE/CE/ME)
GE21 Welding (ME)
GE23 Pneumatics (CE/ME)
GE24 Manufacturing Management (ME)
GE27 Machine Principle(ME)
GE28 Hydraulic (CE/ME)

GE29 Materials & Corrosion Prevention (CE/ME)

GE33 Explosion Protection

GE34 Engineering Business Management

Year 3 Common

IE1 Engineering Mathematics

IE2 Engineering Physics

IE3 Material Science

IE4 Advanced Engineering Mathematics

IE5 Mechanical Science

Electrical Year 3

IE10 Transmission Line (EE)

Civil Year 3

IE9 Advanced Building Construction (CE)

Mechanical Year 3

IE18 Building services

Bachelor of Technology

Entry Requirement

- Completion of Advanced Diploma in Electro-mechanical and Construction Engineering

[ADEMC201-Sustainability and Electrical Practice](#)

[ADEMC202-Engineering Practice](#)

[ADEMC203-Design and Technology.](#)

[ADEMC204-General Electrical Engineering](#)

[ADEMC205-General Civil Engineering and Construction](#)

[ADEMC206-General Mechanical Engineering](#)

[ADEMC207-Mathematics,Physics and Chemistry.](#)

[ADEMC208-Engineering Materials](#)

[ADEMC209-Engineering Management](#)

[ADMEC210-Workshop Practice and Safety.](#)

Completion Requirement , one of the following ways

1. Completion of BE (Special Program) Form 109 Subjects

BAE401 Engineering Mathematics

BAE402 Calculus

RE010 Engineering Materials

BAE403 Engineering Mechanics (10 Credits)

Additional Unit

BAE404 Engineering Thermodynamics

[RE505- Green Building Design \(3 credits\).](#)

[RE016A-Design & Management \(4 credits\)](#)

[BAE 523A Environmental Engineering.\(1 credit\)](#)

[RE003- Solar and Thermal Energy Systems \(1 credit\).](#)

[RE004- Energy Storage Systems \(1 credit\).](#)

- 2 Selection of Examination (or) Assignment -Electrical, Civil, Mechanical, ICT based on Electrical, Civil, Mechanical, ICT subjects in Advanced Diploma in Electro-mechanical and Construction Engineering to determine the discipline of BTech degree.
- 3 Work experience submission to confer Bachelor of Technology (Special) degree.
- 4 Completion of Year 3 in BE Program for the students who completed Advanced Diploma in Electrical Engineering, Advanced Diploma in Civil Engineering, Advanced Diploma in Mechanical Engineering, Advanced Diploma in ICT Engineering,

Assignment Submission , one of the following ways

1. Messenger—to be advised
2. E mail —iqytechnicalcollege@gmail.com
3. Personal No 307(B) Thura 2 Street, 9 Ward, South Okkalapa , Yangon on Saturday, Sunday

BACHELOR OF APPLIED ENGINEERING (ELECTRICAL)

Pre-requisite

Advanced Diploma in Electrical Engineering

ASSESSMENT

The learning and assessment system involves two parts

- (1) Completion of the course works- submission of the assignments (Theory/ Practical/ Calculations) for the competency units of the subject
(Grading—Complete or Incomplete)
- (2) Completion of the course works- submission of the assignments Theory/ Practical/ Calculations) for the over all knowledge of the subject
(Grading—Complete or Incomplete)
- (3) Sitting the final test for the subject by either online or paper based test- -Grading—In accordance with St Clements University Higher Education School-Niue Students Handbook.

The following is the list of the subjects and competency units

BACHELOR OF APPLIED ENGINEERING (ELECTRICAL)

Subjects	Points	Competency Units
BAE 401 Advanced Engineering Mathematics	9	Maths 301 Introduction to Complex Variables (1 pt) Maths 302 Elementary Linear Algebra (1 pt) Maths 401 Continuous Distributions (1 pt) Maths 402 Discrete Distributions (1 pt) Maths 403 Engineering Mathematics (1 pt) Maths 501 Introduction to Probability(1 pt) Maths 501 Linear Algebra & Matrices (1 pt) Maths 502 Finite Difference Methods for Partial Differential Equations & Mathematical Modelling (1 pt) Maths 601 Random Variables (1 pt)
BAE 402 Calculus	3	Maths 304 Integration and Differential Equations. (1 pt) Maths 403 Second Order Ordinary Differential Equations

		(1 pt) Maths 303 Engineering Mathematics (1 pt)
BAE 403 Engineering Mechanics	1	ME 301 Applied Mathematics (1 pt)
BAE 404 Engineering Materials & Thermodynamics	3	ME 334 Engineering Thermodynamics (1 pt) ME 434 Wind Turbines (1 pt) ME 634 Pneumatics (1 pt)
BAE 405 Advanced Circuit Analysis	3	EE 301 Electrical Circuits (1 pt) EE 303 Engineering Circuit Analysis (1 pt) EE 404 Electrical Measurement (1 pt)
BAE 406 Electro-mechanics	2	EE 502 Electrical Machines (1 pt) ME 301 Machine Principle (1 pt)
BAE 407 Advanced Electro-magnetics Field & Materials	1	EE 407 Electromagnetism (1 pt)
BAE 408 Analogue & Digital Electronics	5	EE 403 Introduction to Electronic Engineering (1 pt) EE 524 Power Electronics & Applied Electronics (1 pt) EE 405 Digital System (1 pt) EE 526 Digital Signal Processing (1 pt) EE 527 Digital Image Processing 1/ 2 (1 pt)
BAE 501 Advanced Power Systems & Power Transmission Networks	3	EE 512 Power System (1 pt) EE 302 Power System Technology (Optional) EE 402 Electrical Power (1 pt) EE 513 Power Transmission and Distribution Lines (1 pt)
BAE 502 Linear System	1	EE 304 Computer Mathematics (1 pt)
BAE 503 Control System	4	EE 601 Non Linear Control Applications (1 pt) EE 601 Control Engineering , Feedback and Control System , P ID_ Control (1 pt) EE 624 Process Control (1 pt)

		ME 534 Numerical Control Part 1 / 2 (1 pt)
BAE 504 Power System Analysis	1	EE 614 Power System Analysis
BAE 505 Power System Optimization	1	EE 613 Power System Optimization
BAE 506 Power System Stability & Protection	2	EE 615 Power System Stability & Power Quality (1 pt) EE 616 Power System Protection (1 pt)
BAE 507 Electro-mechanical Energy Conversion	2	EE 602 Motor Control Electronics (1 pt) ME 434 Mechtronics & Robotics (1 pt)
BAE 508 Industrial Engineering & Industrial Management	1	Mgt 501 Basic Management & Communication Skills (1 pt)
BAE 601 Computer Programming	3	IT 401 Object Oriented Programming (1 pt) IT 402 Structured Programming (1 pt) IT 403 Visual Basic Programming (1 pt)
BAE 602 Computer Network	1	ICT 202 Information Systems Principles and Networking (1 pt)
BAE 603 Software Engineering	3	ICT 106 Software Engineering (1 pt) ICT 203 Information Systems, Analysis and Design (1 pt) EE 626 Nano Technology (1 pt)
BAE 604 Telecommunication Engineering	2	EE 525 Data Communication (1 pt) EE 603 Electronics Telecommunication (1 pt)
BAE 605 Engineering Management	5	Mgt 502 Operation Management (1 pt) Mgt 503 Production & Operation Management (1 pt) Mgt 504 Project Management (1 pt) Mgt 505 Quality Management and Manufacturing Engineering (1 pt) Mgt 506 Strategic Financial Management (1 pt)

BAE 606 Building Service Electrical & Mechanical Engineering	2	EE 617 Building Electrical and Mechanical System (1 pt) ME 334 Airconditioning and Refrigeration (1 pt) CE 301 Building Construction (Optional) CE 301 Conceise Hydroulics (Optional)
BAE 607 Radio Wave Propagation & Microwave Techniques	2	EE 625 Radio Wave Propagation (1 Pt) EE 626 Microwave Technique (1pt)
Total Credit points	60	

STAGE (1) DIPLOMA IN CIVIL ENGINEERING (Each 2.5 Credits) (30 Pt)

CE 101 Mathematics

CE 102 Physics

CE 103 Basic Surveying

CE 104 Fluid Dynamics

CE 105 Hydraulic

CE 106 Hydrology

CE 107 Sanitation-and-Water-supply

CE 108 Electrical Principle

CE 109 Energy Efficient Building Design

CE 110 Building Construction

CE 111 Engineering Mechanics

ME 301 Applied Mathematics

Sequence of study

CE 101, CE 102, CE 111, CE 110, ME 301

CE 103, CE 104, CE 105, CE 106, CE 107, CE 108

CE 109

STAGE (2) BASIC MECHANICAL ENGINEERING (30 Pt) (Each unit has 1 point)

Maths 101 Engineering Mathematics (1 pt)

Maths 301 Introductory Finite Difference Methods-for-partial differential equations(1 pt)

Maths 302 Elementary-Linear-Algebra(1 pt)

Maths 403 Engineering-Mathematics(1 pt)

Maths 501 Linear Algebra (1 pt)

Maths 303 Introductory Finite Volume Methods-for- partial differential equations(1 pt)

ME 103 Engineering Mechanics (2pt)

ME 101 Applied Mathematics (1 pt)
ME 107 Heat Transfer (1 pt)
ME 306 Theory-of-waves-in-materials (1 pt)
ME 102 Engineering Thermodynamics (2pt)
ME 234 Wind Turbines (1 pt)
ME 634 Pneumatics (1 pt)
ME 105 Electrical Principle (1 pt)
ME 106 Electrical Circuits (1 pt)
ME 104 Machine Principle (2 pt)
ME 304 Introduction to Nonlinearity-in-control-systems (1 pt)
ME 203 Control Engineering (1 pt)
EE 624 Process Control (2 pt)
ME 534 Numerical Control (1 pt)
ME 434 Mechtronics-Robotics (1 pt)
Mgt 501 Basic Management (1 pt)
EE 617 Building Electrical and Mechanical System Part 1 (2 pt)
ME 334 Airconditioning and Refrigeration (2 pt)

STAGE (3) BASIC ELECTRICAL & ELECTRONICS ENGINEERING (18 Pt)

Files--Certificate in Electrical Engineering, Diploma in Electrical Engineering, Advanced Diploma in Electrical Engineering , see the following contents

EE101 DC Circuit Problems
EE102 Basic Electrical Fitting & Wiring
EE103 Basic Electrical Drafting
EE104 Electrical Equipments Safety Protection

EE105 Electrical Installation Design

EE107 Electrical Equipments

EE106 Advanced Electrical Wiring

EE108 Electrical Fault Finding

EE109 Electrical Control Circuits

EE111 Electromagnetism & Basic Electrical Machines

EE112 Alternating Current Principle

EE113 Electrical Fundamental

EE115 Basic Analogue & Digital Electronics

EE116 Process Control System

EE117 Solar Electrical System

EE119 Electrical Risk Assessment

EE120 Electrical Contracting & Specifications

EE308 Sustainability

STAGE (4 A) ADVANCED MECHANICAL ENGINEERING STUDY (6Pt)

ME 108 Principle of Engines

ME 109 Engineering Drawing

ME 201 Introduction to Fluid Mechanics

ME 204 Engineering Fluid Mechanics

ME 301 Fluid Dynamics

EE 305 Corrosion Prevention

STAGE (4B)ADVANCED ELECTRICAL & ELECTRONICS ENGINEERING STUDY

(ADVANCED DIPLOMA) (4 pt)

Files--Certificate in Electrical Engineering, Diploma in Electrical Engineering, Advanced Diploma in Electrical Engineering , see the following contents (Each 2.5 pt)

EE201 Engineering Mathematics

EE204 Engineering Physics

EE302 Advanced Engineering Mathematics

EE307 Energy Efficient Building Design

STAGE (5)BACHELOR OF APPLIED ENGINEERING (BUILDING SERVICE) DEGREE (32 pt)

Subjects	Points	Competency Units	Page
BAE 401 Advanced Engineering Mathematics	9	Maths 301 Introduction to Complex Variables (1 pt) Maths 302 Elementary Linear Algebra (1 pt) Maths 401 Continuous Distributions (1 pt) Maths 402 Discrete Distributions (1 pt) Maths 403 Engineering Mathematics (1 pt) Maths 501 Introduction to Probability(1 pt) Maths 501 Linear Algebra & Matrices (1 pt) Maths 502 Finite Difference Methods for Partial Differential Equations & Mathematical Modelling (1 pt) Maths 601 Random Variables (1 pt)	
BAE 402 Calculus	3	Maths 304 Integration and Differential Equations (1 pt) Maths 403 Second Order Differential Equations (1 pt) Maths 303 Engineering Mathematics (1 pt)	
BAE 403 Engineering Mechanics	1	ME 301 Applied Mathematics (1 pt)	
BAE 404 Engineering Materials & Thermodynamics	3	ME 334 Engineering Thermodynamics (1 pt) ME 434 Wind Turbines (1 pt)	

		ME 634 Pneumatics (1 pt)	
BAE 508 Industrial Engineering & Industrial Management	1	Mgt 501 Basic Management & Communication Skills (1 pt)	
BAE 601 Computer Programming	3	IT 401 Object Oriented Programming (1 pt) IT 402 Structured Programming (1 pt) IT 403 Visual Basic Programming (1 pt)	
BAE 605 Engineering Management	5	Mgt 502 Operation Management (1 pt) Mgt 503 Production & Operation Management (1 pt) Mgt 504 Project Management (1 pt) Mgt 505 Quality Management and Manufacturing Engineering (1 pt) Mgt 506 Strategic Financial Management (1 pt)	
BAE 606 Building Service Electrical & Mechanical Engineering	2	EE 617 Building Electrical and Mechanical System (1 pt) ME 334 Airconditioning and Refrigeration (1 pt) CE 301 Building Construction (Optional) CE 301 Conceise Hydroulics (Optional)	
BAE 609 Design Project	5		
Total Credit points	32Pt		

Stage	Points
Stage 1—Diploma in Civil Engineering	30
Stage 2	30
Stage 3	18
Stage 4A	6
Stage 4B	4
Stage 5	32

Total (Bachelor of Applied Engineering-Mechtronics)	120
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STAGE (1) DIPLOMA IN MECHANICAL ENGINEERING (30 Pt) (Each unit has 1 point)

Maths 101 Engineering Mathematics (1 pt)

Maths 301 Introductory Finite Difference Methods-for-partial differential equations(1 pt)

Maths 302 Elementary-Linear-Algebra(1 pt)

Maths 403 Engineering-Mathematics(1 pt)

Maths 501 Linear Algebra (1 pt)

Maths 303 Introductory Finite Volume Methods-for- partial differential equations(1 pt)

ME 103 Engineering Mechanics (2pt)

ME 101 Applied Mathematics (1 pt)

ME 107 Heat Transfer (1 pt)

ME 306 Theory-of-waves-in-materials (1 pt)

ME 102 Engineering Thermodynamics (2pt)

ME 234 Wind Turbines (1 pt)

ME 634 Pneumatics (1 pt)

ME 105 Electrical Principle (1 pt)

ME 106 Electrical Circuits (1 pt)

ME 104 Machine Principle (2 pt)

ME 304 Introduction to Nonlinearity-in-control-systems (1 pt)

ME 203 Control Engineering (1 pt)

EE 624 Process Control (2 pt)

ME 534 Numerical Control (1 pt)

ME 434 Mechtronics-Robotics (1 pt)

Mgt 501 Basic Management (1 pt)

EE 617 Building Electrical and Mechanical System Part 1 (2 pt)

ME 334 Airconditioning and Refrigeration (2 pt)

STAGE (2)BASIC ELECTRICAL & ELECTRONICS ENGINEERING (17 Pt)

Files--Certificate in Electrical Engineering, Diploma in Electrical Engineering, Advanced Diploma in Electrical Engineering , see the following contents

EE101 DC Circuit Problems

EE102 Basic Electrical Fitting & Wiring

EE103 Basic Electrical Drafting

EE104 Electrical Equipments Safety Protection

EE105 Electrical Installation Design

EE107 Electrical Equipments

EE106 Advanced Electrical Wiring

EE108 Electrical Fault Finding

EE109 Electrical Control Circuits

EE111 Electromagnetism & Basic Electrical Machines

EE112 Alternating Current Principle

EE113 Electrical Fundamental

EE115 Basic Analogue & Digital Electronics

EE116 Process Control System

EE117 Solar Electrical System

EE119 Electrical Risk Assessment

EE120 Electrical Contracting & Specifications

STAGE (3) ADVANCED MECHANICAL ENGINEERING STUDY (13 Pt)

GROUP (1) (7 pt)

ME 108 Principle of Engines

ME 109 Engineering Drawing

ME 201 Introduction to Fluid Mechanics

ME 202 Introduction to Aero Dynamics

ME 204 Engineering Fluid Mechanics

ME 206 Introduction to Turbo Machinery

ME 301 Fluid Dynamics

GROUP (2) (4 pt)

ME 205 Manufacturing Processes-and-Materials

ME 302 Automation-and-Robotics

ME 303 Computer Aided Design and Manufacturing

ME 305 Corrosion Prevention

GROUP (3) (2 pt)

ME 207 Chemical Thermodynamics

ME 208 Hydrocarbons

STAGE (4) ADVANCED ELECTRICAL & ELECTRONICS ENGINEERING STUDY

(ADVANCED DIPLOMA) (10 pt)

Files--Certificate in Electrical Engineering, Diploma in Electrical Engineering, Advanced Diploma in Electrical Engineering , see the following contents

EE121 Electronics Power Control Devices

EE201 Engineering Mathematics

EE202 Electrical Circuits

EE203 Three Phase Power Circuits

EE204 Engineering Physics

EE206 AC Machines

EE207 DC Machines

EE208 Operational Amplifiers

EE209 Analogue Electronics

EE301 Advanced Electrical Drafting

EE302 Advanced Engineering Mathematics (Optional)

STAGE (5)BACHELOR OF APPLIED ENGINEERING (MECHTRONICS) DEGREE

Subjects	Points	Competency Units	Page
BAE 401 Advanced Engineering Mathematics	9	Maths 301 Introduction to Complex Variables (1 pt) Maths 302 Elementary Linear Algebra (1 pt) Maths 401 Continuous Distributions (1 pt) Maths 402 Discrete Distributions (1 pt) Maths 403 Engineering Mathematics (1 pt) Maths 501 Introduction to Probability(1 pt) Maths 501 Linear Algebra & Matrices (1 pt) Maths 502 Finite Difference Methods for Partial Differential Equations & Mathematical Modelling (1 pt) Maths 601 Random Variables (1 pt)	
BAE 402 Calculus	3	Maths 304 Integration and Differential Equations (1 pt) Maths 403 Second Order Differential Equations (1 pt) Maths 303 Engineering Mathematics (1 pt)	
BAE 403 Engineering Mechanics	1	ME 301 Applied Mathematics (1 pt)	
BAE 404 Engineering Materials & Thermodynamics	3	ME 334 Engineering Thermodynamics (1 pt) ME 434 Wind Turbines (1 pt) ME 634 Pneumatics (1 pt)	
BAE 405 Advanced Circuit Analysis	3	EE 301 Electrical Circuits (1 pt) EE 303 Engineering Circuit Analysis (1 pt) EE 404 Electrical Measurement (1 pt)	
BAE 406 Electro-mechanics	2	EE 502 Electrical Machines (1 pt) ME 301 Machine Principle (1 pt)	
Subjects	Points	Competency Units	Page

BAE 408 Analogue & Digital Electronics	5	EE 403 Introduction to Electronic Engineering (1 pt) EE 524 Power Electronics & Applied Electronics (1 pt) EE 405 Digital System (1 pt) EE 526 Digital Signal Processing (1 pt) EE 527 Digital Image Processing 1/ 2 (1 pt)	
BAE 502 Linear System	1	EE 304 Computer Mathematics (1 pt)	
BAE 503 Control System	4	EE 601 Non Linear Control Applications (1 pt) EE 601 Control Engineering , Feedback and Control System , PID_Control (1 pt) EE 624 Process Control (1 pt) ME 534 Numerical Control Part 1 / 2 (1 pt)	
BAE 507 Electro-mechanical Energy Conversion	2	EE 602 Motor Control Electronics (1 pt) ME 434 Mechtronics & Robotics (1 pt)	
BAE 508 Industrial Engineering & Industrial Management	1	Mgt 501 Basic Management & Communication Skills (1 pt)	
BAE 601 Computer Programming	3	IT 401 Object Oriented Programming (1 pt) IT 402 Structured Programming (1 pt) IT 403 Visual Basic Programming (1 pt)	
BAE 602 Computer Network	1	ICT 202 Information Systems Principles and Networking (1 pt)	
BAE 603 Software Engineering	3	ICT 106 Software Engineering (1 pt) ICT 203 Information Systems, Analysis and Design (1 pt) EE 626 Nano Technology (1 pt)	
BAE 604 Telecommunication Engineering	2	EE 525 Data Communication (1 pt)	
BAE 605 Engineering Management	5	Mgt 502 Operation Management (1 pt)	

		Mgt 503 Production & Operation Management (1 pt) Mgt 504 Project Management (1 pt) Mgt 505 Quality Management and Manufacturing Engineering (1 pt) Mgt 506 Strategic Financial Management (1 pt)	
BAE 606 Building Service Electrical & Mechanical Engineering	2	EE 617 Building Electrical and Mechanical System (1 pt) ME 334 Airconditioning and Refrigeration (1 pt) CE 301 Building Construction (Optional) CE 301 Conceise Hydroulics (Optional)	
Total Credit points	50 Pt		

Stage	Points
Stage 1—Diploma in Mechanical Engineering	30
Stage 2	17
Stage 3	13
Stage 4	10
Stage 5	50
Total (Bachelor of Applied Engineering-Mechtronics)	120

Bachelor of Applied Engineering (Electrical+Electronics) with Certificate IV in Electrical & Electronics Trade Studies

www.electricaldiploma2013.zoomshare.com/files/BAppEngElectricalElectronics.htm

Course Development Ideas, Brief Description of the subjects & Resources Links

This is a course that combines the trade skills, para-professional and professional competencies in electrical and electronics engineering.

Today industry demands the multi-skilled professionals. Especially in electro-technology industry, the graduates need to be equipped with multiple skills.

This course combines the Electrical & Electronics Trade Skills, Engineering Associate Competencies & Engineering Technologists Competencies.

Bachelor of Applied Engineering is designed to be equivalent to Engineering Technologist Degree.

The program consists of three level of electrical & electronics engineering competencies

Stage 1-- Year 1 is composed of Electrical & Electronics Trade Units.

The relevant electro-technology training package units are combined up to the stage of pre-capstone assessment level in electrical trades as well as theoretical part of telecommunication cabler competencies. The award after the Year 1 is Certificate IV in Electrical & Electronic Trade Studies.

Stage 2-Year 2 is composed of Advanced Diploma level Electrical & Electronic Training Package units. It is designed to train the students with both electrical and electronic engineering skills and knowledge at engineering associates level.

After the Year 2, the students can be graduated with Advanced Diploma in Applied Engineering (Electrical & Electronics)

Stage 3- Year 3 & 4 is composed of the degree level electrical and electronic engineering units. The study is a combined studies of electrical power, electronics, computer programming, computer networking, control system, building services engineering and renewable energy.

At the Advanced Diploma level, electro-technology training package units are referred as detailed contents. But the packaging is based on the study areas.

For example, the unit GE2 Electrical Machine is composed of several electro-technology training package units at trades & technician level related to electric machineries.

Program Objectives

Certificate IV in Electrical & Electronics Trade Studies

One year Certificate IV in Electrical & Electronics Trade Studies is designed to train the students to work as Engineering Trades Persons (Electrical/Electronics) in wide ranges of electrical & electronic industries

It is designed to provide the following competencies.

- Breadth, depth and complexity of knowledge and competencies would cover selecting, adapting and transferring skills and knowledge to Australian environments and providing technical advice and some leadership in resolution of specified problems. This would be applied across a range of roles in a variety of contexts with some complexity in the extent and choice of options available.
- Performance of a defined range of skilled operations, usually within a range of broader related activities involving known routines, methods and procedures, where some discretion and judgement is required in the selection of equipment, services or contingency measures and within known time constraints.
- Applications may involve some responsibility for others. Participation in teams including group or team coordination may be involved.
- Distinguishing Features of Learning Outcomes
- Do the competencies enable an individual with this qualification to:
- demonstrate some relevant theoretical knowledge
- apply a range of well-developed skills
- apply known solutions to a variety of predictable problems
- perform processes that require a range of well-developed skills where some discretion and judgement is required
- interpret available information, using discretion and judgement
- take responsibility for own outputs in work and learning
- take limited responsibility for the output of others
- Breadth, depth and complexity of knowledge and competencies would cover a broad range of varied activities or application in a wider variety of contexts most of which are complex and non-routine. Leadership and guidance are involved when organising activities of self and others as well as contributing to technical solutions of a non-routine or contingency nature.
- Performance of a broad range of skilled applications including the requirement to evaluate and analyse current practices, develop Australian criteria and procedures for performing current practices and provision of some leadership and guidance to others in the application and planning of the skills.
- Applications involve responsibility for, and limited organisation of, others.
- Distinguishing Features of Learning Outcomes
- Do the competencies enable an individual with this qualification to:
- demonstrate understanding of a broad knowledge base incorporating some theoretical concepts
- apply solutions to a defined range of unpredictable problems
- identify and apply skill and knowledge areas to a wide variety of contexts, with depth in some areas
- identify, analyse and evaluate information from a variety of sources
- take responsibility for own outputs in relation to specified quality standards
- take limited responsibility for the quantity and quality of the output of others.

Diploma/ Advanced Diploma in Applied Engineering (Electrical+ Electronics)

Two years Advanced Diploma in Applied Engineering (Electrical & Electronics) is designed to train the students to work as Engineering Associates Technicians in wide ranges of electrical & electronic industries to perform a wide range of functions within engineering enterprises and engineering teams.

It is designed to provide the following competencies.

- To be closely familiar with standards and codes of practice, and to become expert in their interpretation and application to a wide variety of situations.
- To develop very extensive experience of practical installations, and may well be more knowledgeable than Professional Engineers or Engineering Technologists on detailed aspects of plant and equipment that can contribute very greatly to safety, cost or effectiveness in operation.
- To develop high levels of expertise in aspects of design and development processes. These might include, for example, the use of advanced software to perform detailed design of structures, mechanical components and systems, manufacturing or process plant, electrical and electronic equipment, information and communications systems, and so on.
- To do the construction of experimental or prototype equipment.
- To develop detailed practical knowledge and experience complementing the broader or more theoretical knowledge of others.

Bachelor Applied Engineering (Electrical+ Electronics)

Four years Bachelor of Applied Engineering (Electrical & Electronics) is designed to train the students to work as Engineering Technologists in wide ranges of industries.

The training is designed to provide expertise to the students which may be at a high level, and fully equivalent to that of a Professional Engineer. That is designed

- to exercise the same breadth of perspective as Professional Engineers, or carry the same wide-ranging responsibilities for stakeholder interactions, for system integration, and for synthesising overall approaches to complex situations and complex engineering problems.
- to possess for a strong understanding of practical situations and applications, with the intellectual challenge of keeping abreast of leading-edge developments as a specialist in a technology domain and how these relate to established practice. For this purpose Engineering Technologists need a strong understanding of scientific and engineering principles and a well-developed capacity for analysis.
- to apply current and emerging technologies, often in new contexts; or with the application of established principles in the development of new practice.
- To contribute to the advancement of technology.
- to take responsibility for engineering projects, services, functions and facilities within a technology domain, for specific interactions with other aspects of an overall operating context and for managing
- to contribute the specialist work to a broader engineering system or solution. In these roles, Engineering
- to focus on sustainable solutions and practices which optimise technical, social, environmental and economic outcomes within the technology domain and over a whole systems life cycle.
- to have an intimate understanding of the standards and codes of practice that underpin the technology domain and ensure that technology outcomes comply with statutory requirements. Engineering Technologists are required to interact effectively with Professional Engineers and Engineering Associates, with other professionals, tradespersons, clients, stakeholders and society in general, to ensure that technology outcomes and developments fully integrate with the overall system and context.
- to ensure that all aspects of a technological product, or operation are soundly based in theory and fundamental principle.
- to understand how new developments relate to their specific field of expertise.

- to interpret technological possibilities, to investigate interfaces, limitations, consequences, costs and risks.

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Credit Points

To be relevant to International Standard Credit Points system, the credit points for the studies are arranged as follows

Stage	Year	Course	Credit Points
1	1	Certificate IV in Electrical & Electronics Trade Studies	30
2	2	Diploma/ Advanced Diploma in Applied Engineering (Electrical+ Electronics)	30
Total points after Advanced Diploma			60
3	3	Bachelor Applied Engineering (Electrical+ Electronics) Part 1	30
3	4	Bachelor Applied Engineering (Electrical+ Electronics) Part 2	30
Total points after Bachelor of Applied Engineering			120

Time allocations & detailed credit arrangement for each unit at degree level

More detailed developments are required.

Structures of the units

GE-General Engineering IE-Intermediate Engineering

BAE-Bachelor of Applied Engineering

Year 1 Certificate IV in Electrical & Electronics Trades

Semester 1

IE6	Principle of Electricity
IE13	Workshop
GE14	Fitting & Machining
GE16	Engineering Drawing I
GE1	Electrical Wiring (EE) Part 1
GE27	Machine Principle(ME)
IE3	Material Science

GE6	Occupational Health & Safety
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Semester 2

GE1	Electrical Wiring Part 2
IE23	Industrial Computer System
GE13	Principle of Engine
IE31	Introduction to Renewable Energy Technology
GE18	Air-conditioning & Refrigeration (ME)
GE2	Electrical Machine (EE)
GE8	Electronics (EE)
IE32	Telecommunication Cabling & Installation

Year 2- Diploma/Advanced Diploma in Applied Engineering -(Electrical & Electronics)

Semester 1-

Diploma in Engineering Technology-(Electrical & Electronics)

IE1	Engineering Mathematics
IE2	Engineering Physics
IE7+ IE8	Electrical Circuit (EE)
GE10	Industrial Electronics (EE)
GE3	Electrical Distribution (EE)
GE9	Process Control (EE/ME)
GE11	Programmable Logic Controller (EE/ME)
IE15	Advanced Engineering Design & Project Work
IE27	Control Concept

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Semester 2-

Advanced Diploma in Engineering Technology-(Electrical & Electronics)

IE4	Advanced Engineering Mathematics
GE34	Engineering Business Management
GE4	Power System Operation (EE)
GE5	Power System Protection
GE20	Computer Networking (EE)
GE26	Energy Efficient Building Design
IE10	Transmission Line (EE)
GE7	Project Management (EE/CE/ME)

Year 3 - Bachelor of Applied Engineering -(Electrical & Electronics) Part 1

Semester 1-

BAE 401	Higher Engineering Mathematics
BAE 402	Calculus
GE12	Photovoltaic Solar Electrical System
GE24	Manufacturing Management (ME)
IE24	Microprocessor
IE28	Electronic Signal & System

IE29	Electrical Estimating
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Semester 2-

IE34	Electricity Supply Industrial Skills
IE16	Power System Analysis-Fault Calculation
GE19	Computer Programming (EE/CE/ME)
IE26	Electrical Communication Fundamental
BAE 405	Advanced Circuit Analysis
BAE 406	Electro-mechanics
BAE 407	Advanced Electro-magnetics Field & Materials
BAE 408	Analogue & Digital Electronics

Year 4 - Bachelor of Applied Engineering -(Electrical & Electronics) Part 2

Semester 1-

- Professional Studies (Part 1)

IE33	Hybrid Energy System
IE18	Building services
BAE 502	Linear System
BAE 503	Control System
BAE 504	Power System Analysis
BAE 505	Power System Optimization
BAE 507	Electro-mechanical Energy Conversion

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Semester 2-

- Professional Studies (Part 2)

BAE 508	Industrial Engineering & Industrial Management
BAE 603	Software Engineering
BAE 607	Radio Wave Propagation & Microwave Techniques

	PLUS Other elective BAE units at level 5 & 6
	Design Project

Learning Resources

- [Certificate to Advanced Diploma Curriculum & Resources Download Link](#)
- [Bachelor of Applied Engineering \(Electrical & Electronics\) Curriculum & Detailed Contents](#)
- [Bachelor Degree Resources Download Link](#)

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BMgt+BAppSC (IT)

Year 1+2

Advanced Diploma in Management (60 cp)+
Diploma in Information Technology(30 cp)

Year 3+4

Bachelor of Applied Science (Computer Science & Computer Technology)

Year (3)

Unit	Topics	Reference	Points
ICT 301	General Electrical Knowledge	EE101	3
ICT 302	Digital Electronics	EE209/H012	3
ICT 303	Amplifier	EE208/H013	3
ICT 304	Material Science	E081	3
EE204	Physics	E046	3
EE201	Mathematics 1	E050	3
EE202	Mathematics 2	E026	3
EE306	Basic Control	I008	3
BAE605	Management		3
BAE408	Analog & Digital Electronics		3
	Mgt 301 Electronics Business		3
	Mgt 302 Information Security		3
	Mgt 303 Management Information System		4
		TOTAL	40

Year (4)

Unit	Topics	Reference	Points
ICT 401	Advanced Mathematics 1	BAE401	3
ICT 402	Advanced Mathematics 2	BAE402	3
BAE604	Telecommunication System		3
BAE508	Project Management		3
ICT 305	Professional Programming (1) C++		3
ICT 403	Professional Programming (2) Object Oriented		3
ICT 404	Professional Programming (3) Java		3
ICT 405	Professional Practice (1) Network		3
ICT 406	Professional Practice (2) Website		3
ICT 407	Artificial Intelligence		3
	Mgt 304 Electronics Commerce		3
	Mgt 305 Quantitative Methods for Management		3
	Mgt 306 Human Resources Management		3
	Mgt 307 Marketing Management		3
		TOTAL	42

Total credit points Year 1+2= 90+ Yr3+4=82 = 172

Bachelor of Applied Science (Computer Science & Computer Technology)

Year (3)

Year 3 program focuses on hardware aspects of computer technology. Computer electronics circuit boards operation principles are emphasized. Basic electrical principle, analogue and digital electronics principle together with academic subjects of mathematics, physics, material science and management are contained in the program.

Unit	Topics	Reference	Points
ICT 301	General Electrical Knowledge	EE101	3
ICT 302	Digital Electronics	EE209/H012	3
ICT 303	Amplifier	EE208/H013	3
ICT 304	Material Science	E081	3
EE204	Physics	E046	3
EE201	Mathematics 1	E050	3
EE202	Mathematics 2	E026	3
EE306	Basic Control	I008	3
BAE605	Management		3
BAE408	Analog & Digital Electronics		3
		TOTAL	30

Year (4)

Year 4 program focuses on advanced programming, website development and computer network subjects. Computerised communication technology is included as Telecommunication System., As this stage is a final year of 4 years programs in Computer Science, Computer Technology & information Technology, students' self study subjects in programming, website and computer networking subjects are arranged for the students to prepare their final stage projects.

Unit	Topics	Reference	Points
ICT 401	Advanced Mathematics 1	BAE401	3
ICT 402	Advanced Mathematics 2	BAE402	3
BAE604	Telecommunication System		3
BAE508	Project Management		3
ICT 305	Professional Programming (1) C#		3
ICT 403	Professional Programming (2) Object Oriented		3
ICT 404	Professional Programming (3) Java		3
ICT 405	Professional Practice (1) Network		3
ICT 406	Professional Practice (2) Website		3
ICT 407	Artificial Intelligence		3
		TOTAL	30

Graduate Certificate in Aeronautical Engineering (68877653)

Pre-requisite

**BE (Mechanical) or BE(Mechatronics) or BE (Electrical) or
BE(Electronics)**

[http://www.digitalbookindex.org/ search/search010engineeringaeronauticsa.asp](http://www.digitalbookindex.org/search/search010engineeringaeronauticsa.asp)

AERO601: Introduction to Aerospace Engineering

This unit of study introduces students to the role of professional aerospace engineers, along with the development of fundamental engineering knowledge and skills for aerospace vehicle design, analysis performance and operation. Students will learn through experience, to develop professional skills in research, interpretation, communication, and presentation of information relating to aerospace engineering. Expected learning includes: introduction to lateral thinking concepts; glossary of aerospace vehicle components and terminology; an introduction to the multiple disciplines related to aerospace engineering, such as aerodynamics, aircraft and spacecraft performance, mechanics of flight, aerospace structures, materials and propulsion systems; how the various disciplines are integrated into the design and development of flight platform systems; the operating characteristics of modern flight vehicles, their uses and limitations; modern developments and future trends in aerospace; the limitations of the aerospace environment; teamwork; and resource management. Significantly, professional enhancement is introduced through the development of basic hands-on worksho

AERO602: Intro to Aircraft Construction and Design

The study towards BE(Aeronautical) involves learning about the Design, Analysis, Flight, and Operation of Aircraft and other Flight Platforms. This unit facilitates the training towards becoming professional aeronautical engineers through a globally-unique experiential-learning opportunity to provide a strong background familiarity with aircraft hardware. This unit is designed to educate and facilitate the learning of

aircraft design, basic aircraft construction techniques, the operation of light aircraft and the registration and regulations relating to light aircraft. In addition to hands-on skills on the construction phase, this unit facilitates learning in motivations for unique aircraft design, aircraft aerodynamics, flight mechanics, structural aspects and other design-related issues. Teamwork plays a very important role in this unit; the ability to work with peers and supervising staff is an invaluable skill sought after by employers of engineers. Throughout the semester, students will be actively participating in the construction of a light aircraft, and of aircraft structural components. The aircraft is to be constructed under current Australian Civil Aviation Regulations so that students will gain an insight into all aspects of the process. By being a part of the construction team, students will also experience the organisational requirements necessary to successfully complete a complex engineering project. The aircraft construction workshop component is complemented with lectures, homework, research and assignments to further enhance the learning experience on aircraft. The final outcome will be that students gain a good foundation of: aircraft design and analyses methods; innovative methods of construction; techniques for selecting, sizing and stressing components; regulatory requirements for certification; off-design requirements; construction tolerances; and team-work requirements in undertaking complex engineering projects

AERO603: Aircraft Performance and Operations

This unit aims to develop in students an understanding of the fundamental concepts involved in the operation and performance of aircraft. The students will acquire an ability to make accurate and meaningful measurements of take-off, climb, cruise, turn, descent and landing performance; to perform weight and balance calculations; to understand the use of aerodynamic derivatives and their impact on aircraft performance. Students will be shown methods to optimise performance for specific missions. It will also cover modern issues such as airport congestion, noise restrictions, aviation certification requirements for the use of different aircraft categories and novel methods solving these problems.

AERO604: Aerospace Design 1

This unit aims to introduce students to the theory and practice of aircraft component design. In doing so it will emphasize all the considerations, trade-offs and decisions inherent in this process and thus enable students to gain an understanding of why aircraft structures are designed in the way they are with respect to aircraft operational, certification, manufacturing and cost considerations. At the end of this unit students will be able to understand the design process, especially as it applies to aircraft individual component design; Have a familiarity with some of the standard industry practices for component design; An increasing familiarity with typical aerospace analysis techniques along with the primary failure modes that need to be considered; An understanding of the importance of different failure modes for different components and how these relate to load-conditions; a familiarity with the operating environment that must be considered when designing components; and

understanding of some of the legal and ethical requirements of aircraft design engineers to give a basic understanding of the regulatory framework in which aircraft design is conducted.

AERO604: Aerospace Design 2

This unit aims to develop an understanding of the aerospace industry procedures for design, analysis, and testing of aircraft and aerospace vehicle components. It provides a Design-Build-Test experience by putting into practice, learning outcomes from this and other previously completed UoS, through working on a small structure which is representative of a typical light metal aircraft. Students will be introduced to typical metallic and composite materials and structures for aerospace vehicles. The unit also provides an introduction to fatigue and damaged tolerance analysis of metallic aircraft structures. Experiential learning opportunities are provided to acquire skills and knowledge in structural design, analyses, testing methods, procedures, techniques, and equipment. On satisfactory completion of this unit students will have gained practical skills relevant to working on typical modern aircraft and aerospace vehicle components. They will learn from methods, techniques, and experiences from the modern aerospace industry. Experiential learning is enhanced through verifying analyses with actual testing of fabricated component, and the experience of a full design-build-test cycle of a typical aerospace structural component. Subject areas covered will include design methods, internal loads calculations, stress analysis, design for manufacture, joints and fasteners, test procedures, fatigue and damage tolerance, composites, and the art of design.

AERO604: Aerospace Design 3

This unit aims to develop an understanding of the application of design to the modern aerospace industry. Students will gain an overview of how to manage a design team and will also gain skills in carrying out detailed design problems. Course content will include: Design requirements; Sources of information for aircraft design; Configuration design: performance, weight and balance, propulsion; Aerodynamic design: lift, drag and control; Structural design: loads, materials; Philosophies of design and analysis; System design: requirements and specification; System design procedures; systems integration.

AERO605: Propulsion

This unit of study teaches the students the techniques used to propel aircraft. The students will learn to analyse various propulsion systems in use- propellers, gas turbines, etc. The topics covered include: Propulsion unit requirements for subsonic and supersonic flight; thrust components, efficiencies, additive drag of intakes; piston engine components and operation; propeller theory; operation, components and cycle analysis of gas turbine engines; turbojets; turbofans; turboprops; ramjets.

Components: compressor, fan, burner, turbine, nozzle. Efficiency of components: Off-design considerations. Future directions: minimisation of noise and pollution; scram-jets; hybrid engines.

AERO606: Aerospace Structures 1

This unit aims to develop a student's understanding of the theoretical basis of advanced aerospace structural analysis; and introduce students to the solution of real-world aircraft structural problems. This unit of study will develop the following attributes: An understanding of the derivation of the fundamental equations of elasticity and their application in certain analytical problems; An understanding of plate theory and the ability to use this to obtain analytical solutions for plate bending and buckling problems; An understanding of energy-method to develop a deeper appreciation for the complexities of designing solution techniques for structural problems; An understanding of the basic principals behind stressed-skin aircraft construction and the practical analysis of typical aircraft components, including the limitations of such techniques. At the end of this unit students will have an understanding of: 2-D and 3-D elasticity- general equations and solution techniques; Energy methods in structural analysis, including the principles of virtual work and total potential and complimentary energies; Fundamental theory of plates, including in-plane and bending loads as well as buckling and shear instabilities; Solution techniques for plate problems, including Navier solutions for rectangular plates; Combined bending and in-plane loading problems; Energy methods for plate-bending; and Plate buckling for compression and shear loadings; Bending of beams with unsymmetrical cross-sections; Basic principles and theory of stressed-skin structural analysis; Determination of direct stresses and shear flows in arbitrary thin-walled beams under arbitrary loading conditions including: Unsymmetrical sections, Open and closed sections, Single and multi-cell closed sections, Tapered sections, Continuous and idealized sections; The analysis of common aircraft components including fuselages, wings, skin-panels, stringers, ribs, frames and cut-outs; The effects of end constraints and shear-lag on the solutions developed as well as an overall appreciation of the limitations of the solution methods presented.

AERO607: Aerodynamics 1

This unit of study should prepare students to be able to undertake aerodynamic performance calculations for industry design situations. The unit aims to develop a knowledge and appreciation of the complex behaviour of airflow in the case of two dimensional aerofoil sections and three dimensional wings; To encourage hands-on experimentation with wind-tunnel tests to allow an understanding of these concepts and their range of applicability. To understand the limitations of linearised theory and the effects of unsteady flow.

AERO608: Flight Mechanics 1

This unit aims to develop an understanding of aircraft longitudinal equilibrium, static stability, dynamic stability and response. Students will develop an understanding of the importance and significance of flight stability, will gain skills in dynamic system analysis and will learn mathematical tools used for prediction of aircraft flight behaviour. Students will gain skills in problem solving in the area of flight vehicle motion, and learn the fundamentals of flight simulation. At the end of this unit students will be able to understand: aircraft flight conditions and equilibrium; the effects of aerodynamic and propulsive controls on equilibrium conditions; the significance of flight stability and its impact of aircraft operations and pilot workload; the meaning of aerodynamic stability derivatives and their sources; the effects of aerodynamic derivatives on flight stability; the impact of flight stability and trim on all atmospheric flight vehicles. Students will also be able to model aircraft flight characteristics using computational techniques and analyse the aircraft equations of rigid-body motion and to extract stability characteristics. Unit content will include static longitudinal aircraft stability: origin of symmetric forces and moments; static and manoeuvring longitudinal stability, equilibrium and control of rigid aircraft; aerodynamic load effects of wings, stabilisers, fuselages and power plants; trailing edge aerodynamic controls; trimmed equilibrium condition; static margin; effect on static stability of free and reversible controls.

Bachelor of Engineering (Nuclear Engineering)

Course 6544321 (4 credits/unit x 35 units-140 credits)

- NE 200 - Introduction to Nuclear and Radiological Engineering
- NE 233 - Introduction to Radiological Engineering
- NE 250 - Mathematics and Computational Methods in Nuclear Engineering
- NE 340 - Materials Science and Engineering Mechanics for Nuclear Materials
- NE 342 - Thermal Science
- NE 347 - Honors: Thermal Science
- NE 351 - Nuclear System Dynamics, Instrumentation, and Controls
- NE 357 - Honors: Nuclear System Dynamics and Control
- NE 360 - Reactor Systems and Safety
- NE 362 - Numerical Methods and Fortran
- NE 367 - Honors: Numerical Methods and Fortran
- NE 400 - Senior Seminar
- NE 401 - Radiological Engineering Laboratory
- NE 402 - Nuclear Engineering Laboratory
- NE 404 - Nuclear Fuel Cycle
- NE 406 - Radiation Shielding
- NE 421 - Introduction to Nuclear Criticality Safety
- NE 427 - Honors: Nuclear Engineering Laboratory
- NE 433 - Principles of Health Physics
- NE 440 - Nuclear Fuels and Materials Behavior
- NE 441 - Corrosion in Nuclear Power Systems
- NE 447 - Honors: Nuclear Fuel Cycle
- NE 457 - Engineering Entrepreneurship
- NE 460 - Introduction to Fusion Technology
- NE 467 - Honors: Radiation Shielding
- NE 470 - Nuclear Reactor Theory
- NE 471 - Nuclear System Design I
- NE 472 - Nuclear System Design II
- NE 483 - Introduction to Reliability Engineering
- NE 484 - Introduction to Maintainability Engineering
- NE 485 - Process System Reliability and Safety
- NE 486 - Nuclear Licensing
- NE 490 - Radiation Biology
- NE 494 - Special Topics in Nuclear Engineering
- NE 495 - Special Topics in Radiological Engineering

IQY Technical College သည် Bachelor of Engineering (Rural Development) Engineering (online) Course အသစ်ကို Year 10/ THS/ITC အောင်များ အတွက်ထပ်မံဖွင့်မည်။ စိုက်ပျိုးရေး၊မွေးမြူရေး၊ဆောက်လုပ်ရေး၊လျှပ်စစ်၊ ကျေးလက်ရေဖြန့်ဖြူးရေး၊နေစွမ်းအင်မှလျှပ်စစ်ထုတ်လုပ်ရေး၊နေစွမ်းအင်သုံးရေခဲ စက်ဘာသာများပါဝင်သည်။

MVTC601-Professional Diploma of Rural Development Engineering

(Bachelor of Engineering-Rural Development Engineering)
BE(RDE)

(STC Technological University)

Advanced Diploma of Rural Development Engineering

Objective of the course

This course aims to provide the necessary skills required for people in rural areas to perform the followings

- Agricultural Foods Production and Animal Handling
- Building Construction, Drawing, Water Supply, Road and Bridge Construction, Irrigation
- Electrical Supply & Solar Electrical Supply System
- Hydraulics
- Machine Repair, Welding and Machining
- Water Chemical Treatment
- Transportation & Logistics

Course Structure

The course consists of Civil, Electrical and Mechanical Engineering principle together with Transportation, Logistics and Agricultural Foods Production.

Outcome of the course

After having completed this course, the attenders can perform rural developmental engineering basic works in their regions.

Detailed Structure of the course

Credit Points- 60 points to complete Advanced Diploma of Rural Development. Diploma and Certificate in Rural Development can be awarded upon completion of the specific units.

List of Subjects

Year 1

Advanced Certificate in Rural Development Engineering (16 Credits)

(MVTC Level (3) (Course Number MVTC301)

CE106 Brick Laying, Sprouting and Gutter Construction (4 Points)

CE104 Construction Drawing (4 Points)

CE110 Building Construction (4 Points)

CE107 Water Supply (4 Points)

Diploma in Rural Development (32 Credits)

(MVTC Level (4) (Course Number MVTC401)

All units in Certificate in Rural Development (16 Credits)

CE111 Road Bridge and Irrigation System Construction (4 Points)

MVTC13PC9 Electrical Wiring (4 Points)

MVTC201Agriculture+MVTC202Animal Handling(4 Points)

MVTC204 Water Chemical Treatment (4 Points)

Year 2

Advanced Diploma in Rural Development (60Credits)

(MVTC Level (5) (Course Number MVTC501)

All units in Diploma in Rural Development

RE002 Grid Connected Power System (4 Points) together with EE101 DC Circuits+EE112 AC Circuits

EE118 Electrical Supply System (4 Points)

ME108 Principle of Engine+MVTC13PC7 Engine Repairs (4 Points)

ME201 Hydraulics (4 Points)

MVTC13PC6 Welding+MVTC13PC5 Fitting Machining (4 Points)

MVTC209 Transport Logistics (4 Points)

Mgt101 Management Studies (4 Points)

(Bachelor of Engineering-Rural Development Engineering)

BE(RDE)

(STC Technological University)

TOTAL 21 Units at 60 Credit points

Entry requirement AGTI/ City & Guild Diploma

YEAR 3

Professional Diploma in Engineering (Year 3)

www.iqytechnicalcollege.com/profdipengg.htm

1 BAE 401 Advanced Engineering Mathematics (3 pt)

2 BAE 402 Calculus (3 pt)

3 BAE 403 Engineering Mechanics (3 pt)

4 BAE 404 Engineering Materials & Thermodynamics (3 pt)

5. BAE421 Building Construction Engineering (3 pt)

6. BAE422 Estimating (3 pt)

7. BAE423 Fluid Mechanics (3 pt)

- 8. BAE424 Reinforced Concrete (3 pt)
- 9. BAE 523A Environmental Engineering (3 pt)
- 10. BAE621 Structural Engineering (3 pt)
- 11. RE012a-Electrical Engineering Part 1(2 pt)
- 12. RE016-Design & Management (3 pt)

Professional Diploma/BE (Rural Development)

(Total 12 units) (Each 2 Credit points)

Year 4

- 13. RE013-Electrical Machines (3 pt)
- 14. BAE 501 Advanced Power Systems & Power Transmission Networks
Rural Electrical Power Supply System (3 pt)
- 15. RE001- Foundation Studies in Renewable Energy and Sustainability (2 pt)
- 16. RE003- Solar and Thermal Energy Systems (3 pt)
- 17. RE004- Energy Storage Systems(3 pt)
- 18. RE010-Engineering Materials(3 pt)
- 19. BAE 604 Telecommunication Engineering (3 pt)
Rural Telecommunication System
- 20. BAE511 Air-conditioning & Refrigeration (3 pt)
Solar Powered Refrigeration for Rural Area

Engineering Competency Demonstration Report

21.BAE608 Engineering Competency Demonstration Report (2 credit points)

Engineering Handbook Applications

DIPLOMA IN CIVIL ENGINEERING

Pre-requisite

Trade Certificate or Certificate in Civil Engineering/ Building / Brick Laying/ Carpentry /Surveying etc or work experience.

ASSESSMENT (DIPLOMA)

Completion of the course works- submission of the assignments Theory/ Practical/ Calculations) for the over all knowledge of the subject
(Grading—Complete or Incomplete)

BACHELOR OF APPLIED ENGINEERING (BUILDING SERVICE)

Pre-requisite

Diploma in Civil Engineering

ASSESSMENT

The learning and assessment system involves two parts

(1) Part (1)

Completion of the course works- submission of the assignments Theory/ Practical/ Calculations) for the over all knowledge of the subject
(Grading—Complete or Incomplete)

(2) Completion of the course works- submission of the assignments (Theory/ Practical/ Calculations) for the competency units of the subject (Grading—Complete or Incomplete)

(3) Part (2)

Sitting the final test for the subject by either online or paper based test- -Grading—In accordance with St Clements University Higher Education School-Niue Students Handbook.

STAGE (1) DIPLOMA IN CIVIL ENGINEERING (Each 2.5 Credits) (30 Pt)

Certificate in Construction Studies

CE 106A Detailed Construction & Building Construction Materials

CE 104 A Building Drawing

CE 101 Mathematics

CE 102 Physics

CE 108 Electrical Principle

DIPLOMA IN CIVIL ENGINEERING

CE 104 Fluid Dynamics

CE 105 Hydraulic

CE 106 Hydrology

CE 107 Sanitation-and-Water-supply

CE 109 Energy Efficient Building Design

CE 110 Building Construction

EE102 Basic Electrical Fitting & Wiring

Year (2) Advanced Diploma in Civil Engineering Program(30 pt) (Each 2.5 pt)

YEAR (2) SEMESTER (1)

CE103-Surveying

CE111A-Road+Bridges

CE113 Structure 1

CE114 Structure 2

CE115 Estimating & Specification

YEAR (2) SEMESTER (2)

EE104 Electrical Equipments Safety Protection

EE105 Electrical Installation Design

ME 102 Engineering Thermodynamics

ME 334 Airconditioning and Refrigeration

EE106 Advanced Electrical Wiring

CE 111 Engineering Mechanics+ ME 301 Applied Mathematics

EE308 Sustainability

Year (3) Part 1 ADVANCED GENERAL CIVIL ENGINEERING DEGREE LEVEL

Subjects	Points	Competency Units	Page
BAE 401 Advanced Engineering Mathematics	9	Maths 301 Introduction to Complex Variables (1 pt) Maths 302 Elementary Linear Algebra (1 pt) Maths 401 Continuous Distributions (1 pt) Maths 402 Discrete Distributions (1 pt) Maths 403 Engineering Mathematics (1 pt) Maths 501 Introduction to Probability(1 pt) Maths 501 Linear Algebra & Matrices (1 pt) Maths 502 Finite Difference Methods for Partial Differential Equations & Mathematical Modelling (1 pt) Maths 601 Random Variables (1 pt)	
BAE 402 Calculus	3	Maths 304 Integration and Differential Equations (1 pt) Maths 403 Second Order Differential Equations (1 pt) Maths 303 Engineering Mathematics (1 pt)	
BAE 403 Engineering Mechanics	1	ME 301 Applied Mathematics (1 pt)	
BAE 404 Engineering Materials & Thermodynamics	3	ME 334 Engineering Thermodynamics (1 pt) ME 434 Wind Turbines (1 pt) ME 634 Pneumatics (1 pt)	
BAE 508 Industrial Engineering & Industrial Management	1	Mgt 501 Basic Management & Communication Skills (1 pt)	
Total Credit points in this group	17 pt		

Year (3) Part 2 ADVANCED GENERAL CIVIL ENGINEERING DEGREE LEVEL (18 Pt)

BAE421 Building Construction Engineering (4 pt)

BAE422 Estimating (2 pt)

BAE423 Fluid Mechanics (2 pt)

BAE424 Reinforced Concrete (2 pt)

BAE425 Timber Engineering (2 pt)

BAE521 Road & Bridge (2 pt)

BAE522 Rock Mechanics (2 pt)

BAE523 Soil Mechanics (2 pt)

TOTAL 35 Pt

Year (4) Part 1

BAE 601 Computer Programming	3	IT 401 Object Oriented Programming (1 pt) IT 402 Structured Programming (1 pt) IT 403 Visual Basic Programming (1 pt)
BAE 605 Engineering Management	5	Mgt 502 Operation Management (1 pt) Mgt 503 Production & Operation Management (1 pt) Mgt 504 Project Management (1 pt) Mgt 505 Quality Management and Manufacturing Engineering (1 pt) Mgt 506 Strategic Financial Management (1 pt)
BAE 606 Building Service Electrical & Mechanical Engineering	2	EE 617 Building Electrical and Mechanical System (1 pt) ME 334 Airconditioning and Refrigeration (1 pt) CE 301 Building Construction (Optional) CE 301 Conceise Hydroulics (Optional)
BAE 609 Design Project	3	
Total Credit points in this group	13 Pt	

Year (4) Part 1

(12 Pt)

BAE621 Structural Engineering (3 pt)

BAE623 Surveying & Traffic Engineering (2 pt)

BAE624 Water Supply , Sanitation & Finishing (2 pt)

BAE 608 Engineering Competency Demonstration Report Writing (2pt)

SELF STUDY

BAE622 Architecture (3 pt)

TOTAL 25 pt

DIPLOMA IN MECHANICAL ENGINEERING

Pre-requisite

Trade Certificate or Certificate in Mechanical Engineering/ Fitting /Machining/Welding/Auto Mechanic etc or work experience.

ASSESSMENT (DIPLOMA)

Completion of the course works- submission of the assignments Theory/ Practical/ Calculations) for the over all knowledge of the subject
(Grading—Complete or Incomplete)

BACHELOR OF ENGINEERING (MECHANICAL)

Pre-requisite

Diploma in Mechanical Engineering

ASSESSMENT

The learning and assessment system involves two parts

(1) Part (1)

Completion of the course works- submission of the assignments Theory/ Practical/ Calculations) for the over all knowledge of the subject
(Grading—Complete or Incomplete)

(2) Completion of the course works- submission of the assignments (Theory/ Practical/ Calculations) for the competency units of the subject (Grading—Complete or Incomplete)

(3) Part (2)

Sitting the final test for the subject by either online or paper based test- -Grading—In accordance with St Clements University Higher Education School-Niue Students Handbook.

Year (1)

Certificate in Mechanical Engineering (Each 1.5 Credits) (15 Pt)

Unit Number	Unit Name	Credit Points
Maths 101	Engineering Mathematics	1.5
ME 101	Applied Mathematics	1.5
ME 102	Engineering Thermodynamics	1.5
ME 103	Engineering Mechanics	1.5
ME 104	Machine Principle	1.5
ME 105	Electrical Principle	1.5
ME 106	Electrical Circuits	1.5
ME 107	Heat Transfer	1.5
ME 108	Principle of Engines	1.5
ME201	Introduction to Fluid Mechanics	1.5
	Total	15

Diploma in Mechanical Engineering (Each 1.5 Credits) (15 Pt)

ME 202 Introduction to Aero Dynamics

ME 203 Control Engineering

ME 204 Engineering Fluid Mechanics

ME 205 Manufacturing Processes-and-Materials

ME 206 Introduction to Turbo Machinery

ME 207 Chemical Thermodynamics

ME 208 Hydrocarbons

ME 209 Introduction-to-polymer-science-and-technology

ME 234 Wind Turbines

Mgt 501 Basic Management

Year (2)

Advanced Diploma in Mechanical Engineering (Each 1.5 Credits) (30 Pt)

Mathematics

Maths 403 Engineering-Mathematics

Maths 301 Introductory Finite Difference Methods-for-pdes

Maths 302 Elementary-Linear-Algebra

Maths 303 Introductory Finite Volume Methods-for-pdes

Maths 501 Linear Algebra-c-1

Mechanical Engineering

ME 301 Fluid Dynamics

ME 302 Automation-and-Robotics

ME 303 Computer Aided Design and Manufacturing

ME 304 Introduction to Nonlinearity-in-control-systems

ME 305 Corrosion Prevention

ME 306 Theory-of-waves-in-materials

ME 334 Airconditioning and Refrigeration

ME 434 Mechtronics-Robotics

ME 534 Numerical Control Part 1

ME 634 Pneumatics

EE 617 Building Electrical and Mechanical System Part 1

EE 624 Process Control

Mgt 503 Production & Operation Management

Mgt 505 Quality Management and Manufacturing Engineering

Year (3)

GENERAL APPLIED ENGINEERING (MECHANICAL) DEGREE

Subjects	Points	Competency Units	Page
BAE 401 Advanced Engineering Mathematics	9	Maths 301 Introduction to Complex Variables (1 pt) Maths 302 Elementary Linear Algebra (1 pt) Maths 401 Continuous Distributions (1 pt) Maths 402 Discrete Distributions (1 pt) Maths 403 Engineering Mathematics (1 pt) Maths 501 Introduction to Probability(1 pt) Maths 501 Linear Algebra & Matrices (1 pt) Maths 502 Finite Difference Methods for Partial Differential Equations & Mathematical Modelling (1 pt) Maths 601 Random Variables (1 pt)	
BAE 402 Calculus	3	Maths 304 Integration and Differential Equations (1 pt) Maths 403 Second Order Differential Equations (1 pt) Maths 303 Engineering Mathematics (1 pt)	
BAE 403 Engineering Mechanics	1	ME 301 Applied Mathematics (1 pt)	

BAE 404 Engineering Materials & Thermodynamics	3	ME 334 Engineering Thermodynamics (1 pt) ME 434 Wind Turbines (1 pt) ME 634 Pneumatics (1 pt)	
BAE 507 Electro-mechanical Energy Conversion	2	EE 602 Motor Control Electronics (1 pt) ME 434 Mechtronics & Robotics (1 pt)	
BAE 508 Industrial Engineering & Industrial Management	1	Mgt 501 Basic Management & Communication Skills (1 pt)	
BAE511 Air-conditioning & Refrigeration	2 pt	ME511 Air-conditioning & Refrigeration	
BAE613 Mechanical Instrumentation Process	2 pt	ME 613 Mechanical Instrumentation & Process	
BAE614 Machine Design	2 pt	ME 614 Machine Design Part 1 Part 2 Part 3	
BAE512 Building Service Water Supply System	2 pt	ME512 Building Service Water Supply System	
BAE511 Air-conditioning & Refrigeration	2 pt	ME511 Air-conditioning & Refrigeration	
BAE613 Mechanical Instrumentation Process	2 pt	ME 613 Mechanical Instrumentation & Process	
	31 pt		

Year (4) Part 1 BE (Mechanical + General Related Subjects)

BAE 601 Computer Programming	3	IT 401 Object Oriented Programming (1 pt) IT 402 Structured Programming (1 pt) IT 403 Visual Basic Programming (1 pt)	
BAE 602 Computer Network	1	ICT 202 Information Systems Principles and Networking (1 pt)	
BAE 603 Software Engineering	3	ICT 106 Software Engineering (1 pt) ICT 203 Information Systems, Analysis and Design (1 pt) EE 626 Nano Technology (1 pt)	
BAE 605 Engineering Management	5	Mgt 502 Operation Management (1 pt) Mgt 503 Production & Operation Management (1 pt)	

		Mgt 504 Project Management (1 pt) Mgt 505 Quality Management and Manufacturing Engineering (1 pt) Mgt 506 Strategic Financial Management (1 pt)	
BAE 606 Building Service Electrical & Mechanical Engineering	2	EE 617 Building Electrical and Mechanical System (1 pt) ME 334 Airconditioning and Refrigeration (1 pt) CE 301 Building Construction (Optional) CE 301 Conceise Hydroulics (Optional)	
Total Credit points	14 Pt		

Year (4) Part 2

Bachelor of Engineering (Mechanical) Specialization (13 pt)

BAE311 Plant Engineering (2 pt)

BAE312 Design Engineering (2 pt)

BAE313 Environmental Control (2 pt)

BAE314 Mechanical Power Generation (2 pt)

BAE315 Materials Engineering (2 pt) Part 1 Part 2

BAE 608 Engineering Competency Demonstration Report Writing (3 pt)

Elective (2 pt)

Subjects	Points	Units
BAE513 Production Technology	2 pt	ME513 Production Technology
BAE611 Maintenance Engineering	2 pt	ME 611 Maintenance Engineering
BAE612 Engineering Metallurgy	2 pt	ME 612 Metallurgy

DIPLOMA OF AUTOMOTIVE ENGINEERING

PART (1) RELATED BASIC KNOWLEDGE (13 pt) (Each 1 pt)

Maths 101+302+403 (EE201) Engineering Mathematics

Maths 301+501+303 (EE302) Advanced Engineering Mathematics

ME103 Engineering Mechanics(EE204 Engineering Physics)

Mgt 501 Basic Management (EE309 Project Management)

EE101 DC Circuit Problems

EE102 Basic Electrical Fitting & Wiring

EE103 Basic Electrical Drafting

EE104 Electrical Equipments Safety Protection

EE111 Electromagnetism & Basic Electrical Machines

EE112 Alternating Current Principle

EE113 Electrical Fundamental

EE208 Operational Amplifiers

EE209 Analogue Electronics

PART (2) BASIC MECHANICAL (6 pt) (Each 2 pt)

Refer www.highlightcomputer.com/advdipmechengg.htm
and do the following units

ME108 Principle of Engine

ME 101 Applied Mathematics+ ME 103 Engineering Mechanics

ME 102 Engineering Thermodynamics

PART (3) SPECIALIZED AUTOMOTIVE ENGINEERING (10 pt) (Each 2 pt)

AE 101 Auto Diesel+ Auto Electrics

AE 102 Auto General Engine+ Fuel System+ Transmission

AE 103 Engine Assembly +Electrical +Electronics

AE 104 Brake & Steering System

AE 105 Automotive Mechanic

PROFESSIONAL DIPLOMA IN AUTOMOTIVE ENGINEERING

Year 3

Unit number	Unit name
BAE 401	Advanced Engineering Mathematics
BAE 402	Calculus
BAE 403	Engineering Mechanics
BAE 404	Engineering Materials & Thermodynamics
AE301	Automotive Engineering
AE302	Auto Vehicle Safety

RE004	Energy Storage Systems (2 pt)
RE005	Renewable Energy Resource Analysis (2 pt)
AE303	Automotive Chasis(2 pt)
RE010	Engineering Materials (2 pt)
AE304	AE304 Engine Testing(2pt)
RE016	Design & Management (BAE508) (2 pt)

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Year 4

Subject	
BAE681	Welding Engineering
BAE684	Computerised Engine Control
BAE685	Electric Vehicle Technology
AE401	Automotive Mechatronics
BAE314	Mechanical Power Generation
BAE315	Materials Engineering
BAE511	Air-conditioning & Refrigeration
BAE690	Mechanical Estimating
BAE613	Mechanical Instrumentation Process
BAE614	Machine Design
RE007	Energy System Efficiency
AE402	Diesel Engine Repair
Graduating Unit	
BAE 605	Engineering Management
BAE 608	Engineering Competency Demonstration Report

BE+BAppSCIT

Year 1+2

Adv Dip in Engineering (60cp)+Dip IT (30 cp)

Year 3+4

Bachelor of Engineering (Electrical)

YEAR 3 +4

Subjects

BAE 401 Advanced Engineering Mathematics

BAE 402 Calculus

BAE 403 Engineering Mechanics

BAE 404 Engineering Materials & Thermodynamics

BAE 405 Advanced Circuit Analysis

BAE 406 Electro-mechanics

BAE 407 Advanced Electro-magnetics Field & Materials

BAE 408 Analogue & Digital Electronics

<u>ICT 302</u>	<u>Digital Electronics</u>	3
<u>ICT 303</u>	<u>Amplifier</u>	3
<u>ICT 304</u>	<u>Material Science</u>	3

BAE 501 Advanced Power Systems & Power Transmission Networks

BAE 502 Linear System

BAE 503 Control System

BAE 504 Power System Analysis

BAE 505 Power System Optimization

<u>BAE 506 Power System Stability & Protection</u>
<u>BAE 507 Electro-mechanical Energy Conversion</u>
<u>BAE 508 Industrial Engineering & Industrial Management</u>
<u>BAE 601 Computer Programming</u>
<u>BAE 602 Computer Network</u>
<u>BAE 603 Software Engineering</u>
<u>BAE 604 Telecommunication Engineering</u>
<u>BAE 605 Engineering Management</u>
<u>BAE 606 Building Service Electrical & Mechanical Engineering</u>
<u>BAE 607 Radio Wave Propagation & Microwave Techniques</u>
<u>BAE 608 Professional Engineer Competency Demonstration Report</u>
<u>ICT 401 Advanced Mathematics 1</u>
<u>ICT 402 Advanced Mathematics 2</u>
<u>ICT 305 Professional Programming (1) C++</u>

Engineering 72 CP+ ICT =12 CP= 84 CP

Year 5

<u>ICT 403</u>	<u>Professional Programming (2) Object Oriented</u>	3
<u>ICT 404</u>	<u>Professional Programming (3) Java</u>	3
<u>ICT 405</u>	<u>Professional Practice (1) Network</u>	3
<u>ICT 406</u>	<u>Professional Practice (2) Website</u>	3
<u>ICT 407</u>	<u>Artificial Intelligence</u>	3

Year 5= Engineering =24 CP+ICT 15 CP= 39 CP\

Total= Yr 1+2 90CP+ Yr 3+4=84CP+ Yr 5= 39 CP=Total 213 CP

Bachelor of Engineering (Civil)

Year (3) Part 1 ADVANCED GENERAL CIVIL ENGINEERING DEGREE LEVEL

Subjects
<u>BAE 401 Advanced Engineering Mathematics</u>

<u>BAE 402 Calculus</u>		
<u>BAE 403 Engineering Mechanics</u>		
<u>BAE 404 Engineering Materials & Thermodynamics</u>		
	<u>General Electrical Knowledge</u>	3
<u>ICT 302</u>	<u>Digital Electronics</u>	3
<u>ICT 303</u>	<u>Amplifier</u>	3
<u>ICT 304</u>	<u>Material Science</u>	
<u>BAE 508 Industrial Engineering & Industrial Management</u>		

Year (3) Part 2 ADVANCED GENERAL CIVIL ENGINEERING DEGREE LEVEL (18 Pt)

BAE421 Building Construction Engineering (4 pt)

BAE422 Estimating (2 pt)

BAE423 Fluid Mechanics (2 pt)

BAE424 Reinforced Concrete (2 pt)

BAE425 Timber Engineering (2 pt)

BAE521 Road & Bridge (2 pt)

BAE522 Rock Mechanics (2 pt)

BAE523 Soil Mechanics (2 pt)

BAE 523A Environmental Engineering

TOTAL 35 Pt

Year (4) Part 1

<u>BAE 601 Computer Programming</u>
<u>BAE 605 Engineering Management</u>
<u>BAE 606 Building Service Electrical & Mechanical Engineering</u>
<u>ICT 401 Advanced Mathematics 1</u>

[ICT 402Advanced Mathematics 2](#)

[ICT 305Professional Programming \(1\) C++](#)

Year (4) Part 1

(12 Pt)

[BAE621 Structural Engineering \(3 pt \)](#)

[BAE623 Surveying& Traffic Engineering \(2 pt\)](#)

[BAE624 Water Supply , Sanitation & Finishing \(2 pt \)](#)

[BAE 608 Engineering Competency Demonstration Report Writing \(2pt\)](#)

SELF STUDY

[BAE622 Architecture \(3 pt \)](#)

Engineering 72 CP+ ICT =12 CP= 84 CP

Year 5

ICT 403	Professional Programming (2) Object Oriented	3
ICT 404	Professional Programming (3) Java	3
ICT 405	Professional Practice (1) Network	3
ICT 406	Professional Practice (2) Website	3
ICT 407	Artificial Intelligence	3

Year 5= Engineering =24 CP+ICT 15 CP= 39 CP\

Total= Yr 1+2 90CP+ Yr 3+4=84CP+ Yr 5= 39 CP=Total 213 CP

Bachelor of Engineering (Mechanical)

Year (3)

GENERAL APPLIED ENGINEERING (MECHANICAL) DEGREE

Subjects		
<u>BAE 401 Advanced Engineering Mathematics</u>		
<u>BAE 402 Calculus</u>		
<u>BAE 403 Engineering Mechanics</u>		
<u>BAE 404 Engineering Materials & Thermodynamics</u>		
	<u>General Electrical Knowledge</u>	3
<u>ICT 302</u>	<u>Digital Electronics</u>	3
<u>ICT 303</u>	<u>Amplifier</u>	3
<u>ICT 304</u>	<u>Material Science</u>	
<u>BAE 507 Electro-mechanical Energy Conversion</u>		
<u>BAE 508 Industrial Engineering & Industrial Management</u>		
<u>BAE511 Air-conditioning & Refrigeration Part 1</u>		
<u>BAE613 Mechanical Instrumentation Process</u>		
<u>BAE614 Machine Design</u>		
<u>BAE512 Building Service Water Supply System</u>		
<u>BAE511 Air-conditioning & Refrigeration Part 2</u>		
<u>BAE613 Mechanical Instrumentation Process</u>		
<u>ICT 401Advanced Mathematics 1</u>		
<u>ICT 402Advanced Mathematics 2</u>		
<u>ICT 305Professional Programming (1) C++</u>		

Year (4) Part 1 BE (Mechanical + General Related Subjects)

<u>BAE 601 Computer Programming</u>
<u>BAE 602 Computer Network</u>
<u>BAE 603 Software Engineering</u>
<u>BAE 605 Engineering Management</u>
<u>BAE 606 Building Service Electrical & Mechanical Engineering</u>

Year (4) Part 2

Bachelor of Engineering (Mechanical) Specialization (13 pt)

[BAE311 Plant Engineering \(2 pt\)](#)

[BAE312 Design Engineering \(2 pt\)](#)

[BAE313 Environmental Control \(2 pt\)](#)

[BAE314 Mechanical Power Generation \(2 pt\)](#)

[BAE315 Materials Engineering \(2 pt\) Part 1 Part 2](#)

[BAE 608 Engineering Competency Demonstration Report Writing \(3 pt\)](#)

Elective (2 pt)

Subjects	
<u>BAE513 Production Technology</u>	
<u>BAE611 Maintenance Engineering</u>	
<u>BAE612 Engineering Metallurgy</u>	

Engineering 72 CP+ ICT =12 CP= 84 CP

Year 5

<u>ICT 403</u>	<u>Professional Programming (2) Object Oriented</u>	3
<u>ICT 404</u>	<u>Professional Programming (3) Java</u>	3
<u>ICT 405</u>	<u>Professional Practice (1) Network</u>	3
<u>ICT 406</u>	<u>Professional Practice (2) Website</u>	3
<u>ICT 407</u>	<u>Artificial Intelligence</u>	3

Year 5= Engineering =24 CP+ICT 15 CP= 39 CP\

Total= Yr 1+2 90CP+ Yr 3+4=84CP+ Yr 5= 39 CP=Total 213 CP

BE+BMgt

Year 1+2

Advanced Diploma in Engineering 60 credit+
Diploma in Management 30 credits concurrent study

Year 3+4

Bachelor of Engineering (Electrical)

YEAR 3 +4

Subjects

[BAE 401 Advanced Engineering Mathematics](#)

[BAE 402 Calculus](#)

[BAE 403 Engineering Mechanics](#)

[BAE 404 Engineering Materials & Thermodynamics](#)

[BAE 405 Advanced Circuit Analysis](#)

[BAE 406 Electro-mechanics](#)

[BAE 407 Advanced Electro-magnetics Field & Materials](#)

[BAE 408 Analogue & Digital Electronics](#)

MANAGEMENT

[Mgt 301 Electronics Business](#)

[Mgt 302 Information Security](#)

<u>BAE 501 Advanced Power Systems & Power Transmission Networks</u>
<u>BAE 502 Linear System</u>
<u>BAE 503 Control System</u>
<u>BAE 504 Power System Analysis</u>
<u>BAE 505 Power System Optimization</u>
<u>BAE 506 Power System Stability & Protection</u>
<u>BAE 507 Electro-mechanical Energy Conversion</u>
<u>BAE 508 Industrial Engineering & Industrial Management</u>
<p>MANAGEMENT</p> <p><u>Mgt 303 Management Information System</u></p> <p><u>Mgt 304 Electronics Commerce</u></p> <p><u>Mgt 305 Quantitative Methods for Management</u></p>
<u>BAE 601 Computer Programming</u>
<u>BAE 602 Computer Network</u>
<u>BAE 603 Software Engineering</u>
<u>BAE 604 Telecommunication Engineering</u>
<u>BAE 605 Engineering Management</u>
<u>BAE 606 Building Service Electrical & Mechanical Engineering</u>
<u>BAE 607 Radio Wave Propagation & Microwave Techniques</u>
<u>BAE 608 Professional Engineer Competency Demonstration Report</u>

MANAGEMENT

Mgt 306 Human Resources Management

Mgt 307 Marketing Management

Mgt 308 Artificial Intelligence

Yr 3+4 Total Engineering = 72 CP+ Management=24 cp= 96 cp

Total Credit points= 90cp (Yr 1+2)+ 96 cp (Yr 3+4+5)= 186 cp

Bachelor of Engineering (Civil)

**Year (3) Part 1 ADVANCED GENERAL CIVIL ENGINEERING
DEGREE LEVEL**

Subjects
<u>BAE 401 Advanced Engineering Mathematics</u>
<u>BAE 402 Calculus</u>
<u>BAE 403 Engineering Mechanics</u>
<u>BAE 404 Engineering Materials & Thermodynamics</u>
<u>BAE 508 Industrial Engineering & Industrial Management</u>
MANAGEMENT
<u>Mgt 301 Electronics Business</u>
<u>Mgt 302 Information Security</u>

Year (3) Part 2 ADVANCED GENERAL CIVIL ENGINEERING DEGREE LEVEL (18 Pt)

[BAE421 Building Construction Engineering \(4 pt\)](#)

[BAE422 Estimating \(2 pt\)](#)

[BAE423 Fluid Mechanics \(2 pt\)](#)

[BAE424 Reinforced Concrete \(2 pt\)](#)

[BAE425 Timber Engineering \(2 pt \)](#)

[BAE521 Road & Bridge \(2 pt \)](#)

[BAE522 Rock Mechanics \(2 pt \)](#)

[BAE523 Soil Mechanics \(2 pt \)](#)

[BAE 523A Environmental Engineering](#)

MANAGEMENT

[Mgt 303 Management Information System](#)

[Mgt 304 Electronics Commerce](#)

[Mgt 305 Quantitative Methods for Management](#)

TOTAL 35 Pt

Year (4) Part 1

<u>BAE 601 Computer Programming</u>
<u>BAE 605 Engineering Management</u>
<u>BAE 606 Building Service Electrical & Mechanical Engineering</u>
<u>BAE 609 Design Project</u>
Total Credit points in this group

Year (4) Part 1

(12 Pt)

[BAE621 Structural Engineering \(3 pt \)](#)

[BAE623 Surveying& Traffic Engineering \(2 pt\)](#)

[BAE624 Water Supply , Sanitation & Finishing \(2 pt \)](#)

[BAE 608 Engineering Competency Demonstration Report Writing \(2pt\)](#)

SELF STUDY

[BAE622 Architecture \(3 pt \)](#)

MANAGEMENT

[Mgt 306 Human Resources Management](#)

[Mgt 307 Marketing Management](#)

[Mgt 308 Artificial Intelligence](#)

Yr 3+4Total Engineering = 72 CP+ Management=24 cp= 96 cp

Total Credit points= 90cp (Yr 1+2)+ 96 cp (Yr 3+4+5)= 186 cp

Bachelor of Engineering (Mechanical)

Year (3)

GENERAL APPLIED ENGINEERING (MECHANICAL) DEGREE

Subjects
<u>BAE 401 Advanced Engineering Mathematics</u>
<u>BAE 402 Calculus</u>
<u>BAE 403 Engineering Mechanics</u>
<u>BAE 404 Engineering Materials & Thermodynamics</u>
<u>BAE 507 Electro-mechanical Energy Conversion</u>
<u>BAE 508 Industrial Engineering & Industrial Management</u>
<u>BAE511 Air-conditioning & Refrigeration Part 1</u>
<u>BAE613 Mechanical Instrumentation Process</u>
<u>BAE614 Machine Design</u>
<u>BAE512 Building Service Water Supply System</u>
<u>BAE511 Air-conditioning & Refrigeration Part 2</u>
<u>BAE613 Mechanical Instrumentation Process</u>
 MANAGEMENT <u>Mgt 301 Electronics Business</u> <u>Mgt 302 Information Security</u>

Year (4) Part 1 BE (Mechanical + General Related Subjects)

<u>BAE 601 Computer Programming</u>

<u>BAE 602 Computer Network</u>
<u>BAE 603 Software Engineering</u>
<u>BAE 605 Engineering Management</u>
<u>BAE 606 Building Service Electrical & Mechanical Engineering</u>

MANAGEMENT

[Mgt 303 Management Information System](#)

[Mgt 304 Electronics Commerce](#)

[Mgt 305 Quantitative Methods for Management](#)

Year (4) Part 2

Bachelor of Engineering (Mechanical) Specialization (13 pt)

[BAE311 Plant Engineering \(2 pt\)](#)

[BAE312 Design Engineering \(2 pt\)](#)

[BAE313 Environmental Control \(2 pt\)](#)

[BAE314 Mechanical Power Generation \(2 pt\)](#)

[BAE315 Materials Engineering \(2 pt\) Part 1 Part 2](#)

[BAE 608 Engineering Competency Demonstration Report Writing \(3 pt\)](#)

Elective (2 pt)

Subjects
<u>BAE513 Production Technology</u>
<u>BAE611 Maintenance Engineering</u>
<u>BAE612 Engineering Metallurgy</u>

MANAGEMENT

[Mgt 306 Human Resources Management](#)

[Mgt 307 Marketing Management](#)

[Mgt 308 Artificial Intelligence](#)

Yr 3+4Total Engineering = 72 CP+ Management=24 cp= 96 cp

Total Credit points= 90cp (Yr 1+2)+ 96 cp (Yr 3+4+5)= 186 cp

Bachelor of Engineering (Mechanical Electrical Construction)

Bachelor of Engineering Technology (Mechanical Electrical Construction)

Bachelor of Engineering Science (Mechanical Electrical Construction)

Part 1+2

Advanced Diploma in Mechanical Electrical and Construction Engineering

6 Credit each x 10=60 Credits

ADEMC201-Sustainability and Electrical Practice

ADEMC202-Engineering Practice

ADEMC203-Design and Technology

ADEMC204-General Electrical Engineering

ADEMC205-General Civil Engineering and Construction

ADEMC206-General Mechanical Engineering

ADEMC207-Mathematics, Physics and Chemistry

ADEMC208-Engineering Materials

ADEMC209-Engineering Management

ADMEC210-Workshop Practice and Safety

Part 3

Bachelor of Engineering Science

6 Credit each x 8=24Credits

RE002 Solar Electrical System

RE003 Solar Thermal System

RE010 Engineering Materials

BAE401 Engineering Mathematics

BAE402 Calculus

BAE621 Structure

BAE522 Soil Mechanics

BAE512 Building Water Supply System

Part 4

Bachelor of Technology

GCEP607 Civil Engineering Design (10 Credits)

GEEP606 Electrical Engineering Design (10 Credits)

GMPE607 Mechanical Engineering Design (10 Credits)

BAE605 Engineering Management (3 Credits)

BAE608 Engineering Competency Demonstration (3 Credits)

Total 120 Credits

BE (Mechanical Electrical Construction)

BTech(Civil or Electrical or Mechanical)

BE(Civil or Electrical or Mechanical)

For BE (Mechanical Electrical Construction) and Specialized BTech/BE (Electrical or Civil or Mechanical), bridging + advanced programs in specialized field of study can be undertaken at appropriate fees.

BE Industrial Engineering

First year

Teaching period	Subject title	Credit points
ICT103	Programming for Engineers and Scientists	15
FE101	Number Systems and Linear Algebra	15
FE102	Principles of Physics A	15
ADMEC203	Engineering Design and Problem Solving	15
ME303	Computer Aided Design	15
EE201/EE302	Calculus and Differential Equations	15
EE101/113/202	Introduction to Electrical and Electronic Engineering	15
ME101	Mechanics of Solids	15



Second year

Teaching period	Subject title	Credit points
BAE401	Vector Calculus	15
ADMEC203	Ideas to Innovation	15
RE010	Engineering Materials	15
ME201	Fluid Mechanics	15
BAE312	Systems Modelling	15
RE001/RE005	Sustainability and Renewable Energy Design	15

Teaching period	Subject title	Credit points
BAE508	Engineering Enterprise	15
BAE402	Engineering Probability and Statistics	15



Third year

Teaching period	Subject title	Credit points
BAE503	Control Systems	15
BAE408	Digital Electronics and Controllers	15
EE306/EE624	Measurement and Instrumentation	15
BAE614	Mechanical Component Design	15
BAE672-ME-EE Course	Systems Engineering	15
BAE404/ME102/ME107	Thermodynamics	15
BAE608	Engineering Design Project	30



Fourth year

Teaching period	Subject title	Credit points
BAE605	Engineering Project	30
Elective EE/CE/ME		

Teaching period	Subject title	Credit points
BAE608	Engineering Major Project	60
internship	Work Integrated Learning	60
BAE606	Integrated Building Design	15
Mgt307	Commercialising Innovation	15
BAE682 (ME Mech)	Design for Manufacture	15
BAE691 (ME Mech)	Robotic Systems Design	15

Professional Diploma/ BE (Special Program) for Experienced Site Engineers

This course is designed to provide formal engineering degree qualification for experienced engineers with relevant engineering diploma by combining their engineering experience and relevant BE level higher education studies.

It has total 120 credit points in which 60 credits points is awarded for engineering diploma and the remaining points are to be assessed on work experience, training and higher education studies.

Pre-requisite

- AGTI (3 Years) with minimum 7 Years experience
- Other engineering diplomas/ certificates with non engineering degrees such as BSc/BA/BEcon /BSc(IT) etc and minimum 10 years experience
- Matured age engineers/ technicians
- Marine Engineers (MOT Second Class)

Arrangement of study

B Tech- Completion of Part 2 + 3 Stream 1 or Stream 2—for Experienced +Non Experience Engineers

B E- Completion of Part 1+2+3 Stream 1 or Stream 2-for Only Experienced Engineers

PART (1)- Entry Qualification and Experience Assessment

ENG601- Engineering Studies

AGTI Certificate / Relevant Engineering Diplomas(60 Credits)

ENG602-Engineering Applications

Work Experience Curriculum Vitae (10 Credits)

ENG603-Engineering Practicals

Engineering Practice Report or Experience Portfolio (10 Credits)

BAE705 Engineering Competency Development

Other degree OR Appropriate Self Study Record

Continuing Professional Development

(10 Credits)

PART (2)- Degree Level Studies in General Engineering and Management

Degree Level Study Part 1-Engineering Mathematics+Materials+Mechanic Seminars (4 days)

BAE401 Engineering Mathematics

BAE402 Calculus

RE010 Engineering Materials

BAE403 Engineering Mechanics (10 Credits)

Study Record

<http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf>

Degree Level Study Part 2 -Engineering Management Seminars (2 days)

BAE508 Management

BAE605 Engineering Management (10 Credits)

Study Record

<http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf>

PART (3)- Degree Level Studies in Higher Engineering

Stream 1-Combined Studies

(To be supported by Live Online Lectures)

Stream 2-Discipline Studies-

(Personal Attendance or Self study Online)

Stream (1)- Combined studies-

- Professional Diploma/BE (Electrical and Renewable Energy Engineering)
 - Professional Diploma/BE (Civil and Renewable Energy Engineering)
 - Professional Diploma/BE (Mechanical and Renewable Energy Engineering)
- Which will depend on the discipline of AGTI/ Engineering Diploma

Degree Level Study Part 3 -Engineering Subjects Seminars (4 days)

5 subjects at BE Final Level (10 Credits)

- RE505- Green Building Design (3 credits)
- RE016A-Design & Management (4 credits)

- BAE 523A Environmental Engineering (1 credit)
- RE003- Solar and Thermal Energy Systems (1 credit)
- RE004- Energy Storage Systems (1 credit)

Stream (2)- Discipline studies

- Professional Diploma/BE (Electrical)
 - Professional Diploma/BE (Civil)
 - Professional Diploma/BE (Mechanical)
- Which will depend on the discipline of AGTI/ Engineering Diploma

Degree Level Study -Engineering Subjects Seminars (4 days)

3 or 4 subjects at BE Final Level (10 Credits)

Civil

BAE621 Structural Engineering

BAE421 Building Construction Engineering

BAE623 Surveying & Traffic Engineering

Study Record

<http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf>

Mechanical

Mechanical

BAE613 Mechanical Instrumentation Process

BAE311 Plant Engineering

BAE614 Machine Design

Study Record

<http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf>

Electrical

Electrical Power

BAE 501 Advanced Power Systems& Power Transmission Networks

BAE 506 Power System Stability& Protection

RE013-Electrical Machines

Electronics

RE014-Electronics Control

BAE 604 Telecommunication Engineering

BAE 601 Computer Programming

Or other subjects by discussing with trainer Study Record

BE (Electrical/Civil/Mechanical with Renewable Energy) Programs

Pre-requisite= Advanced Diploma in Engineering (Electrical/Machnaical/Civil)

Total Credit points= 60

BE (Electrical/Mechanical/Civil with Renewable Energy) (Total 12 units)

YEAR 3 (24 credit points / 2 points per unit)

1 BAE 401 Advanced Engineering Mathematics

2 BAE 402 Calculus

3 BAE 403 Engineering Mechanics

4 BAE 404 Engineering Materials & Thermodynamics

5 RE001- Foundation Studies in Renewable Energy and Sustainability

6.RE003- Solar and Thermal Energy Systems

7.RE004- Energy Storage Systems

8 RE005- Renewable Energy Resource Analysis

9.RE006- Wind Energy Conversion Systems

10 RE010-Engineering Materials

11 RE012a-Electrical Engineering Part 1

12RE016/ BAE508-Design & Project Management

BE (Electrical with Renewable Energy)

YEAR 4 (36 credit points / 3 points per unit)

- 1 BAE 601 Computer Programming
 - 2 BAE 602 Computer Network
 - 3 BAE 603 Software Engineering
 - 4 RE012b-Electrical Engineering Part 2
 - 5 RE002- Grid Connected Photovoltaic Power Systems
 - 6 RE013-Electrical Machines
 - 7 RE014-Electronics Control
 - 8 RE015-Electrical Project/ Practice
 - 9 BAE 501 Advanced Power Systems & Power Transmission Networks
 - 10 BAE 506 Power System Stability & Protection
 - 11 BAE 604 Telecommunication Engineering
 - 12.RE007- Energy System Efficiency
 - 13 BAE 608 Professional Engineer Engineering Competency Demonstration Report & BAE 605 Engineering Management (Completion Certification with no credit points)
-

BE (Civil with Renewable Energy)

YEAR 4 (36 credit points / 3 points per unit)

- 1 RE011a-Civil & Mechanical Engineering Part 1
- 2 RE011b-Civil & Mechanical Engineering Part 2a

3 BAE 606 Building Service Electrical & Mechanical Engineering

4BAE421 Building Construction Engineering

5 BAE422 Estimating

6 BAE423 Fluid Mechanics

7 BAE424 Reinforced Concrete

8 BAE522 Rock Mechanics

9 BAE 523A Environmental Engineering

10BAE621 Structural Engineering

11BAE623 Surveying & Traffic Engineering

12BAE624 Water Supply , Sanitation & Finishing

13 BAE 608 Professional Engineer Engineering Competency Demonstration Report & BAE 605 Engineering Management (Completion Certification with no credit points)

BE (Mechanical with Renewable Energy)

YEAR 4 (36 credit points / 3 points per unit)

1 RE011a-Civil & Mechanical Engineering Part 1

2 RE011b-Civil & Mechanical Engineering Part 2a

3BAE 606 Building Service Electrical & Mechanical Engineering

4 BAE311 Plant Engineering

5 BAE314 Mechanical Power Generation

6 BAE315 Materials Engineering

7 BAE511 Air-conditioning & Refrigeration

8 BAE512 Building Service Water Supply System

9 BAE613 Mechanical Instrumentation Process

10 BAE614 Machine Design

11.RE007- Energy System Efficiency

12 BAE 601 Computer Programming

13 BAE 608 Professional Engineer Engineering Competency Demonstration Report & BAE 605 Engineering Management (Completion Certification with no credit points)

Graduate Diploma in Biomedical Engineering

Pre-requisite

BE (Chemical)

Subjects

BIOM601 Biomedical Engineering 1A

BIOM602 Biomedical Physics

BIOM603 Anatomy and Physiology for Engineers

BIOM604 Tissue Engineering

BIOM605 Biomedical Design and Technology

BIOM606 Biomedical Product Development

Bachelor of Engineering (Computer Aided Engineering)

[BE \(Civil with CAE\)](#)

[BE \(Electrical with CAE\)](#)

[BE \(Mechanical with CAE\)](#)

[BE \(CAE\)](#)

[BTech \(CAE\) \(BE Year 3 CAE\)](#)

Year 1

Diploma/ Advanced Diploma in Electro-mechanical and Construction Engineering

Year 2

Civil ETAB+REVIT

Mechanical and Electrical 181 M & E Software

Mechanical CAM/CNC/Master CAM

BTech (CAE) (BE Year 3 CAE)

Year 3

[1 BAE 401 Advanced Engineering Mathematics](#)

[2 BAE 402 Calculus](#)

[3 BAE 403 Engineering Mechanics](#)

[4 BAE 404 Engineering Materials & Thermodynamics](#)

[5 RE001- Foundation Studies in Renewable Energy and Sustainability](#)

[6.RE003- Solar and Thermal Energy Systems](#)

[7.RE004- Energy Storage Systems](#)

8 RE005- Renewable Energy Resource Analysis

[9.RE006- Wind Energy Conversion Systems](#)

[10 RE010-Engineering Materials](#)

[11 RE012a-Electrical Engineering Part 1](#)

[12RE016/ BAE508-Design & Project Management](#)

1 BAE 401 Advanced Engineering Mathematics

2 BAE 402 Calculus

Mathcad

3 BAE 403 Engineering Mechanics

Gear Box Design

MESYS Shaft System Calculation - Interface with TBK Gear Calculation

1/TBK 2014 CAD PugIn for SOLIDWORKS: pinion shaft run out

2/TBK 2014 CAD-PlugIn for SOLIDWORKS: Bidirectional connection for CAD and calculation

3/TBK 2014 CAD-PlugIn for SOLIDWORKS: Create bevel gears in SOLIDWORKS

4/TBK 2014 CAD-PlugIn for SOLIDWORKS: Cylindrical gear with involute spline hub (DIN5480)

5/TBK 2014 CAD-PlugIn for SOLIDWORKS: save eAssistant password

6/TBK 2014 CAD-PlugIn for SOLIDWORKS: Insert gear manufacturing data

7/TBK 2014 CAD-PlugIn for SOLIDWORKS: pinion shaft with involute spline (DIN 5480)

BAE 403 MESYS-Axial-Radial-Rollerbearings

BAE403 Ball Screw ReportExample_BallScrew

BAE403 DIN743_CalculationBasis

BAE403 ExampleSlewingRing

BAE403 FlyerRollingBearingAnalysis

BAE403 FlyerShaftCalculation

BAE403 FlyerTrackRoller

BAE403 MESYS_Manual

BAE403 Tutorial_Angular_Contact

BAE403 Tutorial_Cylindrical_Roller

BAE403 TutorialShaft

BAE403 TutorialShaftSystems

BAE403 TutorialShiftGearTransmission

Software

BAE403 Calcula-3.5

BAE403 Engg Power Tools eptool20

BAE403 Engg Power Tool eptool19

BAE403 Shaft Calculation Tutorial_SolutionFiles

BAE 404 Engineering Materials & Thermodynamics

Engineering Materials

[Materials Database Online Software](#)

Engineering Thermodynamics

Videos

1/Steam

2/Solid Liquid Equilibria using Excel
3/Residue Curves for Benzene(x1) + Ethanol(x2) + Methanol(x3)
4/Sillen Basics
5/Z vs. Pr Plot using Matlab
6/Using Preos.xlsx to plot an isotherm
7/LLE Excel Macro
8/PrMix Spreadsheet
9/Publishing from Matlab to html to Microsoft Word
10/Fitting Pxy data using Excel

5 RE001- Foundation Studies in Renewable Energy and Sustainability
6.RE003- Solar and Thermal Energy Systems

RE001+003 Charge Controller V1.95-Windows

RE001+003 eLOG-Windows

RE001+003 Inverter(SHI&STI)V1.1-Windows

RE001+003 Inverter(TP)V1.1-Windows

RE001+003 Inverter(UPower)V1.2-Windows

RE001+003 SPP-02(Sealed)V4.0-Windows

RE001+003 SunDATForSketchUp-V3-9-0-B12

RE001+003-SPP Tools(Li)V3.0

Wire Calculator- Online

Sundata

7.RE004- Energy Storage Systems

The ESWare™ Suite

ES/Analyzer

ES/Optimizer

S/Pilot

9.RE006- Wind Energy Conversion Systems

WAsP Bundle

Wind farm production

Wake Effect Model

Micro siting

Wind Power Potential

Wind Resource Mapping

Wind Climate Estimate

Wind Atlas Generation

10 RE010-Engineering Materials

[Materials Database Online Software](#)

11 RE012a-Electrical Engineering Part 1

Circuit Draw

RE012 CLStudent_Setup

RE012 edraw-max_setup_full5371

RE012 gnucap-master

RE012 LTspiceXVII

RE012 ngspice-31_64

RE012 pecs

RE012 solveelec25ensetup

1/Spice

2/Analog Circuit Simulator

3/SIM Plus

4/Circuit Logix

5/SPICE

6/Multi SIM

7/PSPICE

8/LSPICE

9/SIMULATOR

10/Android Circuit Simulation'

[NgSpice](#) – [GnuCap](#) –.

[EasyEDA](#) – [CircuitLogix](#) – [LTSpice](#)

[TopSpice](#) – [Circuit Simulator 1.5j](#) [MacSpice](#) [SimScale](#) – [5Spice](#) [Beige Bag](#) [Micro-Cap 10](#) [PECS](#) –

12RE016/ BAE508-Design & Project Management

RE016-user-manual-seavus-project-viewer

Year 4

BE (Civil with CAE)

BE (Electrical with CAE)

BE (Mechanical with CAE)

BE (CAE)

Specialized Professional Software Applications- Open Studies

BWS/BSc-Engg /Prof Dip Engg Sc (Course 5066689)

THS/ITC/ Year 10 မှဝင်သူများသည်အောက်ပါအစီအစဉ်အတိုင်းတက်ရမည်။

Year 1

Diploma in General Engineering and Certificate in Tertiary Preparation (First 6 months)

Diploma in Electrical/Mechanical/Civil Engineering (Myanmar Version) (Second 6 months)

Associate Degree in Work Studies-Engineering

Year 2

Advanced Diploma in Electrical/Mechanical/Civil Engineering Part 1+Associate Degree of Work Studies in Engineering (Course 332256)

Year 3

BTech/BE ဆက်မတက်နိုင်ပါက Bachelor of Work Studies-Engineering /Professional Diploma in Work Studies-Engineering ကို Year 3 တွင်အခမဲ့တက်ကာဘွဲ့ရယူနိုင်မည်။

အလုပ်အတွေ့အကြုံတစ်နှစ်ရှိပါက Bachelor of Work Studies-Engineering ကို Bachelor of Science-Engineering (Professional Diploma in Engineering Science) သို့ CV (Curriculum Vitae) တင်ပြပြီးအဆင့်မြှင့်နိုင်သည်။

IQY ကျောင်းသားအားလုံး IQY Technical College website www.iqytechnicalcollege.com

သင်ရိုးများ <http://www.iqytechnicalcollege.com/offeredcourses.htm>

စာရင်းသွင်းခြင်း <http://www.iqytechnicalcollege.com/enrolment.htm>

သင်တန်းကြေးပြန်အမ်းမှုပေါ်လစီ www.highlightcomputer.com/iqyrefundpolicy.pdf

ကိုမလွဲမသွေဖတ်ရှုသိရှိရမည်။

Certificate in Occupational Health and Safety (12128)

This course aims to provide the general safety knowledge for workers in all workplace.

Credit points 15

Contents

- OHS101 Workplace Safety (10 Credits)
- OHS102 Workplace Safety Risk Assessment (5 Credits)

Contents

- Safety Responsibilities
- Work Environment
- Materials Handling
- Chemical and Fire Safety
- Working at Height Safety
- Confined Space Area Safety
- General Physical and Psychological Impacts
- Electrical Safety
- CPR
- Risk Assessment

DIPLOMA OF AUTOMOTIVE ENGINEERING

PART (1) RELATED BASIC KNOWLEDGE (13 pt) (Each 1 pt)

Maths 101+302+403 (EE201) Engineering Mathematics

Maths 301+501+303 (EE302) Advanced Engineering Mathematics

ME103 Engineering Mechanics(EE204 Engineering Physics)

Mgt 501 Basic Management (EE309 Project Management)

EE101 DC Circuit Problems

EE102 Basic Electrical Fitting & Wiring

EE103 Basic Electrical Drafting

EE104 Electrical Equipments Safety Protection

EE111 Electromagnetism & Basic Electrical Machines

EE112 Alternating Current Principle

EE113 Electrical Fundamental

EE208 Operational Amplifiers

EE209 Analogue Electronics

PART (2) BASIC MECHANICAL (6 pt) (Each 2 pt)

ME108 Principle of Engine

ME 101 Applied Mathematics+ ME 103 Engineering Mechanics

ME 102 Engineering Thermodynamics

PART (3) SPECIALIZED AUTOMOTIVE ENGINEERING (10 pt) (Each 2 pt)

AE 101 Auto Diesel+ Auto Electrics

AE 102 Auto General Engine+ Fuel System+ Transmission

AE 103 Engine Assembly +Electrical +Electronics

AE 104 Brake & Steering System

AE 105 Automotive Mechanic

DIPLOMA OF MARINE ENGINEERING

Mar E 101 Mathematics

Mar E 102 Applied Mechanics

Mar E 103 Heat & Heat Engine

Mar E 104 Engineering Drawing

Mar E 105 Workshop Technology

Mar E 106 General Seamanship

Mar E 107 Marine Electrical Practice

Mar E 108 Automation and Power Electronics

Mar E 109 Computerized Control

Mar E 110 General Engineering Knowledge

Mar E 111 Motor Engineering Knowledge

Mar E 112 General Mechanical Engineering

Mar E 113 Ship Construction

Mar E 114 Marine Engine Room Watch-keeping

Mar E 115 Electro-technology

Certificate/ Diploma in Computer Aided Engineering

Dip CAE

Topics

- ETAB
- REVIT
- Auto CAD
- Smart Plant
- Staad
- CAD WROX
- ELECTRICAL CAD
- TEKLA
- CNC
- Master CAM
- CAM

Online Training

Advanced Diploma in Engineering Design

www.highlightcomputer.com/dipenggddesign.pdf

This course trains the students to work as Engineering Design Drafters in Electrical, Civil & Mechanical Engineering Design and Construction.

The graduates of the courses satisfy the academic requirement for Associate Membership (Engineering Technician) of Singapore Institute of Engineering Technologists

The students can follow three strands

- Mechanical
- Civil
- Electrical

to complete the program

Pre-requisite

Completion of

Diploma in Engineering (Design & Drafting) or other diploma level relevant qualifications

Course 31115 Advanced Diploma in Mechanical Engineering Design

Total 30 Credit points. Each unit has 3 credit points. Total 10 units (Accumulated credit 60 points with Diploma in Engineering (Design & Drafting))

- ME 205 Manufacturing Processes-and-Materials & ME 303 Computer Aided Design and Manufacturing
- ME101 Applied Mathematics & CE113 Structure 1
- ME102 Engineering Thermodynamics
- ME201 Fluid Mechanics
- ME104 Machine Principle
- ME 234 Wind Turbines
- ME 334 Airconditioning and Refrigeration
- ME109 Engineering Drawing
- ME110 Mechanical Engineering Design Software Applications

Note-

The students who have completed Computer Aided Design training related to Mechanical design at affiliated educational establishment will be given advanced standing for the following units

- ME109 Engineering Drawing
- ME110 Mechanical Engineering Design Software Applications

Further Course-

The graduates of this course can continue Advanced Diploma in Mechanical Engineering which is recognized by Singapore Institute of Engineering Technologists as satisfying the academic requirement for Member /Fellow (Engineering Technologists)

Course 31015 Advanced Diploma in Civil Engineering Design

Total 30 Credit points. Each unit has 3 credit points. Total 10 units (Accumulated credit 60 points with Diploma in Engineering (Design & Drafting))

- CE111A-Road+Bridges
- ME101 Applied Mathematics & CE113 Structure 1
- ME201 Fluid Mechanics
- CE 109 Energy Efficient Building Design
- CE106A (Part 1) Detailed Construction & Building Construction Materials
- CE106A (Part 2) Brick Laying & Sprouting & Guttering
- CE115 Estimating & Specification
- ME 334 Airconditioning and Refrigeration
- CE104B Building Drawing Advanced
- CE120 Civil Engineering Design Software Applications

Note-

The students who have completed Computer Aided Design training related to Civil design at affiliated educational establishment will be given advanced standing for the following units

- CE104B Building Drawing Advanced
- CE120 Civil Engineering Design Software Applications

Further Course-

The graduates of this course can continue Professional Diploma in Civil Engineering which is recognized by Singapore Institute of Engineering Technologists as satisfying the academic requirement for Member /Fellow (Engineering Technologists).

Course 30915 Advanced Diploma in Electrical Engineering Design

- Total 30 Credit points. Each unit has 3 credit points. Total 10 units (Accumulated credit 60 points with Diploma in Engineering (Design & Drafting))

- CE 109/EE307 Energy Efficient Building Design & ME 334 Airconditioning and Refrigeration
- ME101 Applied Mathematics & CE113 Structure 1
- EE117 Solar Electrical System
- EE103B Advanced Electrical Drafting
- EEE306 Electro-mechanical Control & EE121 Electronic Power Control Devices
- EE202 Electrical Circuits & EE112 Alternating Current Principle
- EE118 Electrical Energy Supply System
- EE111 Electro-magnetism & Basic Electrical Machines
- EE110 Computer Applications in Electrical Design

Note-

The students who have completed Computer Aided Design training related to Electrical design at affiliated educational establishment will be given advanced standing for the following units

- EE103B Advanced Electrical Drafting
- EE110 Computer Applications in Electrical Design

Further Course-

The graduates of this course can continue Professional Diploma in Electrical Engineering which is recognized by Singapore Institute of Engineering Technologists as satisfying the academic requirement for Member /Fellow (Engineering Technologists).

Diploma in General Engineering Course for THS Students (IQY Technical College)

Unit number	Unit name	Credit Points
ADMEC207	Mathematics, Physics, Chemistry	9 Pt
EE201G	Mathematics	3 Pt
EE204G	Physics	3 Pt
ME207G	Chemistry	3 Pt
ADMEC204	General Electrical Engineering	24 Pt
EE101	DC Circuit Problems	3 Pt
EE102	Basic Electrical Fitting & Wiring / MVTC 213-PC9 Certificate in Electrical Wiring	3 Pt
EE103	Basic Electrical Drafting / MVTC 213-PC9 Certificate in Electrical Wiring	3 Pt
EE105	Electrical Installation Design / MVTC 213-PC9 Certificate in Electrical Wiring	3 Pt
EE104	Electrical Equipment Safety Protection	3 Pt
EE110	Computer Applications	3 Pt
EE107	Electrical Equipment/MVTC213-PC9 Certificate in Electrical Wiring	3 Pt
EE109	Electrical Control Circuits / MVTC213 PC15 Certificate in Basic Electronics	3 Pt
ADMEC205	General Civil Engineering	12 pt
CE 106A	Detailed Construction & Building Construction Materials/ MVTC213 PC1 Certificate in Brick Laying and Masonry	3 Pt
CE 104 A	Building Drawing/ MVTC213 PC1 Certificate in Brick Laying and Masonry	3 Pt
CE 110	Building Construction/MVTC213 PC3 Certificate in Building Construction	3 Pt
CE 107	Sanitation-and-Water-supply/MVTC213 PC2 Certificate in Plumbing	3 Pt
ADMEC206	General Mechanical Engineering	9 pt
ME103	Engineering Mechanics (ME103G Design and Technology)	3 Pt
ME108	Principles of Engines/ MVTC 213PC 7-Certificate in Engine Operation & Basic Servicing	3 Pt
MVTC213PC5	Certificate in Fitting and Machining	3 Pt
ADMEC209	Engineering Management	6 pt
Mgt101G	Business and Management Principle	3 Pt
Mgt207G	Business Letter Writing/ Business English	3 Pt
	Total	60 Pt

Additional Unit

WENG1/WENG2/WENG3	English
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Advanced Diploma in Electro-mechanical and Construction Engineering or
Advanced Diploma in Mechanical, Electrical and Civil Engineering (ADMEC)

by online mode (Twitter Video lessons), the following units are to be attended.

The students who complete ADMEC can also enrol BTech Online course)

- ADEMC201-Sustainability and Electrical Practice
- ADEMC202-Engineering Practice
- ADEMC203-Design and Technology
- ADEMC208-Engineering Materials
- ADMEC210-Workshop Practice and Safety

(Each unit 6 credits x 5= 30 credits)

Diploma in Intermediate Science (Year 12 Equivalent)

Course 107777

Entry Qualifications

Year 10 Pass, Year 10 Not Passed, THS Pass, ITC

Study System

- Online self study
- Self arrangement with home tuition teacher
- IQY Technical College can connect the students to home tutors
- Examination in every December. Examination fees Ks10,000

Outcome

Diploma in Intermediate Science will be issued by IQY Technical College if the examination is passed. (Pass Mark 50)

Then IQY Professional Diploma in Technological Science/ Bachelor of Science (Technology) of STC Technological University

Or

Can use Diploma in Intermediate Science (issued by Australian Registered IQY Technical College) to attend the other foreign universities

Note

Myanmar Year 10 Pass can not attend the foreign universities. High School to be re-attended.. This is why we design the Diploma in Intermediate Science (Year 12 Equivalent)

အလယ်အလတ်သိပ္ပံဒီပလိုမာ (ဩစတြေးလျ ၁၂ တန်းအဆင့်)

ဝင်ခွင့်အရည်အချင်းများ

Year 10 Pass, Year 10 မ Pass၊ THS Pass, ITC

လေ့လာမှုစနစ်

- အွန်လိုင်းကိုယ်ပိုင်လေ့လာမှု
- အိမ်မှာကျူရှင်ဆရာဆရာမနှင့်သင်ခြင်း
- IQY နည်းပညာကောလိပ်သည်ကျောင်းသားများကိုအိမ်ကျူရှင်ဆရာဆရာမနှင့်များနှင့်ဆက်သွယ်

ပေးမည် ။

• ဒီဇင်ဘာလတိုင်းတွင်စာမေးပွဲ။ စာမေးပွဲကြေး ကျပ်၁၀,၀၀၀

ရလဒ်

အလယ်အလတ်သိပ္ပံဒီပလိုမာကိုစာမေးပွဲအောင်ပြီးပါက ဩစတြေးလျ မှတ်ပုံတင် IQY နည်းပညာကောလိပ်မှ အလယ်အလတ်သိပ္ပံဒီပလိုမာ (ဩစတြေးလျ ၁၂ တန်းအဆင့်)

ထုတ်ပေးလိမ့်မည်။ (အောင်မှတ်၅၀) ထို့နောက် IQY နည်းပညာသိပ္ပံဘွဲ့ဒီဂရီ / STC နည်းပညာတက္ကသိုလ်မှသိပ္ပံဘွဲ့ (နည်းပညာ) တက်နိုင်သည်။

သို့မဟုတ် အခြားနိုင်ငံခြားတက္ကသိုလ်များသို့တက်ရောက်ရန် ၁၂ တန်းအဆင့် ဒီပလိုမာကို (ဩစတြေးလျမှတ်ပုံတင်ထားသော IQY နည်းပညာကောလိပ်မှထုတ်ပေးမည်။

မှတ်စု

မြန်မာဝတ်တန်းအောင်လက်မှတ်နှင့်နိုင်ငံခြားတက္ကသိုလ်များသို့မတက်နိုင်ပါ။

အထက်တန်းကျောင်းပြန်လည်တက်ရောက်နိုင်ရမည်။

ထို့ကြောင့်ကျွန်ုပ်တို့သည်ဒီပလိုမာကိုအလယ်အလတ်သိပ္ပံပညာ ၁၂ တန်းအဆင့် ဒီပလိုမာကို

စီစဉ်သည်။

Subjects

- Y1112A-MATHEMATICS
- Y1112B-PHYSICS
- Y1112C-CHEMISTRY
- Y1112D-SCIENCE
- Y1112E-DESIGN & TECHNOLOGY
- Y1112F-SOFTWARE DESIGN
- Y1112G-ENGLISH
-

Learning Support site, Notes, Videos Free access

Form253 Diploma in Intermediate Science (Dip ISc)

www.iqytechnicalcollege.com/Form253dipisc.htm

Exam Centres

Yangon ,Mandalay ,Pyay ,Shan State

St Clements University Certificate/ Diploma / Advanced Diploma in Electrical Engineering

Course + Credit Outlines

YEAR 1 Certificate in Electrical Engineering 15 credits

	<u>SEMESTER (1)</u>	<u>Credits</u>
EE101	DC Circuit Problems	1
EE102	Basic Electrical Fitting & Wiring	1
EE103	Basic Electrical Drafting	1
EE104	Electrical Equipments Safety Protection	2
EE105	Electrical Installation Design	1
EE106	Advanced Electrical Wiring	1
EE107	Electrical Equipments	1
EE108	Electrical Fault Finding	1
EE109	Electrical Control Circuits	1
EE110	Computer Applications	1
EE111	Electromagnetism & Basic Electrical Machines	2
EE112	Alternating Current Principle	2
		15 Credits
	Diploma in Electrical Engineering 30 credits	<u>Credits</u>
	<u>SEMESTER (2)</u>	
EE113	Electrical Fundamental	2
EE114	Electrical Power Principle	1
EE115	Basic Analogue & Digital Electronics	2
EE116	Process Control System	3
EE117	Solar Electrical System	1
EE118	Electrical Energy Supply System	3
EE119	Electrical Risk Assessment	1
EE120	Electrical Contracting & Specification	1
EE121	Electronics Power Control Device	1
		30 Credits

	Advanced Diploma in Electrical Engineering 60 credits	<u>Credits</u>
	<u>SEMESTER (1)</u>	
EE201	Engineering Mathematics	1
EE202	Electrical Circuits	1
EE203	Three Phase Power Circuits	1
EE204	Engineering Physics	1
EE205	Electrical Power System	2
EE206	AC Machines	2
EE207	DC Machine	1
EE208	Operational Amplifiers	2
EE209	Analogue Electronics	1

	<u>SEMESTER (2)</u>	
EE301	Advanced Electrical Drafting	1
EE302	Advanced Engineering Mathematics	2
EE303	Transmission Line	2
EE304	Power System Protection	2
EE305	Power Transformer	2
EE306	Electro-mechanical Control	2
EE307	Energy Efficient Building Design	2
EE308	Sustainability	1
EE309	Project Management	2
EE310	Engineering Officer Competency Report	2
		30 Credits

(Stage 1)(Year 1)

DIPLOMA IN CIVIL ENGINEERING (Each 2.5 Credits) (30 Pt)

Certificate in Construction Studies

CE 106A Detailed Construction & Building Construction Materials

CE 104 A Building Drawing

CE 101 Mathematics (EE201)

CE 102 Physics (EE204)

CE 108 Electrical Principle

DIPLOMA IN CIVIL ENGINEERING

CE 104 Fluid Dynamics

CE 105 Hydraulic

CE 106 Hydrology

CE 107 Sanitation-and-Water-supply

CE 109 Energy Efficient Building Design (EE309)

CE 110 Building Construction

EE102 Basic Electrical Fitting & Wiring Stage (2)

(Stage 2) (Year 2)

Advanced Diploma in Civil Engineering Program(30 pt) (Each 5 pt)

CE103-Surveying

CE111A-Road+Bridges

CE113 Structure 1

CE114 Structure 2

CE115 Estimating & Specification

CE 112 Engineering Mechanics+ ME 301 Applied Mathematics

Self study enrichment units

(Although those units are not counted for course completion, additional transcript can be issued if study report is submitted.)

Study Report

<http://www.igytechnicalcollege.com/studyrecordmyanmar.pdf>

YEAR (2) ADDITIONAL COURSES

EE104 Electrical Equipments Safety Protection

EE105 Electrical Installation Design

ME 102 Engineering Thermodynamics

ME 334 Airconditioning and Refrigeration

EE106 Advanced Electrical Wiring

CE 112 Engineering Mechanics+ ME 301 Applied Mathematics

EE308 Sustainability

http://www.highlightcomputer.com/Diploma_in_Civil_Engineering.pdf

Self study enrichment units

(Although those units are not counted for course completion, additional transcript can be issued if study report is submitted.)

Study Report

<http://www.igytechnicalcollege.com/studyrecordmyanmar.pdf>

Myanmar Notes

CE201 Concrete Technology

CE202 3D Studio Max

CE203 site Engineer Work

CE204 Sketch Up technique

CE205 Painting and Decoration

CEM201 Sanitation

CEM202 Estimating

CEM203 Drawing

CEM204 Construction

CEM205 Iron work

CEM206 Welding

CEM212 Bricklaying Practice

CE303 Advanced Engineering Mathematics

English notes for International Delivery

CE201I Restaurant Design

CE202I Fire Safety Engineering

CE203I Building Control

CE204I Building Electrical & Mechanical Technology

CE301I Highrise Building Construction

CE302I Advanced Building Construction Technology

CE303 Advanced Engineering Mathematics

Diploma in Mechanical Engineering (Each 1.5 Credits) (30 Pt)

Maths 101 Engineering Mathematics

ME 101 Applied Mathematics

ME 102 Engineering Thermodynamics

ME 103 Engineering Mechanics

ME 104 Machine Principle

ME 105 Electrical Principle

ME 106 Electrical Circuits

ME 107 Heat Transfer

ME 108 Principle of Engines

ME 201 Introduction to Fluid Mechanics

ME 202 Introduction to Aero Dynamics

ME 203 Control Engineering

ME 204 Engineering Fluid Mechanics

ME 205 Manufacturing Processes-and-Materials

ME 206 Introduction to Turbo Machinery

ME 207 Chemical Thermodynamics

ME 208 Hydrocarbons

ME 209 Introduction-to-polymer-science-and-technology

ME 234 Wind Turbines

Mgt 501 Basic Management

Study sequence

From top to down

Advanced Diploma in Mechanical Engineering (Each 1.5 Credits) (30 Pt)

Mathematics

Maths 403 Engineering-Mathematics

Maths 301 Introductory Finite Difference Methods-for-pdes

Maths 302 Elementary-Linear-Algebra

Maths 303 Introductory Finite Volume Methods-for-pdes

Maths 501 Linear Algebra-c-1

Study sequence

From top to down

Mechanical Engineering

ME 301 Fluid Dynamics

ME 302 Automation-and-Robotics

ME 303 Computer Aided Design and Manufacturing

ME 304 Introduction to Nonlinearity-in-control-systems

ME 305 Corrosion Prevention

ME 306 Theory-of-waves-in-materials

ME 334 Airconditioning and Refrigeration

ME 434 Mechtronics-Robotics

ME 534 Numerical Control Part 1

ME 634 Pneumatics

EE 617 Building Electrical and Mechanical System Part 1

EE 624 Process Control

Mgt 503 Production & Operation Management

Mgt 505 Quality Management and Manufacturing Engineering

Study sequence

From top to down

Diploma in Engineering (Drafting & Design) (30 Credit Points)

Unit No	Unit Name	Credit point
EE201G	Mathematics	2
EE204G	Physics	2
ME 207G	Chemistry	2
EE101	DC Circuit Problems	1
EE102	Basic Electrical Fitting & Wiring	1
EE103	Basic Electrical Drafting	1
EE105	Electrical Installation Design	1
EE110	Computer Applications	1
CE 106A	Detailed Construction & Building Construction Materials	2
CE 104 A	Building Drawing	2
CE 110	Building Construction	2
CE 107	Sanitation-and-Water-supply	2
EE107	Electrical Equipments	1
ME103	Engineering Mechanics	1
ME 108	Principles of Engines	1
EE113	Electrical Fundamental	1
EE106	Advanced Electrical Wiring	2
EE104	Electrical Equipments Safety Protection	1
EE120	Electrical Contracting & Specification—Business Aspect	2
EE109	Electrical Control Circuits	2
	Total Points	30

Career

Advanced Diploma/ Professional Diploma in

- Engineering Design
- Electrical Engineering (OR)
- Civil Engineering (OR)
- Mechanical Engineering (OR)
- Renewable Energy Engineering (OR)
- Other engineering disciplines.

BTech+BE courses are divided into the parts. The student who need to pay three equal instalments. Arrangement of teachers/ fees need to be arranged on Part 1/ 2/ 3 basics. Each part will take 4 months.

If the student pays the fees for part 1, he or she can attend part 1 and upon completion, the Statement/ Transcript will be issued for completion of part 1. Proceed to Part 2 will depend on fees payment. Copying lessons into Students USB/ Hard drive will depend on payment of fees. Only copy for the part that was paid for.

Manager will need to check students progress and fees payment and work with teacher to request me to issue the progress transcript.

No dividing of fees and part in Diploma and Advanced Diploma courses.

Please refer <http://www.highlightcomputer.com/iqyadministration.htm>

Form 7A -Student' s work and progress transcript submission

Form 7B -Student' s payment record

Form 7C Final Qualification issued check list

And prepare the checking system documents.

BTech Part 1/ BE Yr 3

- 1 BAE 401 Advanced Engineering Mathematics
- 2 BAE 402 Calculus
- 3 BAE 403 Engineering Mechanics
- 4 BAE 404 Engineering Materials & Thermodynamics

BTech Part 2/ BE Yr 3

- 10 RE010-Engineering Materials
- 11 RE012a-Electrical Engineering Part 1
- 12RE016/ BAE508-Design & Project Management

BTech Part 3 Online/ BE Yr 3

- 5 RE001- Foundation Studies in Renewable Energy and Sustainability
 - 6.RE003- Solar and Thermal Energy Systems
 - 7.RE004- Energy Storage Systems
 - 8 RE005- Renewable Energy Resource Analysis
 - 9.RE006- Wind Energy Conversion Systems
-

BE Electrical Part 1/ BE Yr 4

4 RE012b-Electrical Engineering Part 2

6 RE013-Electrical Machines

9 BAE 501 Advanced Power Systems & Power Transmission Networks

10 BAE 506 Power System Stability & Protection

BE Electrical Part 2/ BE Yr 4

1 BAE 601 Computer Programming

2 BAE 602 Computer Network

3 BAE 603 Software Engineering

11 BAE 604 Telecommunication Engineering

BE Electrical Part 3/ BE Yr 4

5 RE002- Grid Connected Photovoltaic Power Systems

12.RE007- Energy System Efficiency

7 RE014-Electronics Control

8 RE015-Electrical Project/ Practice

Final Part

13 BAE 608 Professional Engineer Engineering Competency Demonstration

Report & BAE 605 Engineering Management (Completion Certification with no

BE Civil Part 1/ BE Yr 4

1 RE011a-Civil & Mechanical Engineering Part 1

2 RE011b-Civil & Mechanical Engineering Part 2a

6 BAE423 Fluid Mechanics

8 BAE522 Rock Mechanics

BE Civil Part 2/ BE Yr 4

4BAE421 Building Construction Engineering

10BAE621 Structural Engineering

7 BAE424 Reinforced Concrete

5 BAE422 Estimating

BE Civil Part 3/ BE Yr 4

3 BAE 606 Building Service Electrical & Mechanical Engineering

9 BAE 523A Environmental Engineering

11BAE623 Surveying & Traffic Engineering

12BAE624 Water Supply , Sanitation & Finishing

Final Part

13 BAE 608 Professional Engineer Engineering Competency Demonstration Report & BAE 605 Engineering Management (Completion Certification with no credit points)

BE Mechanical Part 1/ BE Yr 4

1 RE011a-Civil & Mechanical Engineering Part 1

2 RE011b-Civil & Mechanical Engineering Part 2a

6 BAE315 Materials Engineering

10 BAE614 Machine Design

BE Mechanical Part 2/ BE Yr 4

4 BAE311 Plant Engineering
5 BAE314 Mechanical Power Generation
9 BAE613 Mechanical Instrumentation Process
12 BAE 601 Computer Programming

BE Mechanical Part 3/ BE Yr 4

3BAE 606 Building Service Electrical & Mechanical Engineering
7 BAE511 Air-conditioning & Refrigeration
8 BAE512 Building Service Water Supply System
10 BAE614 Machine Design
11.RE007- Energy System Efficiency

Final Part

13 BAE 608 Professional Engineer Engineering Competency Demonstration Report & BAE 605 Engineering Management (Completion Certification with no credit points)

DOCTOR OF ENGINEERING

Course Outline

Diploma in Doctorate Studies (DDS) IQY Diploma in Doctorate Studies is an academic award consisting of Research Studies and Writing Thesis Dissertation at 360 Credit points in which 240 Credit points are allocated for Masters Degree level academic qualifications and / or comparable professional experiences.

Subjects

- MAE 601 Research Method (30 Points)
- MAE602 Thesis (30 Points)
- BAE801 Thesis Dissertation Assessment and Defence (60 Points)

The candidates who have completed MAE 601 Research Method (30 Points) and their thesis proposal are accepted will be awarded IQY Master Diploma in Research Studies (270 Credit Points).

The candidates who have completed MAE602 Thesis (30 Points) but have not submitted it to St Clements University OR STC Technological University will be awarded IQY Diploma in Doctorate Studies (300 Credit Points)

Only St Clements University OR STC Technological University will confer the Doctoral Degree while IQY Technical College will provide the facilitation and successful candidates will be issued with BAE801 Thesis Dissertation Assessment and Defence (60 Points) when the success is notified by St Clements University OR STC Technological University .

In the case of failure to meet the quality of dissertation, St Clements University OR STC Technological University 's Diploma in Doctorate Studies or other relevant award can be issued and Doctorate degree award fees will not be charged.

IQY Technical College will issue Letter of Congratulation for having been successful in PhD. Doctoral Research Studies IQY Master Diploma in Research Studies

Dissertation for Doctorate

MAE 601 Research Method (30 Points) MAE602 Thesis (30 Points)).

BAE801 Thesis Dissertation Assessment and Defence (60 Points)

MAE601 Research Method

This course guides the student, step by step, through the research process, from problem selection through writing up results. It provides all of the basics necessary to complete a research project in any discipline. Outline.

The following aspects are reflected in this course:

What is research?

Tools of research

The problem: the heart of the research process

Review of the related literature

Planning your research design

Writing the research proposal Qualitative research Historical research

Descriptive research Experimental and causal - comparative designs Statistical techniques for analyzing quantitative data Technical details: style, format, and organization of the research report

Doctoral Research Proposal Synopsis:

Research students are expected to present a written research proposal within three months after commencement. The proposal is handed in to the study leader.

Assessors of this proposal are selected by the faculty for their understanding of the field and the research involved. The purpose of a research is to set out a plan for conducting the research and writing the dissertation within the available time.

It should take account of the availability and guidance of the study leader. The starting point for a research proposal is the topic, which is the field of interest in which the research is to be carried out. In introducing the topic, the proposal should clarify the field that it falls into and the specific part that field which the research will explore. It should clarify why the topic is of interest and importance, and how the proposed research will contribute to the field of knowledge or profession. The proposal should clarify the research questions, ensuring that these are specific and answerable. It is important to show how these questions relate to the topic are, and how they will advance the student's contribution. The proposal should detail the research to be carried out, and clarify the research methods, the timeframe and the reasons for selecting particular methods.

Where a period of literature review or research should precede any empirical research, this should be factored in as part of the research. It is important to estimate any periods of field research and to flag their duration and cost in your research proposal.

MAE 602 Thesis

Thesis Dissertation for Doctorate Candidates need to complete a 60000-words dissertation (in Myanmar or English) and a 3000-words executive portfolio (in English).

This program requires the candidates to complete a thesis as part of the assessment for the Doctorate Doing a thesis / dissertation means that instead of knowledge and information being presented and following a prescribed route for answering questions, candidates are thrust into an active role of managing an investigation into a topic area.

This means researching and discovering things for themselves. They will have to set their own targets and parameters, pose their own central research questions and decide on the appropriate sources of information to support the research. It therefore requires the use of the higher-level cognitive skills of analysis, synthesis and evaluation.

Candidates may choose an area of particular interest to them within the scope of course title.

BAE801 Thesis Dissertation Assessment and Defence (60 Points)

Doctoral dissertation A dissertation is an individual effort and the candidate, academic tutor and the course professor will work together on constructing an approved topic (research question) and methodologies. Dissertation Defence for doctorate It is expected of Doctoral candidates to defend their thesis by means of a colloquium (academic discussion). The purpose of the meeting is for the candidates to convince a panel of experts in the field of the dissertation how well they have done in the conducting of their research study and the preparation of their dissertation Candidates need to complete all course assessments with the results of Grade B+ or above

St Clements University (SCPU Business School-Switzerland)

STC Technological University

St Clements University (SCPU Business School-Switzerland)

St Clements University Myanmar College/ IQY Technical College

Doctorate Degree/ Diploma in Doctorate Degree Overview Program Instruction

Name of Candidate	
IQY ID Number	
St Clements University ID Number	
Program	
Field of Study and Research Area	
Start Date	
Expected Completion Date	
International Supervisor of Research/Dissertation	
Immediate Supervisor of Research/Dissertation	
Co- Supervisor of Research/Dissertation	

Time schedule

Total Time Required to complete	3 Years (36 months)
Phase (1) Preliminary Course	8 months
Phase (2) Research Study Course Work	6 months
Phase (3) Research Proposal	4 months
Phase (4)+Phase (5)	18 months
Phase (6)	1 month

(1)General Information about the program

Diploma in Doctorate Studies (DDS)

IQY Diploma in Doctorate Studies is an academic award consisting of Research Studies and Writing Thesis Dissertation at 360 Credit points in which 240 Credit points are allocated for Masters Degree level academic qualifications and / or comparable professional experiences.

The candidates who have completed MAE 601 Research Method (30 Points)

and their thesis proposal are accepted will be awarded IQY Master Diploma in Research Studies (270 Credit Points).

The candidates who have completed MAE602 Thesis (30 Points) but have not submitted it to St Clements University will be awarded IQY Diploma in Doctorate Studies (300 Credit Points)

Only St Clements University will confer the Doctoral Degree while IQY Technical College will provide the facilitation and successful candidates will be issued with BAE801 Thesis Dissertation Assessment and Defence (60 Points) when the success is notified by St Clements University. In the case of failure to meet the quality of dissertation, St Clements University's Diploma in Doctorate Studies or other relevant award can be issued and Doctorate degree award fees will not be charged.

IQY Technical College will issue Letter of Congratulation for having been successful in PhD.

PHASE (1) Preliminary Course

The students will have to write 20 pages study report for each of the subjects advised by the courses coordinator.

The report needs to include -

Book review- Review on each chapter of the book highlighting the key concepts, key formula, key theory & practical application concepts

Own idea on how to apply those concepts in real practical applications.

Examples of engineering designs that use the concepts & knowledge expressed in those books (If any)

Your comment on each book

Your reports should contain the following aspects

<p>Graduates of a Masters Degree (Extended) / Doctorate Preliminary Level will have:</p> <ul style="list-style-type: none"> • cognitive skills to demonstrate mastery of theoretical knowledge and to reflect critically on theory and professional practice • cognitive, technical and creative skills to investigate, analyse and synthesise complex information, problems, concepts and theories and to apply established theories to different bodies of knowledge or practice • cognitive, technical and creative skills to generate and evaluate complex ideas and concepts at an abstract level • communication and technical research skills to justify and interpret theoretical propositions, methodologies, conclusions and professional decisions to specialist and non-specialist audiences • technical and communication skills to design, evaluate, implement, analyse and theorise about developments that contribute to 	<p>How theories are related to practice</p> <p>Research and collection of several resources and references</p> <p>Provide your own ideas</p> <p>Interpret and justify the information . Submit the decision</p> <p>You also need to analyse the information And provide the conclusion</p>
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professional practice	
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To support your critical thinking, the following video and resources are provided.

- **ED431-Critical Thinking**

VIDEOS

To be given

- **ED431-Reflection& Evaluation**

VIDEO

To be given

Specific Instruction

- (1) You need to write the reports and submit them to St Clements University Library Academic Journal **Veritas Journals** - ISSN 2307-2806

Link- [To be given](#)

In the above link which is E-Library of St Clements university, you can find the thesis, dissertations and research papers of the academics and postgraduate students of St Clements University. You need to observe and study the style of presentations.

- (2) The number of reports will need to be negotiated. In my view, your report should be

Report (1)-Same Discipline Engineering

Report (2)- Same Discipline Engineering

Report (3)-General Engineering

Report (4)-Specialized Discipline

You should spend 8 months to complete 4 reports and should submit 1 report per every 2 months during this time you should think about topic and title of your dissertation and also discuss with supervisors. If field data are required, you should collect them.

- **Outcome**

Certificate of Completion- Diploma in Doctoral Studies Preliminary Course

(IQY Technical College) will be issued together with transcript and will be submitted

to St Clements University /STC Technological University Academic Committee.

PHASE (2) Doctoral Research Study

Doctoral Research Studies

IQY Master Diploma in Research Studies

Dissertation for Doctorate

MAE 601 Research Method (30 Points)

MAE602 Thesis (30 Points)

BAE801 Thesis Dissertation Assessment and Defence (60 Points)

MAE601 Research Method

This course guides the student, step by step, through the research process, from problem selection through writing up results. It provides all of the basics necessary to complete a research project in any discipline.

Outline. The following aspects are reflected in this course:

What is research?

Tools of research

The problem: the heart of the research process

Review of the related literature

Planning your research design

Writing the research proposal

Qualitative research

Historical research

Descriptive research

Experimental and causal - comparative designs

Statistical techniques for analyzing quantitative data

Technical details: style, format, and organization of the research report

Lecture Video

To be given

Lecture Slides

Introduction to Research

To be given

Meaning of Research & Research Proposal

To be given

Research Preparation & planning

To be given

Research Practice

To be given

Textbook

Higher Education: Handbook of Theory and Research

Published under the Sponsorship of the Association for Institutional Research (AIR)
and the Association for the Study of Higher Education (ASHE)

To be given

ACTION RESEARCH

The title should be brief and accurately describe the nature of the project.

Context of the study

Discuss the background to the central problem. Explain why the problem is significant to your teaching or professional activities and educational research.

Selection of instrument

Briefly describe the development of the questionnaire and your reasons for its selection.

Data sources

Describe the target population (i.e., the class or other group).

Role of participants

Describe your role in the action research and any other persons involved the study (e.g., other teachers, principal, students).

Data collection

Describe and explain the types of data you collected, and how they were obtained and recorded.

Data analysis & interpretation

Present your results and explain the methods you used to analyse and interpret the data. Use tabular and graphical forms to enhance your presentation.

Significance

Explain your results and reflect on what they mean. Discuss the importance of both the results and the process.

ED 404 Educational Research / Engineering and Technology Research/ Business Management Research

Resources Download Link

To be given

Objective-

This unit describes the performance outcomes, skills and knowledge required to undertake research into educational/ engineering/ technological/ management theory and apply this research to improve current training and assessment practice.

This unit typically applies to those who need to develop skills in research in order to apply educational theory to improve current and future training and assessment practice

Outcomes

- Prepare research brief relating to training and assessment practice / educational/ engineering/ technological/ management theory
- Conduct research in training and assessment practice / educational/ engineering/ technological/ management
- Investigate and apply educational theory/ educational/ engineering/ technological/ management theory to the research

- Report on application of educational theory/ educational/ engineering/ technological/ management theory to practice
- Review entire process

[Contents](#)

Qualitative Research and Public Policy

- Multilevel Analysis in Higher Education Research: A Multidisciplinary Approach .
- Conducting Multi-paradigm Inquiry in the Study of Higher Education Organization and Governance: Transforming
- Research Perspectives on Colleges and Universities
- Examining Pathways to and Through the Community College for Youth and Adults
- Review of the Theories Developed to Describe the Process of College Persistence and Attainment

Specific Instruction

- You need to read the resources provided above which explain about the features and components of research in details
- Then submit the following assignment.

Assessment

Assignment 1

Locate the name of books, power point slides in which you have learnt the followings. If you can not find them in given resources, you need to do online research and express the URL

Fill in the table then submit the written report. Number of words is not specified.

Topics	Name of Book Name of Powerpoint Slides	Page Number Slide Number	URL if any
What is research?			
Tools of research			
The problem: the heart of the research process			
Review of the related literature			
Planning your research design			
Writing the research proposal			

Qualitative research			
Historical research			
Descriptive research			
Experimental and causal - comparative designs			
Statistical techniques for analyzing quantitative data			
Technical details: style, format, and organization of the research report			
Context of the study			
Selection of instrument			
Data sources			
Role of participants			
Data collection			
Data analysis & interpretation			
Significance			

- **Outcome**

Master Diploma in Research Studies (IQY Technical College will be issued together with transcript MAE 601 Research Method (30 Points) + ED 404 Educational Research / Engineering and Technology Research/ Business Management Research and it will be submitted to St Clements University Academic Committee

PHASE (3) Research Proposal + Article Contribution

MAE602 Thesis (30 Points)

Doctoral Research Proposal

Synopsis: Research students are expected to present a written research proposal within three months after commencement. The proposal is handed in to the study leader.

Assessors of this proposal are selected by the faculty for their understanding of the field and the research involved. The purpose of a research is to set out a plan for conducting the research and writing the dissertation within the available time. It should take account of the availability and guidance of the study leader.

The starting point for a research proposal is the topic, which is the field of interest in which the research is to be carried out. In introducing the topic, the proposal should clarify the field that it falls into and the specific part that field which the research will explore.

It should clarify why the topic is of interest and importance, and how the proposed research will contribute to the field of knowledge or profession.

It needs to write the research questions and outline the way to demonstrate to answer those research questions.

The proposal should clarify the research questions, ensuring that these are specific and answerable.

It is important to show how these questions relate to the topic are, and how they will advance the student's contribution. The proposal should detail the research to be carried out, and clarify the research methods, the timeframe and the reasons for selecting particular methods.

Where a period of literature review or research should precede any empirical research, this should be factored in as part of the research. It is important to estimate any periods of field research and to flag their duration and cost in your research proposal.

Specific Instruction

You need to submit the following assignment.

Assignment 2

Prepare & submit one proposal for research paper.

The candidates will also required to do the followings

- Writing Articles related to the field of study OR
- Doing the seminar presentations OR
- Presenting the lectures

They need to attend the conventions, seminars , presentations and workshops

Outcome

The candidates who have completed MAE 601 Research Method (30 Points) and their thesis proposal are accepted will be awarded IQY Master Diploma in Research Studies (270 Credit Points). After completion of Phase (3) , Candidature for Doctoral Study will be admitted.

PHASE (4) Thesis Data Collection and Literature Review

Then the candidates will need to

- (1) Review the references to be used in thesis regarding their relevancy and location to refer and use in thesis
- (2) Collect the quantitative and qualitative data for thesis

Specific Instruction

Before you write, you firstly need to do the following exercise your self

Practice

Read the following literatures and indicate which part of writing and components are relevant to the Phase 6 Thesis Defence-Sample of Assessment Criteria .

To be given

Research Data Analysis Tools

To be given

Sample Paper

To be given

Literature Review Sample

To be given

Sample Textbook

To be given

It is also the beginning of thesis writing. Candidates need to complete a 60000-words dissertation. You should plan the main chapters of your dissertation, determine the topics, allocate the data and reference into each topic and start writing of the chapters. Your completed chapters need to be submitted to your supervisors, receive the advice and edit them as appropriate.

References

To be given

PHASE (5) Thesis Writing

MAE 602 Thesis

Thesis Dissertation for Doctorate

Candidates need to complete a 60000-words dissertation (in Myanmar or English) and a 3000-words executive portfolio (in English).

This program requires the candidates to complete a thesis as part of the assessment for the Doctorate

Doing a thesis / dissertation means that instead of knowledge and information being presented and following a prescribed route for answering questions, candidates are thrust into an active role of managing an investigation into a topic area. This means researching and discovering things for themselves.

They will have to set their own targets and parameters, pose their own central research questions and decide on the appropriate sources of information to support the research. It therefore requires the use of the higher-level cognitive skills of analysis, synthesis and evaluation. Candidates may choose an area of particular interest to them within the scope of course title.

Specific Instruction

It is the main process of thesis writing. You need to write each chapters. Care should be taken for appropriate sequence and relevancy between each chapters. It is important to make sure that all of your writings and presentations must be relevant to the title of your dissertation.

You need to submit the draft of your thesis.

You need to make sure to correct all grammar and spellings mistakes

You need to provide all lists of references in APA Formatting.

Outcome

The candidates who have completed MAE602 Thesis (30 Points) but have not submitted it to St Clements University will be awarded IQY Diploma in Doctorate Studies (300 Credit Points)

PHASE (6) Thesis Defence

BAE801 Thesis Dissertation Assessment and Defence (60 Points)

Doctoral dissertation

A dissertation is an individual effort and the candidate, academic tutor and the course professor will work together on constructing an approved topic (research question) and methodologies.

Dissertation Defence for doctorate

It is expected of Doctoral candidates to defend their thesis by means of a colloquium (academic discussion). The purpose of the meeting is for the candidates to convince a panel of experts in the field of the dissertation how well they have done in the conducting of their research study and the preparation of their dissertation

Candidates need to complete all course assessments with the results of Grade B+ or above.

SAMPLE OF ASSESSMENT

St Clements University Myanmar College PhD degree candidate assessment record

Name of Candidate	
Degree	
Enrolment date	

PART (1) Documentation Assessment (Doctorate Preliminary Level + Phase 1 Study

Purpose	Description	Evidences	Remark
Knowledge			Your subject area study reports will satisfy this aspect

	<p>Graduates of a Masters Degree (Extended) / Doctorate Preliminary Level will have:</p> <ul style="list-style-type: none"> • a body of knowledge that includes the extended understanding of recent developments in a discipline and its professional practice • knowledge of research principles and methods applicable to the discipline and its professional practice 		
Skills	<p>Graduates of a Masters Degree (Extended) / Doctorate Preliminary Level will have:</p> <ul style="list-style-type: none"> • cognitive skills to demonstrate mastery of theoretical knowledge and to reflect critically on theory and professional practice • cognitive, technical and creative skills to investigate, analyse and synthesise complex information, problems, concepts and theories and to apply established theories to different bodies of knowledge or practice • cognitive, technical and creative skills to generate and evaluate complex ideas and concepts at an abstract level • communication and technical research skills to justify and interpret theoretical propositions, methodologies, conclusions and 		<p>Your subject area study reports will satisfy this aspect provided that in your reports, you need to provide your thinking, critical reflection, analysis, justification, decision, review and conclusion</p>

	professional decisions to specialist and non-specialist audiences <ul style="list-style-type: none"> • technical and communication skills to design, evaluate, implement, analyse and theorise about developments that contribute to professional practice 		
Application of knowledge and skills	Phase (2) Research Study Assessment Masters Degree (Extended) / Doctorate Preliminary will demonstrate the application of knowledge and skills:		Completion of Phase 2 Assignment 1

Overall comments for Part 1-Documentation Assessment for Doctorate degree

PART (2) Publication Assessment

Phase (3) Research Proposal and Article Contributions Demonstrate the ability to carry out research	Your articles for St Clements University Library Academic Journal Veritas Journals - ISSN 2307-2806 Your research proposal and approval
Phase (4) Thesis Data Collection and Literature Review Organize results	Your Collection of the quantitative and qualitative data for thesis
Literature Review An exhaustive review of work	Your review on the references to be used in thesis regarding their relevancy and location to refer and use in thesis
Defend the approach	In this aspect, your successful action on any question why you choose a particular reference, approach and data.

PHASE (5) Thesis Assessment----- Part (1) Written Work

Criteria	Required Evidence	Remark
Part 1-Features of Thesis		
The Doctoral Degree qualifies individuals who apply a substantial body of knowledge to research, investigate and develop new knowledge, in one or more fields of investigation, scholarship or professional practice	<p>Thesis include</p> <ul style="list-style-type: none"> • Investigation • New knowledge • Scholarly style writing • Relation to Professional Practice 	Chapter (1) Introduction and main body of dissertation
Part 2- Research Questions		
Graduates at this level will have systemic and critical understanding of a substantial and complex body of knowledge at the frontier of a discipline or area of professional practice	Ability to write the research questions and demonstrate to achieve the solution for the research questions.	Chapter (2) Why research is to be done and Chapter (3) Determination of research questions.
Part 3-Solution Model		
<ul style="list-style-type: none"> • expert skills to design, implement, analyse, theorise and communicate research that makes a significant and original contribution to knowledge and/or professional practice 	<ul style="list-style-type: none"> • Design the solution model • Data analysis • Reference of theories • Knowledge contribution 	Appropriate chapters are to be inserted for fulfilling those tasks.
Part 4-Data Collection and Literature Evidence related to solution	<p>Demonstrate the understanding of the subject</p> <p>Demonstrate the ability to do the research (Qualitative data</p>	Appropriate chapters are to be inserted for fulfilling those tasks.

<p>Graduates at this level will have systematic and critical understanding of a complex field of learning and specialised research skills for the advancement of learning and/or for professional practice</p>	<p>/ Quantitative Data/relevant Literature/ Appropriate utilisation</p>	<p>Appropriate chapters are to be inserted for fulfilling those tasks.</p>
<p>Part 5- Thesis Writing -Overall Features</p> <p>Graduates of a Doctoral Degree will have:</p> <ul style="list-style-type: none"> • a substantial body of knowledge at the frontier of a field of work or learning, including knowledge that constitutes an original contribution • substantial knowledge of research principles and methods applicable to the field of work or learning 	<p>Thesis writer demonstrates</p> <ul style="list-style-type: none"> • Evidence of substantial knowledge • Research knowledge • Research Principles • Application to field of work • Application to learning 	<p>Appropriate chapters are to be inserted for fulfilling those tasks.</p>
<p>Part 5- Thesis Writing -Plan for writing</p>		
<ul style="list-style-type: none"> • communication skills to explain and critique theoretical propositions, methodologies and conclusions • communication skills to present cogently a complex investigation of originality or original research for external examination against international standards and to communicate results to peers and the community 	<p>Write the idea by</p> <ul style="list-style-type: none"> • Step by step explanation • Use the methodologies • Apply investigation • Refer the relevant standards and references • Communicate the results to peers and community 	<p>Your style of writing in all chapters are to be assessed with those criterias.</p>
<p>Part 5A- Thesis Writing -Facts to Practice</p>		

<ul style="list-style-type: none"> • develop, adapt and implement research methodologies to extend and redefine existing knowledge or professional practice 	Write how those facts are related to practical practice , how to improve the current practice, how to develop the skills and knowledge.	Appropriate chapters are to be inserted for fulfilling those tasks.
<ul style="list-style-type: none"> • disseminate and promote new insights to peers and the community 	How those methods/ practice are useful to industry and community	Appropriate chapters are to be inserted for fulfilling those tasks.
Part 5B- Thesis Writing -Application of References Graduates at this level will have expert, specialised cognitive, technical and research skills in a discipline area to independently and systematically:	Systematic and scholarly writing in the thesis by quoting the relevant references and how those facts contribute to achieve the answer for the research questions	Your style of writing in all chapters are to be assessed with those criterias.
Part 5C- Thesis Writing -Style of Writing		
<ul style="list-style-type: none"> • engage in critical reflection, synthesis and evaluation 	Relating the relevant theory to answer the steps of the solutions , construct the solution model and evaluate the each outcomes in the steps	Your style of writing in all chapters are to be assessed with those criterias.
<ul style="list-style-type: none"> • cognitive skills to demonstrate expert understanding of theoretical knowledge and to reflect critically on that theory and practice 	Prove that how theory is related to practice	
<ul style="list-style-type: none"> • cognitive skills and use of intellectual independence to think critically, evaluate existing knowledge and ideas, undertake systematic investigation and reflect on theory and practice to generate original knowledge 	Usage of intellectual skills Evidence of critical thinking Evaluation of existing knowledge Reflection on theory & practice Systematic Investigation	Your style of writing in all chapters are to be assessed with those criterias.

<ul style="list-style-type: none"> • expert technical and creative skills applicable to the field of work or learning 	Demonstrate the expert knowledge and creation	Your style of writing in all chapters are to be assessed with those criterias.
Part 5D- Thesis Writing -Finding and Conclusion/ Judgement		
<ul style="list-style-type: none"> • generate original knowledge and understanding to make a substantial contribution to a discipline or area of professional practice 	How you can use your knowledge and findings in professional practice.	In final chapter, conclusion and judgements is to be included.
Graduates at this level will apply knowledge and skills to demonstrate autonomy, authoritative judgement, adaptability and responsibility as an expert and leading practitioner or scholar	<p>Evidence of judgement in thesis</p> <p>Evidence of responsibility in data and facts</p>	In final chapter, conclusion and judgements is to be included.

OVERALL ASSESSMENT	
<p>Conclusions in a scholarly manner according to disciplinary norms</p> <p>Graduates at this level will have systematic and critical understanding of a complex field of learning and specialised research skills for the advancement of learning and/or for professional practice</p>	Your study reports and thesis will satisfy this requirement.

The following title format must be used to submit the thesis.

THESIS TITLE

by

Your name

A dissertation submitted in partial
fulfillment of the requirement for
the degree of Doctor of XXXX

St Clements University

Year

(Synopsis)

ABSTRACT

OBJECTIVE

DECLARATION

I certify that this thesis does not incorporate without acknowledgement any material previously submitted for a degree or diploma in any university; and that to the best of my knowledge and belief it does not contain any material previously published or written by another person where due reference is not made in the text.

Overall comments for Part 2-Publication Assessment (SAMPLE)

To be given

Form 328 Diploma in Drone Technology

Objective

This course is aimed to provide the construction and application of Drone Technology to engineers

Contents

It includes construction, technology, application, utilisation and piloting the drones in various applications

Entry Requirement

Engineering Degree/Diploma/Certificate

Curriculum

10 units x 3 Credits per unit = 30 Credits

- BAE6011 Drone Building
- BAE6012 Commercial Drone Regulations
- BAE6013 Counter Unmanned Aircraft Systems Technologies
- BAE6014 Drone Science
- BAE6015 Drone Technology
- BAE6016 Drone Algorithms
- BAE6017 Drone Utilization
- BAE6018 Autonomous Robotic Technology
- BAE6019 Unmanned Aerial Vehicle Theory
- BAE6020 Commercial Drone Applications

Diploma in Telecommunication Engineering

Theory to be assessed	Self study advanced practical
BAE607 Radio Wave Propagation & Micro Wave Technique	DTE306 Wireless Communication DTE307 Satellite Communication
EE625 Advanced Radio Wave Propagation	DTE302 Photonics DTE306 Wireless Communication
EE626 Advanced Microwave Technique	DTE305 Optical Communication
BAE604 Telecommunication Engineering	DTE303 Telecommunication Engineering DTE310 Customer Premise Installations
EE525 Data Communication	DTE301 Network Management DTE304 TCP/IP
EE603 Electronic Communication Principle	DTE308 Mobile Communication DTE309 VOIP DTE311 OFDM/CDMA DET312 SDH/SONET

Engineering Design References

www.iqytechnicalcollege.com/engineeringdesign1.htm

BE Final Year Project/ Thesis/ Internship report ရေးသားရန် IQY Technical College သည်လိုအပ်သောဒီဇိုင်းလက်စွဲစာအုပ်များ၊နည်းလမ်းစဉ်များ၊အထောက်အထားများဖြည့်ဆည်းလမ်းညွှန်သည်။

Professional Diploma in Engineering Practice သင်ရိုး၏ **ENG602-Engineering Applications** ဘာသာကိုစာရင်းသွင်းရန်လိုသည်။

Enrolment Link

<http://www.emailmeform.com/builder/form/buB30es8fqUb1Y6fM7fxya>

AVAILABLE RESOURCES ONLINE

အောက်ပါဒီဇိုင်းစာအုပ်များဖြင့်ထောက်ကူမည်။

Architecture

1/[Architecture Ebook] Architecture Design Notebook.pdf (5.02MB)

2/[Architecture Ebook] Advanced Energy Design Guide for Small Retail Buildings.pdf (5.51MB)

3/[Architecture Ebook] Design of Masonry Structures.pdf (3.64MB)

4/[Architecture Ebook] Working Drawings Handbook.pdf (7.84MB)

5/[Architecture Ebook] Building Services Handbook.pdf (11.8MB)

6/Air Distribution in Buildings.pdf (26.91MB)

7/The Interior Design Sourcebook.epub (47.51MB)

8/Handbook of Thermal Analysis of Construction Materials.pdf (6.09MB)

9/Principles of Structural Design.pdf (10.68MB)

10/Construction Calculations Manual.pdf (9.13MB)

11/The Practical Book of Architecture.epub (4.92MB)

12/Cost Studies of Buildings.pdf (24.09MB)

13/Architect's Pocket Book - Fourth Edition.pdf (4.76MB)

14/Introduction to Naval Architecture.pdf (11.92MB)
15/Working Drawings Handbook.pdf (5.75MB)
16/Handbook of Green Building Design and Construction.pdf (13.06MB)

17/BIM Handbook.pdf (20.63MB)
18/Prestressed Concrete Design.pdf (5.4MB)
19/Handbook of Detailing.pdf (20.52MB)
20/Drawing for Interior Designers.pdf (11.06MB)
21/Interior Design Handbook of Professional Practice.pdf (10.8MB)

Civil

22/Construction Of Buildings Volume 2.pdf (10.38MB)
23/Chen & Liew Civil Engineering Handbook.pdf (4.96MB)
24/Dam Construction.pdf (17.02MB)
25/Fire Safety Engineering.pdf (6MB)
26/Building Services Handbook.pdf (5.75MB)
27/Standard Handbook of Environmental Engineering.pdf (11.24MB)
28/McGraw-Hill_-_Civil_Engineering_Formulas__2002__Tlf.pdf (4.41MB)
29/Building Hand Book.pdf (87.16MB)
30/Piping System Manual.pdf (9.48MB)
31/Reinforced concrete analysis and design.pdf (12.61MB)
32/Handbook of Structural Engineering.pdf (28.34MB)
33/Bridge Engineering.pdf (47.66MB)
34/McGraw-Hill - Piping Handbook.pdf (28.84MB)
35/Mathematics-The Civil Engineering Handbook.pdf (3.87MB)
36/Handbook of Civil Engineering Calculations.pdf (17.27MB)
http://www.filefactory.com/file/38m2n7a1x7o1/n/Handbook_of_Civil_Engineering_Calculations.pdf

37/Subsea Engineering Handbook.pdf (45.42MB)
38/Civil Engineering Handbook(Second Edition).pdf (32.43MB)
39/Building Design and Construction Handbook.pdf (16.03MB)
40/Civil Engineering Handbook.pdf (24.94MB)
41/Construction of buildings Volume 1.pdf (15.41MB)

42/Residential_Structural_Design_Guide.pdf (3.76MB)

43/Design of Highway Bridges.pdf (62.87MB)

44/Estimator Electrical Man-hour Manual.pdf (7.02MB)

45/Earth Retaining Structures.pdf (8.9MB)

46/Structural Steel Designer's Handbook (Brockenbrough & Merritt).pdf (10.95MB)

47/Earthquake Resistant Structure.pdf (7.85MB)

48/Environmental Design of Urban Buildings.pdf (38.77MB)

49/COMPOSITE MATERIALS HANDBOOKvol4.pdf (1.15MB)

50/Railways.pdf (32.58MB)

51/Standard Letters for Building Contractors.pdf (2.33MB)

52/Civil Engineer Reference Book.pdf (91.5MB)

53 Building Repair.pdf (8.9MB)

54/Estimating.pdf (3.03MB)

55/Building_Const_Handbook.pdf (184.77MB)

56/Handbook of Civil Engineering Calculations.zip (30.09MB)

57/Fundamentals of wood design and engineering.pdf (0.27MB)

58/Materials for Civil & Construction Engineers.pdf (12.35MB)

59/Civil Engineer Handbook.pdf (202.91MB)

59/Facility Piping Systems Handbook.pdf (16.28MB)

60/The Handbook of Groundwater Engineering.pdf (19.49MB)
http://www.filefactory.com/file/7fjfgkee0inp/n/The_Handbook_of_Groundwater_Engineering.pdf

61/Fundamentals Handbook - Engineering Symbolology, Prints, and Drawings 1.pdf (8.04MB)

62/Handbook_of_Structural_Engineering.pdf (28.34MB)

63/Drinking water Distribution System.pdf (5.94MB)

64/Hydraulics Handbook.pdf (28.1MB)

Control

65/Elect Eng Handbook_System_Control_Machine.pdf (17.62MB)

66/Practical-Instrumentation-for-Automation-and-Process-Control.pdf (6.91MB)

67/Power Electronic Control in Electrical Systems.pdf (6.97MB)

68/Honeywell-Engineering-Manual-of-Automatic-Control-for-Commercial-Buildings[1].pdf (7.65MB)

69/Honeywell-HVAC-Handbook-AC-and-Ventilation-Controls[1].pdf (6.26MB)

70/Instrumentation_Reference_Book_3E.pdf (36.36MB)

71/Practical-PID-Control.pdf (10.53MB)

72/Instrument-Engineers-Handbook-Fourth-Edition-Volume-One-Process-Measurement-and-Analysis.pdf (18.87MB)

Electrical

73/The Electrical Engineering Handbook.pdf (18.36MB)

74/Electrical Building Services IEE UK based.pdf (4.81MB)

75/Broadcast Engineers Reference Book.pdf (36.81MB)

76/Power Electronics Handbook.pdf (42.69MB)

77/Electrical Eng Portable handbook NEC.pdf (12.95MB)

78/Electrical Practical Power Protection.pdf (6.64MB)

79/Gas_Turbine_Engineering_Handbook_2E.pdf (10.34MB)

80/Protective Relaying Theory & Practice.pdf (12.48MB)

81/US standard Electrical Design.doc (0.05MB)

82/Electrical Practical Power Protection.pdf (6.64MB)

83/Electrical Engineering formulae & tables.pdf (10.5MB)

84/Electrical Building Services IEE based.pdf (4.81MB)

85/Earthing_Grounding_System.pdf (11.9MB)

86/Radio_and_Electronics_Cookbook.pdf (4.91MB)

http://www.filefactory.com/file/57gab1qv9gbd/n/Radio_and_Electronics_Cookbook.pdf

87/Control System Design Guide.pdf (14.46MB)

88/Electrical Power System.pdf (3.34MB)

89/Electronic Filter Design Handbook.pdf (15.51MB)

90/Electrical Engineering formulae & tables.pdf (10.5MB)

91/Introductory Notes for Electrical Machines & Drives.pdf (1.79MB)

92/Power Generation Handbook.pdf (8.04MB)

93/Digital-Signal-Processing-Handbook.pdf (17.61MB)

94/Handbook of Photovoltaic Science and Engineering.pdf (13.29MB)

95/American Electricians' Handbook, 15th Edition.pdf (23.12MB)

96/Power Fault Calculation & Protection Cable Selection_Note.pdf (5.38MB)

97/Electrical Power System.pdf (3.34MB)

ICT

- 98/The Architecture of Computer Hardware, System Software, and Networking.pdf (24.2MB)
- 99/MCSE Networking Essentials Trainind Guide - Second Edition.pdf (5.09MB)
- 100/MCITP-Windows Server 2008 Server Administrator Study Guide.pdf (16.58MB)
- 101/Hardware Firmware Interface Design.pdf (3.74MB)
- 102/Hardware and Computer Organization.pdf (11.09MB)
http://www.filefactory.com/file/591gelupmzmv/n/Hardware_and_Computer_Organization.pdf
- 103/Essentials of Computer Architecture.pdf (2.07MB)
- 104/Embedded System Design.pdf (4.05MB)
- 105/Computer, Network, Software, and Hardware Engineering with Applications.pdf (4.14MB)
- 106/Cisco TCP-IP Routing Professional Reference.pdf (17.15MB)
- 107/CompTIA Security+, Get Certified Get Ahead.pdf (4.09MB)
- 108/Cisco Networking Academy Program.pdf (20.78MB)
http://www.filefactory.com/file/3i841u5k6coz/n/Cisco_Networking_Academy_Program.pdf
- 109/Cisco Packetized Voice and Data Integration.pdf (10.28MB)
- 110/Cisco LAN Switching Configuration Handbook.epub (10.24MB)
- 111/CCSP Cisco Secure VPN Exam Certification Guide.pdf (18.73MB)
- 112/CCDA -Cisco Certified Design Associate Study Guide.pdf (17.74MB)
- 113/CCENT, Cisco Certified Entry Networking Technician Study Guide.pdf (13.92MB)
- 114/Building Cisco Remote Access Networks.pdf (5.82MB)
- 115/Building a Cisco Wireless Lan.pdf (7.07MB)
- 116/Engineering Handbook.pdf (90.79MB)
- 117/Administering Cisco QoS in IP Networks.pdf (3.72MB)
- 118/The Electrical Engineering Handbook.pdf (18.36MB)
- 119/ElectricalEnggHandbook.pdf (545.15MB)

Mechanical

- 120/Welding Handbook.pdf (24.05MB)
- 121/Wind Energy Handbook.pdf (30.87MB)
- 122/Rosaler Robert C. Standard handbook of plant engineering.pdf (15.56MB)

123/Post Maintenance Equipment Management.pdf (9.41MB)

124/Modern Plastics Handbook.pdf (17.9MB)

125/Piping calculation Manual.pdf (4.82MB)

126/Mechanical Engineering Handbook.pdf (32.7MB)

127/Mechanical Engineering Handbook (CRC Press).pdf (32.7MB)

128/Mechanical Design.pdf (51.61MB)

129/Mechanical Engineer reference Book.pdf (45.11MB)

130/Mechanical Design Process.pdf (10.4MB)

131/Industrial_Refrigeration.pdf (132.46MB)

132/Manufacturing& Management.pdf (11.88MB)

133/Machinery Handbook.pdf (1.94MB)
http://www.filefactory.com/file/1f2dgsfx3kel/n/Machinery_Handbook.pdf

134/Intro_Predictive_Maintenance_2E.pdf (3MB)

135/HVAC_handbook.pdf (224.28MB)

136/Industrial Engineering Handbook.pdf (5.22MB)

137/Hvac-Systems-Design-Handbook-2.pdf (6.7MB)

138/HVAC-Pump-Handbook.pdf (12.51MB)

139/HVAC-Handbook-Commissioning-Guideline.pdf (0.87MB)

140/HVAC-Handbook-AC-and-Ventilation-Controls.pdf (6.42MB)

141/HVAC-Engineering-Cookbook.pdf (0.5MB)

142/HVAC AJ HandBook.pdf (64.69MB)

143/Handbook of Technical Diagnostics.pdf (53.33MB)

144/Handbook of Sustainable Engineering.pdf (24.71MB)

145/Handbook of Pumps and Pumping.pdf (14.14MB)

146/Building Tech Plumbing.pdf (118.99MB)

147/Handbook of diesel engines.pdf (26.79MB)

148/Gas Turbine Engg handbook.pdf (19.34MB)

149/Energy Management Handbook.pdf (19.55MB)

150/Control of HVAC.pdf (1.5MB)

151/Compressor Handbook.pdf (13.28MB)

152/Calculations of Machine Design.pdf (5.95MB)

153/Automotive Mechatronics.pdf (33.36MB)

154/Building Services Engineering Spreadsheets.pdf (26.28MB)

155/Automotive Electrical Handbook.pdf (16.58MB)

156/Assembly Automation & Product Design.pdf (10.9MB)

157/Applied Welding Engineering.pdf (5.03MB)

158/AirCondition Design Reference CAREER.pdf (56.11MB)

159/AirConDesign UAungKyawThar.pdf (58.84MB)

160/Air Pollution Control Technology Handbook.pdf (13.38MB)

161ElectricalEnggHandbook.pdf (545.15MB)

<http://www.filefactory.com/file/3kzwweycxk0v/n/ElectricalEnggHandbook.pdf>

Project

162/Mcgraw Hill - Project Management.pdf (3.4MB)

SCOPE- Electrical PE (Building Services)

PART (1)

YEAR 1 & 2 (Minumum 3 to 4 years is required for a graduate to become a PE)

(Total PDP Points for Informal Learning Activities-Private Study Part Time) (Total 10 points per year maximum)(MEB-PE Regulation Appendix 3). Ctrl+Click the link & then allow to download the contents.

The self study learning resources materials for SCOPE – Electrical PE (Building Services)

The tests are based on your general knowledge on the subject. They are not designed to test the limited area of study that the candidate learns one paper & sits one test.

1.Basic Electricity

1. DC Circuit
2. Alternating (sinusoidal) Voltage and current
3. Single phase AC Circuit
4. Phasor Algebra and AC Circuit
5. Resonance in RLC Circuit

After you have done the test, the score can be printed out in PDF format The score with at least 50% or more for all tests, it will be record of $4 \text{ HR} \times 0.5 = 2 \text{ HR}$

2. Three phase Circuits and System

1. Three phase voltage generation
2. Phasor diagram
3. Star/ Delta connection
4. Balanced Three phase loads
5. Active , Reactive and Apparent Power
6. Power Measurements
7. Power Factor Correction

After you have done the test, the score can be printed out in PDF format The score with at least 50% or more for all tests, it will be record of $4 \text{ HR} \times 0.5 = 2 \text{ HR}$

3. Magnetism and Magnetic Circuits

1. Magnetic Field
2. Magnetic Materials and Magnetization curves
3. Magnetic Equivalent Circuit

4. Sinusoidal Excitation
5. Magnetic losses

After you have done the test, the score can be printed out in PDF format The score with at least 50% or more for all tests, it will be record of $2 \text{ HR} \times 0.5 = 1 \text{ HR}$

4.AC/DC Machines

1. DC Machine: operating principle, voltage and torque equations
2. Three phase Induction motors: operating principle, equivalent Circuit, torque-speed, Characteristics, losses and efficiency

After you have done the test, the score can be printed out in PDF format The score with at least 50% or more for all tests, it will be record of $4 \text{ HR} \times 0.5 = 2 \text{ HR}$

5.Transformers

1. Ideal Transformer
2. Equivalent circuit
3. Phasor Diagrams
4. Determination of Parameters
5. Performance Evaluation
6. Auto-transformers
7. Three phase Transformers

After you have done the test, the score can be printed out in PDF format The score with at least 50% or more for all tests, it will be record of $4 \text{ HR} \times 0.5 = 2 \text{ HR}$

6.Active Power and Frequency Control

1. Governor Control Systems
2. Transmission Losses , penalty factors and loss coefficients
3. Automatic Generation Control
4. Active power Control Devices

7.Reactive Power and Frequency Control

1. Production and Absorption of Reactive Power

2. Methods of Voltage Control
3. Reactive Power and Voltage Control Devices
4. Application to Transmission and Distribution Systems

After you have done the test, the score can be printed out in PDF format The score with at least 50% or more for all tests, it will be record of $8 \text{ HR} \times 0.5 = 4\text{HR}$

8.Electric Power Distribution Systems

1. Distribution System Configuration
2. Primary and Secondary Distribution
3. Ring , Radial and Inter-connected Systems
4. Distribution System Layout
5. Planning Criteria and Network Design
6. Fault Diagnosis and Restoration of Supply

After you have done the test, the score can be printed out in PDF format The score with at least 50% or more for all tests, it will be record of $4 \text{ HR} \times 0.5=2\text{HR}$

9.Building Services Engineering

1. Estimation of Power Demand
2. LV Cable and Bus-way Systems
3. Conductor Sizing Factors
4. Circuit Protective Conductor
5. Earth Leakage and Touch Voltage
6. Inspection and Testing
7. Lightning Protection

ur experience in the work place , write the technical report of 10 pages & submit it.

After you have done the test, the score can be printed out in PDF format The score with at least 50% or more for all tests, it will be record of $4 \text{ HR} \times 0.5 = 2\text{HR}$

10.General Protections

1. Basic Protection Principles
2. Instrument Transformers
3. Co-ordination of Over-current and Earth Protection for Distribution Systems
4. Pilot-wire Differential Protection Feeder

After you have done the test, the score can be printed out in PDF format. The score with at least 50% or more for all tests, it will be record of $2 \text{ HR} \times 0.5 = 1 \text{ HR}$

TOTAL PROFESSIONAL DEVELOPMENT PROGRAM (PDP) HOURS = 20 Hours For Year 1 &

SCOPE Electrical PE (Building Services)

PART (2)

YEAR 3 & 4 (Minumum 3 to 4 years is required for a graduate to become a PE)

The practice reports need to write for each topics of the study materials included in Scope Part II.

The reports should include the followings:

- Professional topics----- You need to select the topic such as building electrical wiring or power distribution etc
- Fundamental of Engineering- What knowledge you got from the materials in your selected professional topic..
- Engineering Management--- How will you manage the I project / workforce to implement the engineering tasks by applying those knowledge in actual workplace project or simulated work place and project?.
- Rules Regulations, Standards & Specifications- You need to refer the relevant engineering rules, regulations, standards and specifications in the tasks expressed in your report.
- Safety—How will you safeguard public safety in performing the engineering tasks?
- Ethics--- How will you apply professional code of ethics in performing the engineering tasks?

The candidate should use the following format in the practice exercise reports for each topics of the Scope II that are simulated practice tasks for preparing the Professional Experience and Competency Report to be submitted to Myanmar Engineers Board for Professional Engineer (PE) Registration.

Section (1) Introduction

Section (2) Work experiences in brief and highlight the major important projects

Section 3 to 10 , the following competency should be addressed

- Apply engineering knowledge, methods and techniques
- Use of engineering technology , tools and equipments
- Safeguard public safety
- Recognition the impacts of engineering on the environment , economy and society.
- Manage engineering activities

- Communicate engineering information.
- Work collaboratively
- Main and enhance engineering skills and knowledge. (Ref-MEB PEng Reg)

1.Electrical Power Supply

1. Generation, Transmission and Distribution
2. Application of Electricity
3. Solar Photovoltaic System
4. Design of Electrical Installation
5. Load Estimation
6. Power Factor Correction
7. Power Quality and Power System Harmonics
8. Consumer and Substation Switchboards and Switch Gears
9. Maintenance of Electrical Equipments, Switch Gears and Cables
10. Design of Energy Efficiency and Sustainability

EXERCISE ASSESSMENT (20)

Based on the study you got from the above resources, write a professional experiences and competency report for engineering tasks in electrical power supply in above mentioned format & submit it to the assessor.

(Weighted informal

learning time for CPD including study & report= 20Hr x 0.5= 10Hr)

2.Lighting Requirement for Workplace , Indoor and Outdoor

1. Visual Needs for Safety and Security

EXERCISE ASSESSMENT (21)

Based on the study you got from the above resources, write a professional experiences and competency report for engineering tasks in workplace lighting in above mentioned format & submit it to the assessor.

(Weighted informal learning time for CPD including study & report= 20Hr x 0.5= 10Hr)

3.Energy Efficiency Requirement

1. Minimum Energy Efficiency Requirements for New Installation and Replacement of Systems and Equipments in Buildings
2. Replacement of Components of Systems and Equipments in Buildings
3. Criteria for Determining Compliance with Energy Efficiency in Building with regards to Air conditioning and Heat Rejection Equipments, Water Heater, Motor Drives and Lighting used in Buildings.

EXERCISE ASSESSMENT (22)

Based on the study you got from the above resources, write a professional experiences and competency report for engineering tasks in energy efficiency in above mentioned format & submit it to the assessor.

(Weighted informal learning time for CPD including study & report= 20Hr x 0.5= 10Hr)

4. Protection for Safety

1. Principle of Operation of Protective Devices
2. Maximum Demand and Diversity Factors
3. Protection against Over Current and Short Circuit Currents
4. Protective Devices and Circuit Conductors
5. Discrimination in Protection of Electrical Circuits

EXERCISE ASSESSMENT (23)

Based on the study you got from the above resources, write a professional experiences and competency report for engineering tasks in protection and safety in above mentioned format & submit it to the assessor.

(Weighted informal learning time for CPD including study & report= 20Hr x 0.5= 10Hr)

5. Cables, Bus-ways and Distribution Boards

1. Types and Characteristics of Cables
2. Method Installation
3. Sizing of Conduit and Trunking
4. Factors Affecting the Current Carrying Capacities of Cables
5. Sizing of Cables and Bus-ways for use Under Different Types of Conditions
6. Connected Load, Maximum Demand and Circuit Breakers Ratings for an Electrical

EXERCISE ASSESSMENT (24)

Based on the study you got from the above resources, write a professional experiences and competency report for engineering tasks in electrical installation in above mentioned format & submit it to the assessor.

(Weighted informal learning time for CPD including study & report= 20Hr x 0.5= 10Hr)

6. Earthing

1. Purpose of Earthing

2. Methods of Earthing
3. Earth Fault Loop Impedance and Earth Fault Current
4. Suitable Sizes of Circuit Protective Conductor
5. Testing of Earthing

EXERCISE ASSESSMENT (25)

Based on the study you got from the above resources, write a professional experiences and competency report for engineering tasks in site earthing in above mentioned format & submit it to the assessor.

(Weighted informal learning time for CPD including study & report= $20\text{Hr} \times 0.5 = 10\text{Hr}$)

7. Emergency Lighting

1. Exit and Emergency Lighting Requirements for Evaluation of Occupants
2. Types of Back-up Power Supply
3. Exit and Directional Signs

EXERCISE ASSESSMENT (26)

Based on the study you got from the above resources, write a professional experiences and competency report for engineering tasks in emergency lighting in above mentioned format & submit it to the assessor.

(Weighted informal learning time for CPD including study & report= $20\text{Hr} \times 0.5 = 10\text{Hr}$)

8. Standby Power Generator System

1. Types of Essential and Critical Loads
2. Sizing of Generator
3. Voltage Regulation and its Effects on Generator Sizing
4. Protection of Alternators and Prime Movers
5. Installation of Standby Generator System Including Day-tank Battery and Charger, Fuel Supply, Engine cooling system, Plant room ventilation and fresh air intake, contend instrumentation plant and automatic transfer switch.

EXERCISE ASSESSMENT (27)

Based on the study you got from the above resources, write a professional experiences and competency report for engineering tasks in stand by power system in above mentioned format & submit it to the assessor.

(Weighted informal learning time for CPD including study & report= $20\text{Hr} \times 0.5 = 10\text{Hr}$)

9. Automatic Fire Alarm System

1. Requirement for automatic and manual fire detection system and purpose of compartmentation as required by the fire code.
2. Interaction with other building services as emergency voice communication system, lifts, AHU, pressurization fans and auto-doors during alarm activation.

ADDITIONAL STUDY FOR AUTOMATIC FIRE ALARM SYSTEM

Contact: highlightcomputergroup1@gmail.com to request the URL for download

10. Emergency Voice Communication System

1. Requirement for public address system for building above 24 meters but less than 60 meters.
2. Requirements for emergency voice communication for building above 60 meters.
3. Requirement for fireman intercom.

EXERCISE ASSESSMENT (28)

Based on the study you got from the above resources, write a professional experiences and competency report for engineering tasks in emergency voice communication system in above mentioned format & submit it to the assessor.

(Weighted informal learning time for CPD including study & report= 20Hr x 0.5= 10Hr)

ADDITIONAL STUDY FOR EMERGENCY VOICE COMMUNICATION

Contact: highlightcomputergroup1@gmail.com to request the URL for download

11. Inspection, Testing and Common Violation in Electrical Installation

1. Mandatory requirements for inspection and testing of electrical prior to energisation of electrical supply
2. Types of test instruments and standard methods of testing.

EXERCISE ASSESSMENT (29)

Based on the study you got from the above resources, write a professional experiences and competency report for engineering tasks in electrical safety inspection and testing in above mentioned format & submit it to the assessor.

(Weighted informal learning time for CPD including study & report= 20Hr x 0.5= 10Hr)

12. Measuring Instruments

1. Principle of operation of Electrical Measuring Instruments
2. Essential of Indicating Instruments
3. Types of Instruments
4. Errors Common to All Types of Instruments
5. Moving Iron Instruments
6. Moving coil Instruments
7. Comparison Between Moving Iron and Moving Coil Instruments
8. Comparison Between Moving Iron and Dynamometer Type Instrument
9. Extension of Instrument Range
10. Measurement of Power
11. Watt Meter, Dynamometer Type Wattmeter
12. Energy Meter, Multi-meter or AVO Meter, Electronic Multi-meter
13. Digital Multi-meter

STUDY MATERIALS (Electrical Measurement)

[EE 404 Electrical Measurement \(1 pt\)](#)

EXERCISE ASSESSMENT (30)

Based on the study you got from the above resources, write a professional experiences and competency report for engineering tasks in electrical measurement and testing in above mentioned format & submit it to the assessor.

(Weighted informal learning time for CPD including study & report= 20Hr x 0.5= 10Hr)

13.Electrical Engineering Codes/ Standards

1. Codes, Standards and Regulations
2. Codes and Standards for building services

Assignment: At the end of each chapter, there are review questions & exercises. You need to do all exercises & submit them as assignment

EXERCISE ASSESSMENT (31)

Based on the study you got from the above resources, write a professional experiences and competency report for engineering tasks in electrical engineering codes and standards used in engineering work in above mentioned format & submit it to the assessor.

(Weighted informal learning time for CPD including study & report= 20Hr x 0.5= 10Hr)

Graduate Diploma in Explosives Engineering (61112345)

Graduate certificate programs in explosives engineering provide students with a practical and theoretical understanding of explosives and blasting technology. Students learn to design explosives and explosives systems that can break away both natural and man-made structures. They learn to plan, build and executive explosive systems for uses in demolition, construction and even research.

Graduate certificate programs in explosives engineering are open to students who already hold a bachelor's or master's degree, or even a Doctor of Philosophy (Ph.D.), in engineering or a related field. Some schools only admit students who also have some professional work experience in engineering, construction or demolition.

Courses included in a graduate certificate program in explosives engineering cover principles of the science, as well as practical and technical skills related to the profession. Some examples of courses include:

- Expl601 Principles of explosives engineering
- Expl602 Demolitions technology
- Expl603 Blasting design
- Expl804 Instrumentation for explosives testing
- Expl605 High explosives theory

Master of Science in Explosives Engineering (61112346)

Master's degree programs in explosives engineering typically are offered within the mining, construction or engineering departments of 4-year universities. They allow students to gain a thorough understanding of the theoretical and practical components of explosives engineering. Students learn to safely handle explosives, design explosive systems to meet particular demolition parameters and operate instruments and materials used in the field. They may also be required to complete a thesis paper or project in explosives engineering before graduation.

Master's degree programs in explosives engineering include background courses related to advanced engineering and mathematics. Core courses often include the following:

- Expl606 Controls for blasting
- Expl607 Pyrotechnics operations
- Expl608 Buildings and structure demolition
- Expl609 Underground construction technology
- Expl610-Demoltion Practice

Popular Career Options

Explosives engineers can use their specialized skills in a variety of industries. They might hold specific titles like:

- Construction explosives engineer
- Special effects and pyrotechnics engineer
- Demolition explosives engineer
- Research and exploration blaster

Master of Engineering (Civil) High Rise Building Construction

(240 Credits) (Course 8011121)

Masters of Engineering (Civil- High Rise Building Construction) program is for recent graduates who have completed their BE degrees.

It will include the following 12 subjects of 10 credits each.

This program will be delivered entirely in English .

Graduate Diploma in Engineering (180 credits)

Completion of the compulsory 6 subjects will earn Graduate Diploma in Engineering (60 credits at Masters level +120 Credits for Bachelors degree level total 180credits. Completion of two or more units can earn Graduate Certificate in Engineering.

List of Subjects (Compulsory)

- (1)BAE6011 High Rise Building Construction Project
- (2) BAE6012 High Rise Building Construction Method
- (3) BAE6013 Design of High Rise Building
- (4)BAE6014 High Rise Building Structure
- (5)BAE6015 Scheduling Building Construction
- (6)BAE6016 Fire Safety in High Rise Building

List of Subjective (Civil Engineering Subjects)

- (7) BAE650 Steel Design
- (8) BAE 643-Earthquake Resistant Structure
- (9) BAE 634-Building Construction
- (10) BAE 637-Composite Structure of Steel& Concrete
- (11) BAE 636-Building Technology Electrical Mechanical System
- (12) BAE 644-Estimating

Assessment

The candidates will need to submit the study report

Read the e Book , view the lecture videos and write 20 pages study report for each of the subjects outlined below.

- The report needs to include
- Book review- Review on each chapter of the book highlighting the key concepts, key formula, key theory & practical application concepts
- Own idea on how to apply those concepts in real practical applications.
- Examples of engineering designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book

IQY TECHNICAL COLLEGE

STC TECHNOLOGICAL UNIVERSITY

ST CLEMENTS UNIVERSITY MYANMAR COLLEGE

IPEM TECHNOLOGICAL UNIVERSITY

MASTERS DEGREE LEARNING SUPPORT

There are two types of Masters Programs in Engineering

1. Master of Engineering Practice
2. Master of Engineering

(1) Master of Engineering Practice (240 credits, 120 credits for BE degree)

Master of Engineering Practice is for experienced engineers . It will include the following subjects of 10 credits each

- BAE 701 Engineering Fundamental
- BAE 702 Engineering Management
- BAE 703 Leadership & Human Resources Management
- BAE 704 Risk Management & Industrial Safety
- BAE 705 Engineering Competency Development
- BAE 706 Engineering Report Writing
- BAE 707 Engineering Ethics
- BAE 708 Engineering Knowledge

Completion of the above subjects will earn Graduate Diploma in Engineering Practice (80 credits at Masters level +120 Credits for Bachelors degree level total 200 credits. Completion of two or more units can earn Graduate Certificate in Engineering.

The candidate will need to do Engineering Design Project of 40 credits to complete Master of Engineering Practice of 240 credits

The followings are study instruction

Form 15

IQY Master Diploma

www.highlightcomputer.com/iqymasterdiploma.pdf

BAE701 to 708, you will complete the Graduate Diploma

Then submit the design project to complete the Masters

From the above links, textbooks can be downloaded. Choose Civil Engineering

[Form 45 St Clements University Master of Engineering for Non standard Entry Study Support](#)

<http://www.highlightcomputer.com/Master of Engineering.pdf>

The following link shows the example of the tasks that you need to do

[Form 46 Master Diploma Civil Worked Example](#)

<http://www.iqytechnicalcollege.com/MasterDiplomaWorkExamplesCivil.pdf>

(1) Master of Engineering (Professional Engineering)

(240 credits, 120 credits for BE degree)

Masters of Engineering (Professional Engineering) program is for recent graduates who have completed their BE degrees.

It will include the following 24 subjects of 5 credits each

The students will have to write 20 pages study progress report for each of the subjects outlined below.

The report needs to include

- Date and chapters that the candidate reads (The student will need to read the book
- at least 4 days per week)
- Highlight the key concepts, key formula, key theory & practical application concepts .
- Notes of the topic that you read.
- Key diagrams, formula, problem solutions
- Power point slides to express the key topics

There are 24 units in Masters of Engineering (Professional Engineering) Program, the candidate will need to complete one unit per month so that the

whole program will be completed within 24 months. (120 credits at Masters level and 120 Credits for Bachelors degree total 240 credits).

As Master of Professional Engineering is delivered entirely in English and very intensive program, to encourage the students to earn the Graduate Diploma and Masters degree, the following arrangements are also made.

Graduate Diploma in Engineering (140 credits)

Completion of the compulsory 4 subjects will earn Graduate Diploma in Engineering (20 credits at Masters level +120 Credits for Bachelors degree level total 140 credits. Completion of two or more units can earn Graduate Certificate in Engineering.

Master of Engineering Science

Completion of the compulsory 6 subjects will earn Master of Engineering Science (30 credits at Masters level +120 Credits for Bachelors degree level total 150 credits.

Master of Engineering

Completion of the compulsory 6 subjects PLUS project (30 credits) will earn Master of Engineering (60 credits at Masters level +120 Credits for Bachelors degree level total 180 credits.

Master of Engineering from SCPU School of Engineering registered in Switzerland

Please note that the candidates who want to get the Master of Engineering from SCPU School of Engineering registered in Switzerland must complete Masters of Engineering (Professional Engineering) by either studying the lectures of entire English medium of language instruction or self study in provided textbooks written in English which they need to do self study and submit the study report.

Electrical Compulsory Subjects

- BAE 655-Wireless Communications
- BAE656 Advanced Digital Signal Processing
- BAE 670-Power System Engineering
- BAE 661-Design of Electrical Services for Buildings
- BAE 677-Photovoltaic Systems
- BAE 660-Control Engineering

Two cross disciplinary subjects

- BAE 694-Mechanical Control Engineering
- BAE 699-Rotating Machinery Vibration

Pick up the required book

Two Cross disciplinary subjects

BAE 694-Electro-Mechanical Control Engineering

BAE 699-Rotating Machinery Vibration

The above subjects will be provide with English and Myanmar Instructions and guidance. The candidates can choose the other subjects from the available subjects but they are entire English medium of instruction or self study in provided textbooks written in English which they need to do self study and submit the study report.

Instead of doing the project, the following options are also open for the students.

Project Reference Link <http://www.iqytechnicalcollege.com/engineeringdesign.htm>

Option (1) Self study or two more subjects

The students can select choose two more subjects from the available subjects in same discipline or other discipline , follow the entire English medium of instruction or self study in provided textbooks written in English which they need to do self study and submit the study report.

Option (2) Complete any two of the following subjects by submitting the assignments

- BAE 702 Engineering Management
- BAE 703 Leadership & Human Resources Management
- BAE 704 Risk Management & Industrial Safety
- BAE 707 Engineering Ethics

Civil Compulsory Subjects

BAE 631-Advanced Concrete Technology

BAE 634-Building Construction

BAE 636-Building Technology Electrical Mechanical System (BAE661-Design of Electrical Services for Buildings)

BAE 650-Steel Design

BAE 635-Building Survey

BAE 644-Estimating

Two Cross disciplinary subjects

BAE 690-Mechanical Estimating

BAE 689A/B-Mechanical Design

Two Cross disciplinary subjects

BAE 690-Mechanical Estimating

BAE 689A/B-Mechanical Design

The above subjects will be provide with English and Myanmar Instructions and guidance. The candidates can choose the other subjects from the available subjects but they are entire English medium of instruction or self study in provided textbooks written in English which they need to do self study and submit the study report.

Instead of doing the project, the students can select choose two more subjects from the available subjects in same discipline or other discipline , follow the entire English medium of instruction or self study in provided textbooks written in English which they need to do self study and submit the study report.

Mechanical Compulsory Subjects

BAE 678A/B-Machine Design

BAE 689A/B-Mechanical Design

BAE 698-Thermal Engineering

BAE 694-Control Engineering

BAE 699-Rotating Machinery Vibration

BAE 690-Mechanical Estimating

Two Cross disciplinary subjects

BAE 661-Design of Electrical Services for Buildings

BAE 650-Steel Design

Two Cross disciplinary subjects

BAE 661-Design of Electrical Services for Buildings

BAE 650-Steel Design

The above subjects will be provide with English and Myanmar Instructions and guidance. The candidates can choose the other subjects from the available subjects but they are entire English medium of instruction or self study in provided textbooks written in English which they need to do self study and submit the study report.

Instead of doing the project, the students can select choose two more subjects from the available subjects in same discipline or other discipline , follow the entire English medium of instruction or self study in provided textbooks written in English which they need to do self study and submit the study report.

Project Reference Link <http://www.iqytechnicalcollege.com/engineeringdesign.htm>

List of the subjects and Resources Download Link

Electrical

Civil

Mechanical

Renewable Energy.

Information Technology.

The above link contains all textbooks in the following links

Part 1 Course Work
Any 24 subjects can be selected .

(1) BAE 658-Real-time Systems

(2) BAE 665-Fabrication Engineering at the Micro and Nanoscale

(3) BAE 655-Wireless Communications.

(3) BAE 671-Satellite Communications and Navigation Systems

(4) BAE 665-Embedded Digital Signal Processing Systems

(5)BAE 657-Advanced Electromagnetics Applications

(6)BAE 676-Failure Analysis

(7)BAE 673-Frequency Stability

(8) MEE11-High Speed A-D Converters

(9) MEE2-Advanced Electric Power Engineering

MEE9-Handbook of Power System Engineering-.pdf (11.57MB)

(10)MEE12-Iterative Learning Control

(11) BAE 664-Distributed Generation in Power System

(12) BAE 675-Nanoelectronics

(13) MEE1-Electric Distribution Systems

(14) BAE 674-Intelligent Systems

(15) MEE13-Non linear control

(16) BAE 656-Advanced Digital Signal Processing and Noise Reduction

(17) BAE 677-Photovoltaic Systems

(18) BAE 660-Control Engineering

(19) BAE 659-Computer-aided Control Systems

(20) MEE7-EMI Filter Design

- (21) BAE 661-Design of Electrical Services for Buildings
- (22) BAE 670-Power System Engineering
- (23) MEE10-High Performance Control of AC Drives
- (24) BAE 667-Industrial Control System
- (25) MEE14-System Engineering Concepts
- (26) MEE6-Electronics+Power Electronics+Opto Electronics+Microwave+Radar
- (27) BAE 666-Generating Electricity in a Carbon Constrained World
- (28) BAE 669-Power Electronics and Instrumentation Engineering
- (29) BAE 663-Advanced Digital Electronics
- (30) MEE8-Flexible Power Transmission
- (31) BAE 668-Photonics
- (32) MEE3-Electric Power Transmission System Engineering

- (33) BAE 672-Industrial& System Engineering

- (34) MEE5-Electro Optics
- (35) MEE4-Electricity Power Generation
- (36) BAE 662-Design of Rotating Electrical Machines

Part 2 Thesis

Master of Engineering (Thesis).pdf (0.3MB)

Meaning of Research & Research Proposal

Research Preparation & planning

Research Practice

Textbook Higher Education: Handbook of Theory and Research Published under the Sponsorship of the Association for Institutional Research (AIR) and the Association for the Study of Higher Education (ASHE)

Other References

Master of Engineering (Electrical) Course Work Graduate Diploma Syllabus.doc (0.02MB)

Graduate Diploma in Electrical Engineering Course Work.pdf (0.26MB)

St Clements Technological University Masters Degree Scholarship Application Form.doc (1.32MB)

iqymasterdegree.docx (2.65MB)

Graduate Diploma in Electrical Engineering Course Work.doc (0.04MB)

Educational Research.pdf (3.02MB)

CIVIL [Menu](#)
The above link contains all textbooks in the following links
Part 1 Course Work
All 24 subjects must be completed.

(1) BAE 654-Theory & Design of Bridges

(2)BAE 653-Surveying

(3) BAE 652-Structural Analysis

(4) BAE 649-Soil & Rock Mechanic

(5)BAE 651-Strom & Waste Water

(6) BAE 650-Steel Design.pdf

(7) BAE 648-Railways Bridges

(8)BAE 646 Highway Engineering

(9) BAE 647-Piling Engineering

(10) BAE 645-Geotechnics

(11) BAE 642-Design of Reinforce Concrete

(12) BAE 644-Estimating

(13) BAE 643-Earthquake Resistant Structure

(14) BAE 638-Construction Drawing

(15)BAE 641-Construction Site Planning

(16) BAE 640-Construction Mathematics.

(17) BAE 639-Construction Materials

(18) BAE 634-Building Construction

(19) BAE 637-Composite Structure of Steel & Concrete

(20) BAE 636-Building Technology Electrical Mechanical System

(21) BAE 635-Building Survey

(22) BAE 633-Bridge Construction

(23) BAE 632-Architectural Design

(24) BAE 631-Advanced Concrete Technology

Part 2 Thesis

Master of Engineering (Thesis).pdf (0.3MB)

Lecture Video

<https://youtu.be/fGcpxlEUndo>

Lecture Slides Introduction to Research

www.iqytechnicalcollege.com/McM_Ch1.ppt

Meaning of Research & Research Proposal

www.iqytechnicalcollege.com/EDUC8631_Slides-Day_1-Sessions_1_2_3_and_4.ppt

Research Preparation & planning

www.iqytechnicalcollege.com/Chapter7.ppt

Research Practice

www.iqytechnicalcollege.com/STEM_PedR_jane.ppt

Textbook Higher Education: Handbook of Theory and Research Published under the Sponsorship of the Association for Institutional Research (AIR) and the Association for the Study of Higher Education (ASHE)

[http://www.iqytechnicalcollege.com/11.Research+Thesis \(ICT 605\).zip](http://www.iqytechnicalcollege.com/11.Research+Thesis (ICT 605).zip)

Other References

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Graduate Diploma in Electrical Engineering Course Work.pdf (0.26MB)

St Clements Technological University Masters Degree Scholarship Application Form.doc (1.32MB)

iqymasterdegree.docx (2.65MB)

Graduate Diploma in Electrical Engineering Course Work.doc (0.04MB)

Educational Research.pdf (3.02MB)

MECHANICAL

[Menu](#)

The above link contains all textbooks in the following links
Part 1 Course Work
Any 24 subjects to be completed.

- (1) BAE 694-Control Engineering
- (2) BAE 682-Assembly Automation & Product Design
- (3) BAE 688-Manufacturing & Management.
- (4) BAE 692-Metallurgy
- (5) BAE 689A-Mechanical Design
- (6) BAE 686-Electro-Mechanical Manufacturing Process
- 7) BAE 683-Material engineering
- (8) BAE 693-Piping System
- (9) BAE 689B-Mechanical Design
- (10) BAE 625- Structural Engineering Mechanics
- (11) BAE 696-Specification Development
- (12) BAE 698-Thermal Engineering
- (13) BAE 699-Rotating Machinery Vibration
- (14) BAE 678A-Machine Design
- (15) BAE 684-Computerised Engine Control
- (16) BAE 678B-Machine Design
- (17) BAE 685-Electric Vehicle Technology
- (18) BAE 695-Random Vibration
- (19) BAE 691-Mechatronics
- (20) BAE 680-Quality Control
- (21) BAE 690-Mechanical Estimating
- (22) BAE 679- Materials Science
- (23) BAE 681- Welding Engineering.
- (24) BAE 679-Composite Materials & Joining Thechology.pdf (15.06MB)
- (25) BAE 687-Lasers in Manufacturing.pdf (8.93MB)

(26) BAE 697-Structural Foundation Design.pdf (10.27MB)

Part 2 Thesis

Master of Engineering (Thesis).pdf (0.3MB)

Lecture Video

<https://youtu.be/fGcpxlEUndo>

Lecture Slides Introduction to Research

www.iqytechnicalcollege.com/McM_Ch1.ppt

Meaning of Research & Research Proposal

www.iqytechnicalcollege.com/EDUC8631_Slides-Day_1-Sessions_1_2_3_and_4.ppt

Research Preparation & planning

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Research Practice

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Other References

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Graduate Diploma in Electrical Engineering Course Work.pdf (0.26MB)

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iqymasterdegree.docx (2.65MB)

Graduate Diploma in Electrical Engineering Course Work.doc (0.04MB)

Educational Research.pdf (3.02MB)

RENEWABLE ENERGY

Menu

The above link contains all textbooks in the following links

Part 1 Course Work

The following 10 subjects to be completed.

Each 10 credits and total 100 credits to get Graduate Diploma

(1) RE511- Sustaining Earth Energy resources

(2) RE510- Water Conservation

(3) RE509- Applied Photovoltaics

(4) RE508- Solar Hydrogen Energy System

(5) RE507- Offshore Wind Turbines Part 1

RE507- Offshore Wind Turbines Part 2

(6) RE505- Green Building Design

(7) RE504- Engineering Solution for Sustainability

(8) RE503- Energy Management in Industrial and Commercial Facilities

(9) RE502- Biomass Gasification

(10) RE 501-Control of Solar Energy System

Part 2 Thesis

Master of Engineering (Thesis).pdf (0.3MB)

Lecture Video

<https://youtu.be/fGcpxlEUndo>

Lecture Slides Introduction to Research

www.iqytechnicalcollege.com/McM_Ch1.ppt

Meaning of Research & Research Proposal

www.iqytechnicalcollege.com/EDUC8631_Slides-Day_1-Sessions_1_2_3_and_4.ppt

Research Preparation & planning

www.iqytechnicalcollege.com/Chapter7.ppt

Research Practice

www.iqytechnicalcollege.com/STEM_PedR_jane.ppt

Textbook Higher Education: Handbook of Theory and Research Published under the Sponsorship of the Association for Institutional Research (AIR) and the Association for the Study of Higher Education (ASHE)

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Graduate Diploma in Electrical Engineering Course Work.pdf (0.26MB)

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iqymasterdegree.docx (2.65MB)

Graduate Diploma in Electrical Engineering Course Work.doc (0.04MB)

Educational Research.pdf (3.02MB)

INFORMATION TECHNOLOGY

[Menu](#)

~~The above link contains all textbooks in the following links~~

Part 1 Course Work

The following 8 subjects to be completed

Each 10 credits, total 80 credits to complete Graduate Diploma

(1) Programming (ICT 601).zip (125.7MB)

(2) E-Commerce (ICT 602).zip (31.69MB)

(3) Multimedia Systems (ICT 604).zip (55.44MB)

(4) Database Systems (ICT 502).zip (17.93MB)

(5) Applied Computing I (ICT 505).zip (14.2MB)

(6) Applied Computing II (ICT 506).zip (134.73MB)

(7) Software Engineering (ICT 603).zip (90.71MB)

The following two Electrical (Computer) subjects must be completed
Each 5 credits. Two combined units 10 credits

(8) BAE658 Real Time Systems + BAE 674 Intelligent Systems

BAE 658-Real-time Systems

BAE 674-Intelligent Systems

The above two Electrical (Computer) units can also be studied

Part 2 Thesis

Master of Engineering (Thesis).pdf (0.3MB)

Lecture Video

<https://youtu.be/fGcpxlEUndo>

Lecture Slides Introduction to Research

www.iqytechnicalcollege.com/McM_Ch1.ppt

Meaning of Research & Research Proposal

www.iqytechnicalcollege.com/EDUC8631_Slides-Day_1-Sessions_1_2_3_and_4.ppt

Research Preparation & planning

www.iqytechnicalcollege.com/Chapter7.ppt

Research Practice

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iqymasterdegree.docx (2.65MB)

Graduate Diploma in Electrical Engineering Course Work.doc (0.04MB)

Educational Research.pdf (3.02MB)

Then Masters degree will be completed

BAE 702 Engineering Management

See the site

View the videos, download the lessons, study and then do the exercises in

BAE 702 Leadership & Human Resources Management

See the site

View the videos, download the lessons, study and then do the exercises in

[Exercises Download Link](#)

Study Guide

BAE 704 Risk Management & Industrial Safety

View the videos, download the lessons, study and then write an essay

“How I will assess the risks in my workplace” You can write 3 to 5 pages.

BAE 707 Engineering Ethics Society of Professional Engineers-UK

Code of Professional Conduct

All individuals registered as Professional Engineers and those aspiring to become registered Professional Engineers shall deliver services in accordance with the Society's Code of Professional Conduct and shall:

1. Competence

- a) only undertake professional tasks for which they are competent and will at all times exercise all reasonable professional skill and care to prevent avoidable danger to health or safety and the creation of adverse impacts on the environment.
- b) maintain and broaden their knowledge, experience and competence and encourage others to do so.

2. Integrity

- a) treat all persons fairly with respect and without bias
- b) avoid where possible real or perceived conflict of interest and advise affected parties should such conflicts arise.
- c) observe the proper duties of confidentiality owed to appropriate parties.
- d) discharge their professional duties with integrity, impartiality and objectivity and have no involvement with any form of bribery.

3. Responsibility

- a) accept appropriate responsibility for work carried out under their supervision.

b) assess relevant risks and liability and, if appropriate, have in force appropriate liability insurances.

c) notify the Society within 28 days:

- if convicted of a criminal offence other than parking fines or convictions for exceeding the speed limit:
- upon becoming bankrupt or disqualified as a Company Director:
- if they are removed from the membership of another professional body as the result of a matter relating to conduct.

d) notify the Society of any significant violation of the Code of Conduct by any Professional Engineer on the register or any aspiring member seeking to gain access to the register.

4. Information

a) co-operate with the Society and provide such information as may be requested to facilitate any investigation into the conduct of any Professional Engineer on the register or any aspiring member seeking to gain access to the register.

5. Relationships

a) have due regard to their duty of care to clients and not take advantage of any client or potential client for whatever cause or reason in obtaining and carrying out instructions.

b) put all terms of engagement in writing and state the fees to be charged; whenever practicable, these should be issued to the client before a project is begun.

c) inform his/her client immediately if it appears that his/her estimate as to the total fees to be charged is likely to be or will be exceeded.

d) take care not to mislead a client as to the range of services that a quoted fee is intended to cover and the amount of future fees which may be involved.

Note in respect of relationships: Any Professional Engineer on the register or any aspiring member seeking to gain access to the register shall not:

- accept a professional assignment if he/she is aware or has reasonable cause to suspect that another member is acting for the client in respect of the same assignment, until either the

first contract has been determined by the client, or the other member has consented to him acting.

- induce a client to agree to pay sums of money which are not justified by reference to the work which the member has carried out or has been instructed to carry out.
- offer or give any fee, commission, discount or other inducement (financial or otherwise) to a third party in return for the introduction of clients or particular professional assignments unless, before entering into a legally binding agreement with that client he/she makes full disclosure to the relevant client of the nature or amount of such fee, commission, discount or inducement and the name of the person or persons to whom such fee, commission, discount or inducement was offered or given.

6. Practice

a) Ensure that in respect of any firm in which he/she is or is held out to be a sole proprietor, partner or a director or through which he/she practises or conducts business:

- the composition (list of partners or directors) is clearly stated on all appropriate documentation and that where there has been a material alteration to the composition, all clients of the firm or company are notified of the change promptly;
- the style or title does not adversely reflect upon his/her professional status as a Professional Engineer and the dignity and reputation of the engineering profession;
- the name is not misleading or liable to cause confusion with the public, nor does it imply any partnership arrangement with or endorsement of services by the Society.

b) Titles associated with the registration of Professional Engineers such as “PEng” and “PEng(UK)” and membership of the Society such as “Fellow of the Society of Professional Engineers”, “Member of the Society of Professional Engineers”, and all others relating to membership of the Society of Professional Engineers, and the designations FSPE, MSPE, Hon.FSPE, Hon.MSPE shall only be used or authorised to be used in connection with a partnership or company

- in the name of any partnership in which such member practises provided all the member’s partners are similarly entitled to use the Title and designatory letters
- to describe the name of any company provided only that all the shareholders and/or members of such company and all the directors of such company are similarly entitled to use the Title.

- to describe the name of a firm or business which is not a partnership or company in which he/she practises provided such use of the Title does not give the impression that any other person or persons with whom such member is carrying on business or whom such member employs or with whom such member is associated in any way is entitled to use the same Relevant Title or, if the impression referred to is given, such other person or persons is or are similarly entitled to use the Title.

7. Managerial responsibility

a) In addition to the responsibilities referred to in the Rules of Professional Conduct, but subject to the following, any Professional Engineer on the register or any aspiring member seeking to gain access to the register shall be prima facie responsible, as a matter of professional conduct, for the acts or omissions including, in particular, breach of any of the provisions of the Articles and Bye-Laws of the Society or these Rules of Professional Conduct of:

- any firm in which the member is, or holds him/herself out to be, or allows him/herself to be held out as a partner, or any firm which the member allows to use his/her name and/or style and title or designatory letters in any of its advertisements, publicity material or notepaper; and
- any company of which he/she is a director or any co-director of that company or any company which the member allows to use his/her name and/or style and title or designatory letters in any of its advertisements, publicity material or notepaper.

b) If any Professional Engineer on the register or any aspiring member seeking to gain access to the register is able to show that, without default on his/her part, he/she was not aware, and there was no reason for him to be aware at the time of any breach of these provisions by any firm or company referred to above and he/she had, prior to the breach, taken all reasonable steps to ensure that such a breach would not occur, then he/she shall not be in breach of this Rule.

8 Publicity and Advertising

a) Any Professional Engineer on the register or any aspiring member seeking to gain access to the register may publicise his/her services or permit another person to do so, but in doing so the member must have due regard to the standards set by the Advertising Standards Authority and any standards set by any other regulatory or governmental authority in relation to advertising and

ensure that any publicity for which he/she is in any way responsible is neither inaccurate nor misleading.

b) In all advertising, publicity material or public statements for which any Professional Engineer on the register or any aspiring member seeking to gain access to the register is in any way responsible, he/she shall avoid all claims of superiority over, or critical comparisons of, the services provided by other engineers and shall avoid any direct comparison of fees and charges levied by other engineers.

c) Any Professional Engineer on the register or any aspiring member seeking to gain access to the register may only refer to the name of a client in any advertising, publicity material or public statement if the prior written consent of that client is first obtained.

d) Advertisements or other publicity material issued by any Professional Engineer on the register or any aspiring member seeking to gain access to the register or by a firm in which they are held out to be a partner or director or a company through which they practise or conducts their business may state (subject to compliance with any other relevant regulations or legal requirements) either expressly or implied that they, the firm or the company (as the case may be) offers expertise or specialist advice in relation to a particular field of engineering provided only that this is the case.

ASSIGNMENT

From newspaper, journal, internet, online chatting groups, show one event that signify the breach of engineering ethics such as use of substandard materials, breach of safety law, breach of fair practice, attempt to monopolizing , use of law and authority for safeguarding own benefits or personal associates , depressing others and highlight how engineering ethics are breached.

BACHELOR OF TECHNOLOGY IN TEXTILE ENGINEERING COURSE SUBJECTS

120CREDITS= 60 UNITS X 2 CREDITS PER UNIT

Year 1

Semester I

TX101 Pure Mathematics I

TX102 Applied Mathematics

TX103 Basic Physics I

TX104 Basic Chemistry I

TX105 Engineering Drawing I

TX106 Communication Skills I

TX107 Development Concepts and Applications

TX 108 Engineering Drawing II

Year 2

TX201 Introduction to Textile Technology

TX202 Solid Mechanics I

TX203 Mechanics of Machines I

TX204 Engineering Drawing III

TX205 Introduction to Computer Hardware and Software

TX206 Electrical Technology I

TX207 Yarn Manufacture I

TX208 Textile Chemistry I

TX209 Textile Mechanics

TX210 Materials Science I

TX 211 Electrical Technology

TX212 Thermodynamics I

TX213 Engineering Materials

TX214 Electrical Technology II

TX215 Workshop Practice

Additional Study

State, Society and Development

Year 3

Semester I

TX301 Engineering Mathematics II

TX302 Research Methodology

TX303 Basic Electronics

TX304 Computer Programming

TX305 Engineering Mathematics III

TX 306 Statistics

TX307 Man Made Fibres I

TX308 Yarn Manufacture III

TX309 Cloth Manufacture I

TX310 Textile Physics II

TX311 Control Systems I

Year 4

Semester I

TX 401 Man Made Fibres II

TX402 Spinning Calculations

TX403 Cloth Manufacture II

TX404 Fabric Design I

TX405 Technology of Dyeing

TX406 Textile Finishing I

TX407 Textile Testing I

TX408 Instrumentation

Semester II

TX409 Cloth Manufacture III

TX410 Fabric Design II

TX411 Knitting Mechanisms

TX412 Dyeing and Printing

TX413 Textile Finishing II

TX414 Textile Chemical Processing Machinery

TX415 Textile Testing II

TX416 Textile Industry Planning and Organisation

Year 5

TX501 Weaving Calculations

TX502 Textile Machinery Maintenance

TX503 Industrial Law and Ethics

TX504 Textile Project

TX505 Quality Control of Textile Processes

TX506 Textile Economics

TX507 Factory Management

TX508 Industrial Pollution Control

Additional Study

Operations Research

Year 6

TX601 Textile Project

TX602 Electives

Electives are selected from the following list, subject to the advice and prior approval of the department. Students will be advised on the electives offered in any particular semester.

The electives offered to a student will generally depend on the availability of expertise, the student's desired career specialisation and the needs of the profession.

- Clothing Technology
- Computer Applications in Textile Engineering
- Yarn Production and Planning
- Advanced Spinning Studies

- Industrial Yarns
- Fabric Production and Planning
- Advanced Weaving Studies
- Industrial Fabrics
- Advanced Finishing Studies
- Production Planning in Textile Finishing
- Computer Aided Design & Aided Manufacturing

Additional studies in the textbooks provided in all Textile Subjects

Graduate Diploma in Geographic Information Systems (Grad Dip GIS)(6886650)

Course Feature

This course introduces students to the 'building blocks' of GIS systems, including data structures, relational databases, spatial queries and analysis. The focus then moves on to sources of spatial data including Global Positioning System (GPS), operational systems such as smartcard ticketing and transaction data along with web-based sources highlighting both the potential and challenges associated with integrating each data source within a GIS environment. The unit is hands-on involving learning how to use the latest GIS software to analyse several problems of interest using real 'big data' sources and to communicate the results in a powerful and effective way. These include identifying potential demand for new services or infrastructure, creating a delivery and scheduling plan for a delivery firm or examining the behaviour of travellers or consumers over time and locations

Pre-requisite

Any Bachelors degree

Mode of Learning

Online/ English/ Video Lessons/ Readers/ Submission of study report

Subjects (Total 80 credits) (Each 8 credits)

- GIS601-PrinciplesGIS
- GIS602-Principle of GPS
- GIS603-Relational databases
- GIS604-Smartcard-Ticketing-
- GIS605 Spatial data system
- GIS606 Spatial queries and analysis
- GIS607 SpatialDecisionMaking0
- GIS608 Building Block of GIS
- GIS609 integrating data source within a GIS environment
- GIS610 Large spatial datasets analysis
- GIS Software

Graduate Diploma of Engineering Practice (Civil)

STAGE (3) ADVANCED GENERAL CIVIL ENGINEERING (18 Pt)

BAE421 Building Construction Engineering (4 pt)

BAE422 Estimating (2 pt)

BAE423 Fluid Mechanics (2 pt)

BAE424 Reinforced Concrete (2 pt)

BAE425 Timber Engineering (2 pt)

BAE521 Road & Bridge (2 pt)

BAE522 Rock Mechanics (2 pt)

BAE523 Soil Mechanics (2 pt)

STAGE (4 A) ADVANCED SPECIALIZED CIVIL ENGINEERING STUDY (6Pt)

BAE621 Structural Engineering (3 pt)

BAE622 Architecture (3 pt)

STAGE (4B) ADVANCED SPECIALIZED CIVIL ENGINEERING STUDY (4Pt)

BAE623 Surveying & Traffic Engineering (2 pt)

BAE624 Water Supply , Sanitation & Finishing (2 pt)

Graduate Diploma of Engineering Practice (Civil)

STAGE (3) ADVANCED GENERAL CIVIL ENGINEERING (18 Pt)

BAE421 Building Construction Engineering (4 pt)

BAE422 Estimating (2 pt)

BAE423 Fluid Mechanics (2 pt)

BAE424 Reinforced Concrete (2 pt)

BAE425 Timber Engineering (2 pt)

BAE521 Road & Bridge (2 pt)

BAE522 Rock Mechanics (2 pt)

BAE523 Soil Mechanics (2 pt)

STAGE (4 A) ADVANCED SPECIALIZED CIVIL ENGINEERING STUDY (6Pt)

BAE621 Structural Engineering (3 pt)

BAE622 Architecture (3 pt)

STAGE (4B) ADVANCED SPECIALIZED CIVIL ENGINEERING STUDY (4Pt)

BAE623 Surveying & Traffic Engineering (2 pt)

BAE624 Water Supply , Sanitation & Finishing (2 pt)

Graduate Diploma of Engineering Practice (Computer Control Engineering)

This one year course with 30 credit points trains the BSc & BCTech graduates and final year students to work as computer control system technicians and engineers in various industries. It consists of electrical engineering units, electronic engineering units, analogue and digital principles, process control system, programmable control, computer aided control and instrumentation, linear system and modern control system units.

Pre-requisites

BSc or BC Tech , Final years

Contents

Group (1)	Group (2)
EE101 DC Circuit Problems EE103 Basic Electrical Drafting EE107 Electrical Equipments EE109 Electrical Control Circuits EE112 Alternating Current Principle EE113 Electrical Fundamental EE206 AC Machines EE207 DC Machines EE202 Electrical Circuits	EE115 Basic Analogue and Digital Electronics EE121 Electronic Power Control Devices EE208 Operational Amplifier EE209 Analogue Electronics EE301 Advanced Electrical Drafting EE117 Solar Electrical System
The students study the power points containing the explanations in English + Myanmar Languages, do & submit theoretical & simulated practicals. Tutoring support by electronics teachers.	The students study the power points containing the explanations in English + Myanmar Languages, do & submit theoretical & simulated practicals. Tutoring support by electronics teachers.

The students who successfully complete Group 1 & 2 will receive Graduate Certificate in Engineering Practice (Electrical & Electronic)

Group (3)	Group (4) University post graduate level
ME203 Control Engineering ME534 Numerical Control ME434 Mechatronics and Robotics EE624 Process Control ME302 Automation & Robotics	BAE408 Analogue and Digital Electronics BAE502 Linear System BAE503 Control System
The students study the power points containing the explanations in English + Myanmar Languages, Study the text books in Myanmar language & enrich the knowledge by reading the references in English Do & submit theoretical & simulated practicals. Tutoring support by electronics teachers.	The students study the power points containing the explanations in English + Myanmar Languages, do & submit theoretical & simulated practicals. Tutoring support by electronics teachers.

The students who successfully complete Group 3& 4 will receive Graduate Diploma of Engineering Practice (Computer Control Engineering)

GRADUATE DIPLOMA OF ENGINEERING PRACTICE (MECHANICAL)

STUDY GUIDE

BAE311 Plant Engineering (2 pt)

BAE312 Design Engineering (2 pt)

BAE313 Environmental Control (2 pt)

BAE314 Mechanical Power Generation (2 pt)

BAE315 Materials Engineering (2 pt) Part 1 Part 2

BAE511 Air-conditioning & Refrigeration	3	ME511 Air-conditioning & Refrigeration
BAE512 Building Service Water Supply System	3	ME512 Building Service Water Supply System
BAE513 Production Technology	3	ME513 Production Technology
BAE611 Maintenance Engineering	3	ME 611 Maintenance Engineering
BAE612 Engineering Metallurgy	1	ME 612 Metallurgy
BAE613 Mechanical Instrumentation Process	3	ME 613 Mechanical Instrumentation & Process
BAE614 Machine Design	2	ME 614 Machine Design Part 1 Part 2 Part 3

မြန်မာနိုင်ငံပညာရှင်အင်ဂျင်နီယာအဖွဲ့ ချုပ်

The Institution of Professional Engineers Myanmar (IPEM)

Member of International Federation of Engineering
Education Societies (IFEES)

AGTI to BE Conversion Program

AGTI အောင်မြင်ကာအင်ဂျင်နီယာလုပ်ငန်းအတွေ့ အကြုံ (၇)နှစ်ရှိပြီး BE နှင့်အဆင့်တူအင်ဂျင်နီယာပညာကိုသင်တန်းတက်၍ဖြစ်စေ၊ကိုယ်တိုင်လေ့လာမှု၊ လုပ်ငန်းခွင်လက်တွေ့ လုပ်ဆောင်မှုအထောက်အထားတို့ ကိုစိစစ်ကာ BE ဘွဲ့ နှင့်တူ ညီသော ပညာအဆင့်ရှိသည်ဟုသတ်မှတ်ကာ မြန်မာနိုင်ငံအင်ဂျင်နီယာအဖွဲ့ ချုပ်နှင့်ပူးပေါင်းဆောင်ရွက်နေသောတက္ကသိုလ်များ၏ BE ဘွဲ့ ပေါင်းကူးအစီအစဉ်များပြုလုပ်မည့်အစီအစဉ်ကို မြန်မာနိုင်ငံပညာရှင်အင်ဂျင်နီယာအဖွဲ့ ချုပ်ကပြုလုပ်ပါမည်။

AGTI ကို ဂုဏ်ထက်ရောက်ပြီးစီးသူများသည် ဘွဲ့ အဆင့်ညီ Singapore Institute of Engineering Technologists အသိအမှတ်ပြု Professional Diploma in Engineering ကို IQY Technical College တွင်ကိုယ်တိုင်သို့ မဟုတ် Online မှတက်ရောက်ပြီးစီးကာ STC Technological University (International Engineering) သို့ မဟုတ် St Clements University သို့ မဟုတ် အဆိုပါတက္ကသိုလ် ၂ခုနှင့် IQY Technical College ပူးပေါင်းအစီအစဉ်မှ BE ဘွဲ့ ကိုရယူရမည်ဖြစ်သည်။

AGTI ကို ဂုဏ်ထက်ရောက်ပြီးစီးသူများသည် ယခင်ခေတ် AGTI ကို Columbo Plan Curriculum ဖြင့်သင်ကြားပြီးစီးခဲ့ပြီး ယခင် AGTI အင်ဂျင်နီယာများသည် စာတွေ့ လက်တွေ့ ဌာနမြန်မာနိုင်ငံတွင်သာ မကနိုင်ငံတကာတွင်အင်ဂျင်နီယာလုပ်ငန်းတို့ ကိုတာဝန်ယူလုပ်ဆောင်နေသည့်အပြင်အင်ဂျင်နီယာပညာကိုလက်တွေ့ အသုံးပြုမှုတွင်နောင်လာနောက်သား BE အင်ဂျင်နီယာတို့ ကိုသင်ကြားနိုင်သောကြောင့်ထိုသူတို့ ၏ပညာအတွေ့ အကြုံနှင့်ကျွမ်းကျင်မှုတို့ ကိုစံနှစ်ထကျမှတ်တမ်းပြု Academic Credit ပေးကာ BE အဆင့်ပညာကို Seminar Workshop များစီစဉ်ပို့ ချပြီး Online Resources များ Lesson Video များကိုဖြန့်ဝေကာ BE အဆင့်ညီ Singapore Institute of Engineering Technologists အသိအမှတ်ပြု Professional Diploma in Engineering ကို IQY Technical College

မှပေးပြီး STC Technological University (International Engineering) သို့ မဟုတ် St Clements University သို့ မဟုတ် အဆိုပါတက္ကသိုလ်၂ခုနှင့် IQY Technical College ပူးပေါင်းအစီအစဉ်မှ BE ဘွဲ့ ကိုရယူရမည်ဖြစ်သည်။

အစီအစဉ်တွင်ပါဝင်သောဘာသာများ

BE ဘွဲ့ အတွက်လိုအပ်သော(၁၂၀) Credit Point အတွက်အောက်ပါအတိုင်းစီစဉ်မည်။

ENG601- Engineering Studies

AGTI Certificate (60 Credits)

AGTI လက်မှတ် (ပုံပါအတိုင်းကိုတင်ပြရန်) Notary Certified Copy

ENG602-Engineering Applications

Work Experience Curriculum Vitae (10 Credits)

ကိုယ်ရေးရာဇဝင်တင်ပြရန်

ENG603-Engineering Practicals

Engineering Practice Report or Experience Portfolio (10 Credits)

အောက်ပါအတိုင်းအင်ဂျင်နီယာကျွမ်းကျင်မှုအစီရင်ခံစာရေးသားတင်ပြရန်

(သို့ မဟုတ်)

RSE အတွက်ရေးထားသောအစီရင်ခံစာတင်ရန်

(သို့ မဟုတ်)

RSE လက်မှတ် (Current or Expired) တင်ပြရန်

(သို့ မဟုတ်)

စည်ပင်သာယာမှုထုတ်ပေးခဲ့သောလိုင်စင်များ(မည်သည့်တိုင်းဒေသမှမဆို) (Current or Expired)

တင်ပြရန်

(သို့ မဟုတ်)

မိမိလုပ်ခဲ့သောအလုပ်များမှ Project တစ်ခုအတွက် Drawing/ Estimate/ Quantity/ Survey/Workplan/ Photo တို့ ကိုတင်ပြရန်။

BAE705 Engineering Competency Development (10 Credits)

အခြားဘွဲ့ များအပါအဝင်ပြည်တွင်း(သို့မဟုတ်)ပြည်ပတွင်တက်ခဲ့သောအင်ဂျင်နီ

ယာသင်တန်းလက်မှတ်များတင်ပြရန် (သို့မဟုတ်) မိမိဖတ်ရှုခဲ့သောအင်ဂျင်နီယာစာအုပ်များ၏

လေ့လာမှုမှတ်တမ်းတင်ပြရန်(သို့မဟုတ်) ပြည်တွင်း(သို့မဟုတ်)ပြည်ပတွင်တက်ခဲ့သောအင်ဂျင်နီယာသင်တန်းစာရင်းတင်ပြရန်။

Degree Level Study -Engineering Mathematics+Materials+Mechanic Seminars (4 days)

အောက်ပါဘာသာရပ်များပါဝင်သောလေးရက် **Seminar/Workshop** တက်ရန် Online

Resources များLesson Video များကိုရယူရန်။

- BAE401 Engineering Mathematics
- BAE402 Calculus
- RE010 Engineering Materials
- BAE403 Engineering Mechanics (10 Credits)

Degree Level Study -Engineering Management Seminars (2 days)

အောက်ပါဘာသာရပ်များပါဝင်သောလေးရက် **Seminar/Workshop** တက်ရန် Online

Resources များLesson Video များကိုရယူရန်။

- BAE508 Management
- BAE605 Engineering Management (10 Credits)

Degree Level Study -Engineering Subjects Seminars (4 days)

အောက်ပါဘာသာရပ်များပါဝင်သောလေးရက် **Seminar/Workshop** တက်ရန် Online

Resources များLesson Video များကိုရယူရန်။

3 or 4 subjects at BE Final Level (10 Credits)

Electrical Power

BAE 501 Advanced Power Systems & Power Transmission Networks

BAE 506 Power System Stability & Protection

RE013-Electrical Machines

Electronics

RE014-Electronics Control

BAE 604 Telecommunication Engineering

BAE 601 Computer Programming

Or other subjects by discussing with trainer

Civil

BAE621 Structural Engineering

BAE421 Building Construction Engineering

BAE623 Surveying & Traffic Engineering

Or other subjects by discussing with trainer

Mechanical

BAE613 Mechanical Instrumentation Process

BAE311 Plant Engineering

BAE614 Machine Design

Or other subjects by discussing with trainer

ICT

ICT 403 Professional Programming

ICT 405 Professional Practice (1) Network

BAE408 Analog & Digital Electronics

Or other subjects by discussing with trainer

အားလုံးပြီးစီးပါက **120 Credit Points** ရရှိကာ Professional Diploma/ BE ပြီးစီးမည်။

သင်တန်းကြေး

သင်တန်းကြေးကို IPEM/ IQY/GGO Group တို့ ကတိုင်ပင်သတ်မှတ်မည်။

သင်တန်းနေရာ

IPEM ဌာနချုပ်-

IQY Technical College အမှတ်၃၀၇(ခ)သူရ(၂)လမ်း၊ ငြိမ်းကွက်၊ တောင်ဥက္ကလာပမြို့ နယ်၊
ရန်ကုန်မြို့ ။

IPEMအဖွဲ့ ဝင်များ၌နွဲ့-

GGO Group Training အမှတ်၇၆(က)၄လွှာ၊ သြဘာလမ်း၊ သီတာလမ်းမှတ်တိုင်၊ ကျောက်မြောင်း
တာမွေမြို့ နယ်၊ ရန်ကုန်မြို့ ။

စုံစမ်းစာရင်းသွင်းရန်

Training Officer (Academic)-Dr Thwin Thu Lynn (IQY)- Ph-09785048872

Training Officer (Industrial Practice)- U Khin Nyo (GGO)-Ph- 095053934

Membership Officer- Daw Myat Thiri Htun-(GGO Training Group)

Ph (09) 953212652 / (09) 448000359/(09) 794297704/(09) 264038762

EC Member- U Myint Kyaw 095004627

AGTI

3 Years Attendance

ENG601- Engineering Studies

AGTI Certificate (60 Credits)

ENG602-Engineering Applications

Work Experience Curriculum Vitae (10 Credits)

ENG603-Engineering Practicals

Engineering Practice Report or Experience Portfolio (10 Credits)

BAE705 Engineering Competency Development

Other degree OR Appropriate Self Study Record

Continuing Professional Development

(10 Credits)

Degree Level Study -Engineering Mathematics+Materials+Mechanic Seminars (4 days)

BAE401 Engineering Mathematics

BAE402 Calculus

RE010 Engineering Materials

BAE403 Engineering Mechanics (10 Credits)

Degree Level Study -Engineering Management Seminars (2 days)

BAE508 Management

BAE605 Engineering Management (10 Credits)

Degree Level Study -Engineering Subjects Seminars (4 days)

3 or 4 subjects at BE Final Level (10 Credits)

Total 120 Credits

Degree Level Study -Engineering Subjects Seminars (4 days)

Electrical Power

BAE 501 Advanced Power Systems & Power Transmission Networks

BAE 506 Power System Stability & Protection

RE013-Electrical Machines

Electronics

RE014-Electronics Control

BAE 604 Telecommunication Engineering

BAE 601 Computer Programming

Or other subjects by discussing with trainer

Civil

BAE621 Structural Engineering

BAE421 Building Construction Engineering

BAE623 Surveying & Traffic Engineering

Or other subjects by discussing with trainer

Mechanical

BAE613 Mechanical Instrumentation Process

BAE311 Plant Engineering

BAE614 Machine Design

Or other subjects by discussing with trainer

ICT

ICT 403 Professional Programming

ICT 405 Professional Practice (1) Network

BAE408 Analog & Digital Electronics

Or other subjects by discussing with trainer

Contact

Secretary + Training Officer (Academic)-Dr Thwin Thu Lynn (IQY)- Ph-09785048872

2 Years Attendance

Enrol IQY Professional Diploma in Engineering
Final Stage

<http://www.iqytechnicalcollege.com/enrolment.htm>

THS/GTI-Equivalent /BE Bridging Program Enrolment

IQY Technical College

International Engineering

Professional Diploma in Structural Engineering/ MSc (Structure)

Course Code 67553/7776654)

Recognised by Singapore Institute of Engineering Technologists/ The Society of Professional Engineers (UK and International) St Clements University/ STC Technological University/

The Institution of Professional Engineers Myanmar, a Member of International Federation of Engineering Education Societies –IFEES-USA)

Total Training Fees

To be advised

Training Period – 6 Months

Main Office

No 704 Myitta Street, 12 Ward , South Okkalapa, Yangon

Phone – Australia 61-424533344

Myanmar 09795579609 , 09420208590, 09893974117

Email – iqytechnicalcollege@gmail.com

Subjects

CE113+CE114 Theory of Structure

BAE404 Engineering Materials& Strength of Materials

BAE 403 Engineering Mechanics

RE010-Engineering Materials

BAE621A Structural Engineering

BAE621SB Structural Engineering (Civil) (Part 2-Structural Analysis)

BAE424 Reinforced Concrete

How to apply?

Call us – 09795579609 , 09420208590, 09893974117

IQY Technical College

International Engineering

Professional Diploma in Civil Engineering with Quantity Surveying

(67110A/Q)

Recognised by Singapore Institute of Engineering Technologists/ The Society of Professional Engineers (UK and International) St Clements University/ STC Technological University/

The Institution of Professional Engineers Myanmar, a Member of International Federation of Engineering Education Societies –IFEES-USA)

Total Training Fees

To be advised

Training Period – 6 Months

Main Office

No 704 Myitta Street, 12 Ward , South Okkalapa, Yangon

Phone – Australia 61-424533344

Myanmar 09795579609 , 09420208590, 09893974117

Email – iqytechnicalcollege@gmail.com

Subjects

BAE422 Estimating

CE115 Construction Estimating

ADEMC202-Engineering Practice

BAE644 Advanced Estimating

BAE 690 Mechanical Estimating

How to apply?

Call us – **09795579609 , 09420208590, 09893974117**

IQY Technical College

International Engineering

Professional Diploma in Engineering and Management/ Bachelor of Engineering Management (66213)

Recognised by Singapore Institute of Engineering Technologists/ The Society of Professional Engineers (UK and International) St Clements University/ STC Technological University/

The Institution of Professional Engineers Myanmar, a Member of International Federation of Engineering Education Societies –IFEES-USA)

<http://www.iqytechnicalcollege.com/ProfDipMechEnggMgtOutline.pdf>

Total Training Fees

To be advised

Training Period – 6 Months

Main Office

No 704 Myitta Street, 12 Ward , South Okkalapa, Yangon

Phone – Australia 61-424533344

Myanmar 09795579609 , 09420208590, 09893974117

Email – iqytechnicalcollege@gmail.com

Subjects

BAE421 Building Construction Engineering

BAE422 Estimating

BAE424 Reinforced Concrete

BAE522 Rock Mechanics

BAE621 Structural Engineering

BAE624 Water Supply , Sanitation & Finishin

Mgt 101 Management

Mgt 102 Performance Management

Mgt 103 Operation Management +Mgt 107 Industrial Risk Assessment

ICT 104 Mgt 104 Program Project +BAE 508 Project Management

Mgt 208 Safety Management

Mgt 209 Risk Management

The following study link is to be added

www.iqytechnicalcollege.com/safety.htm

How to apply?

Call us – **09795579609 , 09420208590, 09893974117**

IQY Technical College Masters Degree Programs

Myanmar Version _____ English Version List of EE/CE/ME/RE/ICT Subjects

IQY Technical College သည် STC Technological University/ St Clements University/ IPTEM Technological University များ၏ Masters Degree များကို Engineering, Information Technology, Management, Humanities, Education လေ့လာမှုများအတွက်လည်းသင်ပါသည်။

Masters Degree in Engineering ကိုအောက်ပါအစီအစဉ်၌ခွဲထားပါသည်။

1. Master of Engineering Practice
2. Master of Engineering Science
3. Master of Engineering

Master of Engineering Practice သည်အလုပ်အတွေ့ အကြုံရှိအင်ဂျင်နီယာများအတွက်ဖြစ်သည်။

IQY Year 4 Professional Diploma/BE ပြီးသူများအတွက်ဘွဲ့ ရအင်ဂျင်နီယာလေ့ကျင့်ရေး (Year 5/6

Graduate Engineer Training) တွင်ပါဝင်သောဘာသာများကိုလည်းထဲသွင်းထားသည်။

Electrical/Civil/Mechanical /Renewable Energy သာမကအခြားလိုင်းများအတွက်လည်းသင်သည်။

Course Work 8 Subjects (Graduate Diploma in Engineering Practice) + Project (BAE709) (For Master of Engineering Practice) ပြီးရန်လိုသည်။

Self study online program ဖြစ်ပြီး Assignment/ Project /Study Report/ Analysis/ Experience Presentation/ Design Works /Job Record Presentation စသည်တို့ ကိုအဓိကထားသည်။

Master of Engineering Practice ပြီးသူတို့သည် 5 Years Experience ရှိပါက The Society of Professional Engineers (UK and International) ၏ Member (MSPE-UK & International) နှင့်

Professional Engineer (UK and International) (PEng(UK and International)) လျှောက်နိုင်သည်။

Master of Engineering Practice is for experienced engineers . It will include the following subjects of 10 credits each

- BAE 701 Engineering Fundamental
- BAE 702 Engineering Management
- BAE 703 Leadership & Human Resources Management
- BAE 704 Risk Management & Industrial Safety

- BAE 705 Engineering Competency Development
- BAE 706 Engineering Report Writing
- BAE 707 Engineering Ethics
- BAE 708 Engineering Knowledge

Completion of the above subjects will earn Graduate Diploma in Engineering Practice (80 credits at Masters level +120 Credits for Bachelors degree level total 200 credits. Completion of two or more units can earn Graduate Certificate in Engineering.

The candidate will need to do BAE 709 Engineering Design Project of 40 credits to complete Master of Engineering Practice of 240 credits.

Master of Engineering Science/Master of Engineering

သည် ကျောင်းဆင်းစ BE များ၊အလုပ်အတွေ့ အကြုံမရှိသေးသောအင်ဂျင်နီယာများ အတွက် ဖြစ်သည်။ Electrical, Civil, Mechanical အတွက် 24 Subjects အခြားလိုင်းများအတွက်သင် ရိုးပါအတိုင်းပြီးစီးက Master of Engineering Science ရမည်။ထို့ နောက် Thesis (BAE709A) ပြီးစီးက Master of Engineering ရမည်။

Self study online program ဖြစ်ပြီးပျမ်းမျှတစ်လလျှင်တစ်ဘာသာနန်းဖြင့် 20 pages လေ့လာမှု၊ အစီရင်ခံစာကိုဘာသာတိုင်းအတွက်ရေးသားတင်ပြရမည်။

လေ့လာမှုအစီရင်ခံစာတွင်အောက်ပါတို့ ပါဝင်ရမည်။

- နေ့စွဲ၊လေ့လာသောအခန်းများ၊
- အဓိကအချက်များ၊အခြေခံသဘောတရား၊ဆက်စပ်မှုများ၊ညီမျှခြင်း၊ဖော်မြူလာ၊ပုံများ၊
- လက်တွေ့ သုံးခြင်းများ၊
- Powerpoint ပုံစံတင်ပြသောအနှစ်ချုပ်မှတ်စုများ။
- ကိုယ်ပိုင်ထင်မြင်ယူဆသုံးသပ်ချက်များ။

There are 24 units in Masters Program, the candidate will need to complete one unit per month so that the whole program will be completed within 24 months. (120 credits at Masters level and 120 Credits for Bachelors degree total 240 credits) to complete Master of Engineering Science, then submit the thesis to complete Master of Engineering.

Completion of the 12 subjects will earn Graduate Diploma in Engineering Practice (60 credits at Masters level +120 Credits for Bachelors degree level total 180 credits. Completion of two or more units can earn Graduate Certificate in Engineering.

ELECTRICAL

Part 1 Course Work

Any 24 subjects can be selected .

- (1) BAE 658-Real-time Systems
- (2) BAE 665-Fabrication Engineering at the Micro and Nanoscale
- (3) BAE 655-Wireless Communications.
- (3A) BAE 671-Satellite Communications and Navigation Systems
- (4) BAE 665-Embedded Digital Signal Processing Systems
- (5)BAE 657-Advanced Electromagnetics Applications
- (6)BAE 676-Failure Analysis
- (7)BAE 673-Frequency Stability
- (8) MEE11-High Speed A-D Converters
- (9) MEE2-Advanced Electric Power Engineering

- MEE9-Handbook of Power System Engineering-.pdf (11.57MB)
- (10)MEE12-Iterative Learning Control

- (11) BAE 664-Distributed Generation in Power System
- (12) BAE 675-Nanoelectronics
- (13) MEE1-Electric Distribution Systems
- (14) BAE 674-Intelligent Systems
- (15) MEE13-Non linear control

- (16) BAE 656-Advanced Digital Signal Processing and Noise Reduction
- (17) BAE 677-Photovoltaic Systems
- (18) BAE 660-Control Engineering
- (19) BAE 659-Computer-aided Control Systems
- (20) MEE7-EMI Filter Design
- (21) BAE 661-Design of Electrical Services for Buildings
- (22) BAE 670-Power System Engineering
- (23) MEE10-High Performance Control of AC Drives
- (24) BAE 667-Industrial Control System
- (25) MEE14-System Engineering Concepts
- (26) MEE6-Electronics+Power Electronics+Opto Electronics+Microwave+Radar
- (27) BAE 666-Generating Electricity in a Carbon Constrained World
- (28) BAE 669-Power Electronics and Instrumentation Engineering
- (29) BAE 663-Advanced Digital Electronics
- (30) MEE8-Flexible Power Transmission
- (31) BAE 668-Photonics
- (32) MEE3-Electric Power Transmission System Engineering
- (33) BAE 672-Industrial& System Engineering
- (34) MEE5-Electro Optics
- (35) MEE4-Electricity Power Generation
- (36) BAE 662-Design of Rotating Electrical Machines

Part 2 Thesis

BAE709A Master of Engineering Thesis

CIVIL

Part 1 Course Work

All 24 subjects must be completed.

- (1) BAE 654-Theory & Design of Bridges
- (2)BAE 653-Surveying
- (3) BAE 652-Structural Analysis
- (4) BAE 649-Soil & Rock Mechanic
- (5)BAE 651-Strom & Waste Water
- (6) BAE 650-Steel Design.pdf
- (7) BAE 648-Railways Bridges
- (8)BAE 646 Highway Engineering
- (9) BAE 647-Piling Engineering
- (10) BAE 645-Geotechnics
- (11) BAE 642-Design of Reinforce Concrete
- (12) BAE 644-Estimating
- (13) BAE 643-Earthquake Resistant Structure
- (14) BAE 638-Construction Drawing
- (15)BAE 641-Construction Site Planning
- (16) BAE 640-Construction Mathematics.
- (17) BAE 639-Construction Materials
- (18) BAE 634-Building Construction
- (19) BAE 637-Composite Structure of Steel & Concrete
- (20) BAE 636-Building Technology Electrical Mechanical System
- (21) BAE 635-Building Survey
- (22) BAE 633-Bridge Construction
- (23) BAE 632-Architectural Design
- (24) BAE 631-Advanced Concrete Technology

Part 2 Thesis

BAE709A Master of Engineering Thesis

MECHANICAL

Part 1 Course Work

Any 24 subjects to be completed.

- (1) BAE 694-Control Engineering
- (2) BAE 682-Assembly Automation & Product Design
- (3) BAE 688-Manufacturing & Management.
- (4) BAE 692-Metallurgy
- (5) BAE 689A-Mechanical Design
- (6) BAE 686-Electro-Mechanical Manufacturing Process
- (7) BAE 683-Material engineering
- (8) BAE 693-Piping System
- (9) BAE 689B-Mechanical Design
- (10) BAE 625- Structural Engineering Mechanics
- (11) BAE 696-Specification Development
- (12) BAE 698-Thermal Engineering
- (13) BAE 699-Rotating Machinery Vibration
- (14) BAE 678A-Machine Design
- (15) BAE 684-Computerised Engine Control
- (16) BAE 678B-Machine Design
- (17) BAE 685-Electric Vehicle Technology
- (18) BAE 695-Random Vibration
- (19) BAE 691-Mechatronics
- (20) BAE 680-Quality Control
- (21) BAE 690-Mechanical Estimating
- (22) BAE 679- Materials Science
- (23) BAE 681- Welding Engineering.
- (24) BAE 679-Composite Materials & Joining Technology
- (25) BAE 687-Lasers in Manufacturing
- (26) BAE 697-Structural Foundation Design

Part 2 Thesis

BAE709A Master of Engineering Thesis

RENEWABLE ENERGY

Part 1 Course Work

The following 10 subjects to be completed.

Each 10 credits and total 100 credits to get Graduate Diploma

(1) RE511- Sustaining Earth Energy resources

(2) RE510- Water Conservation

(3) RE509- Applied Photovoltaics

(4) RE508- Solar Hydrogen Energy System

(5) RE507- Offshore Wind Turbines Part 1

RE507- Offshore Wind Turbines Part 2

(6) RE505- Green Building Design

(7) RE504- Engineering Solution for Sustainability

(8) RE503- Energy Management in Industrial and Commercial Facilities

(9) RE502- Biomass Gasification

(10) RE 501-Control of Solar Energy System

INFORMATION TECHNOLOGY

Part 1 Course Work

The following 8 subjects to be completed

Each 10 credits, total 80 credits to complete Graduate Diploma

(1) Programming (ICT 601)

(2) E-Commerce (ICT 602)

(3) Multimedia Systems (ICT 604)

(4) Database Systems (ICT 502)

(5) Applied Computing I (ICT 505)

(6) Applied Computing (ICT 506)

(7) Software Engineering (ICT 603).zip (90.71MB)

The following two Electrical (Computer) subjects must be completed

Each 5 credits. Two combined units 10 credits

(8) BAE658 Real Time Systems + BAE 674 Intelligent Systems

BAE 658-Real-time Systems

BAE 674-Intelligent Systems

Part 2 Thesis

BAE709B Master of Applied Science (Information Technology) Thesis

ENGLISH VERSION

(1) Master of Engineering Practice (240 credits, 120 credits for BE degree)

Master of Engineering Practice is for experienced engineers . It will include the following subjects of 10 credits each

- BAE 701 Engineering Fundamental
- BAE 702 Engineering Management
- BAE 703 Leadership & Human Resources Management
- BAE 704 Risk Management & Industrial Safety
- BAE 705 Engineering Competency Development
- BAE 706 Engineering Report Writing
- BAE 707 Engineering Ethics
- BAE 708 Engineering Knowledge

Completion of the above subjects will earn Graduate Diploma in Engineering Practice (80 credits at Masters level +120 Credits for Bachelors degree level total 200 credits. Completion of two or more units can earn Graduate Certificate in Engineering.

The candidate will need to do Engineering Design Project of 40 credits to complete Master of Engineering Practice of 240 credits

(2) Master of Engineering (240 credits, 120 credits for BE degree)

Masters of Engineering program is for recent graduates who have completed their BE degrees.

It will include the following 24 subjects of 5 credits each

The students will have to write 20 pages study progress report for each of the subjects outlined below.

The report needs to include

- Date and chapters that the candidate reads (The student will need to read the book
- at least 4 days per week)

- Highlight the key concepts, key formula, key theory & practical application concepts .
- Notes of the topic that you read.
- Key diagrams, formula, problem solutions
- Powerpoint slides to express the key topics

There are 24 units in Masters Program, the candidate will need to complete one unit per month so that the whole program will be completed within 24 months. (120 credits at Masters level and 120 Credits for Bachelors degree total 240 credits) to complete Master of Engineering Science, then submit the thesis to complete Master of Engineering.

Completion of the 12 subjects will earn Graduate Diploma in Engineering Practice (60 credits at Masters level +120 Credits for Bachelors degree level total 180 credits. Completion of two or more units can earn Graduate Certificate in Engineering.

LIST OF SUBJECTS

Please see above

Diploma in Doctorate Studies (DDS)

IQY Diploma in Doctorate Studies is an academic award consisting of Research Studies and Writing Thesis Dissertation at 360 Credit points in which 240 Credit points are allocated for Masters Degree level academic qualifications and / or comparable professional experiences.

The candidates who have completed MAE 601 Research Method (30 Points) and their thesis proposal are accepted will be awarded IQY Master Diploma in Research Studies (270 Credit Points).

The candidates who have completed MAE602 Thesis (30 Points) but have not submitted it to St Clements University will be awarded IQY Diploma in Doctorate Studies (300 Credit Points)

Only St Clements University will confer the Doctoral Degree while IQY Technical College will provide the facilitation and successful candidates will be issued with BAE801 Thesis Dissertation Assessment and Defence (60 Points) when the success is notified by St Clements University. In the case of failure to meet the quality of dissertation, St Clements University's Diploma in Doctorate Studies or other relevant award can be issued and Doctorate degree award fees will not be charged.

IQY Technical College will issue Letter of Congratulation for having been successful in PhD.

Doctoral Research Studies

IQY Master Diploma in Research Studies

<http://www.highlightcomputer.com/iQYDDS.pdf>

Dissertation for Doctorate

MAE 601 Research Method (30 Points)

MAE602 Thesis (30 Points)

[http://www.filefactory.com/file/111r1k0ftawt/n/11.Research+Thesis_\(ICT_605\).zip](http://www.filefactory.com/file/111r1k0ftawt/n/11.Research+Thesis_(ICT_605).zip)

BAE801 Thesis Dissertation Assessment and Defence (60 Points)

MAE601 Research Method

This course guides the student, step by step, through the research process, from problem selection through writing up results. It provides all of the basics necessary to complete a research project in any discipline.

Outline. The following aspects are reflected in this course:

What is research?

Tools of research

The problem: the heart of the research process

Review of the related literature

Planning your research design

Writing the research proposal

Qualitative research

Historical research

Descriptive research

Experimental and causal - comparative designs

Statistical techniques for analyzing quantitative data

Technical details: style, format, and organization of the research report

Doctoral Research Proposal

Synopsis: Research students are expected to present a written research proposal within three months after commencement. The proposal is handed in to the study leader.

Assessors of this proposal are selected by the faculty for their understanding of the field and the research involved. The purpose of a research is to set out a plan for conducting the research and writing the dissertation within the available time. It should take account of the availability and guidance of the study leader.

The starting point for a research proposal is the topic, which is the field of interest in which the research is to be carried out. In introducing the topic, the proposal should clarify the field that it falls into and the specific part that field which the research will explore.

It should clarify why the topic is of interest and importance, and how the proposed research will contribute to the field of knowledge or profession. The proposal should clarify the research questions, ensuring that these are specific and answerable.

It is important to show how these questions relate to the topic are, and how they will advance the student's contribution. The proposal should detail the research to be carried out, and clarify the research methods, the timeframe and the reasons for selecting particular methods.

Where a period of literature review or research should precede any empirical research, this should be factored in as part of the research. It is important to estimate any periods of field research and to flag their duration and cost in your research proposal.

MAE 602 Thesis

Thesis Dissertation for Doctorate

Candidates need to complete a 60000-words dissertation (in Myanmar or English) and a 3000-words executive portfolio (in English).

This program requires the candidates to complete a thesis as part of the assessment for the Doctorate

Doing a thesis / dissertation means that instead of knowledge and information being presented and following a prescribed route for answering questions, candidates are thrust into an active role of managing an investigation into a topic area. This means researching and

discovering things for themselves.

They will have to set their own targets and parameters, pose their own central research questions and decide on the appropriate sources of information to support the research. It therefore requires the use of the higher-level cognitive skills of analysis, synthesis and evaluation. Candidates may choose an area of particular interest to them within the scope of course title.

BAE801 Thesis Dissertation Assessment and Defence (60 Points)

Doctoral dissertation

A dissertation is an individual effort and the candidate, academic tutor and the course professor will work together on constructing an approved topic (research question) and methodologies.

Dissertation Defence for doctorate

It is expected of Doctoral candidates to defend their thesis by means of a colloquium (academic discussion). The purpose of the meeting is for the candidates to convince a panel of experts in the field of the dissertation how well they have done in the conducting of their research study and the preparation of their dissertation

Candidates need to complete all course assessments with the results of Grade B+ or above.

IQY-GGO Group Practical Training Advertisement

IQY Technical College နှင့် GGO Group တို့ ပူးပေါင်း၍အင်ဂျင်နီယာလက်တွေ့ လုပ်ငန်းများကို Site များတွင်လေ့ကျင့်သင်ကြားပေးမည်။

လက်တွေ့ နှင့်သက်ဆိုင်သောစာများကို IQY Technical College မှကိုယ်တိုင်တက်နှင့် Online စံနစ်ဖြင့်သင်ပေးပြီး GGO Group မှကျွမ်းကျင်သူများအင်ဂျင်နီယာများက Site များတွင်လေ့ ကျင့်သင်ကြားပေးမည်။

ကျွမ်းကျင်လုပ်သားအဆင့်-Electrical/ Civil/ Construction/ Mechanical/ Telecommunication

လက်တွေ့ များအတွက် Diploma in Engineering Trades Practice

နည်းပညာရှင်အဆင့်- Electrical/ Civil/ Construction/ Mechanical/ Telecommunication

လက်တွေ့ များအတွက် Advanced Diploma in Engineering Trades Practice

အင်ဂျင်နီယာအဆင့်- Electrical/ Civil/ Construction/ Mechanical/ Telecommunication

လက်တွေ့ များအတွက် Professional Diploma in Engineering Internship တို့ ကို Australian Training System ကိုအသုံးပြုလေ့ကျင့်ပြီး IQY Technical College မှ Singapore Institute of Engineering Technologists အသိအမှတ်ပြု Engineering Diploma များထုတ်ပေးမည်။

စာရင်းသွင်းရန်- <https://www.emailmeform.com/builder/form/b0LQY1DCa753FP>

(သို့ မဟုတ်)

www.iqytechnicalcollege.com

ENROLMENT

All Enrolments for degrees & diplomas in Engineering/IT/Management

INTERNSHIP APPLICATION FORM

- ☐ Diploma in Engineering Trades Practice
- ☐ Advanced Diploma in Engineering Trades Practice
- ☐ Professional Diploma in Engineering Internship (Only for BE/BTech degree holders)

တစ်ခုခုကိုရွေးပါ။

www.highlightcomputer.com/iqydownloadcentre.htm

To download the resources

[Master of Management](#)

[Master of Science \(Information Technology\)](#)

[Master of Engineering \(Electrical/ Mechanical/Civil\)](#)

[Associate Degree in Applied Engineering \(Renewable Energy\)](#)

[Bachelor of Engineering \(Mechanical/ Civil\)/ Graduate Diploma in Engineering Practice \(Mechanical/ Civil\) E-Learning Lectures](#)

[Master of Science \(Renewable Energy Engineering\)](#)

[Master of Management](#)

[PART \(1\) Course Work in Graduate Diploma Level](#)

[Graduate Diploma in Management \(8 units\)](#)

Mgt 501 Organizational Change Management

http://www.filefactory.com/file/533vd95iza7r/n/Org_ChangeBSBINN601B_zip

Mgt 502 Strategic Plans Development & Implementation

http://www.filefactory.com/file/6vvp1s08r96t/n/Strategic_Plan_BSBMGT616A_zip

Mgt 503 Leadership in Organization

http://www.filefactory.com/file/4nom2gy4log1/Leadership_BSBMGT605B.zip

Mgt 504 Innovation & Continuous Improvement

http://www.filefactory.com/file/urb0nz8vscb/Continuous_ImprovementBSBMGT608C.zip

Mgt 505 Risk Management

http://www.filefactory.com/file/5w8iblttoojh3/n/Risk_Mgt_BSBRSK501B_zip

Mgt 506 Knowledge & Information Management

http://www.filefactory.com/file/7w56nwtcbvd/Knowledge_InformationBSBINM601A.zip

Mgt 507 Human Resources Management & Strategic Planning

http://www.filefactory.com/file/6cto7fpu8gzt/HRM_Strategic_Plan_BSBHRM602B.zip

Mgt 508 Employee Relations Management

http://www.filefactory.com/file/6ac2hny11b2h/Employee_Relations_BSBHRM604A.zip

Master Of Management (5 units)

All Graduate Diploma Subjects PLUS

PART (2) Project/ Thesis at Masters Level

Mgt 601 Logistics Management

<http://www.filefactory.com/file/2rymlmdo1rhv/n/LogiHand.pdf>

Mgt 602 Project Management

<http://www.filefactory.com/file/7hiw5dp5n5sx/Project%20Management%20Rory%20Burke.pdf>

Mgt 603 Financial Management

<http://www.filefactory.com/file/4tnxja4w7t7t/Financial%20Mgt.zip>

PLUS

Res 601 Research Methods

<http://www.filefactory.com/file/6lg3tnznw3ev/Educational%20Research.pdf>

PLUS

Mgt 604 Thesis

<http://www.filefactory.com/file/54ncuqwqm2iv/Final%20Thesis.rtf>

Master of Management Assignment Guide.pdf

http://www.filefactory.com/file/1ns7i1aymg65/n/Master_of_Management_Assignment_Guide.pdf

Master of Science (Information) Technology

PART (1) Course Work in Graduate Diploma Level

ICT501 Programming in Visual C++

[http://www.filefactory.com/file/2cbdkwyico99/n/1. Programming in Visual C++ \(ICT501\).zip](http://www.filefactory.com/file/2cbdkwyico99/n/1. Programming in Visual C++ (ICT501).zip)

ICT 502 Database Systems

[http://www.filefactory.com/file/4cbqp0dk6lkd/n/2. Database Systems \(ICT 502\).zip](http://www.filefactory.com/file/4cbqp0dk6lkd/n/2. Database Systems (ICT 502).zip)

ICT 503 Business System Development

[http://www.filefactory.com/file/2iq1u5a2p8j/n/3. Business System Development \(ICT 503\).zip](http://www.filefactory.com/file/2iq1u5a2p8j/n/3. Business System Development (ICT 503).zip)

ICT 504 Business Data Communications

[http://www.filefactory.com/file/7k167ouqwfdf/n/4. Business Data Communications \(ICT 504\).zip](http://www.filefactory.com/file/7k167ouqwfdf/n/4. Business Data Communications (ICT 504).zip)

ICT 505 Applied Computing I

[http://www.filefactory.com/file/1hy38ryuzys5/n/5. Applied Computing I \(ICT 505\).zip](http://www.filefactory.com/file/1hy38ryuzys5/n/5. Applied Computing I (ICT 505).zip)

ICT 506 Applied Computing II

[http://www.filefactory.com/file/4w1jov4ls63x/n/6. Applied Computing II \(ICT 506\).zip](http://www.filefactory.com/file/4w1jov4ls63x/n/6. Applied Computing II (ICT 506).zip)

ICT 601 Programming in Java

[http://www.filefactory.com/file/3xuhrwe6w8nl/n/7. Programming in Java \(ICT 601\).zip](http://www.filefactory.com/file/3xuhrwe6w8nl/n/7. Programming in Java (ICT 601).zip)

ICT 602 E-Commerce

[http://www.filefactory.com/file/dgwcfnfy2j6t/n/8. E-Commerce \(ICT 602\).zip](http://www.filefactory.com/file/dgwcfnfy2j6t/n/8. E-Commerce (ICT 602).zip)

ICT 603 Software Engineering

[http://www.filefactory.com/file/48qbad01jiin/n/9. Software Engineering \(ICT 603\).zip](http://www.filefactory.com/file/48qbad01jiin/n/9. Software Engineering (ICT 603).zip)

ICT 604 Multimedia Systems

[http://www.filefactory.com/file/5l929o1uoeyx/n/10. Multimedia Systems \(ICT 604\).zip](http://www.filefactory.com/file/5l929o1uoeyx/n/10. Multimedia Systems (ICT 604).zip)

PART (2) Project/ Thesis at Masters Level

Res 601 Research Methods

<http://www.filefactory.com/file/6lg3tnznw3ev/Educational%20Research.pdf>

PART (2) Project/ Thesis at Masters Level

ICT 605 Research +Thesis

[http://www.filefactory.com/file/1l1r1k0ftawt/n/11.Research+Thesis_\(ICT_605\).zip](http://www.filefactory.com/file/1l1r1k0ftawt/n/11.Research+Thesis_(ICT_605).zip)

Master of Engineering (Electrical/Mechanical/Civil)

PART (1) Course Work in Graduate Diploma Level

Graduate Diploma in Engineering Practice (Civil)

<http://www.filefactory.com/file/77613jol68i1/Graduate%20Diploma%20of%20Engineering%20Practice%20%28Civil%29.pdf>

Graduate Diploma in Engineering Practice (Mechanical)

<http://www.filefactory.com/file/10sew438ulfz/Graduate%20Diploma%20of%20Engineering%20Practice%20%28Mechanical%29.pdf>

Graduate Diploma in Engineering Practice (Electrical)

<http://www.filefactory.com/file/3jvd4aq2c3df/PE%20%28Electrical-Building%20Services%29%20Study%20Guide%20%20Webpage.htm>

Graduate Diploma in Engineering Practice (Electronics)

<http://www.filefactory.com/file/2tcyg2vfkmpx/PE%20%28Electronics%29%20Study%20Guide.pdf>

PLUS

MAE 601 Professional Engineering Practice

- Submit the work experience portfolio

PART (2) Project/ Thesis at Masters Level

Res 601 Research Methods

<http://www.filefactory.com/file/6lg3tnznw3ev/Educational%20Research.pdf>

PLUS

MAE602 Thesis

<http://www.filefactory.com/file/54ncuqwqm2iv/Final%20Thesis.rtf>

Associate Degree in Applied Engineering (Renewable Energy)

Associate Degree Learning Materials

<http://www.filefactory.com/file/t5l9omuhhtx/Associate%20Degree%20in%20Applied%20Engineering%20%28Renewable%20Energy%29%20Learning%20Support%20Website%20Version%201.pdf>

Bachelor Degree Learning Materials

[Bachelor of Applied Engineering \(Renewable Energy Engineering\) + Associate Degree of Applied Engineering \(Renewable Energy Engineering\) Syllabus](#)

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ENERGY101A FOUNDATION STUDIES IN RENEWABLE ENERGY AND SUSTAINABILITY

Course Outline

In this subject you will learn about the areas of renewable energy technologies and sustainability. You will develop foundation knowledge relating to:

- Defining sustainability and renewable energy
- Non-technical issues in sustainability and renewable energy
- Energy basics efficiency and calculations
- Solar energy systems
- Wind energy systems
- Hydro energy systems
- Biomass energy systems
- Ocean energy systems
- Principles of sustainable living
- Moving to a sustainable economy.

Prescribed Texts:

Mackay, D.J.C. 2008, *Sustainable Energy without the Hot Air*, UIT, Cambridge, England

Study Guide

WEEK NO:	TOPICS AND ACTIVITIES
Orientation Week	Orientation activities Review of syllabus and assessment activities.
Week 1	<ul style="list-style-type: none"> • Introduction to the Subject. • The cause of Climate Change. • Global and Australian Figures. • Climate Change - The Impacts and the imperative for change. Reading List: <ul style="list-style-type: none"> • <i>Sustainable Energy Without the Hot air</i>, pp. 5-18 • <i>ZCA Stationary Energy Plan</i>, pp. 2-3
Week 2	<ul style="list-style-type: none"> • Energy use in Australia. • Energy conversion and efficiency. • Primary, Secondary and End Use energy. Reading List: <ul style="list-style-type: none"> • Dept. of Energy Resources and Tourism, <i>Energy in Australia 2012</i>, pp. 15-28
Week 3	<ul style="list-style-type: none"> • Coal, Oil, Gas and Nuclear Energy Systems. Reading List: <ul style="list-style-type: none"> • Course notes
Week 4	<ul style="list-style-type: none"> • Solar Energy Systems – The Solar Resource – Photovoltaics. Reading List: <ul style="list-style-type: none"> • <i>Sustainable Energy Without the Hot air</i>, pp. 38-49
Week 5	Field Trip <ul style="list-style-type: none"> • Solar Energy Systems - Solar Hot Water, Solar Air conditioning and Solar Thermal Electricity. Reading List: <ul style="list-style-type: none"> • <i>Sustainable Energy Without the Hot air</i>, pp. 38-49 • <i>ZCA Solar Thermal Power Basics and Solar Thermal Power fact sheets</i>
Week 6	<ul style="list-style-type: none"> • Wind Energy Systems – size of the resource, principles of operation, World and Australian wind energy. Reading List: <ul style="list-style-type: none"> • <i>Sustainable Energy Without the Hot air</i>, pp. 32-34, 186-189 • <i>Clean Energy Council Fact sheet on Wind Energy</i> Assessment 1 due: Individual written report - 10%
Week 7	
Week 8	<ul style="list-style-type: none"> • Hydro Energy Systems – size of the resource, principles of operation, World and Australian Hydro energy. Reading List:

WEEK NO:	TOPICS AND ACTIVITIES
	<ul style="list-style-type: none"> • <i>Sustainable Energy Without the Hot air</i>, pp. 55-56 and pp. 190-194 • <i>Clean Energy Council Fact sheet on Hydro Electricity</i> Assessment 2 due: Written report on field trip - 5%
Week 9	<ul style="list-style-type: none"> • Biomass • Geothermal Reading List <ul style="list-style-type: none"> • <i>Clean Energy Council Fact sheet on Geothermal Energy</i> • <i>Clean Energy Council Fact sheet on Bio Energy</i> • <i>Sustainable Energy Without the Hot air</i>, pp. 96-99
Week 10	<ul style="list-style-type: none"> • Ocean Energy – Wave and tidal Reading List: <ul style="list-style-type: none"> • <i>Sustainable Energy Without the Hot air</i>, pp. 73-75; pp. 81-87; pp. 307-321 • <i>Clean Energy Council Fact sheet on Marine Energy</i>
Week 11	<ul style="list-style-type: none"> • The imperative for Sustainability • Moving to Renewable Energy Reading List: <ul style="list-style-type: none"> • <i>Less is More</i>, pp. 205-235
Week 12	<ul style="list-style-type: none"> • Sustainable Building Design • Sustainable Food and Farming Reading List: <ul style="list-style-type: none"> • <i>Sustainable Energy Without the Hot air</i>, pp. 76-80 • www.yourhome.gov.au <i>Technical Manual</i>, pp. 69-127
Week 13	<ul style="list-style-type: none"> • Sustainable Transport • Sustainable Mining and Manufacturing Reading List: <ul style="list-style-type: none"> • <i>Sustainable Energy Without the Hot air</i>, pp. 29-31; 35-37; 118-139; 88-95 and 322-326 • <i>ZCA Stationary Energy Plan</i>, pp. 16-19 Assessment 3 due: Collaborative written report – 30% Assessment 4: Presentation based on collaborative written report – 10%
Week 14	Study Week
Week 15	Examination Week B: Assessment 5: Written examination - 45%

Lesson Power Points

<http://www.filefactory.com/file/29b5cgy28f4p/RE001%2BENERGY%20101A.pdf>

Password- Joe2013

Textbook

Prescribed Texts:

Mackay, D.J.C. 2008, *Sustainable Energy without the Hot Air*, UIT, Cambridge, England

http://www.filefactory.com/file/1ptdekissa69/Sustainable_energy_without_hot_air_pdf

Password- Joe2013

Tutorial Exercises

Further Readings

[K131](#)

http://www.filefactory.com/file/7hvv22gtz2lx/n/K131_zip

http://www.filefactory.com/file/1mr75xfm92ux/n/K032_zip

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AEEGY 101A Grid Connected Photovoltaics Power System

Course

Outline

In this subject you will learn the basics about photovoltaics and grid design. You will develop knowledge and applied skills relating to:

- Solar geometry
- Solar radiation terms and measurements
- Photovoltaic cell and module characteristics
- Manufacture of photovoltaic modules
- Photovoltaic array design and characteristics
- Effects of tilt, orientation, temperature and shading
- Workplace health and safety standards, Australian and industry standards
- Inverter principles and requirements for grid-connected inverters in Australia
- Inverter and Array matching
- Wiring, Protection and Earthing
- Metering and Tariff arrangements
- Installation and Commissioning
- Maintenance.

Study Guide

Lesson Power Points

<http://www.filefactory.com/file/5u2urjc3d0hx/AEEGY101A%20Grid%20Connected%20Inverter-RE001%20Part%201.pdf>

Password- Joe2013

Textbook

Prescribed Texts:

Stapleton G & Neill S 2012, *Grid-Connected Solar Electric Systems*, Earthscan, Abingdon, Oxon

http://www.filefactory.com/file/14nwysld3g7t/Grid_Connected_Electrical_System_Textbook_pdf

http://www.filefactory.com/file/4lmp1tse2xmp1/Applied_Photovoltaics_pdf

http://www.filefactory.com/file/55cxpfou1kwt/Control_of_Power_Inverters_in_Renewable_Energy_and_Smart_Grid_Integration_pdf

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Tutorial Exercises

http://www.filefactory.com/file/59rpcqog18ux/n/K035_Answer_sheet_doc

http://www.filefactory.com/file/6uye10nst3ad/n/K035_Test_pdf

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Further Readings

K035Inverter K035PV_Inverter

Stage 4 Part 17.zip

http://www.filefactory.com/file/c0cc76b/n/Stage_4_Part_17.zip

K035_Tutorials.zip

Stage 4 Part 16.zip

http://www.filefactory.com/file/c0cc703/n/Stage_4_Part_16.zip

Renewable Energy-K025+K035.zip

http://www.filefactory.com/file/c0b7c5e/n/Renewable_Energy-K025_K035.zip

Video Lessons

[K035 Lesson 1-Inverter principle.zip](#)

http://www.filefactory.com/file/c0b6a01/n/K035_Lesson_1-Inverter_principle.zip

[K035 Lesson 2-Modified sine wave inverter.zip](#)

http://www.filefactory.com/file/c0b6a26/n/K035_Lesson_2-Modified_sine_wave_inverter.zip

[K035 Lesson 3-Pulse width modulation.zip](#)

http://www.filefactory.com/file/c0b6a33/n/K035_Lesson_3-Pulse_width_modulation.zip

[K035 Lesson 4-PV Inverter.zip](#)

http://www.filefactory.com/file/c0b6a6c/n/K035_Lesson_4-PV_Inverter.zip

[K035 Lesson-5 MOSFET Driver.zip](#)

http://www.filefactory.com/file/c0b5978/n/K035_Lesson-5_MOSFET_Driver.zip

[K035 Lesson-6 PWM Inverter.zip](#)

http://www.filefactory.com/file/c0b6ac2/n/K035_Lesson-6_PWM_Inverter.zip

[K035 Lesson-7 Grid Connected Inverter.zip](#)

http://www.filefactory.com/file/c108253/n/K035_Lesson-7_Grid_Connected_Inverter.zip

[K035 Lesson-8 Inverter Power Flow Model.zip](#)

http://www.filefactory.com/file/c0b6aff/n/K035_Lesson-8_Inverter_Power_Flow_Model.zip

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Online Practicals

Practicals Work performance and practical instruction

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OTHER RESOURCES

K025 Resources

[Stage 2 Part 5.zip](#)

http://www.filefactory.com/file/c0cc187/n/Stage_2_Part_5.zip

Protection_1

Protection_2

PV_System_installation_Overview_-_PV_Power_Systems

PVSoftware

Regulatory_Requirement

SPS_Components

[Stage 2 Part 2A.zip](#)

http://www.filefactory.com/file/c0cca4a/n/Stage_2_Part_2A.zip

Electrical_safe_working

Electrical_trade_review_questions_and_answers

ELV_Accessories_-_SPS_Components

ELV_Cable_termination

[Stage 3 Part 1B.zip](#)

http://www.filefactory.com/file/c0ccc42/n/Stage_3_Part_1B.zip

Cable_CktProt_E_Accessories

Cable_Conduit_E_Accessories

AEEGY 102A Solar and Thermal Energy Systems

Course Outline

In this subject you will learn about solar and thermal energy systems. You will develop specialised knowledge and applied skills relating to:

- Solar energy utilisation - introduction and overview
- Heating load calculations
- Thermal environment – solar radiation, shading and energy conservation
- Solar collectors
- Collector requirements for some specific applications
- Thermal energy storage
- Solar cooling
- Mechanical Power generation
- Sizing of heating, cooling and mechanical power generation components
- Ancillary equipment
- Equipment specification and installation
- Performance analysis.

Study Guide

Lesson Power Points

Part 1

<http://www.filefactory.com/file/c9acnzqhs13/AEEGY102A%2BRE003%20Part%202-ME108.pdf>

Part 2

http://www.filefactory.com/file/2i3h1v6qqkuv/AEEGY102A%2BRE003%20Part%203-Fact_sheet_-_Geothermal_Energy.pdf

Part 3

<http://www.filefactory.com/file/57k90jem46f/AEEGY102A-Solar%20%26amp%3B%20Thermal%20Energy%20System-RE003%20Part%201.pdf>

Password- Joe2013

Textbook

Prescribed Texts

The German Solar Energy Society, 2009 *Planning and Installing Solar Thermal Systems*, Earthscan (UK) All Chapters

http://www.filefactory.com/file/39q0d0rb9t7h/185936187-Planning-and-Installing-Solar-Thermal-Systems_pdf

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Tutorial Exercises

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Further Readings

K025_Note_1

K025_Note_2

Stage 2 Part 4.zip

http://www.filefactory.com/file/c0ccb53/n/Stage_2_Part_4.zip

K025 Resources

ELV_Accessories_-_SPS_Components

ELV_Cable_termination

Stage 2 Part 2A.zip

http://www.filefactory.com/file/c0cca4a/n/Stage_2_Part_2A.zip

PV_System_installation_Overview_-_PV_Power_Systems

SPS_Components

PVSoftware

Stage 2 Part 5.zip

http://www.filefactory.com/file/c0cc187/n/Stage_2_Part_5.zip

System_Installation_Examples_-_NUER02_version

Stage 2 Part 6.zip

http://www.filefactory.com/file/c0cccc0/n/Stage_2_Part_6.zip

[Renewable Energy-K025+K035.zip](#)

http://www.filefactory.com/file/c0b7c5e/n/Renewable_Energy-K025_K035.zip

Lesson 1 Lesson 2 Lesson 3 Lesson 4 Lesson 5 Lesson 6

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Online Practicals

Practicals Work performance and practical instruction

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AEEGY 201A Energy Storage System

Course Outline

In this subject you will learn about energy storage systems. You will develop specialised knowledge and skills relating to:

- The need for and benefits of energy storage technologies
 - Current energy storage technologies and their application
 - Environmental impacts and benefits of energy storage systems
 - Designing an energy storage system for specific engineering applications
 - Costing and payback of energy storage systems
 - Designing and building a small scale energy storage system.
-

Study Guide

Lesson Power Points

Part 1

<http://www.filefactory.com/file/68whdsdbwtfh/AEEGY201A-RE004%20Part%201.pdf>

Part 2

<http://www.filefactory.com/file/gh1dls7edlp/AEEGY201A-RE004%20Part%202.pdf>

Part 3

<http://www.filefactory.com/file/48jt93opz4b5/AEEGY201A-RE004%20Part%203.pdf>

Password- Joe2013

Textbook

Prescribed Texts:

Brunet, Y, 2010, *Energy Storage*, John Wiley & Sons UK.

<http://www.filefactory.com/file/56ymtb4pptz1/Energy%20Storage.pdf>

Other Related book

http://www.filefactory.com/file/2wpc2idmobv9/Energy_Stroage_pdf

http://www.filefactory.com/file/3poecuxu7yxb/energy-in-australia-2012_pdf

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Tutorial Exercises

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Further Readings

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Online Practicals

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AEEGY202A Renewable Energy Resources Analysis

Course Outline

In this subject you will learn about renewable energy resource analysis. You will develop specialised knowledge and skills relating to:

- National and international trends in renewable energy resource analysis
- Energy history
- Australian Renewable Energy reserves
- Energy and power conversion
- Behavioural trends and misconceptions
- Power Cycles
- Oil, coal and natural gas
- Solar photovoltaics
- Solar thermal
- Wind Energy
- Hydro-power
- Bio-mass
- Geo-thermal
- Ocean energy
- Hydrogen Economy
- Limitations in existing infrastructure.

Study Guide

Lesson Power Points

Part 1

<http://www.filefactory.com/file/2248bo0gcbor/AEEGY202A%2BRE005%20Part%201.pdf>

Part 2

<http://www.filefactory.com/file/5us491ooh1cl/AEEGY202A%2BRE005%20Part%201.pdf>

Part 3

<http://www.filefactory.com/file/5e3gt7cv1rid/AEEGY202A%2BRE005%20Part%202.pdf>

Part 4

<http://www.filefactory.com/file/5ld0bqgs3049/AEEGY202A%2BRE005%20Part%202.pdf>

Part 5

<http://www.filefactory.com/file/47m4fhje9k73/AEEGY202A%2BRE005%20Part%203.pdf>

Part 6

<http://www.filefactory.com/file/5mfsxsln72ll/AEEGY202A%2BRE005%20Part%203.pdf>

Part 7

<http://www.filefactory.com/file/26efv2p36hpf/AEEGY202A%2BRE005%20Part%204.pdf>

Part 8

<http://www.filefactory.com/file/4szjlkhva34t/AEEGY202A%2BRE005%20Part%204.pdf>

Part 9

<http://www.filefactory.com/file/5n4ixwsih1vb/AEEGY202A%2BRE005%20Part%205.pdf>

Part 10

<http://www.filefactory.com/file/7jb0atgu4xst/AEEGY202A%2BRE005%20Part%205.pdf>

Part 11

<http://www.filefactory.com/file/3vix5oofhjex/AEEGY202A%2BRE005%20Part%205a.pdf>

Part 12

<http://www.filefactory.com/file/4jt03kopqyhp/AEEGY202A%2BRE005%20Part%205a.pdf>

Part 13

<http://www.filefactory.com/file/23v9r0ymiy8n/AEEGY202A%2BRE005%20Part%206.pdf>

Part 14

<http://www.filefactory.com/file/2yyceyvo1knh/AEEGY202A%2BRE005%20Part%206.pdf>

Part 15

<http://www.filefactory.com/file/2qiuhz8imqjf/AEEGY202A%2BRE005%20Part%207.pdf>

Part 16

<http://www.filefactory.com/file/33va2juvew5b/AEEGY202A%2BRE005%20Part%207.pdf>

Password- Joe2013

Textbook

Prescribed Text:

Boyle, G 2004, *Renewable Energy: Power for a sustainable future* 2nd or latest edition Oxford University Press

<http://www.filefactory.com/file/11jwo86pxn0j/Renewable%20Energy-Power%20for%20sustainable%20Future.pdf>

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Tutorial Exercises

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Further Readings

[K131](#) + EE 308

http://www.filefactory.com/file/7hvv22gtz2lx/n/K131_zip

Additional 3.zip

http://www.filefactory.com/file/c0cb6a8/n/Additional_3.zip

Additional 1.zip

http://www.filefactory.com/file/c0cc0f7/n/Additional_1.zip

http://www.filefactory.com/file/1mr75xfm92ux/n/K032_zip

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Online Practicals

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AEEGY 203A Wind Energy Conversion System

Course Outline

In this subject you will learn about wind energy conversion systems. You will develop specialised knowledge and skills relating to:

- Introduction to wind as a natural resource
- Energy, power and wind
- Wind characteristics
- Data acquisition methods
- Site characteristics
- Correlation, wind and site
- Predicting energy output
- Turbines, types and construction
- Wind Energy Conversion Systems (WECS) sizing
- Retrospective performance.

Study Guide

Lesson Power Points

<http://www.filefactory.com/file/3hyoby6eqe3p/AEEGY%20203A%20%20Wind%20Energy-RE006.pdf>

Password- Joe2013

Textbook

Prescribed Texts:

Boyle, G, 2004, *Renewable Energy: Power for a sustainable future*. 2nd edition, Oxford University Press

<http://www.filefactory.com/file/11jwo86pxn0j/Renewable%20Energy-Power%20for%20sustainable%20Future.pdf>

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Tutorial Exercises

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Further Readings

ME 202 Introduction to Aero Dynamics

http://www.filefactory.com/file/401s96o982uf/n/ME_202_Introduction_to_Aero_Dynamics_.pdf

ME 234 Wind Turbines

http://www.filefactory.com/file/30w0u2u36a19/n/ME_234_wind-turbines_.pdf

[Aerodynamics Part 1](#)

http://www.filefactory.com/file/7axzc9j37g91/n/ME202_Part_1_zip

[Aerodynamics Part 2](#)

http://www.filefactory.com/file/2tlei8t6e4xn/n/ME202_Part_2_zip

[Aerodynamics Part 3](#)

http://www.filefactory.com/file/6mt5m5wi6dfn/n/ME202_Part_3_zip

[Wind Turbine Part 1](#)

http://www.filefactory.com/file/1f2dio8ik4zd/n/ME_234_Part_1_zip

[Wind Turbine Part 2](#)

http://www.filefactory.com/file/olr2lwjdpc5/n/ME_234_Part_2_zip

[Wind Turbine Part 3](#)

http://www.filefactory.com/file/117k3a3shh4f/n/ME_234_Part_3_zip

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AEEGY 204 A Energy Efficiency

[Course Outline](#)

In this subject you will learn about the efficiency of energy systems. You will develop specific knowledge and skills relating to:

- Energy conversion efficiencies of conventional and renewable energy systems
- Energy auditing
- Economic and environmental benefits of energy efficiency
- Energy efficiency of various energy loads
- Cogeneration (CHP)
- Pros and cons of distributed generation in terms of energy efficiency
- Ways to improve energy efficiency at the generation point and in the distribution system
- Ways to improve energy efficiency at the load points.

Study Guide

Lesson Power Points

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Textbook

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Tutorial Exercises

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Further Readings

1	Building Design+Material Science-K041+E047.zip http://www.filefactory.com/file/c0b645d/n/Building_Design_Material_Science-K041_E047.zip
2	Stage 3 Part 7.zip http://www.filefactory.com/file/c0ccfc7/n/Stage_3_Part_7.zip HazardLightingPanel K041 Building Design 1 K041 Building Design 2 K041Airconditioning K041Energy Management Textbook Stage 3 Part 3.zip http://www.filefactory.com/file/c0ccd44/n/Stage_3_Part_3.zip E047 Mech
3	As 1

4	As 2
5	<p><u>Renewable Energy+ Energy Efficiency</u></p> <p><u>K041 Lesson 1-Solar Design.zip</u></p> <p>http://www.filefactory.com/file/c0b6a9f/n/K041_Lesson_1-Solar_Design.zip</p> <p><u>K041 Lesson 2-Basic psychrometric chart.zip</u></p> <p>http://www.filefactory.com/file/c0b6bc9/n/K041_Lesson_2-Basic_psychrometric_chart.zip</p> <p><u>K041 Lesson 3-Total heat resistance.zip</u></p> <p>http://www.filefactory.com/file/c0b6b18/n/K041_Lesson_3-Total_heat_resistance.zip</p> <p><u>K041 Lesson 4-U value Heat conductance calculation.zip</u></p> <p>http://www.filefactory.com/file/c0b6b57/n/K041_Lesson_4-U_value_Heat_conductance_calculation.zip</p> <p><u>K041 Lesson 5-Glazing+Net Heat gain heat loss.zip</u></p> <p>http://www.filefactory.com/file/c0b6cc2/n/K041_Lesson_5-Glazing_Net_Heat_gain_heat_loss.zip</p> <p><u>K041 Lesson 6-Shading.zip</u></p> <p>http://www.filefactory.com/file/c0b6cd7/n/K041_Lesson_6-Shading.zip</p> <p><u>K041 Lesson 7-Insulation+ Thermal mass.zip</u></p> <p>http://www.filefactory.com/file/c0b6c06/n/K041_Lesson_7-Insulation_Thermal_mass.zip</p>

[K041 Lesson 8-Thermal mass insulation.zip](#)

http://www.filefactory.com/file/c0b6c30/n/K041_Lesson_8-Thermal_mass_insulation.zip

[K041 Lesson 9-Airconditioning load calculation.zip](#)

http://www.filefactory.com/file/c0b6dc8/n/K041_Lesson_9-Airconditioning_load_calculation.zip

[K041 Lesson 10-Heat gain per day.zip](#)

http://www.filefactory.com/file/c0b6dfe/n/K041_Lesson_10-Heat_gain_per_day.zip

[K041 Lesson 11-Ventilation.zip](#)

http://www.filefactory.com/file/c0b6d13/n/K041_Lesson_11-Ventilation.zip

[K041 Lesson 12-Building heating load](#)

http://www.filefactory.com/file/c0b6d47/n/K041_Lesson_12-Building_heating_load_calculation.zip

[K041 Lesson 14-Design for Australian climate.zip](#)

http://www.filefactory.com/file/c0b6d76/n/K041_Lesson_14-Design_for_Australian_climate.zip

[K041 Lesson 15-Domestic solar hot water system.zip](#)

http://www.filefactory.com/file/c0b6eaf/n/K041_Lesson_15-Domestic_solar_hot_water_system.zip

[K041 Lesson 16-Energy efficiency+Lighting.zip](#)

http://www.filefactory.com/file/c0b6e0f/n/K041_Lesson_16-Energy_efficiency_Lighting.zip

[K041 Lesson 17-Illumination+Smoke alarm.zip](#)

http://www.filefactory.com/file/c0b6fc5/n/K041_Lesson_17-Illumination_Smoke_alarm.zip

[K041 Lesson 18-Water supply.zip](#)

http://www.filefactory.com/file/c0b61ec/n/K041_Lesson_18-Water_supply.zip

[K041 Lesson 19-Ventilation+Lighting control.zip](#)

http://www.filefactory.com/file/c0b6058/n/K041_Lesson_19-Ventilation+Lighting_control.zip

[K041 Lesson 20-Electrical system design.zip](#)

http://www.filefactory.com/file/c0b6085/n/K041_Lesson_20-Electrical_system_design.zip

[K041 Lesson 21-Building materials.zip](#)

http://www.filefactory.com/file/c0b61b8/n/K041_Lesson_21-Building_materials.zip

6 Click [HERE](#) to download other Exercises

7 **EE07 & EE011 units mapping for Theory study & Exercises**

	UEENEEK041B_E047B_Tutorials Energy_survey_assignment in Stage 3 Part 8.zip http://www.filefactory.com/file/c0ccf09/n/Stage_3_Part_8.zip
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf
9	E07 & EE011 units mapping for Theory study & Exercises Assignment + Project work
10	K041 Text book http://www.filefactory.com/file/61dmv976e7tl/n/K041Textbook1_zip http://www.filefactory.com/file/4lsx0pk00guj/n/K041Textbook2_zip http://www.filefactory.com/file/2kwcxkrnasyf/n/K041Textbook3_zip

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Online Practicals

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Part (2) Qualified (1) Course

ENMAT 101A Engineering Materials & Processes

Course Outline

In this subject you will learn about the structure, properties and usage of a variety of materials used in engineering applications. You will develop specialised knowledge relating to:

- Material structure and properties
- Mechanical properties
- Metals - ferrous and non-ferrous
- Polymers
- Ceramics
- Composites, concrete, other
- Basic destructive testing
- Steel – FeC (Iron/Carbon), heat treatment
- Casting - perm/non-perm
- Forming - hot, cold
- Processes - PowderM, welding, Rapid Proto
- Polymer processes - IM, BM, extrus, thermoset, composites
- Joining - fasteners, weld, non-fusion
- Corrosion
- Surface treatments - plating, coatings, peening, anodising
- Non-destructive testing
- Quality assurance and control, certified testing, safety, materials safety data sheets (MSDS)
- Economic and environmental issues - production/recycling.

Study Guide

WEEK	LECTURES / EXAMINATIONS	LABORATORY	QUIZ
Orientation Week	Orientation activities Review of syllabus and assessment activities. Laboratory orientation. Academic Foundations: Note taking; study skills; introduction to conducting research.		
Week 1	Lecture (2 hrs): Readings: Ch 1: Engineering materials; Ch 2: Properties of materials.	Laboratory 1 (2 hrs): Hardness test	
Week 2	Lecture (2 hrs): Readings: Ch 3: Mechanical testing; Ch 4: The crystal structure of metals.	Laboratory 2 (2 hrs): Tensile Test	
Week 3	Lecture (2 hrs): Readings: Ch 5: Casting process; Ch 6: Mechanical deformation of metals; Ch 7: The mechanical shaping of metals.	Laboratory 3 (2 hrs): Metal Casting	10101
Week 4	Lecture (2 hrs): Readings: Ch 8: Alloys; Ch 9: Equilibrium diagrams; Ch 10: Practical microscopy	Laboratory 4 (2 hrs): Microscopy, Weld samples	10102
Week 5	Lecture (2hrs): Readings: Ch 11: Iron and steel; Ch 12: The heat-treatment of plain-carbon steels	Laboratory 5 (2 hrs): Torsion, Bending Tests	10103
Week 6	Lecture (2hrs): Readings: Ch 13: Alloy steels; Ch 14: The surface hardening of steels; Ch 15: Cast iron.	Laboratory 6 (2 hrs): Heat Treatment	
Week 7	Examination Week A: Assessment 2: Short answer test on content from weeks 1 to 5 (Ch 1 to Ch 15) 15%	Assessment 3 due: Portfolio of Laboratory Reports 1, 2, 3 & 4 - 15%	
Week 8	Lecture (2hrs): Readings: Ch 16: Copper and its alloys; Ch 17: Aluminium and its alloys; Ch 18: Other non-ferrous metals and their alloys.	Laboratory 7 (2 hrs): Polymer tensile test,	10105

WEEK	LECTURES / EXAMINATIONS	LABORATORY	QUIZ
Week 9	Lecture (2hrs): Readings: Ch 19: Plastics materials and rubbers; Ch 20: Properties of plastics.	Site Visit: e.g. Rolling Mill, Materials process/testing	
Week 10	Lecture (2hrs): Readings: Ch 21: Ceramics; Ch 22: Glasses; Ch 23: Composite materials.	Demo: Epoxy FRC, thermoforming	10106
Week 11	Lecture (2hrs): Readings: Ch 24: Fibre-reinforced composite materials; Ch 25: Methods of joining materials.	Laboratory 8 (2 hrs): Dye, Mag, Ultrasound	10104
Week 12	Lecture (2hrs): Readings: Ch 26: Causes of failure; NDT; Material Standards.	Laboratory 9 (2 hrs): Product Study	10107
Week 13	Lecture (2 hrs): Readings: Ch 27 Choice of Materials and Processes; Design. Economic, Environmental, Social Issues.	Assessment 4 due: Collaborative Report (Product Study) 15%	10108
Week 14	Study Week		
Week 15	Examination Week B: Assessment 5: Written examination: 30%	Assessment 3 due: Portfolio of Laboratory Reports 5, 6, 7, 8 & 9 - 15%	

Lesson Power Points

E081 Material Science

http://www.filefactory.com/file/pq2r36bvgnv/n/E081_Material_Science1_pdf

Non Metallic Materials

http://www.filefactory.com/file/2czhyovkn32x/n/Materials_ppt

Password- Joe2013

Textbook

Prescribed Text:

Higgins, R. & Bolton, W., 2010, *Materials for Engineers and Technicians*, 5th Edition, Butterworth Heinemann, Oxford UK. ISBN 9781856177696.

http://www.filefactory.com/file/724kx95f2ayf/27767685-Materials-Engineers-Technicians_pdf

Password- Joe2013

Tutorial Exercises

Password- joe2013

Further Readings

Engineering Mechanics

http://www.filefactory.com/file/63sqtnrqf55/n/ME_103_Engineering_Mechanics_zip

Chemical Thermodynamics

http://www.filefactory.com/file/5ussq0pnpi4t/n/ME_207_Chemical_thermodynamics_pdf

Introduction-to-polymer-science-and-technology

http://www.filefactory.com/file/6epib0ijvbjt/n/ME_209_Introduction-to-polymer-science-and-technology_pdf

http://www.filefactory.com/file/7dhamrs5c3z7/n/ME207_zip

[ME 305+ ME 209](#)

http://www.filefactory.com/file/76fbf48z2h7j/n/ME305_ME209_zip

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Online Practicals

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ENELE 101A Principle of Electrical Engineering

Course Outline

In this subject you will learn about basic principles of electrical engineering. You will develop a range of foundation knowledge and skills relating to:

- Notation and units
- Circuit topologies

Direct current (DC) circuit principles:

- Voltage, current, power, resistance, conductance
- Ohm's Law; Kirchhoff voltage and current laws
- Series and parallel configurations
- Linearity and Superposition
- Thévenin and Norton equivalent circuits (simple cases)
- Nodal and mesh analysis (simple cases)
- Maximum power transfer
- Capacitors
- Passive and switched resistor-capacitor (RC) circuits
- Inductors
- Passive and switched resistor-inductor (RL) circuits
- Diodes

Alternating current (AC) circuit principles:

- Amplitude, frequency and phase
- Voltage
- Current and power in resistors, inductors & capacitors
- Time domain analysis of ac circuits
- Review of complex numbers
- Phasors and phasor notation
- Complex impedance and admittance
- Thévenin and Norton equivalents (simple cases)
- AC power (real, reactive, complex)
- Root-mean-square (RMS) values
- Maximum power transfer.

Study Guide

WEEK NO:	TOPICS AND ACTIVITIES
Orientation Week	Orientation activities Review of syllabus and assessment activities.
Week 1	Introduction to DC Circuits Reading List: Chapter 1 Sections: 1.1 – 1.5 Chapter 2 Sections: 2.1 – 2.6 & 2.9 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 2	Kirchhoff Voltage & Current Laws Reading List: Chapter 3 Sections: 3.1 – 3.6 & 3.10 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 3	Node & Mesh Analysis Reading List: Chapter 4 Sections: 4.1 – 4.3, 4.5, 4.6, 4.8, 4.13 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 4	Superposition Principle & Source Transformation Thévenin & Norton Equivalent DC Circuits Reading List: Chapter 5 Sections: 5.1 – 5.6 & 5.11 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 5	Capacitors & Inductors Reading List: Chapter 7 Sections: 7.1 – 7.8 & 7.13 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 6	Passive & Switched RL & RC Circuits Reading List: Chapter 8 Sections: 8.1 – 8.4, 8.6 & 8.12 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 7	Examination Week A: Assessment 1: Written examination - 25%

WEEK NO:	TOPICS AND ACTIVITIES
Week 8	Diodes in DC Circuits Introduction to AC Circuits Reading List: Chapter 10 Sections: 10.1 & 10.2 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 9	AC Steady-State Analysis Reading List: Chapter 10 Sections: 10.3 & 10.4 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 10	Complex Numbers & Phasor Notation Reading List: Chapter 10 Sections: 10.5 – 10.6 & 10.11 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 11	Impedance & Admittance Thevenin & Norton Equivalent AC Circuits Reading List: Chapter 10 Section: 10.7 & 10.10 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ. Assessment 2 Due: Portfolio and/or written report on practicum work and experiments (Laboratory Workbook) – 25%
Week 12	AC Power Reading List: Chapter 11 Sections: 11.1 – 11.6 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 13	Power Superposition & Maximum Power Reading List: Chapter 11 Sections: 11.7 – 11.8 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 14	Study Week
Week 15	Examination Week B: Assessment 3: Written examination – 50%

[Lesson Power Points](#)

[Week 1 Lesson](#)

[Week 2 Lesson](#)

[Week 3 Lesson](#)

Week 3A Lesson

Video- <http://www.filefactory.com/file/cf8739b/n/E003+E004.zip>

Circuit Analysis

Advanced Circuit Analysis

Electro-magnetics+Electronics

Advanced Circuits+Electromagnetics+Electronics

Electrical Circuits 1

Engineering Circuit Analysis

Electrical Measurement

Folder				Electrical Circuit
				<u>Instruction</u> Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	27	to	52	Circuit theorem
	54	to	71	Sinusoids & phasors
	73	to	81	Frequency response

Folder				Engineering Circuit Analysis
				<u>Instruction</u> Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
2/ 3				Basic circuits Examples 2.2, 2.3, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9, 3.10, 3.11, 3.12
4				Basic Nodal and Mesh analysis Example 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 4.9, 4.10, 4.11, 4.12
5				Linear and Superposition/ Source Transformation Example 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7, 5.8, 5.9, 5.10, 5.11
8				RL/ RC Circuits

				Example 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, 8.8, 8.9, 8.10, 8.11
9				RLC Circuits Example 9.1, 9.2, 9.3, 9.4, 9.5, 9.6, 9.7, 9.8, 9.9
10				Sinusoidal steady state analysis Example 10.1, 10.2, 10.3, 10.4, 10.5, 10.6, 10.7, 10.8
11				AC Power Circuit Analysis Example 11.1, 11.2, 11.3, 11.4, 11.5
12				Polyphase Circuits Example 12.1, 12.2, 12.3, 12.4, 12.5, 12.6
13				Magnetically coupled circuits Example 13.1, 13.2, 13.3, 13.4, 13.5, 13.6, 13.7, 13.8
14				Complex Frequency / Laplace Transform Example 14.1, 14.2, 14.3, 14.4, 14.5, 14.6, 14.7, 14.8, 14.11
				Laplace Transform Table 14.1, 14.2
15				Circuit analysis in “ S “ domain Example 15.1, 15.2, 15.3, 15.4, 15.5, 15.6, 15.7 Pole/ Zero constellation Example 15.12, 15.13
16				Frequency Response Example 16.1, 16.2
17				Two ports network Example 17.1, 17.2, 17.3, 17.4, 17.5
18				Fourier Circuit Analysis Example 18.1 Use of symmetry theory Table 18.1 Example 18.2, 18.3
Exercise	Q328	to	Q367	of Assignment Number (23)

Folder				EE404 Electrical Measurement
				<u>Instruction</u> Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
6	197			Measurement of inductance and capacitance
7	270			Measurement of resistance
9	352			Magnetic measurement
11	437			High voltage measurement and tesating
12	480			Location of cable fault
20	730			Measurement of power
21	771			Measurement of energy

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Textbook

Prescribed Text:

Dorf, R & Svoboda, J 2010, *Introduction to Electric Circuits*, 8th or latest edition, John Wiley & Sons, Hoboken, NJ.

http://www.filefactory.com/file/626gk4lkg37z/Introduction_to_Electric_Circuits_8th_Edition_by_Richard_C_Dorf_amp_James_A_Svoboda_pdf

http://www.filefactory.com/file/7kaiz26cy6vf/LabView_pdf

http://www.filefactory.com/file/2rrdma1udpkv/Principles_and_Applications_of_Electrical_Engineering_pdf

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Tutorial Exercises

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Further Readings

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Online Practicals

Practicals [Work performance and practical instruction](#)

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ENELE201A Advanced Electrical Engineering

Course Outline

In this subject you will build on basic engineering knowledge gained in previous sub and develop further knowledge and skills relating to electrical engineering:

Circuit analysis:

- DC and AC Network theorems (Kirchhoff's, Superposition)
- Resonance
- Magnetically coupled circuits

Communications and signalling processing and applications:

- Analogue and digital communications principles
- Filters
- Amplifiers and attenuators
- Communication protocols

Analogue and digital communication systems and control circuits:

- Telemetry and monitoring systems
- Control systems and applications.

Study Guide

Lesson Power Points

Electromagnetics

Electromagnetics 1

http://www.filefactory.com/file/f8hx3kz5gd1/n/BAE407_Wk_1_zip

Electromagnetics 2

http://www.filefactory.com/file/40r0fd3sta2p/n/BAE407_Wk_2_zip

Electromagnetics 3

http://www.filefactory.com/file/snre8qvw3j5/n/BAE407_Wk_3_zip

Circuits

Circuit 1

http://www.filefactory.com/file/65j9pisrtg0j/n/BAE405_Wk_1_zip

Circuit 2

http://www.filefactory.com/file/1o71eepje7up/n/BAE405_Wk_2_zip

Circuit 3

http://www.filefactory.com/file/1mm2f82zqhix/n/BAE405_Wk_3_zip

http://www.filefactory.com/file/3spcgz270krb/BAE405_Wk_3a.zip

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Textbook

Prescribed Texts:

Rizzoni, G & Hartley, T 2007, *Principles and Applications of Electrical Engineering*, 5th or latest edition, McGraw-Hill Companies Inc. USA

Recommended Readings:

Nahvi, M (Ed) & Edminister, J (Ed) 2011, *Schaum's Outline of Electric Circuits*, McGraw-Hill Companies Inc. USA

All About Circuits 2012, viewed 8 May 2012, <http://www.allaboutcircuits.com/>

http://www.filefactory.com/file/70zpg419d9mf/_Rizzoni_G_Principles_and_Applications_of_Electr_Bookos_org_pdf

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Tutorial Exercises

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Further Readings

Stage 2 Part 3.zip

http://www.filefactory.com/file/c0ccb1f/n/Stage_2_Part_3.zip

E025_Circuits_1 E025_Circuits_2

Stage 3 Part 2.zip

http://www.filefactory.com/file/c0ccdbc/n/Stage_3_Part_2.zip

E025_Tutorial

Stage 2 Part 2A.zip

http://www.filefactory.com/file/c0cca4a/n/Stage_2_Part_2A.zip

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Online Practicals

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ENELE202A Principle of Electrical Machines

Course Outline

In this subject you will learn basic principles of electrical machinery. You will develop specialised knowledge and skills relating to:

Transformers:

- Transformer Principles and Construction
- Efficiency
- Impedance
- Equivalent circuit
- Polarity
- Vector groups
- Parallel operations
- Special Transformers (Auto and Instrument etc)

Induction Motors:

- Principle of Induction Motor
- Construction and operation of Squirrel Cage Induction Motors (SCIM) and Wound Rotor Induction Motors (WRIM)
- Operation and characteristics
- Induction Generator
- Single Phase Induction Motor

Synchronous Machines:

- Principles of operation
- Characteristics
- Motors
- Alternators

DC Machines:

- Principles of operation
- Shunt Series Compound Machines
- Characteristics

Single Phase and Special Motors:

- Split Phase motor
- Capacitor Start/Run motor

- Shaded Pole motor
- Universal motor
- Hysteresis motor
- Stepper motors
- Brushless DC motors
- Permanent magnet motors
- Variable reluctance motors
- Stepper motors
- Brushless DC motors

Electronic Control of Motors

- DC Motors
- AC Motors.

Study Guide

Lesson Power Points

AC MACHINES

[Elect Machine-G043+G044+G045.zip](#)

http://www.filefactory.com/file/c0b6668/n/Elect_Machine-G043_G044_G045.zip

[G043 G045 7762AF Notes](#)

[G043 G045 Part 1 7762AF Notes](#)

Induction and synchronous machines & control

[G043+G045 Lesson 1 AC Machine Introduction.zip](#)

http://www.filefactory.com/file/c0bf660/n/G043_G045_Lesson_1_AC_Machine_Introduction.zip

[G043+G045 Lesson 2 Slip+Equivalent Ckt.zip](#)

http://www.filefactory.com/file/c0bf7b9/n/G043_G045_Lesson_2_Slip_Equivalent_Ckt.zip

[G043+G045 Lesson 3 Power Transfer.zip](#)

http://www.filefactory.com/file/c0bf773/n/G043_G045_Lesson_3_Power_Transfer.zip

[G043+G045 Lesson 4 Test for equivalent ckt.zip](#)

http://www.filefactory.com/file/c0b03f9/n/G043_G045_Lesson_4_Test_for_equivalent_ckt.zip

[G043+G045 Lesson 5 Equivalent Ckt Problems.zip](#)

http://www.filefactory.com/file/c0bf842/n/G043_G045_Lesson_5_Equivalent_Ckt_Problems.zip

[G043+G045 Lesson 6 Motor starting and control.zip](#)

http://www.filefactory.com/file/c0bf90e/n/G043_G045_Lesson_6_Motor_starting_and_control.zip

[G043+G045 Lesson 7 Synchronous machine introduction.zip](#)

http://www.filefactory.com/file/c0bf92d/n/G043_G045_Lesson_7_Synchronous_machine_introduction.zip

[G043+G045 Lesson 8 Synchronous machine ckt problems.zip](#)

http://www.filefactory.com/file/c0bf955/n/G043_G045_Lesson_8_Synchronous_machine_ckt_problems.zip

[G043+G045 Lesson 9 Synchronous machine starting.zip](#)

http://www.filefactory.com/file/c0b0342/n/G043_G045_Lesson_9_Synchronous_machine_starting.zip

[G043+G045 Lesson 10 Single phase motor.zip](#)

http://www.filefactory.com/file/c0b0362/n/G043_G045_Lesson_10_Single_phase_motor.zip

[G043+G045 Lesson 11 Factors affecting motor operation.zip](#)

http://www.filefactory.com/file/c0b037b/n/G043_G045_Lesson_11_Factors_affecting_motor_operation.zip

[Induction and synchronous machines & control](#)

DC MACHINES

1 [Elect Fundamental E029+G012+G001+G002+G060.zip](#)

http://www.filefactory.com/file/c0b6601/n/Elect_Fundamental_E029_G012_G001_G002_G060.zip

[Elect Machine-G043+G044+G045.zip](#)

	http://www.filefactory.com/file/c0b6668/n/Elect_Machine-G043_G044_G045.zip
2	E029 Motor Control 1 E029 Motor Control 2 E047Mech G044 7762AC1 G044 7762AC2

TRANSFORMERS

Power Transformer+Line-G040.zip http://www.filefactory.com/file/c0b7bd2/n/Power_Transformer_Line-G040.zip	
G040 7762AD Notes	
<u>As 1</u>	
<u>As 2</u>	
G040 Lesson 1 Power transformer rating 1.zip http://www.filefactory.com/file/c0bcff1/n/G040_Lesson_1_Power_transformer_rating_1.zip G040 Lesson 1 Power transformer rating 2.zip http://www.filefactory.com/file/c0bcf9b/n/G040_Lesson_1_Power_transformer_rating_2.zip G040 Lesson 2 Open circuit short circuit test.zip http://www.filefactory.com/file/c0bc0b9/n/G040_Lesson_2_Open_circuit_short_circuit_test.zip G040 Lesson 3 Transformer regulation.zip http://www.filefactory.com/file/c0bc0d1/n/G040_Lesson_3_Transformer_regulation.zip G040 Lesson 4 Power transformer connection.zip http://www.filefactory.com/file/c0bc09a/n/G040_Lesson_4_Power_transformer_connection.zip G040 Lesson 5 Maximum efficiency.zip http://www.filefactory.com/file/c0bc1db/n/G040_Lesson_5_Maximum_efficiency.zip G040 Lesson 6 Transformer parallel operation.zip http://www.filefactory.com/file/c0bc164/n/G040_Lesson_6_Transformer_parallel_operation.zip G040 Lesson 7 Harmonic in transformer.zip http://www.filefactory.com/file/c0bc2ab/n/G040_Lesson_7_Harmonic_in_transformer.zip G040 Lesson 8 Transformer problem + auto transformer.zip http://www.filefactory.com/file/c0bc2cb/n/G040_Lesson_8_Transformer_problem_auto_transformer.zip	

[G040 Lesson 9 Transformer rating cooling connection tap changing.zip](#)

http://www.filefactory.com/file/c0bc294/n/G040_Lesson_9_Transformer_rating_cooling_connection_tap_changing.zip

[G040 Lesson 10 Phase shift transformer.zip](#)

http://www.filefactory.com/file/c0bc2f5/n/G040_Lesson_10_Phase_shift_transformer.zip

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Textbook

Prescribed Texts:

Wildi, T 2006, *Electrical Machines, Drives and Power Systems* 6th or latest edition. Pearson Prentice Hall, Australia

http://www.filefactory.com/file/7hcvfk7cai6b/Electrical_Machines_drive_power_system.pdf

http://www.filefactory.com/file/2ua3qpynkv43/ENELE202A-Principle_of_Elect_Machine.pdf

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Tutorial Exercises

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Further Readings

Subjects	Points	Competency Units
Advanced Electro-magnetics Field & Materials		Electromagnetism

[Advanced Electro-magnetics Field & Materials](#)

Readings

[Electro-magnetics Field](#)

[Electromagnetism](#)

[Electro-magnetism Examples](#)

Electro-mechanics (2 pt)

Part (1) Overview Knowledge of the subject

Folder					Advanced Engineering Mathematics
					Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
File name	Chapter			Page	Topics
					Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
Theory					
chap01_emd.pdf				All	Electro-mechanic -1.0.1 Scope of application <ul style="list-style-type: none"> Electro-magnetic theory 1.1.1a Magnetic field system, Table 1.1 1.1.1.b Electric field system Table 1.2
chap02_emd.pdf				All	Lumped electro-mechanical elements
chap03_sec_emd.pdf				All	Lumped parameter-electro-mechanic
chap04_sec_emd.pdf				All	Rotating machines
chap05_sec_emd.pdf				All	Lumped parameter-electro mechanical dynamics
Problems					
chap02_prb_emd.pdf				All	Example problems
chap03_prb_emd.pdf				All	Example problems
chap04_prb_emd.pdf				All	Example problems
chap05_prb_emd.pdf				All	Example problems
emdsoln_01.pdf				All	Solutions for all example problems

Electrical Machines Machine Principle

Folder				Electrical Machines
File				Electrical Machines
				Instruction Study the notes, calculate the example problems

				then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	45			DC Generator, Example problems
	58			DC Motors, Example problems
	121			Efficiency & heating of electrical machines, Example problems
	131			Three phase transformer, Example problems
	142			Three phase induction motors, Example problems
	177			Synchronous generators, Example problems
	194			Synchronous motors, Example problems
	229			Basic of industrial motor control, Example problems

Machine Principle

Folder				Machine Principle
				<u>Instruction</u> Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
2	114			Rotating machines
3	116			Machinery mounting
4	118			Balancing
6	124			Bearing
7	139			Power transmission

Advanced Electro-magnetics Field & Materials

Folder					Advanced Electro-magnetic Field & Materials
File					
					<u>Instruction</u> Study the notes, calculate the example problems then do the exercises numbers as indicated
File name		Chapter		Page	Topics
					Note- PDF File page number and the page number of the scanned

				document may be different. The student need to check both as necessary
Pre-readings				
em01.pdf	1		All	Electric field
em02.pdf	2		All	Electrostatic potential
em03.pdf	3		All	Dipole and quadrature pole movements
em04.pdf	4		All	Batteries, resistors, ohm laws
em05.pdf	5		All	Capacitors
em06.pdf	6		All	Magnetic effect of an electric current
em07.pdf	7		All	Force on current in a magnetic field
em08.pdf	8		All	Electro-dynamics of moving bodies
em09.pdf	9		All	Magnetic potential
em10.pdf	10		All	Electro-magnetic Induction
em11.pdf	11		All	Dimensions
em12.pdf	12		All	Properties of magnetic materials
em13.pdf	13		All	Alternating current
em14.pdf	14		All	Laplace transform
em15.pdf	15		All	Maxwell Equation
em16.pdf	16		All	CGS Electricity & Magnetism
em17.pdf	17		All	Magnetic dipole movement
Highlight Points				
Lecture1.pdf			All	Outlines
Lecture 2.pdf			All	Electric field
Lecture 3.pdf			All	Electrostatic Energy
Lecture 4.pdf			All	Laplace's equation (1)
Lecture 5.pdf			All	Laplace's equation (2)
Lecture 6.pdf			All	Remarks on units
Lecture 7.pdf			All	Green's functions
Lecture 8.pdf			All	Multipole expansion
Lecture 9.pdf			All	Electro-static in matter
Lecture 10.pdf			All	Boundary condition
Lecture 11.pdf			All	Magneto statics (1)
Lecture 12.pdf			All	Magneto statics (2)
Lecture 13.pdf			All	Macroscopic magneto statics
Lecture 14.pdf			All	Maxwell's equation
Lecture 15.pdf			All	DISC movement
Lecture 16.pdf			All	Electro-magnetic plane

				waves
Lecture 17.pdf		All		Reflection & refraction
Lecture 18.pdf		All		Casual relation between D & E
Lecture 19.pdf		All		Wave guides and load cavities
Lecture 20.pdf		All		Electromagnetic radiation and scattering (1)
Lecture 21.pdf		All		Electromagnetic radiation and scattering (2)
Lecture 22.pdf		All		Scattering by small di-electric sphere
Lecture 27.pdf		All		Electro-magnetism
Lecture 28.pdf		All		Electro magnetic fields and moving charges
Formulas				
CW950212_1.pdf		All		Multipole expansion
CW950320_1.pdf		All		Magnetic constants and materials
CW950329_1.pdf		All		Ampere law
CW950128_3.pdf		All		Brief history of electro magnetism
CW950219_2.pdf		All		Gauss's law
CW950313_2.pdf		All		Numerical solutions to Laplace's equation
CW960430_2.pdf		All		Small current loop
CW970129_3.pdf		All		Curvilinear co-ordinate system
CW970210_1.pdf		All		Problems
CW970303_1.pdf		All		Dielectric tensors and constants
CW970317_2.pdf		All		Analytic solution to Laplace equation
CW970606_1.pdf		All		Magnetostatic boundary condition
CW970606_1.pdf		All		Electrostatic boundary condition
Symbols				
CW970606_3.pdf		All		Electromagnetic field
CW980205_2.pdf		All		The gradient vector
Di-electric.pdf		All		Maxwell's equation
Propagation.pdf		All		Electro-magnetic wave propagation

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Online Practicals

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ENELE 203A Electronics and Power Control

Course Outline

In this subject you will learn about electronics and power control. You will develop specialised knowledge and skills relating to:

Semiconductors, diodes, transistors and integrated circuits:

- Semiconductor materials and junctions
- Diode construction, operation, ratings and applications
- Transistor construction, operation, ratings and applications
- Integrated circuit construction, operation, ratings and applications especially as related to operational amplifiers

Linear regulated dc power supplies:

- Basic power supplies (ac to dc and dc to dc), circuits and applications
- Regulation requirements and applications

Switching power control circuits:

- Basic types, operation
- Critical issues, solutions and applications

Digital electronics

- Digital logic, circuits and power control applications

Power Inverters (DC to AC):

- Basic types, operation
 - Critical issues, solutions and applications.
-

Study Guide

Lesson Power Points

POWER ELECTRONICS

[Power Electronics -H025+H026.zip](#)

http://www.filefactory.com/file/c0b6857/n/Power_Electronics_-H025_H026.zip

H025_Operational_Amplifier
H026_3_Ph_Power_Control_Electronics_1
H026_3_Ph_Power_Control_Electronics_2
H026_3_Ph_Power_Control_Electronics_3
H026_3_Ph_Power_Control_Electronics_4
In

[Stage 3 Part 6.zip](#)

http://www.filefactory.com/file/c0cce63/n/Stage_3_Part_6.zip

[Operational amplifier+ single phase power control equipments](#)

[H025 Lesson 1-Differential Amplifier.zip](#)

http://www.filefactory.com/file/c20fef9/n/H025_Lesson_1-Differential_Amplifier.zip

[H025 Lesson 2-Comparator.zip](#)

http://www.filefactory.com/file/c0b072e/n/H025_Lesson_2-Comparator.zip

[H025 Lesson 3-Timer IC.zip](#)

http://www.filefactory.com/file/c0b077e/n/H025_Lesson_3-Timer_IC.zip

[H025 Lesson 4-Op Amp Circuit 1 & 2.zip](#)

http://www.filefactory.com/file/c0b08c8/n/H025_Lesson_4-Op_Amp_Circuit_1_2.zip

[H025 Lesson 5-Op amp characteristics+Band widthe compensation.zip](#)

http://www.filefactory.com/file/c0b09da/n/H025_Lesson_5-Op_amp_characteristics_Band_widthe_compensation.zip

[H025 Lesson 6-Op amp diode characteristics.zip](#)

http://www.filefactory.com/file/c0b09e1/n/H025_Lesson_6-Op_amp_diode_characteristics.zip

[H025 Lesson 7-Sine & square wave oscillators.zip](#)

http://www.filefactory.com/file/c0b090a/n/H025_Lesson_7-Sine_square_wave_oscillators.zip

[H025 Lesson 8-Op amp ckt-Integrator+Differentiator.zip](#)

http://www.filefactory.com/file/c0b0909/n/H025_Lesson_8-Op_amp_ckt-Integrator_Differentiator.zip

[H025 Lesson 9-Active filter.zip](#)

http://www.filefactory.com/file/c0b0916/n/H025_Lesson_9-Active_filter.zip

[H025 Lesson 10-Multistage Op amp ckt.zip](#)

http://www.filefactory.com/file/c0b0948/n/H025_Lesson_10-Multistage_Op_amp_ckt.zip

[H025 Lesson 11-Transducers.zip](#)

http://www.filefactory.com/file/c0b0978/n/H025_Lesson_11-Transducers.zip

[H025 Lesson 12-Introduction to control.zip](#)

http://www.filefactory.com/file/c0b0986/n/H025_Lesson_12-Introduction_to_control.zip

[Operational amplifier+ single phase power control equipments](#)

[**Power Electronics -H025+H026.zip**](#)

[**http://www.filefactory.com/file/c0b6857/n/Power_Electronics_-H025_H026.zip**](http://www.filefactory.com/file/c0b6857/n/Power_Electronics_-H025_H026.zip)

[Three phase power control equipments](#)

[**H026 Lesson 1-Single &Three phase power control.zip**](#)

[**http://www.filefactory.com/file/c0b1ac9/n/H026_Lesson_1-Single_Three_phase_power_control.zip**](http://www.filefactory.com/file/c0b1ac9/n/H026_Lesson_1-Single_Three_phase_power_control.zip)

[H026 Lesson 2-Solid state switching devices.zip](#)

http://www.filefactory.com/file/c0b1af2/n/H026_Lesson_2-Solid_state_switching_devices.zip

[H026 Lesson 3-Inverter Converter.zip](#)

http://www.filefactory.com/file/c0b1a59/n/H026_Lesson_3-Inverter_Converter.zip

[H026 Lesson 4-Power Diodes.zip](#)

http://www.filefactory.com/file/c0b1a8f/n/H026_Lesson_4-Power_Diodes.zip

[H026 Lesson 5-AC Motor speed control.zip](#)

http://www.filefactory.com/file/c0b1ba7/n/H026_Lesson_5-AC_Motor_speed_control.zip

[H026 Lesson 6-Current fed inverter.zip](#)

http://www.filefactory.com/file/c0b1b0d/n/H026_Lesson_6-Current_fed_inverter.zip

[Three phase power control equipments](#)

ANALOG ELECTRONICS

[H045 Lesson 1 Op-amp.zip](#)

http://www.filefactory.com/file/c0b1b3a/n/H045_Lesson_1_Op-amp.zip

[H045 Lesson 1 Op-amp](#)

[H045 Lesson 2 DC Non idealities.zip](#)

http://www.filefactory.com/file/c0b1b5b/n/H045_Lesson_2_DC_Non_idealities.zip

[H045 Lesson 3 Bias compensation.zip](#)

http://www.filefactory.com/file/c0b1b86/n/H045_Lesson_3_Bias_compensation.zip

[H045 Lesson 4 Slew rate.zip](#)

http://www.filefactory.com/file/c0b1ca0/n/H045_Lesson_4_Slew_rate.zip

[H045 Lesson 5 AC Noise.zip](#)

http://www.filefactory.com/file/c0b1cb2/n/H045_Lesson_5_AC_Noise.zip

[H045 Lesson 5 AC Noise](#)

<http://uploading.com/files/6dmm1ccf/H045%2BLesson%2B5%2BAC%2BNoise.zip/>

[H045 Lesson 6 Source noise resistance.zip](#)

http://www.filefactory.com/file/c268af2/n/H045_Lesson_6_Source_noise_resistance.zip

[H045 Lesson 7 Signal to noise ratio.zip](#)

http://www.filefactory.com/file/c0b1cff/n/H045_Lesson_7_Signal_to_noise_ratio.zip

[H045 Lesson 8 Frequency compensation.zip](#)

http://www.filefactory.com/file/c0b1c0e/n/H045_Lesson_8_Frequency_compensation.zip

[H045 Lesson 9 Stability analysis.zip](#)

http://www.filefactory.com/file/c0b1c95/n/H045_Lesson_9_Stability_analysis.zip

[H045 Lesson 10 Feedforward compensation.zip](#)

http://www.filefactory.com/file/c0b1c56/n/H045_Lesson_10_Feedforward_compensation.zip

[Analogue Electronics](#)

[H045 Lesson 1 Op-amp.zip](#)

http://www.filefactory.com/file/c0b1b3a/n/H045_Lesson_1_Op-amp.zip

[H045 Lesson 2 DC Non idealities.zip](#)

http://www.filefactory.com/file/c0b1b5b/n/H045_Lesson_2_DC_Non_idealities.zip

[H045 Lesson 3 Bias compensation.zip](#)

http://www.filefactory.com/file/c0b1b86/n/H045_Lesson_3_Bias_compensation.zip

[H045 Lesson 4 Slew rate.zip](#)

http://www.filefactory.com/file/c0b1ca0/n/H045_Lesson_4_Slew_rate.zip

[H045 Lesson 5 AC Noise.zip](#)

http://www.filefactory.com/file/c0b1cb2/n/H045_Lesson_5_AC_Noise.zip

[H045 Lesson 6 Source noise resistance.zip](#)

http://www.filefactory.com/file/c268af2/n/H045_Lesson_6_Source_noise_resistance.zip

[H045 Lesson 7 Signal to noise ratio.zip](#)

http://www.filefactory.com/file/c0b1cff/n/H045_Lesson_7_Signal_to_noise_ratio.zip

[H045 Lesson 8 Frequency compensation.zip](#)

http://www.filefactory.com/file/c0b1c0e/n/H045_Lesson_8_Frequency_compensation.zip

[H045 Lesson 9 Stability analysis.zip](#)

http://www.filefactory.com/file/c0b1c95/n/H045_Lesson_9_Stability_analysis.zip

[H045 Lesson 10 Feedforward compensation.zip](#)

http://www.filefactory.com/file/c0b1c56/n/H045_Lesson_10_Feedforward_compensation.zip

AMPLIFIER

http://www.filefactory.com/file/c0cb6a8/n/Additional_3.zip

DC Power Supply

<http://www.filefactory.com/file/4f92zgjjzg7j/DC%20Power%20Supply.pdf>

Password- Joe2013

Textbook

Prescribed Texts:

Meade, R, Diffenderfer, R 2006, *Foundations of Electronics: Circuits and Devices* (Conventional Flow), 5th or latest edition, Delmar Cengage Learning, USA

<http://www.filefactory.com/file/2yu0qvkoqppn/Electronic%20Devices.pdf>

Password- Joe2013

Tutorial Exercises

Password- joe2013

Further Readings

Analog & Digital Electronics 1

<http://www.filefactory.com/file/27alnx6skg2x/BAE408Wk1.zip>

Analog & Digital Electronics 2

http://www.filefactory.com/file/3vpyub43h53p/n/BAE408Wk2_zip

Analog & Digital Electronics 3

http://www.filefactory.com/file/4c6snjh05cel/n/BAE408Wk3_zip

Control 1

http://www.filefactory.com/file/4lahmzh0qf3b/n/BAE502_Wk_1_zip

Control 2

http://www.filefactory.com/file/46t9zbh859rl/BAE502_Wk_2.zip

Control 3

http://www.filefactory.com/file/15qea45hhvxx/n/BAE502_Wk_3_zip

Control 4

http://www.filefactory.com/file/22cy88iyi78f/n/BAE503Wk1PPT_zip

Control 5

http://www.filefactory.com/file/2d82bvgvzgx3/n/BAE503Wk2PPT_zip

Control 6

http://www.filefactory.com/file/3v7x6hmksvnf/n/BAE503Wk3PPT_zip

Password- joe2013

Online Practicals

Practicals [Work performance and practical instruction](#)

Click [HERE](#) to download practicals

Password- joe2013

ENPRA101A Engineering Practice

Course Outline

In this subject you will learn about the practices of an engineering professional within a multidisciplinary framework. You will develop basic knowledge and skills relating to electrical and other engineering specialisations, including:

Introduction to the Regulatory System:

- Electricity Act
- Electricity Regulation Australian
- Standards State Regulators
- Workplace Health and Safety
- Engineers Code of Ethics

Drawings And Specifications:

- Drawing Interpretation
- Overview of Computer Aided Design (CAD)
- Writing a Specification

Generation and Distribution:

- Generating Plant
- Transmission Grid
- Substations

Fasteners and Fastening Methods:

- Methods of securing electrical equipment to various surfaces

Wiring Systems:

- Load Calculations
- Max. Demand
- Cables and Systems
- AS3008

Control and Protection:

- Earthing
- Protection for safety
- Faults and overloads
- Protective devices and methods

Illumination:

Study Guide

Lesson Power Points

AUSTRALIAN ELECTRICIAN TRAINING

[G106 Cable Termination](#)

[G106+G033 Practical](#)

[G063 Wk 7+8](#)

http://www.filefactory.com/file/423vowj4o34b/G063_Wk_7_8_zip

[G033+G063+G107 Week 10 to 15](#)

Study Guide EE07 & EE011

Study Cards EE07 & EE011							
What to study	study		Which exercises to do			What practical to do	Resources
Main	study	Additional study	Main exercise		Additional exercises		
EE07 Unit	EE011 Unit	For EE07+EE011 +Video	Study Option (1) EE-07	Study Option (2) EE-07	for EE011		
UEENEE005B Fix and secure equipment	UEENEE0105A Fix and secure electrotechnology equipment	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1						
See 1 below	See 3 below		EE011	=	EE07 +	Additional	
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiri
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	ng_E001_2_3_4_5_7_8_33_G003_4_7.zip
2	
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
4	
5	<p>Video-- Electrical workshop Lesson 1 OHS.zip http://www.filefactory.com/file/c0adbfa/n/Electrical_workshop_Lesson_1_OHS.zip Electrical workshop Lesson 2 Workplace hazard+Fix & secure equipment.zip http://www.filefactory.com/file/c0adca2/n/Electrical_workshop_Lesson_2_Workplace_hazard_Fix_secure_equipment.zip Electrical workshop Lesson 3 Mechanical fixing.zip http://www.filefactory.com/file/c0adc1d/n/Electrical_workshop_Lesson_3_Mechanical_fixing.zip Electrical workshop Lesson 4 Basic electrical wiring.zip http://www.filefactory.com/file/c0add65/n/Electrical_workshop_Lesson_4_Basic_electrical_wiring.zip Electrical workshop Lesson 5 Wiring circuits.zip http://www.filefactory.com/file/c0ade9b/n/Electrical_workshop_Lesson_5_Wiring_circuits.zip Electrical workshop Lesson 6 Electrical safety testing.zip http://www.filefactory.com/file/c0adf90/n/Electrical_workshop_Lesson_6_Electrical_safety_testing.zip Electrical workshop Lesson 7 Testing insulation and polarity.zip http://www.filefactory.com/file/c0ad031/n/Electrical_workshop_Lesson_7_Testing_insulation_and_polarity.zip Electrical workshop Lesson 8 Testing lighting polarity.zip http://www.filefactory.com/file/c0ad1d8/n/Electrical_workshop_Lesson_8_Testing_lighting_polarity.zip</p>
6	(2) Click HERE to download other Exercises
7	EE07 & EE011 units mapping for Theory study & Exercises
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011.pdf
9	Stage_1_Electrical_workshop_practicals.pdf Wiring_Equipments_to_purchase IN THE LINK INDICATED IN ROLL 11
10	Fixing Equipments E002_E005.zip IN THE LINK INDICATED IN ROLL 11
11	<p>BACK UP FOR 9 & 10 Stage 1 Part 1.zip http://www.filefactory.com/file/c0cb8ab/n/Stage_1_Part_1.zip Stage 1 Part 5.zip</p>

Study Guide EE07 & EE011

What to study			Which exercises to do		What practical to do	Resources	
Main study		Additional study	Main exercise		Additional exercises		
EE07 Unit	EE011 Unit	For EE07+EE011 +Video	Study Option (1) EE-07	Study Option (2) EE-07	for EE011		
UEENEE007B Use drawings, diagrams, schedules and manuals	UEENEE107A <div>Use drawings, diagrams, schedules, standards, codes and specifications</div>	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1						
See 1 below	See 3 below		EE011	=	EE07 +	Additional	
Study Option 2	Study Option 2						
See 2 below	See 4 below						

2	<p>ElectricalDrawing1</p> <p>ElectricalDrawing2</p> <p>ElectricalDrawing3</p> <p>Stage 1 Part 3.zip http://www.filefactory.com/file/c0cb8f5/n/Stage_1_Part_3.zip GeneralDrawing1</p> <p>GeneralDrawing2</p> <p>Stage 1 Part 4.zip http://www.filefactory.com/file/c0cc1cd/n/Stage_1_Part_4.zip</p>
3	<p>http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip</p>
4	<p>ElectricalDrawing1</p> <p>ElectricalDrawing2</p> <p>ElectricalDrawing3</p> <p>Stage 1 Part 3.zip http://www.filefactory.com/file/c0cb8f5/n/Stage_1_Part_3.zip GeneralDrawing1</p> <p>GeneralDrawing2</p> <p>Stage 1 Part 4.zip http://www.filefactory.com/file/c0cc1cd/n/Stage_1_Part_4.zip</p>
5	<p>Video-- Electrical workshop Lesson 1 OHS.zip http://www.filefactory.com/file/c0adbfa/n/Electrical_workshop_Lesson_1_OHS.zip Electrical workshop Lesson 2 Workplace hazard+Fix & secure equipment.zip http://www.filefactory.com/file/c0adca2/n/Electrical_workshop_Lesson_2_Workplace_hazard_Fix_secure_equipment.zip Electrical workshop Lesson 3 Mechanical fixing.zip http://www.filefactory.com/file/c0adc1d/n/Electrical_workshop_Lesson_3_Mechanical_fixing.zip Electrical workshop Lesson 4 Basic electrical wiring.zip http://www.filefactory.com/file/c0add65/n/Electrical_workshop_Lesson_4_Basic_electrical_wiring.zip Electrical workshop Lesson 5 Wiring circuits.zip http://www.filefactory.com/file/c0ade9b/n/Electrical_workshop_Lesson_5_Wiring_circuits.zip Electrical workshop Lesson 6 Electrical safety testing.zip</p>

	http://www.filefactory.com/file/c0adf90/n/Electrical_workshop_Lesson_6_Electrical_safety_testing.zip Electrical workshop Lesson 7 Testing insulation and polarity.zip http://www.filefactory.com/file/c0ad031/n/Electrical_workshop_Lesson_7_Testing_insulation_and_polarity.zip Electrical workshop Lesson 8 Testing lighting polarity.zip http://www.filefactory.com/file/c0ad1d8/n/Electrical_workshop_Lesson_8_Testing_lighting_polarity.zip
6	(2) Click HERE to download other Exercises
7	Stage 1 Electrical workshop practicals.pdf
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011.pdf
9	EE07 & EE011 units mapping for Theory study & Exercises Attend the face to face session Stage_1_Electrical_workshop_practicals.pdf Wiring_Equipments_to_purchase in Stage 1 Part 3.zip http://www.filefactory.com/file/c0cb8f5/n/Stage_1_Part_3.zip
10	ElectricalDrawing1 ElectricalDrawing2 ElectricalDrawing3 Stage 1 Part 3.zip http://www.filefactory.com/file/c0cb8f5/n/Stage_1_Part_3.zip GeneralDrawing1 GeneralDrawing2 Stage 1 Part 4.zip http://www.filefactory.com/file/c0cc1cd/n/Stage_1_Part_4.zip
11	BACK UP FOR 9 & 10 Stage 1 Part 3.zip http://www.filefactory.com/file/c0cb8f5/n/Stage_1_Part_3.zip

Study Guide EE07 & EE011

What to study		Which exercises to do		What practical to do	Resources
Main study	Additional	Main		Additio	

		l study	exerc ise		nal exercise s		
EE07 Unit	EE011 Unit	For EE07+EE 011 +Video	Study Optio n (1) EE- 07	Study Optio n (2) EE-07	for EE011		
UEENEE008B Lay wiring/cabl ing and terminate accessorie s for extra- low voltage circuits	UEENEE008A Lay wiring/cabl ing and terminate accessorie s for extra- low voltage (ELV) circuits	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1						
See 1 below	See 3 below		EE01 1	=	EE07 +	Additio nal	
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
2	
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
4	
5	<p>Video-- Electrical workshop Lesson 1 OHS.zip</p> <p>http://www.filefactory.com/file/c0adbfa/n/Electrical_workshop_Lesson_1_OHS.zip Electrical workshop Lesson 2 Workplace hazard+Fix & secure equipment.zip</p> <p>http://www.filefactory.com/file/c0adca2/n/Electrical_workshop_Lesson_2_Workplace_hazard_Fix_secure_equipment.zip</p> <p>Electrical workshop Lesson 3 Mechanical fixing.zip</p> <p>http://www.filefactory.com/file/c0adc1d/n/Electrical_workshop_Lesson_3_Mechanical_fixing.zip</p> <p>Electrical workshop Lesson 4 Basic electrical wiring.zip</p> <p>http://www.filefactory.com/file/c0add65/n/Electrical_workshop_Lesson_4_Basic_electrical_wiring.zip</p> <p>Electrical workshop Lesson 5 Wiring circuits.zip</p>

	http://www.filefactory.com/file/c0ade9b/n/Electrical_workshop_Lesson_5_Wiring_circuits.zip Electrical workshop Lesson 6 Electrical safety testing.zip http://www.filefactory.com/file/c0adf90/n/Electrical_workshop_Lesson_6_Electrical_safety_testing.zip Electrical workshop Lesson 7 Testing insulation and polarity.zip http://www.filefactory.com/file/c0ad031/n/Electrical_workshop_Lesson_7_Testing_insulation_and_polarity.zip Electrical workshop Lesson 8 Testing lighting polarity.zip http://www.filefactory.com/file/c0ad1d8/n/Electrical_workshop_Lesson_8_Testing_lighting_polarity.zip
6	2) Click HERE to download other Exercises
7	EE07 & EE011 units mapping for Theory study & Exercises
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf
9	EE07 & EE011 units mapping for Theory study & Exercises Attend the face to face session Stage_1_Electrical_workshop_practicals.pdf Wiring_Equipments_to_purchase IN THE LINK INDICATED IN ROLL 11
10	Wiring_Notes_1. Wiring_Notes_2 Switchboard_Wiring 1Wiring_E033_E008 2Wiring_E033_E008 IN THE LINK INDICATED IN ROLL 11
11	BACK UP for 9 & 10 Stage 1 Part 5.zip http://www.filefactory.com/file/c0cb9b3/n/Stage_1_Part_5.zip Stage 1 Part 1.zip http://www.filefactory.com/file/c0cb8ab/n/Stage_1_Part_1.zip

Study Guide EE07 & EE011

What to study			Which exercises to do		What practical to do	Resources	
Main study	Additional study	Main exercise		Additional exercises			
EE07 Unit	EE011 Unit	For EE07+EE011 +Video	Study Option (1) EE-07	Study Option (2) EE-07 for EE011			
UEENEEE033B Document occupation	UEENEEE137A Document and apply	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below

al hazards and risks in electrical work	measures to control OHS risks associated with electrotechnology work						
Study Option 1	Study Option 1						
See 1 below	See 3 below		EE01 1	=	EE07 +	Additi onal	
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
2	
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
4	
5	<p>Video-- Electrical workshop Lesson 1 OHS.zip http://www.filefactory.com/file/c0adbfa/n/Electrical_workshop_Lesson_1_OHS.zip Electrical workshop Lesson 2 Workplace hazard+Fix & secure equipment.zip http://www.filefactory.com/file/c0adca2/n/Electrical_workshop_Lesson_2_Workplace_hazard_Fix_secure_equipment.zip Electrical workshop Lesson 3 Mechanical fixing.zip http://www.filefactory.com/file/c0adc1d/n/Electrical_workshop_Lesson_3_Mechanical_fixing.zip Electrical workshop Lesson 4 Basic electrical wiring.zip http://www.filefactory.com/file/c0add65/n/Electrical_workshop_Lesson_4_Basic_electrical_wiring.zip Electrical workshop Lesson 5 Wiring circuits.zip http://www.filefactory.com/file/c0ade9b/n/Electrical_workshop_Lesson_5_Wiring_circuits.zip Electrical workshop Lesson 6 Electrical safety testing.zip http://www.filefactory.com/file/c0adf90/n/Electrical_workshop_Lesson_6_Electrical_safety_testing.zip Electrical workshop Lesson 7 Testing insulation and polarity.zip http://www.filefactory.com/file/c0ad031/n/Electrical_workshop_Lesson_7_Testing_insulation_and_polarity.zip</p>

	on_7_Testing_insulation_and_polarity.zip Electrical workshop Lesson 8 Testing lighting polarity.zip http://www.filefactory.com/file/c0ad1d8/n/Electrical_workshop_Lesson_8_Testing_lighting_polarity.zip
6	2) Click HERE to download other Exercises
7	EE07 & EE011 units mapping for Theory study & Exercises
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf
9	EE07 & EE011 units mapping for Theory study & Exercises Attend the face to face session Stage_1_Electrical_workshop_practicals.pdf Wiring_Equipments_to_purchase IN THE LINK INDICATED IN ROLL 11
10	Electrical_safe_working.zip NREL_Disconnect_Reconnect.zip IN THE LINK INDICATED IN ROLL 11
11	BACK UP for 9 & 10 Stage 1 Part 5.zip http://www.filefactory.com/file/c0cb9b3/n/Stage_1_Part_5.zip Stage 1 Part 1.zip http://www.filefactory.com/file/c0cb8ab/n/Stage_1_Part_1.zip

Study Guide EE07 & EE011

What to	study		Which	exercises to do		What practical to do	Resources
Main	study	Additional study	Main exercise		Additional exercises		
EE07 Unit	EE011 Unit	For EE07+EE011 +Video	Study Option (1) EE-07	Study Option (2) EE-07	for EE011		
	UEENEEG106A Terminate cables, cords and accessories for low voltage circuits	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1						
See 1 below	See 3 below		EE011	=	EE07 +	Additional	

Study Option 2	Study Option 2						
See 2 below	See 4 below						

4	<p>ELV_Cable_termination</p> <p>in Stage 2 Part 2A.zip</p> <p>http://www.filefactory.com/file/c0cca4a/n/Stage_2_Part_2A.zip</p>
5	<p>Video-- Electrical workshop Lesson 1 OHS.zip http://www.filefactory.com/file/c0adbfa/n/Electrical_workshop_Lesson_1_OHS.zip Electrical workshop Lesson 2 Workplace hazard+Fix & secure equipment.zip http://www.filefactory.com/file/c0adca2/n/Electrical_workshop_Lesson_2_Workplace_hazard_Fix_secure_equipment.zip Electrical workshop Lesson 3 Mechanical fixing.zip http://www.filefactory.com/file/c0adc1d/n/Electrical_workshop_Lesson_3_Mechanical_fixing.zip Electrical workshop Lesson 4 Basic electrical wiring.zip http://www.filefactory.com/file/c0add65/n/Electrical_workshop_Lesson_4_Basic_electrical_wiring.zip Electrical workshop Lesson 5 Wiring circuits.zip http://www.filefactory.com/file/c0ade9b/n/Electrical_workshop_Lesson_5_Wiring_circuits.zip Electrical workshop Lesson 6 Electrical safety testing.zip http://www.filefactory.com/file/c0adf90/n/Electrical_workshop_Lesson_6_Electrical_safety_testing.zip Electrical workshop Lesson 7 Testing insulation and polarity.zip http://www.filefactory.com/file/c0ad031/n/Electrical_workshop_Lesson_7_Testing_insulation_and_polarity.zip Electrical workshop Lesson 8 Testing lighting polarity.zip http://www.filefactory.com/file/c0ad1d8/n/Electrical_workshop_Lesson_8_Testing_lighting_polarity.zip</p>
6	
7	Only practical assessment in class

8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf
9	Attend face to face class http://www.filefactory.com/file/2f8e3fph9trr/n/G106_G033_Practical_zip
10	ELV_Cable_termination Wiring_Notes_1. Wiring_Notes_2 Switchboard_Wiring 1Wiring_E033_E008 2Wiring_E033_E008 ElectricalDrawing1.zip ElectricalDrawing2.zip ElectricalDrawing3.pdf IN THE LINK INDICATED IN ROLL 11
11	BACK UP Stage 2 Part 2A.zip http://www.filefactory.com/file/c0cca4a/n/Stage_2_Part_2A.zip

Study Guide EE07 & EE011

What to	study		Which	exercis es to do		What practica l to do	Resourc es
Main	study	Additional study	Main exerci se		Addition al exercises		
EE07 Unit	EE011 Unit	For EE07+EE0 11 +Video	Study Optio n (1) EE-07	Study Option (2) EE- 07	for EE011		
	UEENEEG06 3A Arrange circuits, control and protection for general electrical installations	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Optio n 1	Study Option 1						
See 1 belo w	See 3 below		EE011	=	EE07 +	Addition al	
Study Optio n 2	Study Option 2						
See 2 belo w	See 4 below						

1	
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5	<p><u>Electrical wiring + Electrical Installation requirement</u></p> <p><u>G003+G004+G007 Lesson 1 Electrical installation protection.zip</u></p> <p>http://www.filefactory.com/file/c35d2f2/n/G003_G004_G007_Lesson_1_Electrical_installation_protection.zip</p> <p><u>G003+G004+G007 Lesson 2 Electrical system safety.zip</u></p> <p>http://www.filefactory.com/file/cf937ac/n/G003_G004_G007_Lesson_2_Electrical_system_safety.zip</p> <p><u>G003+G004+G007 Lesson 3 Heating+Cable ckt protection exercise.zip</u></p> <p>http://www.filefactory.com/file/c0abfe8/n/G003_G004_G007_Lesson_3_Heating_Cable_ckt_protection_exercise.zip</p> <p><u>G003+G004+G007 Lesson 4 Wiring system.zip</u></p> <p>http://www.filefactory.com/file/cf939f0/n/G003_G004_G007_Lesson_4_Wiring_system.zip</p> <p><u>G003+G004+G007 Lesson 5 Hazardous area electrical system.zip</u></p> <p>http://www.filefactory.com/file/cf94af8/n/G003_G004_G007_Lesson_5_Hazardous_area_electrical_system.zip</p> <p><u>G003+G004+G007 Lesson 6 Overload protection RCD.zip</u></p> <p>http://www.filefactory.com/file/cf94bcf/n/G003_G004_G007_Lesson_6_Overload_protection_RCD.zip</p>

	<p>G003+G004+G007 Lesson 7 RCD + Metering.zip</p> <p>http://www.filefactory.com/file/cf94cae/n/G003_G004_G007_Lesson_7_RCD_Metering.zip</p> <p>G003+G004+G007 Lesson 8 Switch board installation.zip</p> <p>http://www.filefactory.com/file/cf94c40/n/G003_G004_G007_Lesson_8_Switch_board_installation.zip</p> <p>G003+G004+G007 Lesson 9 Cable selection+Maximum demand.zip</p> <p>http://www.filefactory.com/file/cf94dbb/n/G003_G004_G007_Lesson_9_Cable_selection_Maximum_demand.zip</p> <p>G003+G004+G007 Lesson 10 Electrical installation safety testing.zip</p> <p>http://www.filefactory.com/file/cf94123/n/G003_G004_G007_Lesson_10_Electrical_installation_safety_testing.zip</p>
6	
7	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p>Only face to face class assessment</p>
8	Only face to face class assessment
9	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p>Attend face to face class</p> <p>PRACTICAL</p> <p>Workshop 2+3</p> <p>WorkShop_Part_2_Practical_1_to_6_.zip</p> <p>WorkShop_Part_2_Practical_7_to_12_.zip</p> <p>WorkShop_Part_2_Practical_13_to_17_.zip</p> <p>WorkShop_Part_2_Practical_18_to_21_.zip</p> <p>ElectricalWorkshopPart3_G008_Group1Machine_.zip</p> <p>ElectricalWorkshopPart3_G008_Group2LineProtection_.zip</p> <p>ElectricalWorkshopPart3_G008_Group3InstrumentsDevices_.zip</p> <p>OTHER PRACTICALS</p> <p>ELECTRICAL_WORKSHOP_PART_2_G003_G004_G009_.zip</p> <p>Electrical_Workshop_Part_2_Practical_1_to_18.zip</p>

	Electrical_Workshop_Part_2_Practical_19_to_21.zip G003_G004_G009Practicals.pdf IN THE LINK INDICATED IN ROLL 11
1 0	Construction ElectricalSafety.zip InserviceTesting.zip Wiring_Notes_1. Wiring_Notes_2 Switchboard_Wiring 1Wiring_E033_E008 2Wiring_E033_E008 IN THE LINK INDICATED IN ROLL 11
1 1	<u>BACK UP FOR 9 & 10</u> Stage 2 Part 1B.zip http://www.filefactory.com/file/c0ccac0/n/Stage_2_Part_1B.zip Stage 2 Part 3.zip http://www.filefactory.com/file/c0ccb1f/n/Stage_2_Part_3.zip Stage 2 Part 6.zip http://www.filefactory.com/file/c0cccc0/n/Stage_2_Part_6.zip Stage 3 Part 3.zip http://www.filefactory.com/file/c0ccd44/n/Stage_3_Part_3.zip Stage 3 Part 4.zip http://www.filefactory.com/file/c0ccd9a/n/Stage_3_Part_4.zip Stage 4 Part 8.zip http://www.filefactory.com/file/c0cc5a1/n/Stage_4_Part_8.zip Stage 4 Part 9.zip http://www.filefactory.com/file/c0cc5db/n/Stage_4_Part_9.zip Stage 4 Part 10.zip http://www.filefactory.com/file/c0cc5f8/n/Stage_4_Part_10.zip Stage 3 Part 5.zip http://www.filefactory.com/file/c0ccefd/n/Stage_3_Part_5.zip Stage 3 Part 8.zip http://www.filefactory.com/file/c0ccf09/n/Stage_3_Part_8.zip Stage 3 Part 9.zip http://www.filefactory.com/file/c0ccf48/n/Stage_3_Part_9.zip

Study Guide EE07 & EE011

What to study		Which exercises to do		What practical to do	Resources
Main study	Additional study	Main exercise		Additional exercises	
EE07 Unit	EE011 Unit	For EE07+EE011 +Video	Study Option (1) EE-07	Study Option (2) EE-07	for EE011

UEENEEG007A Select wiring systems and cables for low voltage general electrical installations	UEENEEG107A Select wiring systems and cables for low voltage general electrical installations	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1						
See 1 below	See 3 below		EE011	=	EE07 +	Additio nal	
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
2	AS3000-2007Overview.zip AS3000_AS3008TablesExtract.zip WiringRules.zip Part (1) Study the following notes Installation_Requirement_1-A.zip Installation_Requirement_1-B.zip Installation_Requirement_2-A.zip Installation_Requirement_2-B.zip Stage_2_Wiring.zip In Stage 2 Part 3.zip http://www.filefactory.com/file/c0ccb1f/n/Stage_2_Part_3.zip Stage 2 Part 6.zip http://www.filefactory.com/file/c0cccc0/n/Stage_2_Part_6.zip Stage 3 Part 1B.zip http://www.filefactory.com/file/c0ccc42/n/Stage_3_Part_1B.zip Stage 3 Part 3.zip http://www.filefactory.com/file/c0ccd44/n/Stage_3_Part_3.zip Stage 3 Part 4.zip http://www.filefactory.com/file/c0ccd9a/n/Stage_3_Part_4.zip

	Stage 3 Part 5.zip Stage 3 Part 6.zip Stage 3 Part 9.zip Stage 4 Part 7.zip Stage 4 Part 8.zip Stage 4 Part 9.zip Stage 4 Part 14.zip
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
4	AS3000-2007Overview.zip AS3000_AS3008TablesExtract.zip WiringRules.zip Part (1) Study the following notes Installation_Requirement_1-A.zip Installation_Requirement_1-B.zip Installation_Requirement_2-A.zip Installation_Requirement_2-B.zip Stage_2_Wiring.zip in www.electricaldiploma2013.zoomshare.com AUSTRALIAN ELECTRICIAN TRAINING
5	<u>G007</u> G007 Lesson 1 AS3000 Wiring rule overview.zip http://www.filefactory.com/file/cf94220/n/G007_Lesson_1_AS3000_Wiring_rule_overview.zip G007 Lesson 2 Maximum Demand calculation.zip

	<p>http://www.filefactory.com/file/cf9456f/n/G007_Lesson_2_Maximum_Demand_calculation.zip</p> <p>G007 Lesson 3 Cable selection.zip</p> <p>http://www.filefactory.com/file/cf9465c/n/G007_Lesson_3_Cable_selection.zip</p> <p>G007 Lesson 4 Cable voltage drop calculation.zip</p> <p>http://www.filefactory.com/file/cf9479e/n/G007_Lesson_4_Cable_voltage_drop_calculation.zip</p> <p>G007 Lesson 5 Derating of cable part 1.zip</p> <p>http://www.filefactory.com/file/cf95acb/n/G007_Lesson_5_Derating_of_cable_part_1.zip</p> <p>G007 Lesson 6 Derating of cable part 2.zip</p> <p>http://www.filefactory.com/file/cf95a6b/n/G007_Lesson_6_Derating_of_cable_part_2.zip</p> <p>G007 Lesson 7 Derating of cable for HRC fuse protection.zip</p> <p>http://www.filefactory.com/file/cf95cd7/n/G007_Lesson_7_Derating_of_cable_for_HRC_fuse_protection.zip</p> <p>G007 Lesson 8 Final subcircuit fault loop impedance.zip</p> <p>http://www.filefactory.com/file/cf95dd1/n/G007_Lesson_8_Final_subcircuit_fault_loop_impedance.zip</p> <p>Electrical Installation requirement</p>
6	Click HERE to download the other exercises
7	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p>Do the assignments from the following book & submit the assignment (1) Cable Installation.zip</p> <p>Do the assignments from the following book & submit the assignment (2) Regulatory Requirement.zip</p>
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011.pdf
9	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p>PRACTICAL</p> <p>Workshop 2+3</p> <p>WorkShop_Part_2_Practical_1_to_6_.zip</p> <p>WorkShop_Part_2_Practical_7_to_12_.zip</p> <p>WorkShop_Part_2_Practical_13_to_17_.zip</p>

	<p>WorkShop_Part_2_Practical_18_to_21_.zip</p> <p>ElectricalWorkshopPart3_G008_Group1Machine_.zip</p> <p>ElectricalWorkshopPart3_G008_Group2LineProtection_.zip</p> <p>ElectricalWorkshopPart3_G008_Group3InstrumentsDevices_.zip</p> <p>OTHER PRACTICALS</p> <p>ELECTRICAL_WORKSHOP_PART_2_G003_G004_G009_.zip</p> <p>Electrical_Workshop_Part_2_Practical_1_to_18.zip</p> <p>Electrical_Workshop_Part_2_Practical_19_to_21.zip</p> <p>G003_G004_G009Practicals.pdf</p> <p>In</p> <p>www.electricaldiploma2013.zoomshare.com</p> <p>AUSTRALIAN ELECTRICIAN TRAINING</p>
1 0	
1 1	<p><u>BACK UP FOR 9 & 10</u></p> <p>Stage 2 Part 1B.zip http://www.filefactory.com/file/c0ccac0/n/Stage_2_Part_1B.zip</p> <p>Stage 2 Part 3.zip http://www.filefactory.com/file/c0ccb1f/n/Stage_2_Part_3.zip</p> <p>Stage 2 Part 6.zip http://www.filefactory.com/file/c0cccc0/n/Stage_2_Part_6.zip</p> <p>Stage 3 Part 3.zip http://www.filefactory.com/file/c0ccd44/n/Stage_3_Part_3.zip</p> <p>Stage 3 Part 4.zip http://www.filefactory.com/file/c0ccd9a/n/Stage_3_Part_4.zip</p> <p>Stage 3 Part 5.ziphttp://www.filefactory.com/file/c0ccefd/n/Stage_3_Part_5.zip</p> <p>Stage 3 Part 8.zip http://www.filefactory.com/file/c0ccf09/n/Stage_3_Part_8.zip</p> <p>Stage 3 Part 9.zip http://www.filefactory.com/file/c0ccf48/n/Stage_3_Part_9.zip</p> <p>Stage 4 Part 7.ziphttp://www.filefactory.com/file/c0cc479/n/Stage_4_Part_7.zip</p> <p>Stage 4 Part 8.zip http://www.filefactory.com/file/c0cc5a1/n/Stage_4_Part_8.zip</p> <p>Stage 4 Part 9.zip http://www.filefactory.com/file/c0cc5db/n/Stage_4_Part_9.zip</p> <p>Stage 4 Part 10.zip http://www.filefactory.com/file/c0cc5f8/n/Stage_4_Part_10.zip</p>

Study Guide EE07 & EE011

What to study	study		Which exercises to do		What practical to do	Resources
Main	study	Additional study	Main exercise		Additional exercises	
EE07 Unit	EE011 Unit	For EE07+EE011 +Video	Study Option (1) EE-07	Study Option (2) EE-07	for EE011	
UEENEEG03A Install low voltage wiring and accessories	UEENEEG103A Install low voltage wiring and accessories	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below
Study Option 1	Study Option 1					
See 1 below	See 3 below		EE011	=	EE07 +	Additional
Study Option 2	Study Option 2					
See 2 below	See 4 below					

1	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
2	
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip <u>G103+104 Notes+Lessons</u> http://www.filefactory.com/file/2bg8qift6nzh/n/G103_G104_zip
4	Wiring_Notes_1. Wiring_Notes_2 Switchboard_Wiring 1Wiring_E033_E008 2Wiring_E033_E008 Fixing Equipments

	<p> E002_E005.zip Lighting.zip E_trade_1.zip E_trade_2.zip E_trade_3.zip E_trade_4.zip G008_General_Notes_1.zip G008_General_Notes_2.zip Hazard_Identification.zip G003_G004_Wiring_2_Part_1.zip G003_G004_Wiring_2_Part_2.zip Cable_CktProt_E_Accessories.zip Cable_Conduit_E_Accessories.zip Elect_Installation_Protection_Method_Devices.zip Elect_Installation_Requirement_1.zip Elect_Installation_Requirement_1.zip Elect_Installation_Requirement_2.zip ElectricInstallationDesign.zip ElectSystSafety1.zip ElectSystSafety2.zip FireProtHeatingTestingEarthing.zip GeneralWiring.zip HazardLightingPanel.zip PanelRCDWireSpecial_Installation.zip ProtectionMethods.zip in www.electricaldiploma2013.zoomshare.com AUSTRALIAN ELECTRICIAN TRAINING </p>
5	<p> <u>Electrical wiring + Electrical Installation requirement</u> <u>G003+G004+G007 Lesson 1 Electrical installation protection.zip</u> http://www.filefactory.com/file/c35d2f2/n/G003_G004_G007_Lesson_1_Electrical_installation_protection.zip <u>G003+G004+G007 Lesson 2 Electrical system safety.zip</u> http://www.filefactory.com/file/cf937ac/n/G003_G004_G007_Lesson_2_Electrical_system_safety.zip <u>G003+G004+G007 Lesson 3 Heating+Cable</u> ckt protection exercise.zip http://www.filefactory.com/file/c0abfe8/n/G003_G004_G007_Lesson_3_Heating_Cable_ckt_protection_exercise.zip </p>

	<p>G003+G004+G007 Lesson 4 Wiring system.zip http://www.filefactory.com/file/cf939f0/n/G003_G004_G007_Lesson_4_Wiring_system.zip</p> <p>G003+G004+G007 Lesson 5 Hazardous area electrical system.zip http://www.filefactory.com/file/cf94af8/n/G003_G004_G007_Lesson_5_Hazardous_area_electrical_system.zip</p> <p>G003+G004+G007 Lesson 6 Overload protection RCD.zip http://www.filefactory.com/file/cf94bcf/n/G003_G004_G007_Lesson_6_Overload_protection_RCD.zip</p> <p>G003+G004+G007 Lesson 7 RCD + Metering.zip http://www.filefactory.com/file/cf94cae/n/G003_G004_G007_Lesson_7_RCD_Metering.zip</p> <p>G003+G004+G007 Lesson 8 Switch board installation.zip http://www.filefactory.com/file/cf94c40/n/G003_G004_G007_Lesson_8_Switch_board_installation.zip</p> <p>G003+G004+G007 Lesson 9 Cable selection+Maximum demand.zip http://www.filefactory.com/file/cf94dbb/n/G003_G004_G007_Lesson_9_Cable_selection_Maximum_demand.zip</p> <p>G003+G004+G007 Lesson 10 Electrical installation safety testing.zip http://www.filefactory.com/file/cf94123/n/G003_G004_G007_Lesson_10_Electrical_installation_safety_testing.zip</p>
6	<p>Click HERE to download the other exercises</p>
7	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p>Assessment Read the above notes files and do the assignments for the following tutorial file.</p> <p>WiringPracticals.zip G003G004Tutorial.zip in www.electricaldiploma2013.zoomshare.com AUSTRALIAN ELECTRICIAN TRAINING</p>
8	<p>http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf</p>
9	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p>Attend the face to face class</p> <p>PRACTICAL</p> <p>http://www.filefactory.com/file/54l4d5rif1z3/n/Advanced_Wiring_Part_1_zip</p> <p>Advanced Wiring Part 1+2—G103</p> <p>http://www.filefactory.com/file/1xb18xg1gaz1/n/Advanced_Wiring_Part_1_and_2_zip</p> <p>Electrical Installation Safety Testing</p> <p>http://www.filefactory.com/file/5mv9s6dx174h/n/Electrical_Installation_Safety_Testing_zip</p> <p>Workshop 2+3 WorkShop_Part_2_Practical_1_to_6_.zip</p>

	WorkShop_Part_2_Practical_7_to_12_.zip WorkShop_Part_2_Practical_13_to_17_.zip WorkShop_Part_2_Practical_18_to_21_.zip ElectricalWorkshopPart3_G008_Group1Machine_.zip ElectricalWorkshopPart3_G008_Group2LineProtection_.zip ElectricalWorkshopPart3_G008_Group3InstrumentsDevices_.zip OTHER PRACTICALS ELECTRICAL_WORKSHOP_PART_2_G003_G004_G009_.zip Electrical_Workshop_Part_2_Practical_1_to_18.zip Electrical_Workshop_Part_2_Practical_19_to_21.zip G003_G004_G009Practicals.pdf
10	Stage 3 Part 8.zip http://www.filefactory.com/file/c0ccf09/n/Stage_3_Part_8.zip Power Distribution Trade Power_Distribution_Trade.zip Metering Metering.zip
11	<u>BACK UP FOR 9 & 10</u> Stage 2 Part 1B.zip http://www.filefactory.com/file/c0ccac0/n/Stage_2_Part_1B.zip Stage 2 Part 3.zip http://www.filefactory.com/file/c0ccb1f/n/Stage_2_Part_3.zip Stage 2 Part 6.zip http://www.filefactory.com/file/c0cccc0/n/Stage_2_Part_6.zip Stage 3 Part 3.zip http://www.filefactory.com/file/c0ccd44/n/Stage_3_Part_3.zip Stage 3 Part 4.zip http://www.filefactory.com/file/c0ccd9a/n/Stage_3_Part_4.zip Stage 3 Part 5.zip http://www.filefactory.com/file/c0ccefd/n/Stage_3_Part_5.zip Stage 3 Part 8.zip http://www.filefactory.com/file/c0ccf09/n/Stage_3_Part_8.zip Stage 3 Part 9.zip http://www.filefactory.com/file/c0ccf48/n/Stage_3_Part_9.zip Stage 4 Part 7.zip http://www.filefactory.com/file/c0cc479/n/Stage_4_Part_7.zip Stage 4 Part 8.zip http://www.filefactory.com/file/c0cc5a1/n/Stage_4_Part_8.zip Stage 4 Part 9.zip http://www.filefactory.com/file/c0cc5db/n/Stage_4_Part_9.zip Stage 4 Part 10.zip http://www.filefactory.com/file/c0cc5f8/n/Stage_4_Part_10.zip

Study Guide EE07 & EE011

What to	study		Which	exercis es to do		What practica l to do	Resourc es
Main	study	Additional study	Main exerci se		Addition al exercises		
EE07	EE011 Unit	For	Study	Study	for		

Unit		EE07+EE011 +Video	Option (1) EE-07	Option (2) EE-07	EE011		
	UEENEEG033A Solve problems in single and three phase low voltage electrical apparatus and circuits	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1						
See 1 below	See 3 below		EE011	=	EE07 +	Additional	
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1		
2		
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip <u>G033</u> http://www.filefactory.com/file/1b2utxydvcx7/n/G033_zip	
4	Wiring_Notes_1. Wiring_Notes_2 Switchboard_Wiring 1Wiring_E033_E008 2Wiring_E033_E008 Fixing Equipments E002_E005.zip Lighting.zip E_trade_1.zip E_trade_2.zip E_trade_3.zip E_trade_4.zip G008_General_Notes_1.zip G008_General_Notes_2.zip Hazard_Identification.zip	

	<p> G003_G004_Wiring_2_Part_1.zip G003_G004_Wiring_2_Part_2.zip Cable_CktProt_E_Accessories.zip Cable_Conduit_E_Accessories.zip Elect_Installation_Protection_Method_Devices.zip Elect_Installation_Requirement_1.zip Elect_Installation_Requirement_1.zip Elect_Installation_Requirement_2.zip ElectricInstallationDesign.zip ElectSystSafety1.zip ElectSystSafety2.zip FireProtHeatingTestingEarthing.zip GeneralWiring.zip HazardLightingPanel.zip PanelRCDWireSpecial_Installation.zip ProtectionMethods.zip In www.electricaldiploma2013.zoomshare.com AUSTRALIAN ELECTRICIAN TRAINING </p>	
5	<p> <u>Electrical wiring + Electrical Installation requirement</u> </p> <p> <u>G003+G004+G007 Lesson 1 Electrical installation protection.zip</u> </p> <p> http://www.filefactory.com/file/c35d2f2/n/G003_G004_G007_Lesson_1_Electrical_installation_protection.zip </p> <p> <u>G003+G004+G007 Lesson 2 Electrical system safety.zip</u> </p> <p> http://www.filefactory.com/file/cf937ac/n/G003_G004_G007_Lesson_2_Electrical_system_safety.zip </p> <p> <u>G003+G004+G007 Lesson 3 Heating+Cable</u> ckt protection exercise.zip </p> <p> http://www.filefactory.com/file/c0abfe8/n/G003_G004_G007_Lesson_3_Heating_Cable_ckt_protection_exercise.zip </p> <p> <u>G003+G004+G007 Lesson 4 Wiring system.zip</u> </p> <p> http://www.filefactory.com/file/cf939f0/n/G003_G004_G007_Lesson_4_Wiring_system.zip </p>	

	<p>G003+G004+G007 Lesson 5 Hazardous area electrical system.zip http://www.filefactory.com/file/cf94af8/n/G003_G004_G007_Lesson_5_Hazardous_area_electrical_system.zip</p> <p>G003+G004+G007 Lesson 6 Overload protection RCD.zip http://www.filefactory.com/file/cf94bcf/n/G003_G004_G007_Lesson_6_Overload_protection_RCD.zip</p> <p>G003+G004+G007 Lesson 7 RCD + Metering.zip http://www.filefactory.com/file/cf94cae/n/G003_G004_G007_Lesson_7_RCD_Metering.zip</p> <p>G003+G004+G007 Lesson 8 Switch board installation.zip http://www.filefactory.com/file/cf94c40/n/G003_G004_G007_Lesson_8_Switch_board_installation.zip</p> <p>G003+G004+G007 Lesson 9 Cable selection+Maximum demand.zip http://www.filefactory.com/file/cf94dbb/n/G003_G004_G007_Lesson_9_Cable_selection_Maximum_demand.zip</p> <p>G003+G004+G007 Lesson 10 Electrical installation safety testing.zip http://www.filefactory.com/file/cf94123/n/G003_G004_G007_Lesson_10_Electrical_installation_safety_testing.zip</p> <p>Electrical wiring + Electrical Installation requirement</p>	
6	Click HERE to download the other exercises	
7	<p>EE07 & EE011 units mapping for Theory study & Exercises Assessment</p> <p>Read the above notes files and do the assignments for the following tutorial file.</p> <p>WiringPracticals.zip</p> <p>G003G004Tutorial.zip</p> <p>www.electricaldiploma2013.zoomshare.com</p> <p>AUSTRALIAN ELECTRICIAN TRAINING</p>	
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf	
9	<p>Attend the face to face class</p> <p>http://www.filefactory.com/file/2f8e3fph9trr/n/G106_G033_Practical_zip</p>	

1 0	<p>Power Distribution Trade Power_Distribution_Trade.zip</p> <p>Metering Metering.zip</p> <p>PRACTICAL</p> <p>Workshop 2+3</p> <p>WorkShop_Part_2_Practical_1_to_6_.zip</p> <p>WorkShop_Part_2_Practical_7_to_12_.zip</p> <p>WorkShop_Part_2_Practical_13_to_17_.zip</p> <p>WorkShop_Part_2_Practical_18_to_21_.zip</p> <p>ElectricalWorkshopPart3_G008_Group1Machine_.zip</p> <p>ElectricalWorkshopPart3_G008_Group2LineProtection_.zip</p> <p>ElectricalWorkshopPart3_G008_Group3InstrumentsDevices_.zip</p> <p>OTHER PRACTICALS</p> <p>ELECTRICAL_WORKSHOP_PART_2_G003_G004_G009_.zip</p> <p>Electrical_Workshop_Part_2_Practical_1_to_18.zip</p> <p>Electrical_Workshop_Part_2_Practical_19_to_21.zip</p> <p>G003_G004_G009Practicals.pdf</p> <p>In</p> <p>www.electricaldiploma2013.zoomshare.com</p> <p>AUSTRALIAN ELECTRICIAN TRAINING</p>	
1 1	<p><u>BACK UP FOR 9 & 10</u></p> <p>Stage 2 Part 1B.zip http://www.filefactory.com/file/c0ccac0/n/Stage_2_Part_1B.zip</p> <p>Stage 2 Part 3.zip http://www.filefactory.com/file/c0ccb1f/n/Stage_2_Part_3.zip</p> <p>Stage 2 Part 6.zip http://www.filefactory.com/file/c0cccc0/n/Stage_2_Part_6.zip</p> <p>Stage 3 Part 3.zip http://www.filefactory.com/file/c0ccd44/n/Stage_3_Part_3.zip</p> <p>Stage 3 Part 4.zip http://www.filefactory.com/file/c0ccd9a/n/Stage_3_Part_4.zip</p> <p>Stage 3 Part 5.zip http://www.filefactory.com/file/c0ccefd/n/Stage_3_Part_5.zip</p> <p>Stage 3 Part 8.zip http://www.filefactory.com/file/c0ccf09/n/Stage_3_Part_8.zip</p> <p>Stage 3 Part 9.zip http://www.filefactory.com/file/c0ccf48/n/Stage_3_Part_9.zip</p> <p>Stage 4 Part 7.zip http://www.filefactory.com/file/c0cc479/n/Stage_4_Part_7.zip</p> <p>Stage 4 Part 8.zip http://www.filefactory.com/file/c0cc5a1/n/Stage_4_Part_8.zip</p> <p>Stage 4 Part 9.zip http://www.filefactory.com/file/c0cc5db/n/Stage_4_Part_9.zip</p> <p>Stage 4 Part 10.zip http://www.filefactory.com/file/c0cc5f8/n/Stage_4_Part_10.zip</p>	

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Password- Joe2013

Textbook

Prescribed Texts:

TAFE NSW Higher Education 2012, *Engineering Practices (ENPRA101A) Lecture Notes and Workbook*, lecture notes distributed in Engineering Practices

Recommended Readings:

Hampson, J 2006, *Electrical Trade Principles*, Pearson Education Australia (Chapter 6)

Pethebridge, K & Neeson I 2009, *Electrical Wiring Practice Vol 1*, 7th or latest edition, McGraw Hill, Australia (Chapters 1, 4 and 7)

Pethebridge, K & Neeson I 2002, *Electrical Wiring Practice Vol 2*, 6th or latest edition, McGraw Hill, Australia (Section 22.6)

Standards Australia AS/NZS 3000: *Electrical installations (Wiring Rules)*

Standards Australia AS/NZS 3008 *Electrical installations—Selection of cables*

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Tutorial Exercises

Password- joe2013

Further Readings

Password- joe2013

Online Practicals

Password- joe2013

Text Books for

ENEMP101A Introduction to Engineering Mathematics and Physics

ENEMP102A Foundation Engineering Mathematics and Physics

ENEMP201A Intermediate Engineering Mathematics and Physics

ENEMP202A Advanced Engineering Mathematics and Physics

Giancoli, DC, 2000, *Physics For Scientists And Engineers*, 4th or latest edition, Volumes 1,2,3, ISBN: 9780132273596.

http://www.filefactory.com/file/7c514m4yw0ov/Giancoli_-_Physics_6th_Solutions_pdf

http://www.filefactory.com/file/1588szswdljx/Giancoli_-_Physics_6th_pdf

Bird, J, 2007, Engineering Mathematics, 4th or latest edition, Newnes Publishing, ISBN: 0-7506-5776-6,

http://www.filefactory.com/file/2z1jzorebdwx/2-john-bird-higher-engineering-mathematics_pdf

http://www.filefactory.com/file/2z1jzorebdwx/2-john-bird-higher-engineering-mathematics_pdf

http://www.filefactory.com/file/6oh03k3msqv1/Basics_of_MATLAB_and_Beyond_pdf

http://www.filefactory.com/file/28cbwzhk6ral/Engineering_Mathematics_4E_pdf

http://www.filefactory.com/file/6uizsgnh2snp/Essentials_of_MATLAB_Programming_pdf

http://www.filefactory.com/file/2z1jzorebdwx/2-john-bird-higher-engineering-mathematics_pdf

http://www.filefactory.com/file/4ljoibd9h6dv/Learning_MATLAB_pdf

http://www.filefactory.com/file/45ftpkh77jsf/MATLAB_Programming_For_Engineers_pdf

http://www.filefactory.com/file/729l3my8kcsp/matlab_quickref_pdf

http://www.filefactory.com/file/2179ehd xp9g5/MatlabNotes_pdf

Text Books for

ENMCC 101A Foundation Mechanical & Civil Engineering Principle
ENMCC 201A Advanced Mechanical & Civil Engineering Principle

http://www.filefactory.com/file/724kx95f2ayf/27767685-Materials-Engineers-Technicians_pdf

http://www.filefactory.com/file/7analtqujo7z/59446893-A-Textbook-of-Engineering-Mechanics-by-R-K-Bansal_pdf

http://www.filefactory.com/file/4k7yvsvt47jr/123974244-strength-of-material-by-r-k-bansal_pdf

http://www.filefactory.com/file/3h4q2snf4kgd/Fluid_Mechanics_and_Thermodynamics_of_Turbomachinery_4E_pdf

<http://www.filefactory.com/file/4can70505quj/RE001%20BENERGY%20101A.pdf>

<http://www.filefactory.com/file/4f92zgjzgj/DC%20Power%20Supply.pdf>

Part (3) Qualified (2) Course

RE 501-Control of Solar Energy System
RE502- Biomass Gasification
RE503- Energy Management in Industrial and Commercial Facilities
RE504- Engineering Solution for Sustainability
RE505- Green Building Design
RE506- Low Emission Power Generation Technologies
RE507- Offshore Wind Turbines
RE508- Solar Hydrogen Energy System
RE509- Applied Photovoltaics
RE510- Water Conservation
RE511- Sustaining Earth Energy resources

A written report between 10,000 – 12,000 words that covers both theory & practical knowledges of the above units.

RE 501-Control of Solar Energy System.pdf (13.93MB)

http://www.filefactory.com/file/16zy6ploevjp/n/RE_501-Control_of_Solar_Energy_System.pdf

[Download now!](#)

RE507- Offshore Wind Turbines.pdf (9.4MB)

[http://www.filefactory.com/file/2mtdemeyzub/n/RE507- Offshore Wind Turbines.pdf](http://www.filefactory.com/file/2mtdemeyzub/n/RE507-Offshore_Wind_Turbines.pdf)

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RE511- Sustaining Earth Energy resources.pdf (8.43MB)

[http://www.filefactory.com/file/38jctruglh59/n/RE511- Sustaining Earth Energy resources.pdf](http://www.filefactory.com/file/38jctruglh59/n/RE511-Sustaining_Earth_Energy_resources.pdf)

[Download now!](#)

RE503- Energy Management in Industrial and Commercial Facilities.pdf (2.89MB)

[http://www.filefactory.com/file/3elg8jedxa4l/n/RE503-
_Energy_Management_in_Industrial_and_Commercial_Facilities.pdf](http://www.filefactory.com/file/3elg8jedxa4l/n/RE503-Energy_Management_in_Industrial_and_Commercial_Facilities.pdf)

[Download now!](#)

RE502- Biomass Gasification.pdf (9.76MB)

[http://www.filefactory.com/file/4jvkf83l8qpl/n/RE502- Biomass Gasification.pdf](http://www.filefactory.com/file/4jvkf83l8qpl/n/RE502-Biomass_Gasification.pdf)

[Download now!](#)

RE510- Water Conservation.pdf (10.19MB)

[http://www.filefactory.com/file/4xhmdkdc9y1x/n/RE510- Water Conservation.pdf](http://www.filefactory.com/file/4xhmdkdc9y1x/n/RE510-Water_Conversation.pdf)

[Download now!](#)

RE505- Green Building Design.pdf (13.06MB)

[http://www.filefactory.com/file/5e245s2iqyu3/n/RE505- Green Building Design.pdf](http://www.filefactory.com/file/5e245s2iqyu3/n/RE505-Green_Building_Design.pdf)

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RE509- Applied Photovoltaics.pdf (5.06MB)

http://www.filefactory.com/file/5gksowteu2ul/n/RE509-_Applied_Photovoltaics.pdf

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RE504- Engineering Solution for Sustainability.pdf (4.72MB)

http://www.filefactory.com/file/5ifk2mm5tz1r/n/RE504-_Engineering_Solution_for_Sustainability.pdf

[Download now!](#)

RE508- Solar Hydrogen Energy System.pdf (1.85MB)

http://www.filefactory.com/file/6d3qf2lc2zu1/n/RE508-_Solar_Hydrogen_Energy_System.pdf

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RE506- Low Emission Power Generation Technologies.pdf (22.75MB)

http://www.filefactory.com/file/6o1sfltodgc7/n/RE506-_Low_Emission_Power_Generation_Technologies.pdf

[Download now!](#)

Part (4) Final Thesis

Res 601 Research Method

MAE 602 Thesis

[http://www.filefactory.com/file/1l1r1k0ftawt/n/11.Research+Thesis_\(ICT_605\).zip](http://www.filefactory.com/file/1l1r1k0ftawt/n/11.Research+Thesis_(ICT_605).zip)

This course guides the student, step by step, through the research process, from problem selection through writing up results. It provides all of the basics necessary to complete a research project in any discipline.

Outline. The following aspects are reflected in this course:

What is research?

Tools of research

The problem: the heart of the research process

Review of the related literature

Planning your research design

Writing the research proposal

Qualitative research

Historical research

Descriptive research

Experimental and causal - comparative designs

Statistical techniques for analyzing quantitative data

Technical details: style, format, and organization of the research report

Masters Research Proposal

Synopsis: Research students are expected to present a written research proposal within three months after commencement. The proposal is handed in to the study leader. Assessors of this proposal are selected by the faculty for their understanding of the field and the research involved. The purpose of a research is to set out a plan for conducting the research and writing the dissertation within the available time. It should take account of the availability and guidance of the study leader. The starting point for a research proposal is the topic, which is the field of interest in which the research is to be carried out. In introducing the topic, the proposal should clarify the field that it falls into and the specific part of that field which the research will explore. It should clarify why the topic is of interest and importance, and how the proposed research will contribute to the field of knowledge or profession. The proposal should clarify the research questions, ensuring that these are specific and answerable. It is important to show how these questions relate to the topic, and how they will advance the student's contribution. The proposal should detail the research to be carried out, and clarify the research methods, the timeframe and the reasons for selecting particular methods. Where a period of literature review or research should precede any empirical research, this should be factored in as part of the research. It is important to estimate any periods of field research and to flag their duration and cost in your research proposal.

MAE 601 Professional Engineering Practice

MENG6003 Selective I: management subject (45 hrs) 3 credits

MENG6004 Selective II: management subject (45 hrs) 3 credits

Res 601 Research Method

MENG6005 Quantitative Methods and Statistics (45 hrs) 3 credits

MAE 602 Thesis

Engineering Project/Thesis 24 credits

Candidates need to complete a 6000-words engineering dissertation (in Myanmar or English) and a 3000-words executive portfolio (in English).

This program requires the candidates to complete a dissertation as part of the assessment for the MSc (RE) degree. Doing a thesis means that instead of knowledge and information being presented and following a prescribed route for answering questions, candidates are thrust into an active role of managing an investigation into a topic area. This means researching and discovering things for themselves. They will have to set their own targets and parameters, pose their own central research questions and decide on the appropriate sources of information to support the research. It therefore requires the use of the higher-level cognitive skills of analysis, synthesis and evaluation. Candidates may choose an area of particular interest to them within the scope of course title. A dissertation is an individual effort and the candidate, academic tutor and the course professor will work together on constructing an approved topic (research question) and methodologies.

Engineering Dissertation Defense 9 credits

It is expected of Master's candidates to defend their thesis by means of a colloquium doctum (academic discussion). The purpose of the meeting is for the candidates to convince a panel of experts in the field of the dissertation how well they have done in the conducting of their research study and the preparation of their dissertation

Program Total Credits 48 credits

Candidates need to complete all course assessments with the results of Grade B+ or above.

IQY Master Diploma in Engineering Study Program

(240 credits including 120 Credits for Professional Diploma/ BE degree/ City & Guild Level 6 Diploma)

(St Clements University -Master of Applied Engineering)

PART (A) IQY Master Diploma in Engineering Part 1- 80 credits

(St Clements University's Graduate Diploma in Applied Engineering)

(STC Technological University Graduate Diploma in Engineering)

<http://www.highlightcomputer.com/GraduateDiplomaEngineeringPractice.htm>

BAE 701 Engineering Fundamental 10 Credits

The candidates need to down load the textbooks from given link

For every topic, you need to write the short note on what you understand, formula, summary, outlines and at least 2 problems solution (Please note, each problem is solved in short form, you need to clearly reproduce them by step by step)

After having done all above tasks, BAE 701 Engineering Fundamental will be completed.

BAE 702 Engineering Management 10 Credits

See the given site

View the videos, down load the lessons, study and then do the exercises.

BAE 703 Leadership & Human Resources Management 10 Credits

See the given site

View the videos, down load the lessons, study and then do the exercises,

BAE 704 Risk Management & Industrial Safety 10 Credits

See the given site

View the videos, down load the lessons, study and then do the exercises,

BAE 705 Engineering Competency Development 10 Credits

See the given site

View the videos, down load the lessons, study and then do the exercises,

Assignment

During your study

- List the subjects that you have learnt in your study at college/ university
- List the subjects that you have achieved the good mark and explain why and how you got it
- List the subjects that you just marginally passed and explain why it happened
- List the practical tasks that you have done at college/ university
- List any reference books, tuition classes, practical books that you have read at college/ university

After Graduation

- If you are working, provide your CV that shows the detailed of your employment
- If you have not worked, list any training, engineering books , online websites, online videos etc that you study

Your future plan

- Provide an outline what you want to be, what training you will attend, what practical tasks you will do. If you have already attended the trainings and courses, provide the certificates

BAE705 will be completed when you have done the above tasks

BAE 706 Engineering Report Writing 10 Credits

Study the given report format.

You need to read one news paper article or web information or if you can , visit a practical work site and then write a report by following steps

- Title
- Brief description of topics
- Contents
- Detailed information
- Reference data, photos, tables, diagrams to be inserted
- Conclusion
- Reference list

BAE706 will be completed when you have done the above tasks

BAE 707 Engineering Ethics 10 Credits

Society of Professional Engineers-UK

<http://www.professionalengineers-uk.org/index.php/the-society/code-of-professional-conduct>

Code of Professional Conduct

All individuals registered as Professional Engineers and those aspiring to become registered Professional Engineers shall deliver services in accordance with the Society's Code of Professional Conduct and shall:

1. Competence

a) only undertake professional tasks for which they are competent and will at all times exercise all reasonable professional skill and care to prevent avoidable danger to health or safety and the creation of adverse impacts on the environment.

b) maintain and broaden their knowledge, experience and competence and encourage others to do so.

2. Integrity

a) treat all persons fairly with respect and without bias

b) avoid where possible real or perceived conflict of interest and advise affected parties should such conflicts arise.

c) observe the proper duties of confidentiality owed to appropriate parties.

d) discharge their professional duties with integrity, impartiality and objectivity and have no involvement with any form of bribery.

3. Responsibility

a) accept appropriate responsibility for work carried out under their supervision.

b) assess relevant risks and liability and, if appropriate, have in force appropriate liability insurances.

c) notify the Society within 28 days:

- if convicted of a criminal offence other than parking fines or convictions for exceeding the speed limit:
- upon becoming bankrupt or disqualified as a Company Director:
- if they are removed from the membership of another professional body as the result of a matter relating to conduct.

d) notify the Society of any significant violation of the Code of Conduct by any Professional Engineer on the register or any aspiring member seeking to gain access to the register.

4. Information

a) co-operate with the Society and provide such information as may be requested to facilitate any investigation into the conduct of any Professional Engineer on the register or any aspiring member seeking to gain access to the register.

5. Relationships

a) have due regard to their duty of care to clients and not take advantage of any client or potential client for whatever cause or reason in obtaining and carrying out instructions.

b) put all terms of engagement in writing and state the fees to be charged; whenever practicable, these should be issued to the client before a project is begun.

c) inform his/her client immediately if it appears that his/her estimate as to the total fees to be charged is likely to be or will be exceeded.

d) take care not to mislead a client as to the range of services that a quoted fee is intended to cover and the amount of future fees which may be involved.

Note in respect of relationships: Any Professional Engineer on the register or any aspiring member seeking to gain access to the register shall not:

- accept a professional assignment if he/she is aware or has reasonable cause to suspect that another member is acting for the client in respect of the same assignment, until either the first contract has been determined by the client, or the other member has consented to him acting.
- induce a client to agree to pay sums of money which are not justified by reference to the work which the member has carried out or has been instructed to carry out.
- offer or give any fee, commission, discount or other inducement (financial or otherwise) to a third party in return for the introduction of clients or particular professional assignments unless, before entering into a legally binding agreement

with that client he/she makes full disclosure to the relevant client of the nature or amount of such fee, commission, discount or inducement and the name of the person or persons to whom such fee, commission, discount or inducement was offered or given.

6. Practice

a) Ensure that in respect of any firm in which he/she is or is held out to be a sole proprietor, partner or a director or through which he/she practises or conducts business:

- the composition (list of partners or directors) is clearly stated on all appropriate documentation and that where there has been a material alteration to the composition, all clients of the firm or company are notified of the change promptly;
- the style or title does not adversely reflect upon his/her professional status as a Professional Engineer and the dignity and reputation of the engineering profession;
- the name is not misleading or liable to cause confusion with the public, nor does it imply any partnership arrangement with or endorsement of services by the Society.

b) Titles associated with the registration of Professional Engineers such as "PEng" and "PEng(UK)" and membership of the Society such as "Fellow of the Society of Professional Engineers", "Member of the Society of Professional Engineers", and all others relating to membership of the Society of Professional Engineers, and the designations FSPE, MSPE, Hon.FSPE, Hon.MSPE shall only be used or authorised to be used in connection with a partnership or company

- in the name of any partnership in which such member practises provided all the member's partners are similarly entitled to use the Title and designatory letters
- to describe the name of any company provided only that all the shareholders and/or members of such company and all the directors of such company are similarly entitled to use the Title.
- to describe the name of a firm or business which is not a partnership or company in which he/she practises provided such use of the Title does not give the impression that any other person or persons with whom such member is carrying on business or whom such member employs or with whom such member is associated in any way is entitled to use the same Relevant Title or, if the impression referred to is given, such other person or persons is or are similarly entitled to use the Title.

7. Managerial responsibility

a) In addition to the responsibilities referred to in the Rules of Professional Conduct, but subject to the following, any Professional Engineer on the register or any aspiring member seeking to gain access to the register shall be prima facie

responsible, as a matter of professional conduct, for the acts or omissions including, in particular, breach of any of the provisions of the Articles and Bye-Laws of the Society or these Rules of Professional Conduct of:

- any firm in which the member is, or holds him/herself out to be, or allows him/herself to be held out as a partner, or any firm which the member allows to use his/her name and/or style and title or designatory letters in any of its advertisements, publicity material or notepaper; and
- any company of which he/she is a director or any co-director of that company or any company which the member allows to use his/her name and/or style and title or designatory letters in any of its advertisements, publicity material or notepaper.

b) If any Professional Engineer on the register or any aspiring member seeking to gain access to the register is able to show that, without default on his/her part, he/she was not aware, and there was no reason for him to be aware at the time of any breach of these provisions by any firm or company referred to above and he/she had, prior to the breach, taken all reasonable steps to ensure that such a breach would not occur, then he/she shall not be in breach of this Rule.

8 Publicity and Advertising

a) Any Professional Engineer on the register or any aspiring member seeking to gain access to the register may publicise his/her services or permit another person to do so, but in doing so the member must have due regard to the standards set by the Advertising Standards Authority and any standards set by any other regulatory or governmental authority in relation to advertising and ensure that any publicity for which he/she is in any way responsible is neither inaccurate nor misleading.

b) In all advertising, publicity material or public statements for which any Professional Engineer on the register or any aspiring member seeking to gain access to the register is in any way responsible, he/she shall avoid all claims of superiority over, or critical comparisons of, the services provided by other engineers and shall avoid any direct comparison of fees and charges levied by other engineers.

c) Any Professional Engineer on the register or any aspiring member seeking to gain access to the register may only refer to the name of a client in any advertising, publicity material or public statement if the prior written consent of that client is first obtained.

d) Advertisements or other publicity material issued by any Professional Engineer on the register or any aspiring member seeking to gain access to the register or

by a firm in which they are held out to be a partner or director or a company through which they practise or conducts their business may state (subject to compliance with any other relevant regulations or legal requirements) either expressly or implied that they, the firm or the company (as the case may be) offers expertise or specialist advice in relation to a particular field of engineering provided only that this is the case.

ASSIGNMENT

From newspaper, journal, internet, online chatting groups, show one event that signify the breach of engineering ethics such as use of substandard materials, breach of safety law, breach of fair practice, attempt to monopolizing , use of law and authority for safeguarding own benefits or personal associates , depressing others and highlight how engineering ethics are breached.

BAE 708 Engineering Knowledge 10 Credits

See the given site

From the list of the subject, select two subjects, ask me to send the e-Book. Then you have to do the followings

The students will have to write 20 pages study report for each of the subjects outlined below.

The report needs to include

☐ Book review- Review on each chapter of the book highlighting the key concepts, key formula, key theory & practical application concepts

☐ Own idea on how to apply those concepts in real practical applications.

☐ Examples of engineering designs that use the concepts & knowledge expressed in those books (If any)

☐ Your comment on each book

BAE708 will be completed when you have done the above tasks

PART (B) IQY Master Diploma in Engineering Part 2- (40 credits)

(St Clements University's Master of Applied Engineering)

(STC Technological University Master of Engineering)

BAE709-Design Project (40 credits)

You need to do a supervised design. In this unit, Singapore Institute of Engineering Technologists can provide the supervised design which is a part of Professional Engineers (UK) Assessment. If you do not want to apply for part of Professional Engineers (UK), IQY Technical College itself will provide design supervision that you can later use it to apply for Professional Engineers (UK)

See the given links for required engineering handbooks

You can ask the teacher to send you the e-Books if you want to use it for your selected design

IQY Master Diploma in Applied Science (Information Technology)

(240 credits including 120 Credits for Professional Diploma/ BE degree/ City & Guild Level 6 Diploma)

Master of Applied Science (Information Technology)

(St Clements University)

(240 credits including 120 Credits for Professional Diploma/ BE degree/ City & Guild Level 6 Diploma)

Follow the instructions in

<http://www.highlightcomputer.com/MAppSCIT.pdf>

The candidates will need to request the e-book for study

IQY Master Diploma in Renewable Energy Engineering

Master of Applied Engineering (St Clements University)

Master of Engineering (Renewable Energy)(STC Technological University)

(240 credits including 120 Credits for Professional Diploma/ BE degree/ City & Guild Level 6 Diploma)

Follow the instructions in

<http://www.highlightcomputer.com/MScRE.pdf>

The candidates will need to request the e-book for study

ADDITIONAL COURSE

Doctoral Research Studies

IQY Master Diploma in Research Studies

http://www.highlightcomputer.com/Master_of_Engineering.pdf

Only St Clements University will confer the Doctoral Degree while IQY Technical College will provide the joint supervision.

Dissertation for Doctorate

MAE 601 Research Method

MAE602 Thesis

[http://www.filefactory.com/file/111r1k0ftawt/n/11.Research+Thesis_\(ICT_605\).zip](http://www.filefactory.com/file/111r1k0ftawt/n/11.Research+Thesis_(ICT_605).zip)

MAE601 Research Method

This course guides the student, step by step, through the research process, from problem selection through writing up results. It provides all of the basics necessary to complete a research project in any discipline.

Outline. The following aspects are reflected in this course:

What is research?

Tools of research

The problem: the heart of the research process

Review of the related literature

Planning your research design

Writing the research proposal

Qualitative research

Historical research

Descriptive research

Experimental and causal - comparative designs

Statistical techniques for analyzing quantitative data

Technical details: style, format, and organization of the research report

Doctoral Research Proposal

Synopsis: Research students are expected to present a written research proposal within three months after commencement. The proposal is handed in to the study leader.

Assessors of this proposal are selected by the faculty for their understanding of the field and the research involved. The purpose of a research is to set out a plan for conducting the research and writing the dissertation within the available time. It should take account of the availability and guidance of the study leader.

The starting point for a research proposal is the topic, which is the field of interest in which the research is to be carried out. In introducing the topic, the proposal should clarify the field that it falls into and the specific part that field which the research will explore.

It should clarify why the topic is of interest and importance, and how the proposed research

will contribute to the field of knowledge or profession. The proposal should clarify the research questions, ensuring that these are specific and answerable.

It is important to show how these questions relate to the topic are, and how they will advance the student's contribution. The proposal should detail the research to be carried out, and clarify the research methods, the timeframe and the reasons for selecting particular methods.

Where a period of literature review or research should precede any empirical research, this should be factored in as part of the research. It is important to estimate any periods of field research and to flag their duration and cost in your research proposal.

MAE 602 Thesis

Thesis Dissertation for Doctorate

Candidates need to complete a 60000-words dissertation (in Myanmar or English) and a 3000-words executive portfolio (in English).

This program requires the candidates to complete a thesis as part of the assessment for the Doctorate

Doing a thesis / dissertation means that instead of knowledge and information being presented and following a prescribed route for answering questions, candidates are thrust into an active role of managing an investigation into a topic area. This means researching and discovering things for themselves.

They will have to set their own targets and parameters, pose their own central research questions and decide on the appropriate sources of information to support the research. It therefore requires the use of the higher-level cognitive skills of analysis, synthesis and evaluation. Candidates may choose an area of particular interest to them within the scope of course title.

Doctoral dissertation

A dissertation is an individual effort and the candidate, academic tutor and the course professor will work together on constructing an approved topic (research question) and methodologies.

Dissertation Defence for doctorate

It is expected of Doctoral candidates to defend their thesis by means of a colloquium (academic discussion). The purpose of the meeting is for the candidates to convince a panel of experts in the field of the dissertation how well they have done in the conducting of their research study and the preparation of their dissertation

Candidates need to complete all course assessments with the results of Grade B+ or above.

Weblink

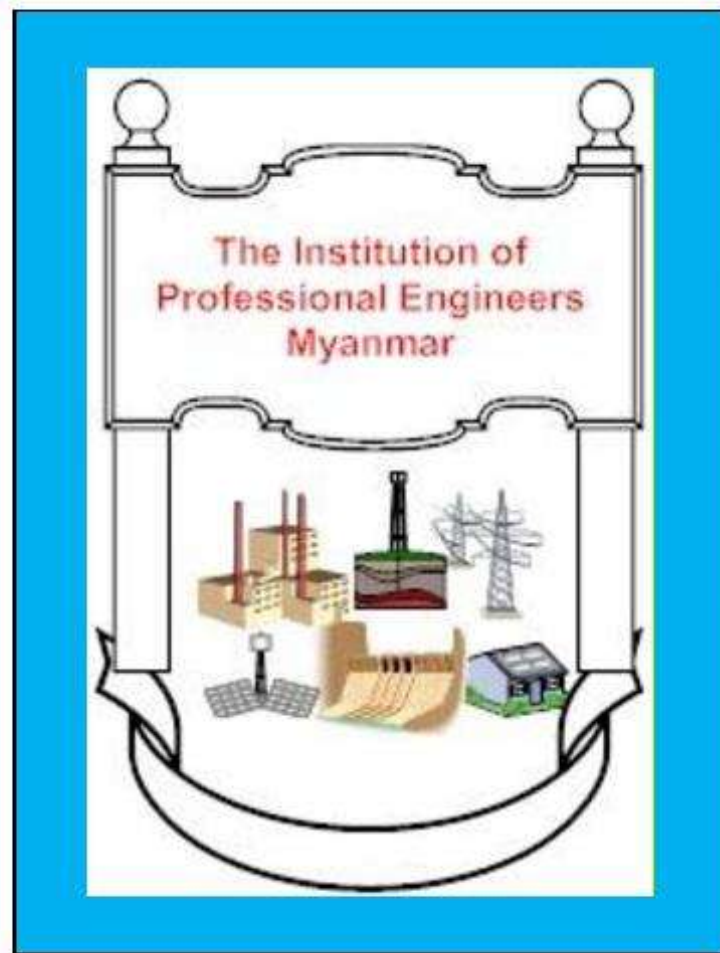
www.highlightcomputer.com/iqymasterdiploma2.pdf

Milestones of IQY Technical College and International recognition of IQY and IPEM

Year	Progress
2007	Plan Myanmar Vocational Training
2012 August	Engage St Clements University and sign the MOU between st Clements University and Highlight Computer Group
2012 December	Initial engagement to form Highlight Computer Group and St Clements University Education Programmes in Myanmar
2013	Taught the first batch of Bachelor of Applied Engineering class in Sydney as well as provide IT Diploma Training to the students of Niue Island for St Clements University. Taught IT degree students in Myanmar Provided e-Learning resources to Mother's Ambition Voluntary School of NLD Education Network and Myanmar Buddhist Voluntary Schools
2014	Establish IQY Technical College of Highlight Computer Group. Signed MOU with Singapore Institute of Engineering Technologists Provided Engineering degree Online teaching to students of Fiji , Myanmar and other countries
2015 December	Provided engineering education to teachers of Myanmar Technological Universities at Myanmar Engineering Societies
2016	Provided engineering education courses to teachers of Myanmar Technological Universities Establish the Institution of Professional Engineers Myanmar
2017	Provided Engineering degree Online teaching to International Students Establish IQY Learning Centre at No 307B Thura 2 Street, 9 Ward, South Okkalapa, Yangon, Myanmar Organize the first physical attendance class for Myanmar students at No 307B Thura 2 Street, 9 Ward, South Okkalapa, Yangon, Myanmar. Establish St Clements University Myanmar College
2018	The Institution of Professional Engineers Myanmar joined International Federation of Engineering Education Societies-IFEES Expand IQY Teaching programs in Myanmar to provide THS, GTI Graduates. First IQY / STC Technological University, St Clements University Myanmar College Graduation at Gandamar Hall, in Yangon Establish IQY Mandalay Technical College Achieve the accreditation by The Society of Professional Engineers International
2019	The Institution of Professional Engineers Myanmar NSW/Australia Chapter is registered with NSW Government of Australia Establish Pyay Technical Institute (IQY Pyay) Expand IQY Teaching programs in Myanmar to provide THS, GTI Graduates. Introduce IQY Vocational Programs, Education and Humanities Studies Programmes. Second IQY / STC Technological University, St Clements University Myanmar College Graduation at Sedona Hotel in Myanmar

	Partnership between IPEM and The Institute of Computer Engineers of The Philippines
2020	<p>IQY Technical College is registered with Australian Security and Investment Commission</p> <p>Establish IPEM Technological University</p> <p>Expand IQY Online Teaching for many vocational training</p> <p>Introduced IQY E-Learning, Online and Offline Programmes.</p> <p>Establish IQY Centres in Turkey, Fiji and Oman</p> <p>Expand IQY Practical Programmes.</p>

2021	<p>IQY Technical College is divided into divisions and faculties. http://www.iqytechnicalcollege.com/collegedivisions.htm Law, Vocational Education, Arts and Science, Archaeologist U Myint Aung School of Myanmar Literature, Medicine, IQY Primary School, IQY Secondary School, IQY Technical High School and IQY International Divisions are added.</p> <p>International Professional and Vocational Support Programs including migration support services are added.</p> <p>Dr Mon School of English and Spring Revolution Education Support Programs are added.</p>
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EDUCATIONAL ACCREDITATION

Promoting Myanmar Engineering Profession

CERTIFICATE OF AFFILIATION

This is to certify that

IQY Technical College

is an affiliated educational institution to provide the education programs accredited and recognised by The Institution of Professional Engineers Myanmar.

According to the agreement between The Institution of Professional Engineers Myanmar and the affiliated educational institution, the affiliated educational institution is required to the tasks related to sustainability and development of The Institution of Professional Engineers Myanmar and maintain it's academic integrity and quality.

Date: 25 April 2018

Affiliation Record Number: A1/2018

Signed

Registrar

The Institution of Professional Engineers Myanmar

CERTIFICATE OF PARTNERSHIP

Institution of Professional Engineers Myanmar

and


Institute of Computer Engineers of the
Philippines – Singapore Chapter (ICpEP–SG)

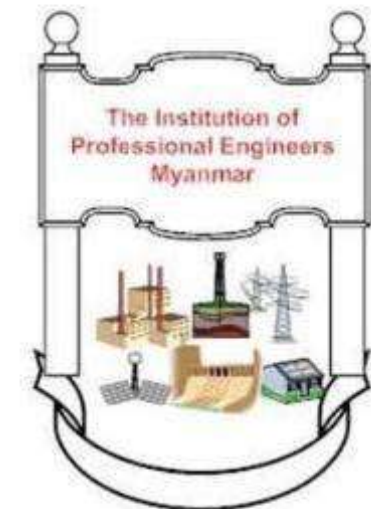
AGREED TO DEVELOP A FRAMEWORK OF COLLABORATION IN THE FIELD OF INFORMATION TECHNOLOGY, ENGINEERING, CROSS DOMAIN DEVELOPMENT,
APPLIED RESEARCH, PUBLICATION, CERTIFICATION AND INDUSTRY PRACTICES.

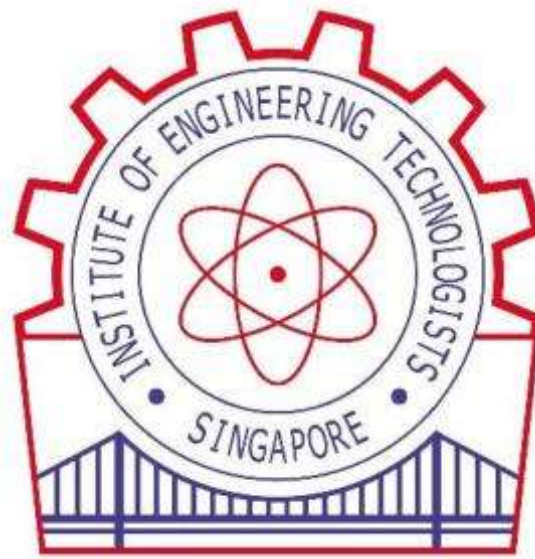
SIGNED THIS 12TH AUGUST 2019 AT ICpEP-SINGAPORE OFFICE, REPUBLIC OF SINGAPORE




DR. RYAN EVANGELISTA, ISP
PRESIDENT, ICpEP-SG


DR. KYAW NAING
PRESIDENT, IPeM





Founded 1980

Certificate of Recognition

This is to certify that

Advanced Diploma in Engineering

(awarded by IQY Technical College)

Is recognized by SIET as satisfying its academic requirement for the membership grade of **Member (MSIET)** according to Clause 4(e)(iii) of SIET's Constitution.

MSIET with the required academic qualification and working experience is eligible for registration as **Asean Technician (AT)** with the **Asean Engineering Register (AER)**.

[Website: www.afeo.org]

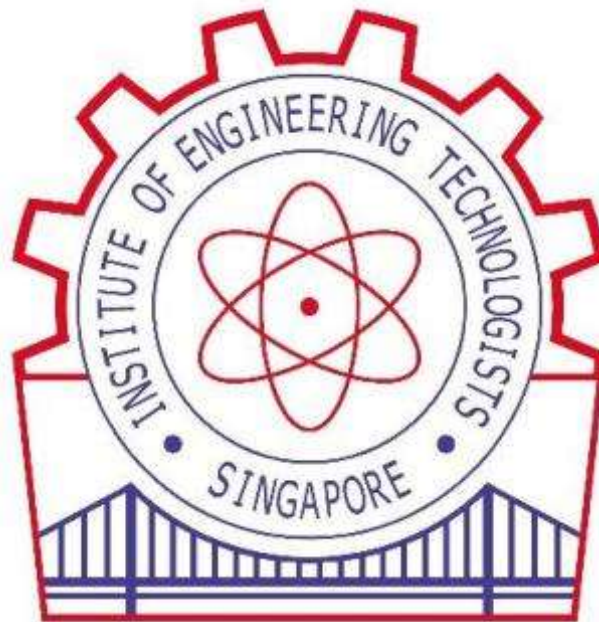
Prof (Dr) Sam Man Keong

CEng, FIET, MICE, MCIOB,

FCABE, CBuildE, CEnv, FCQI, CQP, CMath, MIMA, CSci.

SIET-Accreditation & Examination Board

Date of Valid : 1 February 2020 (valid Until 31 January 2024)



Founded 1980

Certificate of Recognition

This is to certify that

Diploma in Engineering

(awarded by IQY Technical College)

Is recognized by SIET as satisfying its academic requirement for the membership grade of **Associate Member (AMSIET)** according to Clause 4(f)(iii) of SIET's Constitution.

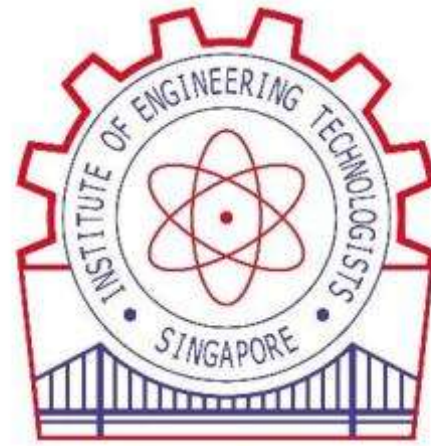
Prof (Dr) Sam Man Keong

CEng, FIET, MICE, MCIOB,

FCABE, CBuildE, CEnv, FCQI, CQP, CMath, MIMA, CSci.

SIET-Accreditation & Examination Board

Date of Valid : 1 February 2020 (valid Until 31 January 2024)



Founded 1980

Certificate of Recognition

This is to certify that

Professional Diploma in Engineering

(awarded by IQY Technical College)

Is recognized by SIET as satisfying its academic requirement for the membership grade of **Fellow (FSIET)** according to Clause 4(d)(ii) of SIET's Constitution.

FSIET with the required academic qualification and working experience is eligible for registration as **Asean Engineering Technologist (AET)**

with the **Asean Engineering Register (AER)**. [Website: www.afeo.org]

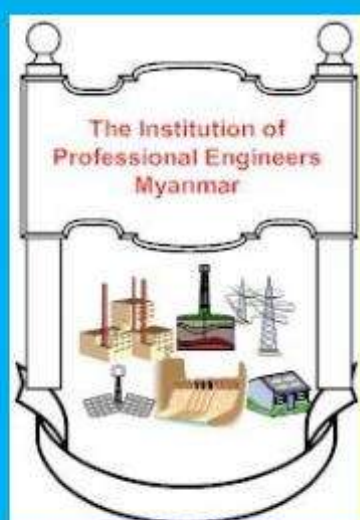
Prof (Dr) Sam Man Keong

CEng, FIET, MICE, MCIOB,

FCABE, CBuildE, CEnv, FCQI, CQP, CMath, MIMA, CSci.

SIET-Accreditation & Examination Board

Date of Issue: 1 February 2020 (valid until 30 January 2024)



**THE INSTITUTION OF PROFESSIONAL ENGINEERS MYANMAR
NEW SOUTH WALES AUSTRALIA CHAPTER
Incorporated**

Registration Number:
INC1901087 - registration – LN

Promoting Myanmar Engineering Profession

GRADUATE MEMBERSHIP CERTIFICATE

The holders of IQY Technical College Diplomas are recognized as Graduate Members of The Institution of Professional Engineers Myanmar (IPEM) in the respective grades in the following table.

Professional Diploma in Engineering (Year 4)	Graduate Member (Professional)
Professional Diploma in Engineering Technology (Year 3)	Graduate Member (Technologist)
Advanced Diploma in Engineering (Year 2)	Graduate Member (Technical)
Professional Diploma in ICT (Year 4)	Graduate Member (ICT Professional)
Advanced Diploma in ICT (Year 2)	Graduate Member (ICT Technical)
Professional Diploma in Management (Year 4)	Graduate Member (Management Professional)
Advanced Diploma in ICT (Year 2)	Graduate Member (Management)
Graduate Diploma and Master Diploma in Engineering	Graduate Member (Postgraduate)
Graduate Diploma and Master Diploma in ICT	Graduate Member (Postgraduate)
Graduate Diploma and Master Diploma in Management	Graduate Member (Postgraduate Management)
Diploma in Doctoral Studies in Engineering/ICT	Graduate Member (Doctorate)
Diploma in Doctoral Studies in Management	Graduate Member (Doctorate)
Diploma in General Engineering	Associate
Certificate in all IQY Technical College courses	Affiliate
Diploma in IQY Technical College courses other than Engineering, ICT and Management	Affiliate

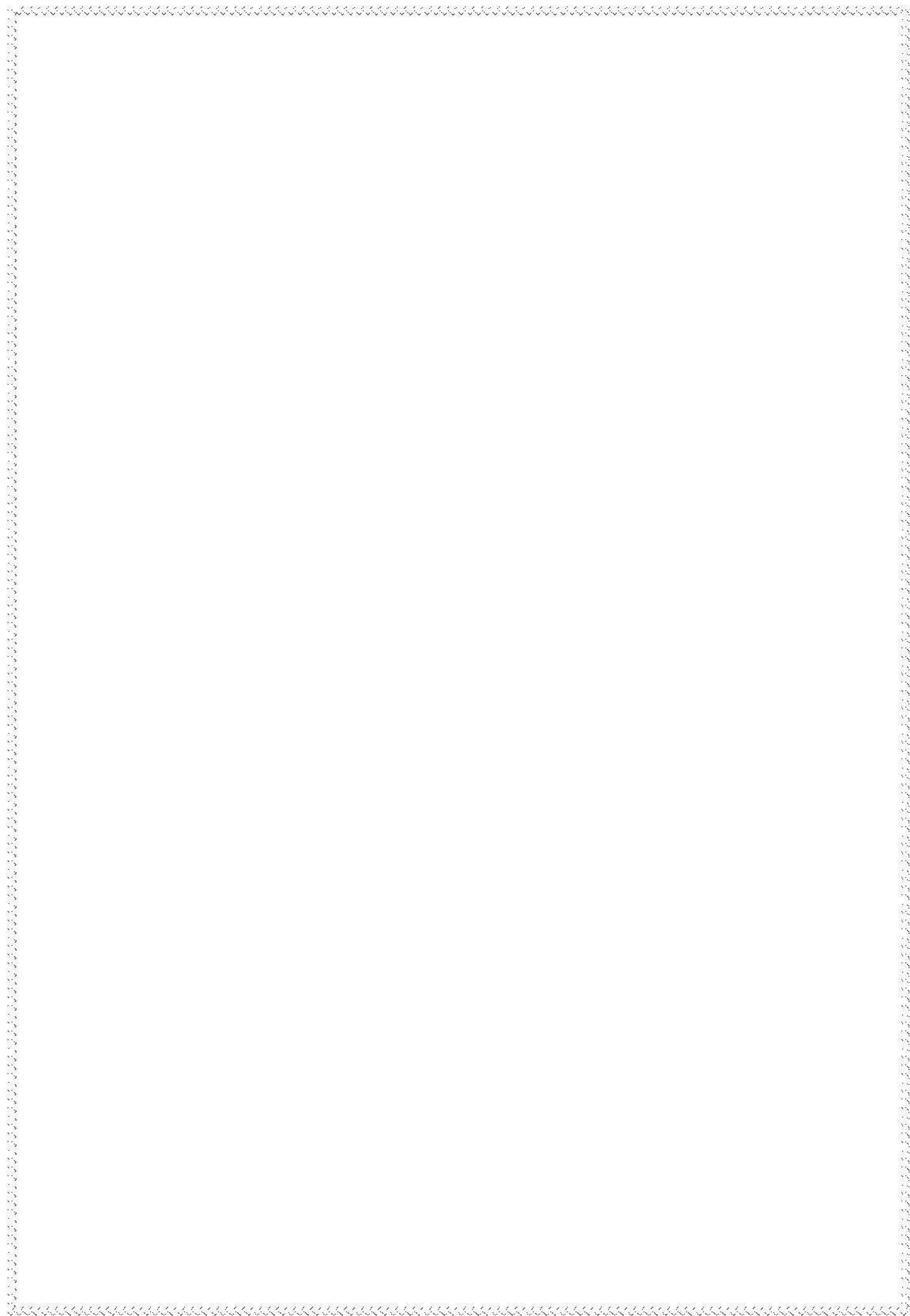
In the following table, fill your name, ID number and grade of membership appropriate to your classification of your IQY Technical College diploma.

Name	
ID Number	
Membership Grade	

Maung Oo
Registrar

This certificate is not valid without listing of the holders in graduates list at

<http://www.iqytechnicalcollege.com/graduates.htm>





Indo-Universal Collaboration
for Engineering Education
IUCEE
Representatives
Krishna Vedula
Stephanie Farrell



Institute of Electrical and
Electronics Engineers, Inc.
IEEE
Representative
Jamie Moesch



Institute of Industrial and
Systems Engineers
IISE
Representative
Don H. Greene



Industrial Engineering and
Operations Management
Society
IEOM
Representative
Ahad Ali



The International Association
for Continuing Engineering
Education
IACEE
Representative
Soma Chakrabarti



International Council on
Systems Engineering
INCOSE
Representative
Ariela Sofer



International Institute of
Innovation and Technology
IIITEC
Representative
Mario Chauca



International Institute of
Institute of Professional
Engineers Myanmar
IPEM
Representative
Kyaw Naing
Thwin Thu Lynn
Myint Kyaw



Iranian Society of
Engineering Education
ISEE
Representative
Ali Ashrafizadeh



Japanese Society for
Engineering Education
JSEE
Representative
Masahiro Inoue
Koichi Homma



Kazakhstan Society of
Engineering Education



Latin American and Caribbean
Consortium of Engineering



National Academy of
Engineering Grand Challenges



Association for Engineering
Education of Russia



Scientific Society of
Engineering Education

International Recognition

IQY Diploma ဘွဲ့ရများသည်သြစတြေးလျအစိုးရနှင့်Singapore Institute of Engineering Technologists အသိအမှတ်ပြုလက်မှတ် ၊ The Society of Professional Engineers UK အသိအမှတ်ပြုလက်မှတ် တို့ကိုပံ့နှံ့ရန် နှင့် သင်၏ IQY ဒီပလိုမာများနှင့် ပူးတွဲအ သုံးပြုရန်လိုအပ်သည်။

All IQY Graduates are required to print out IQY Registration Certificate with Australian Government and Singapore Institute of Engineering Technologists Recognition Certificate and use with your IQY Diplomas

IQY Technical College မှ Professional Diploma, Advanced Diploma, Diploma, Certificate ရသူအားလုံးသည်ယခု The Institution of Professional Engineers Myanmar NSW Australia Chapter ၏ Graduate Member လက်မှတ်ကို Download ဆွဲ Print လုပ်ပြီးမိမိ၏အမည်၊ မိမိ၏လက်မှတ်အမျိုးအစားပေါ်မူတည်၍အဖွဲ့ဝင်အဆင့်ကိုဖြည့်သွင်းရေးသားပါ။

IQY Technical College ၏ Australia မှတ်ပုံတင်၊ Singapore Institute of Engineering Technologist Certificate of Recognition နှင့်ယခုThe Institution of Professional Engineers Myanmar NSW Australia Chapter ၏ Graduate Member လက်မှတ်တို့ကို IQY Diploma များနှင့်အတူပူးတွဲအသုံးပြုပါ။

IQY Technical College ရဲ့ Professional Diploma in Engineering ဟာ BE degree အဆင့်ရှိပါတယ်။ ဘာကြောင့်လဲဆိုတော့ Singapore Institute of Engineering Technologists ကသူ့ရဲ့Fellow Grade အတွက် IQY Professional Diploma in Engineering ကိုUK က BEng(Hons) နဲ့တန်းတူသတ်မှတ်ထားလို့ဖြစ်တယ်။

IQY Technical College ဟာ Bachelor Degree အဆင့်သင်နေပေမဲ့ University လို့မကြေညာသလို ဘွဲ့ကိုလဲအရမ်းမပေးဘူး။

IQY ပေါ်လစီအရတကယ်လေ့လာတတ်မြောက်တာသည်ပေးတဲ့လက်မှတ်ထက်ပိုရမယ်။

Myanmar Recognition

အသိအမှတ်ပြုခြင်းဆိုသည်မှာအလုပ်ရခြင်းဖြစ်သည်။















Engineering Jobs အင်ဂျင်နီယာများနှင့်အလုပ်အကိုင်အုပ်စုကို The Institution of Professional Engineers Myanmar (IPEM) မှထိန်းချုပ်သည်။

<https://www.facebook.com/groups/2128693697196512/>

ကျွန်ုပ်တို့အသိအမှတ်ပြုသောလျှောက်ထားသူအားအလုပ်ရှင်ထံရည်ညွှန်းပေးပါမည်။

<http://www.ifees.net/members/ifees-members/>









Browser window showing the IFEEES Members page. The address bar displays <http://www.ifees.net/members/ifees-members/>. The page lists various international engineering organizations and their representatives.

Organization Logo	Organization Name	Acronym	Representative
	Indo-Universal Collaboration for Engineering Education	IUCEE	<u>Representatives</u> Krishna Vedula Stephanie Farrell
	Institute of Electrical and Electronics Engineers, Inc.	IEEE	<u>Representative</u> Jamie Moesch
	Institute of Industrial and Systems Engineers	IISE	<u>Representative</u> Don H. Greene
	Industrial Engineering and Operations Management Society	IEOM	<u>Representative</u> Ahad Ali
	The International Association for Continuing Engineering Education	IACEE	<u>Representative</u> Soma Chakrabarti
	International Council on Systems Engineering	INCOSE	<u>Representative</u> Ariela Sofer
	International Institute of Innovation and Technology	IIITEC	<u>Representative</u> Mario Chauca
	International Institute of Professional Engineers Myanmar	IPEM	<u>Representative</u> Kyaw Naing
	Iranian Society of Engineering Education	ISEE	<u>Representative</u> Ali Ashrafizadeh
	Japanese Society for Engineering Education	JSEE	<u>Representative</u> Masahiro Inoue Koichi Homma
	Kazakhstan Society of Engineering Education	KazSEE	
	Latin American Council for Engineering Education	LACCEL	
	NAE GRAND CHALLENGES FOR		
	International Professional Women	IPW	

Windows taskbar at the bottom shows the search bar and various application icons. The system clock indicates 1:51 PM on 22/09/2018.

Browser window showing the IFEEs Members page. The address bar displays <http://www.ifees.net/members/ifees-members/>. The page title is "Silver Members".

The page lists eight Silver Members, each with a logo, name, and representative information:

Member Logo	Member Name	Representative
	Asociación Colombiana de Facultades de Ingeniería ACOFI	<u>Representatives</u> Carlos Costa-Posada Luiz Alberto González Araujo
	Chinese Society for Engineering Education CSEE	<u>Representatives</u> Xiaodong Zou Wei Zhang
	Chinese Taipei Association of Taiwan Engineering Education and Management CTATEEM	<u>Representative</u> Ray Huang
	Consejo Federal de Decanos de Ingeniería CONFEDI	<u>Representative</u> Sergio Pagani
	EPICS	<u>Representative</u> William Oakes
	Ibero-American Science and Technology Education Consortium ISTEC	<u>Representatives</u> Ramiro Jordan
	International Association of Online Engineering IAOE	<u>Representative</u> Danilo Zutin
	Korean Society of Engineering Education KSEE	<u>Representatives</u> Kunwoo Lee

The Windows taskbar at the bottom shows the search bar, taskbar icons, and system tray with the date 22/09/2018 and time 1:48 PM.

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http://www.ifees.net/members/ifees-members/

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Kyungwoo Yi



Society for Engineering Education
Malaysia
SEEM
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Khairiyah Mohd-Yusof




Society of Engineers UAE
SOE-UAE
Representatives
Dawoud Al Hajri
Alaa Ashmawy




South African Society of Engineering
Education
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Debby Blaine


Bronze Members




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Funso Falade




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Ensino de Engenharia
ABENGE
Representatives
Luiz Scavarda
Caro Vanderli



Australasian Association for
Engineering Education
AAEE
Representative
Tom Goldfinch



Ibero-American
Association for Engineering
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ASIBEI
Representative
Jaime Salazar Contreras



Asociación Nacional de
Federaciones de Educación
de Ingeniería
ANFEI
Representative
Juan José Echevarria Reyes

Windows logo

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Taskbar icons: File Explorer, Microsoft Edge, Google Chrome, Word, Excel, PowerPoint, Outlook, OneDrive, Teams, etc.
















System tray: Network, Volume, Date/Time (1:49 PM 22/09/2018), Language (ENG)



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 <p>Indo-Universal Collaboration for Engineering Education IUCEE <u>Representatives</u> Krishna Vedula Stephanie Farrell</p>	 <p>Institute of Electrical and Electronics Engineers, Inc. IEEE <u>Representative</u> Jamie Moesch</p>	 <p>Institute of Industrial and Systems Engineers IISE <u>Representative</u> Don H. Greene</p>	 <p>Industrial Engineering and Operations Management Society IEOM <u>Representative</u> Ahad Ali</p>	 <p>The International Association for Continuing Engineering Education IACEE <u>Representative</u> Soma Chakrabarti</p>
 <p>International Council on Systems Engineering INCOSE <u>Representative</u> Ariela Sofer</p>	 <p>International Institute of Innovation and Technology IIITEC <u>Representative</u> Mario Chauca</p>	 <p>International Institute of Institute of Professional Engineers Myanmar IPEM <u>Representative</u> Kyaw Naing</p>	 <p>Iranian Society of Engineering Education ISEE <u>Representative</u> Ali Ashrafizadeh</p>	 <p>Japanese Society for Engineering Education JSEE <u>Representative</u> Masahiro Inoue Koichi Homma</p>
 <p>http://www.ipemyanmar.org/ipemorg.htm</p>	 <p>LACCEI</p>	 <p>NAE GRAND CHALLENGES FOR ENGINEERING</p>	 <p>IPW</p>	 <p>IPW</p>

Type here to search

1:49 PM 22/09/2018



Barlyk Shaikenow

Adriana Páez Pino

Rick Miller

Yury Pokholkov

Steffen Kersten



Suheyda Atalay

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Suheyda Atalay


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Representative
Adrien Merlier




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Sustainable World
ESW
Representatives
Alexander Dale
Justin Hess



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Educational Entity
ISEE
Representative
Azeez Mohideen
Mohamed Nazeer







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Engineering Education
SCALE
Representatives
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Sanket Dhadke



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SPEED
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Javier Cano

Observer Members



Windows logo

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Taskbar icons: Edge, File Explorer, Mail, Store, OneDrive, Word, Excel, Chrome, Outlook, PowerPoint, Word, Access, Edge

System tray: ? (Help), User icon, Network, Volume, Date/Time: 1:50 PM 22/09/2018, Language: ENG, Notifications: 1

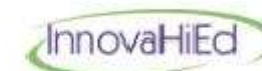
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Research in Engineering
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REEN
Representatives
Adam Carberry



Instituto de Calidad y Acreditación
de Programas de Computación,
Ingeniería y Tecnología
ICACIT
Representative
José Durán-Talledo



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Representative
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WES
Representative
Kirsten Bodley











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Certificate of Incorporation as an Association

This is to certify

**THE INSTITUTION OF PROFESSIONAL
ENGINEERS MYANMAR NSW AUSTRALIA
CHAPTER INCORPORATED**

is registered as an incorporated association in New South Wales
under the *Associations Incorporation Act 2009*

Registration Number **INC1901087**

Date of Incorporation **20 August 2019**

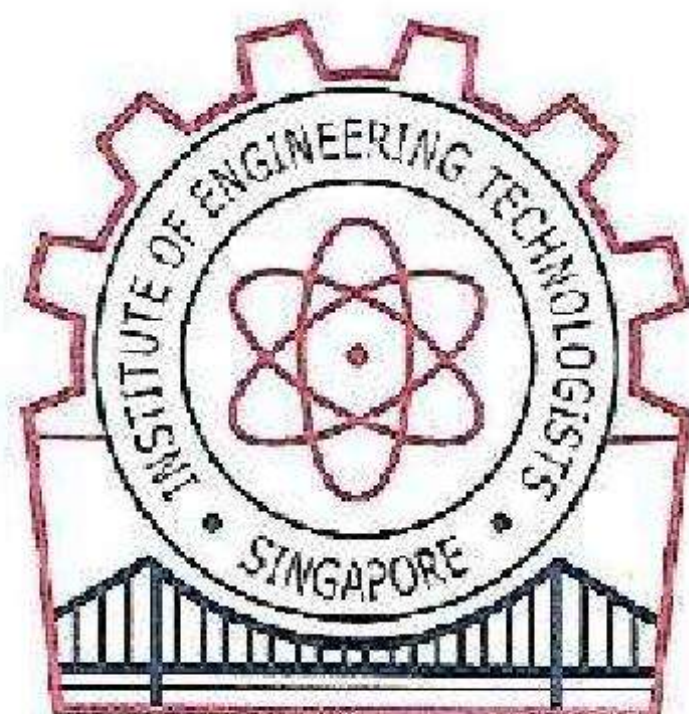
Issued by NSW Fair Trading on 20 August 2019

Rod Stowe
Commissioner
NSW Fair Trading



Extracted from ASIC's database at AEST 17:01:36 on 16/02/2020

Business Name Summary	
Name:	IQY TECHNICAL COLLEGE
Registration Number:	
Registered State:	
Registration Date:	16/02/2020
Status:	Registered
Type:	Business Names
Regulator:	Australian Securities & Investments Commission



Founded 1980

新加坡工程专家协会
Singapore Institute of Engineering Technologists

SIET – Approved Training Centre

This is to certify that

Advanced Diplomas in Engineering
(in all engineering disciplines)

awarded by

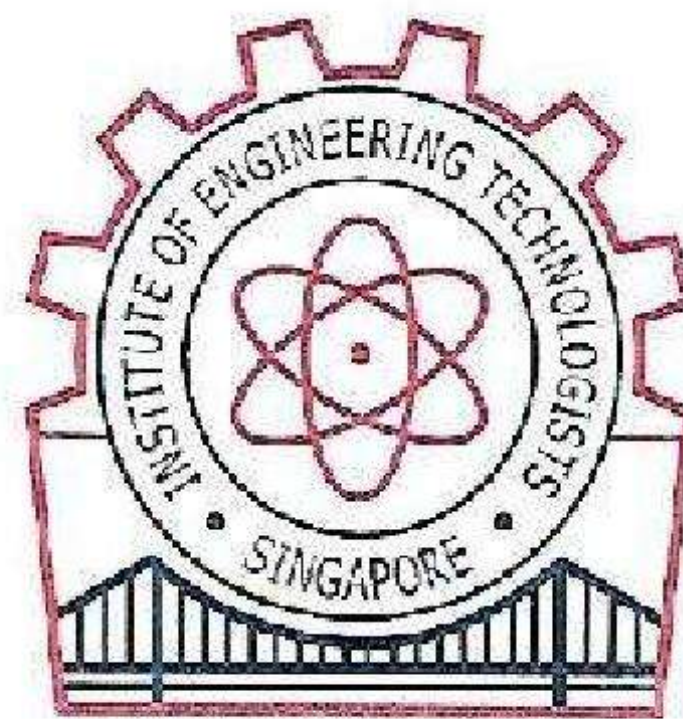
IQY Technical College
(Myanmar)

are recognized by SIET as satisfying its academic requirement for the membership grade of **Member** (MSIET) according to clause 4(e)(iii) of SIET's Constitution.

This approval is valid for a period of FIVE years from the date of approval subject to the compliance of terms and conditions as specified by SIET's Executive Council.

Prof (Dr) Sam Man Keong,
CEng, FIET, MICE, MCIQB, FSIET(F)
Chairman,
SIET's Accreditation & Examination Board
Date of Approval: 24 June 2017





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Diplomas in Engineering
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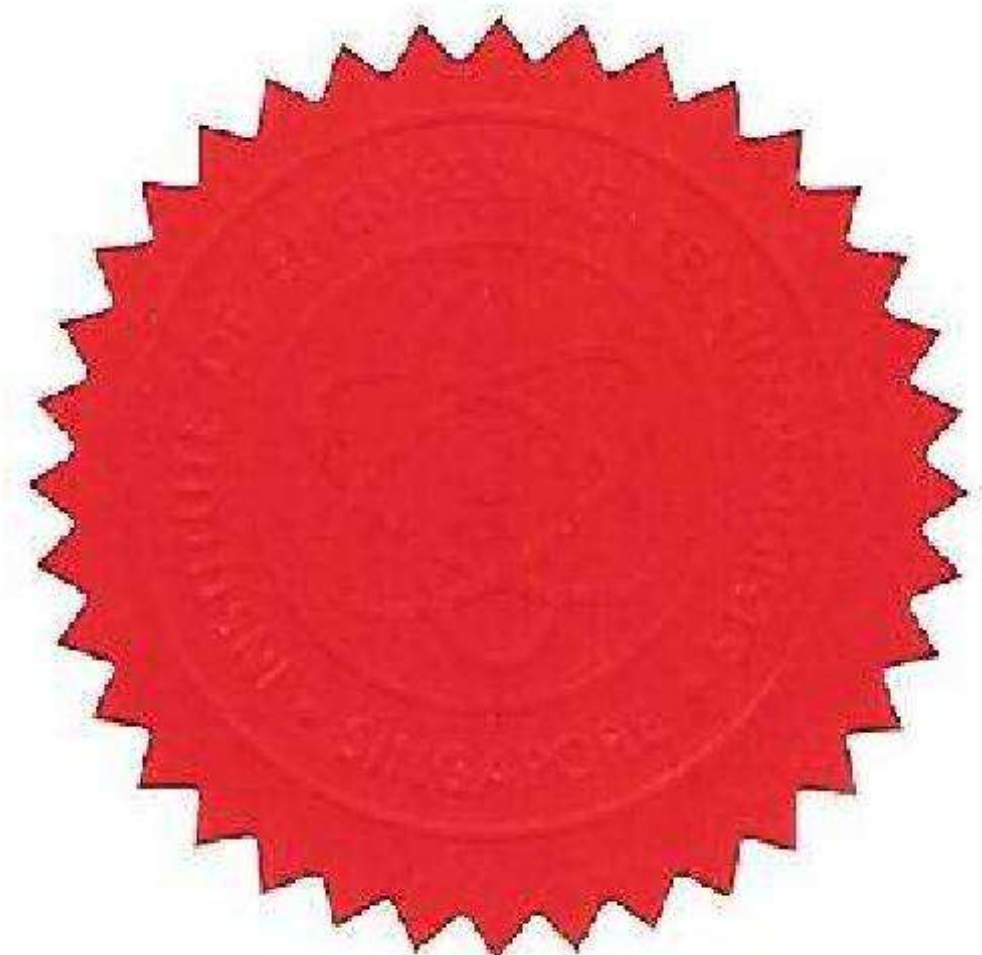
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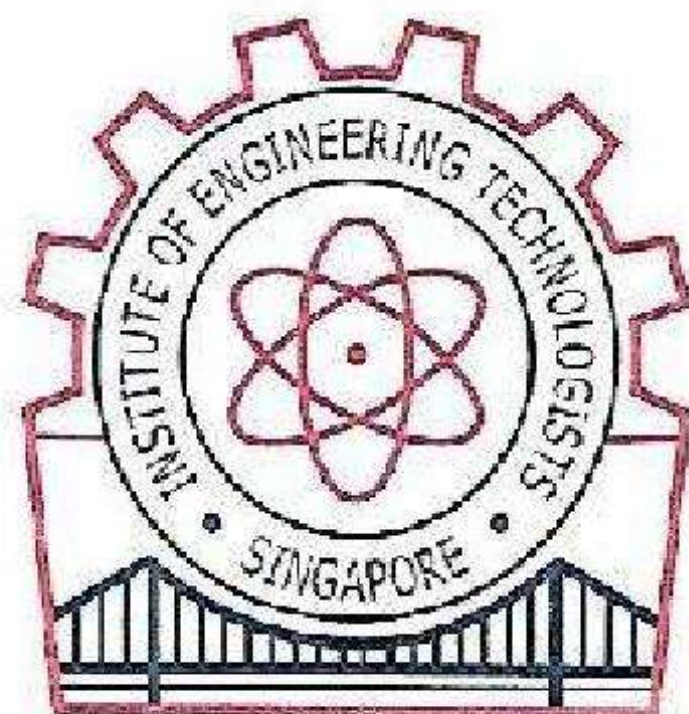
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Prof (Dr) Sam Man Keong,
CEng, FIET, MICE, MCOPB, FSIET(F)
Chairman,
SIET's Accreditation & Examination Board
Date of Approval: 24 June 2017





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(in all engineering disciplines)

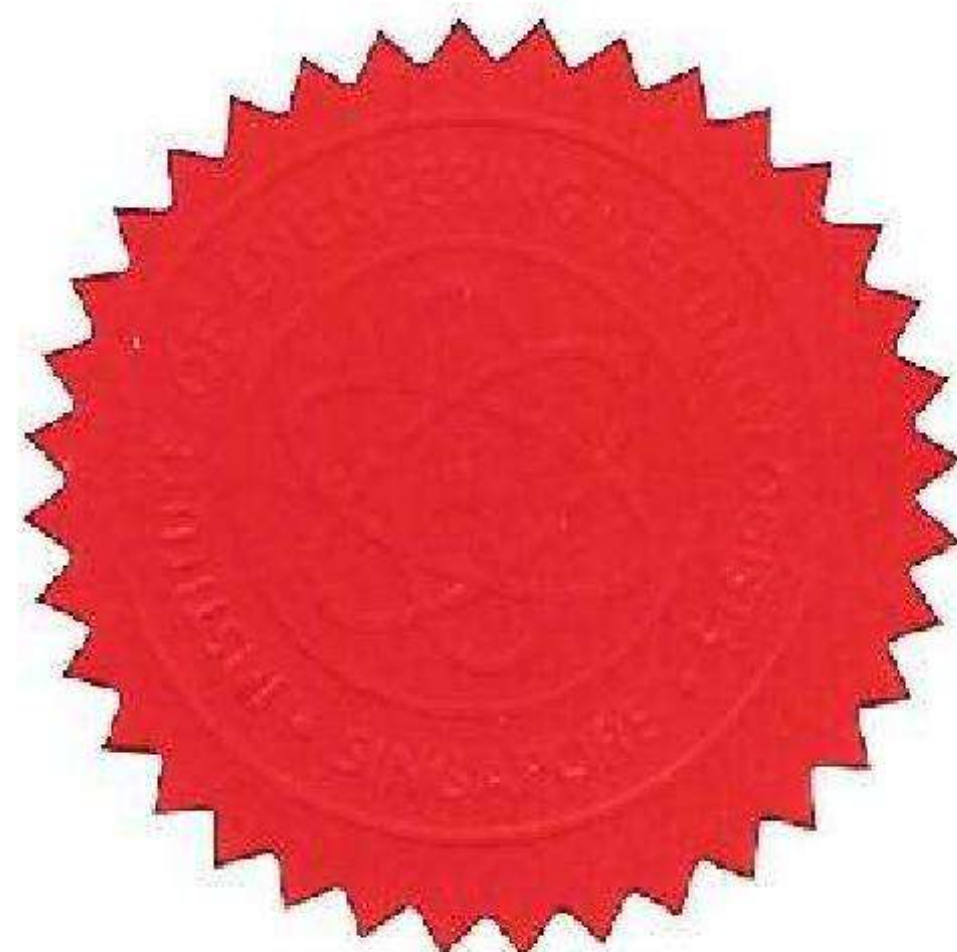
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Prof (Dr) Sam Man Keong,
CEng, FIET, MICE, MCIOB, FSIET(F)
Chairman,
SIET's Accreditation & Examination Board
Date of Approval: 24 June 2017



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ADEKUNLE OLUWOLE, ROYAL SCHOOL OF MANAGEMENT AND TECHNOLOGY	NIGERIA	Eastern and Western Africa

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21/10/2019

ENG

3

IVETA (USA) recognized IQY+STCTU Work Studies-Engineering Programs
2L for Bachelors degree (Self study Online) OR 5L for Some assistance by
Teacher

456678A/556678EN

Advanced Diploma/ Bachelor of Work Studies(Engineering-
Electrical/Civil/Mechanical/Others)

- 6 Subjects-Advanced Diploma
- 12 Subjects Bachelor of Work studies

Curriculum

The same discipline subjects—Specialized discipline will on award

Mixture of discipline subjects—General Engineering on award

- GE1 Electrical Wiring (EE)
- GE2 Electrical Machine (EE)
- GE3 Electrical Distribution (EE)
- GE4 Power System Operation (EE)
- GE5 Power System Protection
- GE6 Occupational Health & Safety
- GE7 Project Management (EE/CE/ME)
- GE8 Electronics (EE)
- GE9 Process Control (EE/ME)
- GE10 Industrial Electronics (EE)
- GE11 Programmable Logic Controller (EE/ME)
- GE12 Photovoltaic Solar Electrical System
- GE13 Principle of Engine(ME)
- GE14 Fitting & Machining (ME)
- GE15 Building Construction (CE)

- GE16 Engineering Drawing I (EE/CE/ME)
- GE17 Pipe Fitting (CE/ME)
- GE18 Air-conditioning & Refrigeration (ME)
- GE19 Computer Programming (EE/CE/ME)
- GE20 Computer Networking (EE)
- GE21 Welding (ME)
- GE22 Painting & Decoration (CE)
- GE23 Pneumatics (CE/ME)
- GE24 Manufacturing Management (ME)
- GE25 Surveying (CE)
- GE26 Energy Efficient Building Design
- GE27 Machine Principle (ME)
- GE28 Hydraulic (CE/ME)
- GE29 Materials & Corrosion Prevention (CE/ME)
- GE30 Bricklaying (CE)
- GE31 Sprouting & Guttering (CE)
- GE32 Electronic Security Installation
- GE33 Explosion Protection
- GE34 Engineering Business Management

- BTech/BE Conversion

- IE1 Engineering Mathematics
- IE2 Engineering Physics
- IE3 Material Science
- IE4 Advanced Engineering Mathematics
- IE5 Mechanical Science
- IE6 Principle of Electricity
- IE7 Electrical Circuit I (EE)
- IE8 Electrical Circuit II (EE)
- IE9 Advanced Building Construction (CE)
- IE10 Transmission Line (EE)
- IE11 Electrical & Mechanical Engineering Work Experience
- IE12 Civil Engineering Work Experience
- IE13 Advanced Workshop
- IE15 Advanced Engineering Design & Project Work
- IE16 Power System Analysis-Fault Calculation
- IE17 Power Line Design

- IE18 Building services
- IE19 PCB Design
- IE20 Maths References
- IE21 Electrical Principle
- IE22 Co-generation
- IE23 Industrial Computer System
- IE24 Microprocessor
- IE25 Power System Fundamental
- IE26 Electrical Communication Fundamental
- IE27 Control Concept
- IE28 Electronic Signal & System
- IE29 Electrical Estimating
- IE30 Electronic Workbench
- IE31 Introduction to Renewable Energy Technology
- IE32 Telecommunication Cabling & Installation
- IE33 Hybrid Energy System
- IE34 Electricity Supply Industrial Skills

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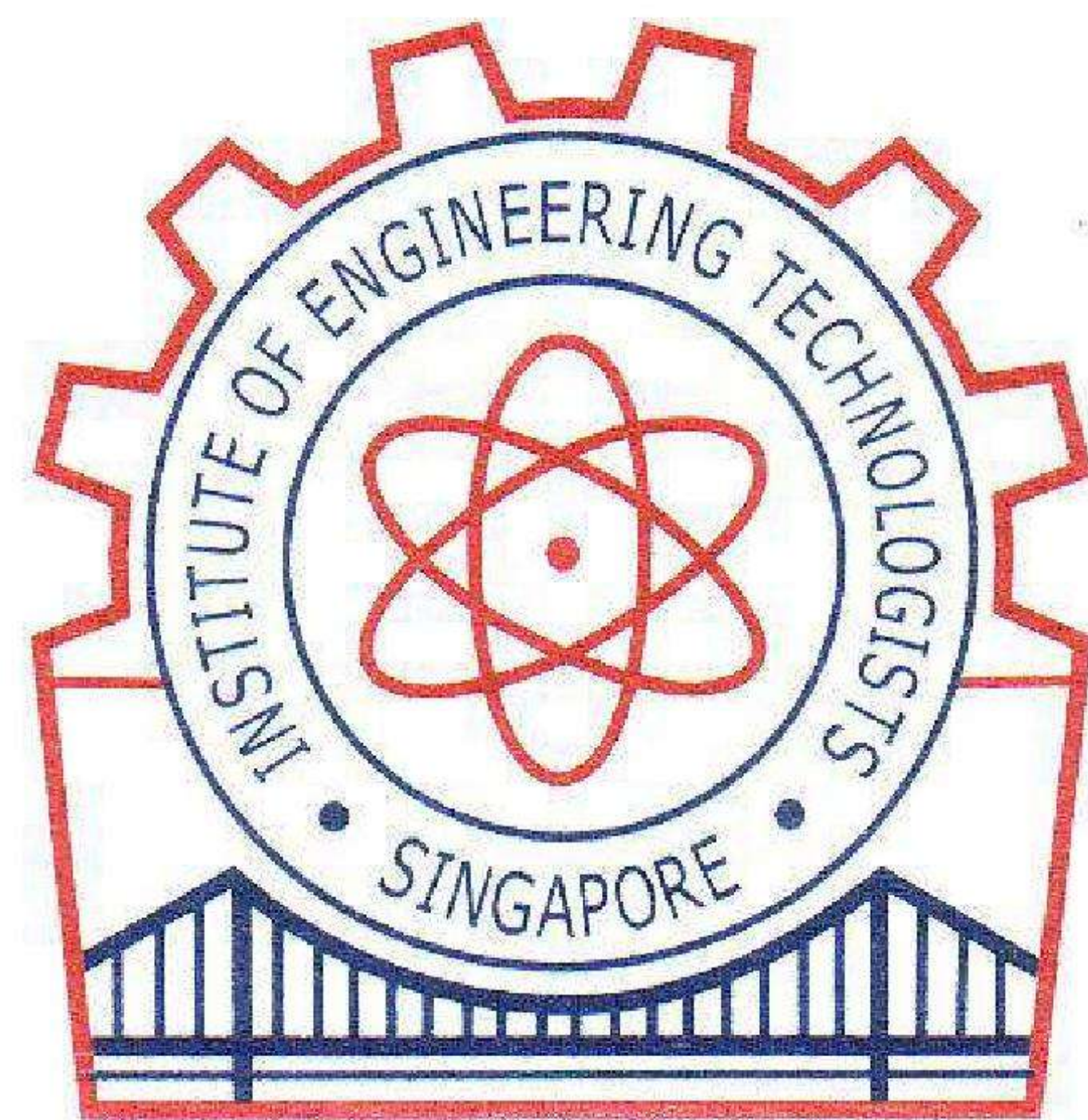
Bachelor of Science (Technology)

- Bachelor of Work Studies(Engineering)+ Software Studies Part 1

656678B

Bachelor of Science (Engineering)

- Bachelor of Work Studies(Engineering)+ Software Studies Part 1+2



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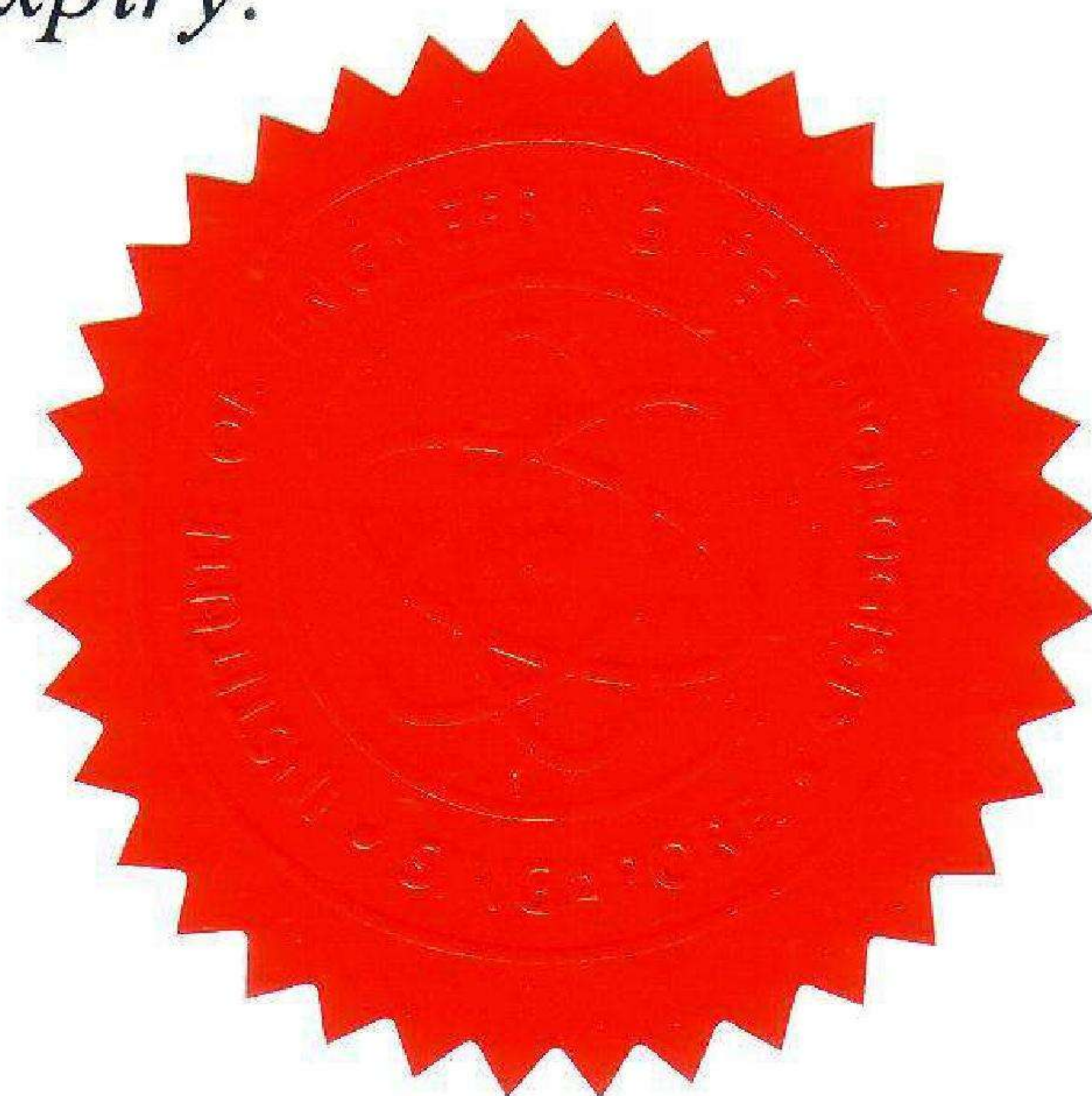
This is to certify that

IQY Technical College – Myanmar
(a Subsidiary of Highlight Computer Group)

*a private school in Myanmar
is recognized by SIET to recruit suitably qualified students &
graduates to join SIET as members
and
to provide teaching programmes leading to **Diplomas in
Engineering (Year 1)** as satisfying its academic requirement as
Associate Member (AMSIET), **Advanced Diplomas in
Engineering (Year 2)** as satisfying its academic requirement as
Member (MSIET), and **Professional Diplomas in Engineering
(Years 3 & 4)** as satisfying its academic requirement
as **Fellow (FSIET)** subject to compliance of terms and conditions
as specified in the signed MOU.*

*This approval is valid for a period of five (5) years from the date of
approval and is renewable on expiry.*

Dr Sam Man Keong, CEng, FIET
Chairman,
SIET – Accreditation & Exam Board
Date : 5 April 2014





The Society of Professional Engineers

(International)

The Society of Engineers UK (1854), The Society of Professional Engineers (UK) (1969)

Re established as The Society of Professional Engineers International in 2018

www.thespeukinternational.org

Certificate of Recognition

The following qualifications awarded by IQY Technical College are recognized as meeting the educational and academic qualifications requirement for registration as engineer of The Society of Professional Engineers International.

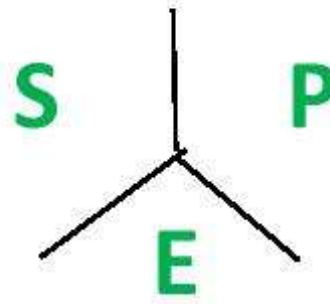
Qualification	Registration Category
IQY Advanced Diploma in Engineering (2 Years Qualification with Year 12 Entry)	Graduate Technical Engineer (Graduate Engineering Technician)
IQY Professional Diploma in Engineering Technology (3 Years Qualification with Year 12 Entry)	Graduate Technologist Engineer (Graduate Engineering Technologist)
IQY Professional Diploma in Engineering (4 Years Qualification with Year 12 Entry)	Graduate Professional Engineer

The issue of certificate to individual candidate will be executed in collaboration with The Institution of Professional Engineers Myanmar which supervises The IQY Technical College.

Peter Prasad
Chief Executive



The Society of Professional Engineers (International) was established as Society of Professional Engineers (UK and International) by International Member Professional Engineers (UK) of Former Society of Professional Engineers (UK) on 28th April ,2018 and the name was changed to current name on 8th February 2019. All PEng(UK) Certificates issued by former SPE(UK) continue to be valid and regarded as Life Membership.



**The Society of
Professional Engineers**
(UK and International)

Certificate of Affiliation

This is to certify that

IQY Technical College, Myanmar

Having satisfied the requirements of the

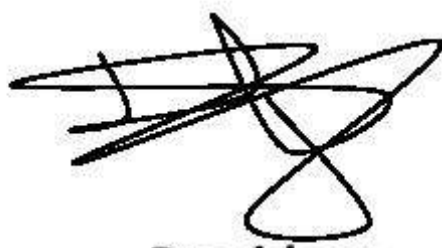
Registration Council as a

Training Organization

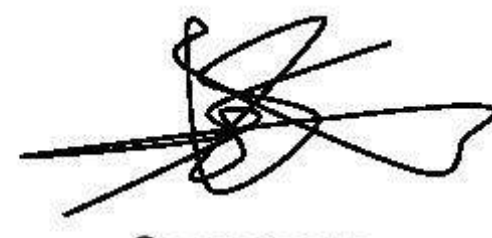
(with Dr Kyaw Naing as Chief Training Officer)

on 7th May 2018 and is entitled to teach the academic programs for

Education Requirement of Professional Engineer (UK and International)


President




Secretary

Change of Chief Training Officer must be notified to SPE-UK & International.

Pre-requisites

Year 10 to 12

Year 1-Diploma in Renewable Energy Engineering

List of subjects (Total 30 credits)

RE001- Foundation Studies in Renewable Energy and Sustainability

RE002- Grid Connected Photovoltaic Power Systems

RE003- Solar and Thermal Energy Systems

RE004- Energy Storage Systems

RE005- Renewable Energy Resource Analysis

RE006- Wind Energy Conversion Systems

RE007- Energy System Efficiency

Year 2 Advanced Diploma in Electro-Mechanical Engineering (Renewable Energy Construction) (Total 60 Credits)

Semester (1)

RE008-Mathematics & Physics (I)

RE009-Mathematics & Physics (II)

RE010-Engineering Materials

RE011-Civil & Mechanical Engineering

Semester (2)

RE012-Electrical Engineering

RE013-Electrical Machines

RE014-Electronics Control

RE015-Electrical Project

Final Project

RE016-Design & Management

Year 3+4 Bachelor of Applied Engineering Technology(Renewable Energy Engineering)

(2 points / unit x 15 units = 30 points)

Year 3

RE101 Mathematics 1A (MATH1131)

RE102 Mathematics 1B (MATH1231)

RE103 Physics 1A (PHYS1121)

RE104 Physics 1B (PHYS1221)

RE105 Engineering Design (ENGG1000)

RE106 Electronics & Telecomm Engineering (1)
(ELEC1111)

RE107 Sustainable Energy (SOLA1070)

Year 4

RE201	Electronics & Telecomm Engineering (2) (ELEC1111)
RE202	Numerical Methods & Statistics (MATH2089)
RE203	Engineering Materials and Chemistry (MATS1101)
RE204	Project in PV and Solar Energy (SOLA2051)
RE205	Sustainable & Renewable. Energy. Technology (SOLA2053)
RE206	Introduction to Electronics Devices (SOLA2060)
RE207	Applied Photo Voltaics (SOLA2540)
RE208	Project Presentation

Bachelor of Engineering (Renewable Energy Engineering)
(2 points / unit x 15 units = 60 points+ Thesis)

Year 5

RE301	Low Energy Buildings and PV (SOLA3010)
RE302	PV Technology & Manufacturing (SOLA3020)
RE303	Software Engineering (COMP3111)
RE304	Analogue Electronics (ELEC2133)
RE305	Power Electronics (ELEC4614)
RE306	Electromagnetic Engineering (ELEC3115)
RE307	Circuits and Signals (ELEC2134)
RE308	Control Systems (ELEC3114)

Year 6

RE401	Fluid Mechanics (MMAN2600)
RE402	Thermodynamics (MMAN2700)
RE403	Computational Fluid Dynamics (MECH9620)
RE404	Strategic Leadership & Ethics (ELEC4122)
RE405	Grid-Connect PV System (SOLA4012)
RE406	Wind Energy Converters (SOLA5053)
RE407	Semiconductor Devices (SOLA5055)
RE408	Thesis

Total 120 Points + Thesis for award of Professional Diploma/Bachelor of Engineering (Renewable Energy Engineering)

ASSESSMENT MODE- Submission of Study Records/ Assignments/ Test in some subjects/ Project , Thesis

ONLINE ENROLMENT

<http://www.iqytechnicalcollege.com/enrolment.htm>

Diploma/ Advanced Diploma in Marine Engineering + Professional Diploma in Engineering (Marine & Mechanical) Bachelor of Engineering (Marine & Mechanical)

Objective

The course prepares students for careers in

- Marine and Offshore Engineering - the selection, deployment and commissioning of machinery, machinery systems and operational systems for merchant and naval vessels plus offshore floating and fixed vessels/structures. Building on core fundamental engineering units, this degree specialises in associated mechanical and mechanical-electrical power generation, machinery and operational systems.

Diploma/ Advanced in Marine Engineering is 30 to 60 credit points diploma. Depending on the amount of study, the graduates can achieve Diploma or Advanced Diploma in Marine Engineering

The students who completed this diploma can proceed to third year and fourth year of Professional Diploma in Mechanical Engineering and can be graduated with Professional Diploma in Marine and Mechanical Engineering OR BE(Marine & Mechanical)

Please see

<http://www.highlightcomputer.com/BEwithRE.pdf>

http://www.highlightcomputer.com/Dip_Mar_E_Course_outline.pdf

Diploma/ Advanced Diploma in Automotive Engineering

Professional Diploma in Engineering (Automotive & Mechanical) Bachelor of Engineering (Automotive & Mechanical)

Diploma/ Advanced in Automotive Engineering is 30 to 60 credit points diploma. Depending on the amount of study, the graduates can achieve Diploma or Advanced Diploma in Automotive Engineering

The students who completed this diploma can proceed to third year and fourth year of Professional Diploma in Mechanical Engineering and can be graduated with Professional Diploma in Automotive and Mechanical Engineering OR BE(Automotive& Mechanical)

Please see

<http://www.highlightcomputer.com/BEwithRE.pdf>

http://www.highlightcomputer.com/Dip_AE_Course_Outline.pdf

Professional Diploma in Engineering (Naval Architecture) Bachelor of Engineering (Naval Architecture)

Objective

The course prepares students for careers in

Naval Architecture - the shipbuilding industry, high-speed ferry industry, marine consultancy firms and in government in areas of commercial shipping, transport policy and administration and in the insurance sector.

Learning Outcomes

1. NavArch: Rationally apply comprehensive knowledge of the fundamental principles underpinning maritime engineering, with advanced knowledge of **ocean vehicle design, hydrodynamics, ship structures, and/or on-board systems and equipment** specific to the naval architecture discipline, using creativity, critical thinking and judgement.

OceanEng: Rationally apply comprehensive knowledge of the fundamental principles underpinning maritime engineering, with advanced knowledge of **the design of offshore to coastal installations, subsea platforms and additional equipment and techniques for operations in the maritime environment** specific to the ocean engineering discipline, using creativity, critical thinking and judgement.

MarOffEng: Rationally apply comprehensive knowledge of the fundamental principles underpinning maritime engineering, with advanced knowledge of **the design, procurement and installation of mechanical, electrical and thermal systems**, specific to the marine and offshore engineering discipline, using creativity, critical thinking and judgement.

2. Apply knowledge of research principles and management methods to devise, plan and execute a piece of engineering research with limited supervision.

3. Apply problem solving, design and decision-making methodologies to identify complex problems in both the maritime and wider engineering fields and to formulate innovative solutions with intellectual independence.

4. NavArch: Apply abstraction and analysis to complex problems specific to **ship design and construction industries and the wider maritime sector** whilst concurrently considering the implications of the solution in a global and sustainable context using appropriate engineering methods and tools.

OceanEng: Apply abstraction and analysis to complex problems specific to **the design and development of offshore, subsea and coastal infrastructure and operations in the wider maritime sector** whilst concurrently considering the implications of the solution in a global and sustainable context using appropriate engineering methods and tools.

MarOffEng: Apply abstraction and analysis to complex problems specific to **the maritime engineering industries** whilst concurrently considering the implications of the solution in a global and sustainable context using appropriate engineering methods and tools.

5. Demonstrate a high level of communication skills in professional practice and articulate complex knowledge, by written and oral means, to specialist and nonspecialist audiences; including clients, multi-disciplinary and multi-cultural project teams and stakeholders.
6. Demonstrate entrepreneurship and creativity, professional accountability and ethical conduct through the application of design, research and project management techniques while concurrently displaying an awareness of professional engineering practice.
7. Review personal performance, demonstrate independent initiatives and leadership as a means of managing continuing professional development, wellbeing and lifelong learning through engagement with stakeholders, colleagues and members of other professions.

Program of study

To qualify for the Professional Diploma/Bachelor of Engineering (Naval Architecture)

a student must complete 120 Credits

GENERAL STUDIES- 60 Credits

ENGR1204-Electronics (6pt)-----BAE405/408(EE)

ENGR1401 Professional Skills (2 pt)-----BAE608 (ME Yr 4)

ENGR1711 Engineering Design (2 pt) -----BAE614 (ME Yr 4)

ENGR1721 Engineering Programming (2 pt)-----BAE601 (ME Yr 4)

ENGR1722Engineering Physics and Materials (4 pt)-----RE010+ EE204 (EE Adv Dip)

ENGR1732 Engineering Mechanics (4 pt)-----ME103 (Adv Dip ME) / BAE403 (Common Yr 3 BE)

MATH1121 Mathematics 1A (4 pt)----- EE201/302 (EE Adv Dip)

MATH1122 Mathematics 1B (2 pt)----- BAE401(Common Yr 3 BE)

ENGR2703 Mechanical Practice Certificate (6 pt) PC5 Certificate in Fitting/Machining, PC6 Certificate in Welding/ PC8 Certificate in Air-conditioning Refrigeration & Basic Servicing

ENGR2711 Engineering Mathematics (2 pt) -----BAE402 (Common Yr 3)

ENGR2722 Analysis of Engineering Systems (6 pt)----BAE502/BAE50 (Linear System+ Control System) (EE)/ME203 (Adv Dip ME)

ENGR2741 Mechanics and Structures (4 pt)-----RE011a/b Civil & Mechanical Engineering (Mechanical/Civil) (Common Yr 3 BE)

ENGR2751 Fluid Mechanics (2 pt units)-----BAE423 Fluid Mechanics (Civil)

ENGR2771 Dynamics (2 pt)-----BAE614 (ME Yr 4)

ENGR2776 Hydrostatics (2 pt) -----ME201 (Adv Dip ME)

ENGR3781 Elements of Shipboard Safety (ESS) Certificate (4 units) MarE106 (Dip Mar E)

PHYS2712 Thermodynamics and Energy Systems (2 pt)-----BAE404 (Common Yr 3 BE)

ME634 Pneumatics (2 pt) (Adv Dip ME)

ME303 Computer Aided Design (2 pt) (Adv Dip ME)

NAVAL ARCHITECTURE AND RELATED STUDY 60 Credits

ENGR2766 Ship Design and Construction -----MarE113N (Dip Mar E)

NArch 601 Ship Construction (Naval Architecture) Theory 40 Credits

Each 2 credits

MarE113NA Ship Repairing

MarE113NB Ship Construction Engineering

MarE113NC Principle of Ship Stability

ME206 Introduction to Turbo Machinery

Mar E 110 General Engineering Knowledge

Mar E 111 Motor Engineering Knowledge

Mar E 107 Marine Electrical Practice

ME 305 Corrosion Prevention

NArch 501 Naval Architecture

NArch 502 Ship Design and Construction

NArch 503 Practical Ship Design

NArch 504 Ship Stability Control

NArch 505 History of Ship Design Calculations

NArch 506 Ship Technology

NArch 507 Ship Building Methods.pdf

NArch 508 Ship Design Research

Mgt 508 Project Management

Mgt 605 Management

Mgt505 Quality Management

NArch 509 Ship Propulsion

NArch 602 Ship Construction (Naval Architecture) Project 20 Credits

Detailed Contents

ENGR1201 Electronics

Topic Description	<p>Electronics provides students with an understanding of basic electronics. It includes:</p> <ol style="list-style-type: none">1. Digital Electronics: digital design concepts, number systems and signed numbers, combinational logic and design, minimisation of logic expressions, hazards, sequential logic and design, finite state machines2. Analog Electronics: circuit variables and elements, simple resistive circuits, techniques of circuit analysis3. Microprocessors: introduction to microprocessors, sensors and motors, microprocessor programming4. Workshop Practice: bonding methods, soldering and flux, planning and designing electronic equipment, printed circuit boards and microelectronics
Educational Aims	<p>This topic aims</p> <ol style="list-style-type: none">1. To provide students with a thorough understanding of the principles of combinational and sequential digital logic2. To develop the fundamental theoretical and practical skills required to carry out the design and analysis of digital electronic circuits3. To introduce the elements and basic operation of a microprocessor4. To introduce the manufacture and processes of thick and thin film microelectronics, printed circuit boards, and surface mount packages, the processes, practice, and assessment of soldering, component mounting and other connection methods, and fire safety
Expected Learning Outcomes	<p>At the completion of this topic, students are expected to be able to:</p> <ol style="list-style-type: none">1. Analyse, design and construct simple digital circuits2. Analyse, design and construct simple finite state machines3. Understand and apply basic principles of electric circuit theory4. Understand and use electrical components and instruments5. Have knowledge and understanding of microprocessors, motors and sensors6. Write simple programs for a microcontroller7. Have knowledge and understanding of microelectronics, printed circuit boards and surface mount technology8. Perform and assess electronics assembly tasks, such as soldering and wiring

ENGR1401 Professional Skills

Topic Description	This topic provides an introduction to engineering with a focus on the role of the engineering team in providing a range of products and services. The initiation, planning and development of engineering projects including such subjects as feasibility studies, design and performance specifications, construction, testing and evaluation, operation and maintenance of engineering systems and the optimum use of resources. Aside from technical considerations, the topic will consider the social, economic, political, environmental and ethical issues related to engineering projects as well as the relevant communication and interpersonal skills.
Educational Aims	The aim of this topic is to introduce students to the general nature of engineering and the core professional practices associated with an engineering project. The topic is to develop an understanding of the nature of engineering a range of transferable skills and knowledge including engineering project planning, feasibility and design, oral and written communication skills, meeting procedures, and the ability to work as a group.
Expected Learning Outcomes	<p>At the completion of the topic, students are expected to be able to:</p> <ol style="list-style-type: none">1. Understand the role of engineers in society and the purposes of engineering projects2. Understand the basic processes involved in engineering planning and design3. Apply systems concepts and elementary optimisation theory to the modelling of engineering processes4. Use decision theory and basic economic analysis for the evaluation of engineering projects5. Work effectively in a group on a complex problem6. Demonstrate an ability to apply scientific and engineering methodology7. Work effectively as part of a team, in project formulation and the execution of feasibility studies8. Have taken account of environmental and social issues and the human factor in analysing and designing engineering or other complex systems9. Understand the principles of sustainable development10. Have a basic competency in the use of word processors, spreadsheets, graphics packages and project management software11. Use a style guide, write a report, present a set of logically related ideas in spoken and written form, implement appropriate meeting procedures, and prepare and deliver a seminar

ENGR1711 Engineering Design

Topic Description	Initiation, planning and development of engineering projects including such subjects as feasibility studies, design and performance specifications, creativity, decision theory, construction, testing and evaluation, operation, maintenance and sustainability of engineering systems and the optimum use of resources. Social, economic, political, international and environmental issues related to engineering projects. Drawing and documentation standards, theory and practice, including design and modelling software.
Educational Aims	This topic introduces students to the general nature of and the core professional practices associated with engineering design in the context of engineering projects, with emphasis on the social, economic, political, international and environmental issues. The topic also develops skills in drawing and documentation.
Expected Learning Outcomes	At the completion of the topic, students are expected to be able to: <ol style="list-style-type: none">1. Appreciate the role of engineers in society and the purposes of engineering projects2. Understand the basic processes involved in engineering planning and design3. Apply systems concepts and elementary optimisation theory to the modelling of engineering processes4. Use decision theory and basic economic analysis for the evaluation of engineering projects5. Identify and consider the social, economic, political, international and environmental dimensions of an engineering project6. Apply the principles of sustainable development7. Use software tools for engineering drawing, modelling and documentation

ENGR1721 Engineering Programming

Topic Description	The topic is intended as a first course in programming for students who intend to major in engineering. It aims to introduce students to the basic tools and techniques of software development and engineering packages such as Matlab. The topic will cover the following material: the structure of a program, sequence, selection, iteration, assignment and expressions, arrays, operations, input and output, and principles of design and development, testing, and maintenance.
Educational Aims	The topic aims to help develop: <ol style="list-style-type: none">1. An understanding of the nature of programming2. The ability to read, comprehend and write simple programs3. The application of appropriate development tools4. An appreciation of the process by which software systems are developed, including their specification, design, implementation, testing and maintenance
Expected Learning Outcomes	At the completion of this topic, students are expected to be able to: < <ol style="list-style-type: none">1. Demonstrate that they can comprehend basic program control constructs of sequence, selection, and iteration2. Demonstrate that they can use programming development environments and tools within a defined context3. Demonstrate that they can read pseudo-code and translate it into a readable, working program

- | | |
|--|---|
| | 4. Demonstrate that they know the basics of testing and debugging |
| | 5. Demonstrate that they can apply programming principles to solve domain-specific problems |

ENGR1722 Engineering Physics and Materials

Topic Description	<p>Engineering Materials:</p> <ol style="list-style-type: none"> 1. Atomic structure and bonding 2. Structure of metals, ceramics, polymers and composites 3. Material properties 4. Application of Materials 5. Economic, environmental, and societal Issues <p>Electromagnetism:</p> <ol style="list-style-type: none"> 1. Electric charge and electric field 2. Electric potential 3. Electric current and resistance 4. Magnetism 5. Introduction to Electromagnetic waves
Educational Aims	<p>This topic aims to provide students with:</p> <ol style="list-style-type: none"> 1. A basic understanding of the underlying science and the engineering performance of materials used in engineering applications 2. An understanding of the fundamental principles of electromagnetism
Expected Learning Outcomes	<p>At the completion of this topic, students are expected to be able to:</p> <ol style="list-style-type: none"> 1. Understand the classification, structure and application of materials 2. Evaluate the mechanical properties of materials with regards to elastic and plastic deformation 3. Understand the economic, environmental, and societal Issues related to materials use 4. Understand and communicate the basic principles of electromagnetism 5. Apply the concepts of electromagnetism for solving engineering problems

ENGR1732 Engineering Mechanics

Topic Description	<p>Statics: Force Vectors (vector operations, vector addition of forces, addition of a system of coplanar forces, Cartesian vectors, addition of Cartesian vectors, position vectors, force vector directed along a line, dot product); Force System Resultants (moment of a force, scalar and vector formulations, principle of moments, moment of a force about a specified axis, moment of a couple, simplification of a force and couple system); Equilibrium of a Rigid Body (equilibrium and free-body diagrams 2D/3D, equations of equilibrium (2D/3D), two- and three-force members); Dry Friction (theory of dry friction, equilibrium, impending motion, motion, characteristics of dry friction, problems involving dry friction).</p> <p>Particle Dynamics: Kinematics (rectilinear kinematics: continuous motion, general curvilinear motion - rectangular components, motion of a projectile); Kinetics - Force and Acceleration (Newton's 2nd Law of Motion, equation of motion for a system of particles, equation of motion - rectangular coordinates), Work and Energy (work of a force, principle of work and energy for a system of particles, power and efficiency, conservative forces and potential energy, conservation of energy); Impulse and Momentum (principle of linear impulse and momentum, conservation of linear momentum, impact).</p>
Educational Aims	<p>This topic is a fundamental topic upon which most of the later year engineering topics build. This topic aims to ensure that the students understand both basic laws as they apply to static and dynamic mechanical systems and the theory and laws applicable to fundamental electrical circuits.</p>
Expected Learning Outcomes	<p>At the completion of this topic, students are expected to be able to:</p> <ol style="list-style-type: none">1. Understand concepts of static force systems (machines and structures)2. Understand in depth the skills to analyse these force systems and the physical meaning of force and moment equilibrium3. Acquire the skill to draw free-body diagrams and apply the equations of equilibrium for 2D and 3D rigid bodies4. Understand the characteristics of dry friction and how to analyse problems involving dry friction5. Understand the dynamic properties of particles and rigid bodies6. Write the relevant equations of motion associated with Force, Torque and Acceleration, Work and Energy, Impulse and Momentum7. Solve engineering problems dealing with the static and dynamical motion of particles subject to forces and accelerations

MATH1121 Mathematics 1A

Topic Description	<p>This topic together with MATH1122 Mathematics 1B is designed for students who have studied SACE Stage 2 Mathematics and who wish to proceed to a degree in any discipline which requires higher level mathematics. It is the standard prerequisite for all higher level topics in mathematics that require knowledge of first year mathematics.</p> <p>The material covered includes: functions, limits and continuity, differential calculus, computation of derivatives, the chain rule, Intermediate Value and Mean Value Theorems. Applications to graphing, rates of change, maxima and minima. Complex numbers, Euler's formula, complex exponential. Three-dimensional analytic geometry, matrices, systems of linear equations, vectors, equations of lines and planes.</p>
Educational Aims	<p>This topic introduces the basic concepts and techniques of differential calculus, complex numbers, linear algebra, systems of equations and matrices and provides the foundation for all areas requiring first year university mathematics. Intensive hands-on approach in the workshops aims to provide the students the essential skills in mathematical manipulations within the context of the course. The topic aims to develop a modelling and problem solving approach to mathematics and its applications through an appropriate combination of the underlying concepts and the facility of mathematical software.</p>
Expected Learning Outcomes	<p>At the completion of the topic, students are expected to be able to:</p> <ol style="list-style-type: none">1. Understand the key concepts which underlie single-variable differential calculus and linear algebra2. Be familiar with the basic facilities available in Maple mathematical software3. Use problem solving, critical and reasoning abilities

MATH1122 Mathematics 1B

Topic Description	<p>This topic is a continuation of material of MATH1121 Mathematics 1A and together with MATH1121 Mathematics 1A is intended to provide access to all higher level mathematics topics which require knowledge of standard first year mathematics. The emphasis is on a modelling approach to mathematics and its applications within a coherent framework.</p> <p>The material covered includes elementary transcendental functions. Integral calculus, fundamental theorem of the calculus, standard techniques of integration including substitution, parts, partial fractions, application to motion, arclength, area, volumes and solids of revolution, Taylor polynomials, series, power series, introduction to elementary differential equations, simple harmonic motion. Systems of linear equations, Gaussian elimination, matrix algebra and determinants.</p>
Educational Aims	<p>This topic is a continuation of the material of MATH1121 Mathematics 1A. This topic develops the properties of elementary transcendental functions and introduces key ideas and applications of integral calculus, matrix algebra and linear algebra.</p>
Expected Learning Outcomes	<p>At the completion of this topic, students are expected to be able to:</p> <ol style="list-style-type: none">1. Have a knowledge of the basic properties of the elementary transcendental functions2. Understand and apply the key ideas and methods of integral calculus3. Understand and analyse the relation between differential and integral calculus

	<ol style="list-style-type: none"> 4. Understand and apply key ideas from linear and matrix algebra to the solution of systems of linear equations 5. Develop further skills in the use of computational technology 6. Have enhanced problem solving, critical and reasoning abilities 7. Appreciate the historical context underlying the development of modern mathematical principles and ideas 8. Have an informed appreciation of the wide applicability of integral calculus and matrix algebra in other areas of Science and Engineering
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ENGR2703 Mechanical Practice Certificate

Topic Description	The topic covers exposure and practice in common mechanical and materials techniques including occupational health and safety, heat treatment, gas metal arc welding, manual metal arc welding, fabrication techniques, gas tungsten arc welding, machining techniques, marking off and hand tools.
Educational Aims	To give students an understanding of, practice in and an understanding of the safety requirements of common mechanical engineering techniques.
Expected Learning Outcomes	At the completion of this topic, students are expected to be able to have received training on OH&S and practical skills essential to being a mechanical engineer, specifically heat treatment, gas metal arc welding, manual metal arc welding, fabrication techniques, gas tungsten arc welding, machining techniques, marking off and hand tools.

ENGR2711 Engineering Mathematics

Assumed Knowledge	An understanding of fundamental concepts of calculus and linear algebra.
Topic Description	First order ODE (Existence and uniqueness, separable, exact equations), linear ODE (Existence and Uniqueness, constant coefficient homogenous, variable coefficient homogenous, constant coefficient nonhomogeneous), boundary value problems. Vectors and the geometry of Space, dot and cross product, equations of lines and planes; Vector Functions, derivatives and integrals of vector functions, velocity and acceleration in space; Partial Derivatives, tangent planes and approximation, chain rule, directional derivatives, maximum and minimum values. Double and Triple Integrals. Vector Fields, Line integrals. Curl and Divergence, Stokes' Theorem. The Divergence Theorem.
Educational Aims	This topic equips the students with the skills needed to solve mathematical problems with several variables, linear systems, and differential equations. These provide the mathematical pre-requisites that the student needs for the second and higher year Engineering topics. The focus is on the application of the mathematical ideas to Engineering problems.
Expected Learning Outcomes	<p>At the completion of the topic, students are expected to be able to:</p> <ol style="list-style-type: none"> 1. Understand and be able to apply Multivariate Calculus to Engineering problems 2. Understand and be able to apply Differential Equations to Engineering problems

ENGR2722 Analysis of Engineering Systems

Topic Description	Review of linear systems, vector spaces, orthogonality, eigenvalues and eigenvectors, linear transformations. Continuous and discrete time signals, unit impulse and unit step signals, impulse response, step response, linear time invariant (LTI) systems, convolution, correlation, system transfer function, frequency response, Fourier transform, DFT (Discrete Fourier Transform), Periodic signals, Fourier series, Nyquist frequency, sampling theorem, aliasing, Laplace transform, bilinear transfer functions, magnitude and phase responses, Bode plots.
Educational Aims	This topic is an introduction to the concepts and theories of linear algebra and signal analysis and their application to engineering systems.
Expected Learning Outcomes	At the completion of this topic, students are expected to be able to: <ol style="list-style-type: none">1. Understand Linear Algebra and Signal Analysis from a Mathematical perspective2. Be able to apply Linear Algebra and Signal Analysis to Engineering problems

ENGR2741 Mechanics and Structures

Topic Description	Principles of Statics (Review); Centre of Gravity, Centroid and Moment of Inertia; Distributed Forces; Stress and Strain; Mechanical Properties of Materials: Ductile/Brittle Materials, Hooke's Law, Poisson's Ratio; Axial load; Torsion; Bending: Shear Force and Bending Moment Diagrams; Stress Concentrations; Transverse Shear; Combined Loadings; Transformation of Stress and Strain: Mohr's Circle; Design of Beams and Shafts.
Educational Aims	This topic gives students an understanding of the basic statics concepts associated with engineering mechanics and structures.
Expected Learning Outcomes	At the completion of this topic, students are expected to be able to: <ol style="list-style-type: none">1. Develop and employ principles of Statics in solving problems2. Learn how to determine centroids and moment of inertias and how to find resultant of distributed loadings3. Understand concepts of stress, strain and mechanical properties of materials4. Analyse axial, torsional, bending, transverse stresses and their combinations in structures and machine components5. Calculate in-plane stresses and strains, their orientations and transformations through Mohr's circle, and calculate principal stresses and strains6. Develop methods for designing beams to resist both bending and shear loads; prismatic and fully stressed beam designs

ENGR2751 Fluid Mechanics

Topic Description	Fluid Mechanics: Fluid properties; Hydrostatics; One dimensional flow of incompressible fluids; Continuity, momentum and energy equations; Laminar and turbulent flows in pipes and ducts; free surface and channel flows; hydraulic jump; weir and waterfall; Dimensional analysis; Flow measurements and fluid machinery.
Educational Aims	This topic aims to ensure that the students understand the following: <ol style="list-style-type: none">1. Modelling the flows of fluids2. Measurements of the flows of fluids3. Heat transferred to and from a fluid
Expected Learning	At the completion of this topic, students are expected to be able to:

Outcomes	<ol style="list-style-type: none"> 1. Understand the basic properties of gases and liquids 2. Write the relevant equations of motion for fluids in pipes and channels 3. Solve simple flow problems 4. Understand how flow measurements are made in practice 5. Understand the flows in pumps and turbines
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ENGR2771 Dynamics

Topic Description	<ol style="list-style-type: none"> 1. Particle dynamics: Curvilinear motion, Force and acceleration, Work and Energy, Impulse and Momentum 2. Rigid body dynamics: Planar Kinematics, Force, Torque and Acceleration, Work and Energy, Linear and Angular Impulse and Momentum 3. Vibrations
Educational Aims	This topic aims to ensure that the students understand Kinematics and Kinetics as applied to particles and rigid bodies; and vibration.
Expected Learning Outcomes	<p>At the completion of this topic, students are expected to be able to:</p> <ol style="list-style-type: none"> 1. Understand the dynamic properties of particles and rigid bodies 2. Write the relevant equations of motion associated with Force, Torque and Acceleration, Work and Energy, Impulse and Momentum 3. Understand the creation and effects of vibration

ENGR2776 Hydrostatics

Topic Description	Geometry of surface vessels; Tabular methods of integration; Mass addition, removal and transfer; Elementary principle of transverse intact stability; Heeling moments and angles, and free surface effects; Inclining experiment; Elementary principles of trim; The Intact Stability Booklet; partially-afloat condition; Damage stability.
Educational Aims	<p>This topic aims to ensure that the students understand the following:</p> <ol style="list-style-type: none"> 1. Fundamentals of hydrostatics and concepts of statical stability, and trim of intact and damaged vessels 2. Introduction to the practical implications and applications of hydrostatic concepts 3. Generation of all relevant stability criteria data required for both design development and operational purposes 4. Introduction and development of a working knowledge of stability regulations
Expected Learning Outcomes	<p>At the completion of the topic, students are expected to be able to:</p> <ol style="list-style-type: none"> 1. Calculate hydrostatic data for any floating structure and predict the influence of geometric parameters on a vessel's stability characteristics 2. Interpret a vessel's response to any loading condition from lever and moment curves 3. Calculate and assess a vessel's damage stability response 4. Undertake an inclining experiment according to industry best practice

ENGR3781 Elements of Shipboard Safety (ESS) Certificate

Topic Description	Course content: <ol style="list-style-type: none">1. Elements of fire prevention on board the vessel2. Theory of combustion and methods of extinguishing fire3. Practical training in the use of portable fire fighting appliances4. Practical training in launching, boarding and survival in an inflatable life raft, including man overboard procedures5. Elements of accident prevention as they apply to the shipboard work place, particularly as they apply to falls, working in close proximity to machinery and moving objects, confined spaces, personal protective equipment and hygiene
Educational Aims	To ensure that students understand basic safety requirements when on board a vessel.
Expected Learning Outcomes	Understand the elements of fire prevention on board the vessel, including the theory of combustion and methods of extinguishing fire. Practical training in the use of portable fire fighting appliances. Practical training in launching, boarding and survival in an inflatable life raft, including man overboard procedures. Elements of accident prevention.

PHYS2712 Thermodynamics and Energy Systems

Topic Description	<ol style="list-style-type: none">1. Concepts and Definitions of Thermodynamics2. Energy and the First Law of Thermodynamics3. Properties of Substances4. Ideal and Real Gases5. Control Volume Analysis Using Energy6. The Second Law of Thermodynamics7. Entropy and Entropy Balance for Closed Systems and Control Volumes; Cycle Processes8. Thermodynamic Equilibrium9. Phase Diagrams10. Vapour Power Systems11. Gas Power Systems12. Refrigeration and Heat Pump Systems
Educational Aims	In this topic students will learn the fundamentals of Thermodynamics. The students will learn how to apply the concepts to solve experimental problems. Students will learn how to apply the fundamental principles of thermodynamics to predict the behaviour of energy systems and properly design required energy systems.
Expected Learning Outcomes	At the completion of this topic, students are expected to be able to: <ol style="list-style-type: none">1. Demonstrate the understanding of the concepts of Thermodynamics and to apply them to experiments2. Understand how solids, liquids and gases behave under different temperature and pressure conditions

	<ol style="list-style-type: none"> 3. Apply thermodynamic concepts to energy systems 4. Analyse thermodynamic cycles such as power and refrigeration cycles 5. Apply the concepts of Thermodynamics to laboratory experiments
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ENGR2766 Ship Design and Construction

Topic Description	<p>DESIGN: Vessel Types. Design Process & Constraints. Design Analyses & Techniques. Hull Form. Introduction to Propulsor Options. Introduction to Prime Mover Options. Introduction to Structural Systems. Primary Deck Machinery and Installation Considerations. Terminologies and Definitions.</p> <p>CONSTRUCTION: Environmental Framework: Commercial, industrial, legal and regulatory aspects of the ship production industry. Assembly Methodologies: Historical, current and alternative methods adopted in the construction of steel and aluminium vessels. Modular and parallel production methods. Composite Vessel Production: Materials and construction methods for composite vessels and components. Dimensional Control: Referencing moulded dimensions. Symbolologies of structural and working drawings. Construction, Launching and Repair Facilities: Shipyard facilities, arrangement and strategic equipment, launching and docking methods. Fabrication Technologies: Cutting, welding and forming technologies. Production and Quality Management: Introduction to the requirement and tools available for production co-ordination and quality assurance.</p>
Educational Aims	<ol style="list-style-type: none"> 1. To provide an introduction to issues influencing a vessel's design 2. To introduce certain fundamental aspects of the rational and engineering approach to marine design 3. Establish an understanding of the considerations essential in the determination of hull characteristics, general arrangement and requisite systems 4. To provide the student with an understanding of the overall philosophy and techniques involved in the manufacture of ships and the context in which the processes are carried out 5. To provide practical experience with commercial surface modelling software and illustrate the scope of Computer Aided Design And Manufacture
Expected Learning Outcomes	<p>At the completion of the topic, students are expected to be able to:</p> <ol style="list-style-type: none"> 1. Demonstrate a basic knowledge of regulatory, practical and economic constraints on design and production of an ocean vehicle 2. Develop a concept design based on an appraisal of operational requirements via a clearly structured and rational process 3. Identify issues regarding the methodology and efficiency of production for any particular vessel and recognise the concepts of ship production system design and main hardware elements of shipyards 4. Effectively combine the use of conventional design tools with naval architecture design software to produce a limited set of design drawings and models in accordance with industry standards and codes of practice

ENGR2768 Offshore Engineering

Topic Description	<p>Marine Sciences - a) Meteorology: regional weather systems and seasonal variations. Global pressure, air mass movement and circulation patterns. Prediction of local weather. Storms and tropical cyclones. b) Physical Oceanography: ocean structure, physical and chemical properties. Global ocean circulations, tides, waves, winds and currents. Marine resources - mineral, biological and energy. c) Marine Geology: geomorphology of the ocean floors, margins and shelves. Sedimentation and origins of hydrocarbons and minerals in the oceans. Formation and classification of coastal regions</p> <p>Ocean Renewable Energy - Renewable energy systems - wave power, wind power, thermal power and tidal power.</p> <p>Marine Transportation - Environmental forces and voyage planning. Introduction to work vessels and offshore structures. Structures - loading, stability and ballast control. Load-out and sea-transport of modules. Loads during transit and sea-fastening design. Operational codes and practices.</p> <p>Construction and Installation - Installation of fixed, floating and subsea structures. Lifting operations and mooring systems. Diving and ROV operations. Maintenance and repair of offshore installations. Removal and salvage of offshore production facilities. Risk assessment and management on offshore operations and on structures.</p>
Educational Aims	<p>The aim of this unit is to provide students with general skills and knowledge on the range of engineering operational activities in the offshore sector. The scope of the unit encompasses the essential theories of marine science and basic knowledge to plan and manage marine operations, including offshore installation, inspection and maintenance.</p>
Expected Learning Outcomes	<p>At the completion of this topic, students are expected to be able to:</p> <ol style="list-style-type: none">1. Demonstrate a fundamental knowledge of marine geology, physical oceanography and marine meteorology and its applications to a range of offshore technical problems2. Describe the equipment, technology and methods that are fundamental to common offshore engineering activities3. Apply scientific knowledge to solve a range of engineering problems4. Understand the differences between designing and building offshore structures from terrestrial structures

Master of Engineering Legal Practice/ Master Diploma in Engineering Legal Practice (7766554)

Master of Engineering Legal Practice course with 240 credits is designed for Engineers to apply the knowledge and skills of Law in their engineering project, commercial business matters and dispute resolutions.

It also develops the skills of Third Party Verifiers.

It contains of 4 parts

Part 1-Engineering Practice in Legal Context (30 credits)

Part 2-Non Destructive Testing and Third Party Verifying (90 Credits)

Part 3- Business and Commercial Law Studies (60 Credits)

Part 4-Industrial Laws (60 Credits)

Pre-requisite

Advanced Diploma in Engineering/ BEngSc/BTech/BE degrees.

Award

Master of Engineering Legal Practice by IPEMTU Degree College by co-operating with

Phoe Phyu School of Law , IQY Technical College, STC Technological University and The Institution of Professional Engineers Myanmar.

IPEMTU Degree College is business name registered with ASIC (Australian Securities and Investment Commission) and it is an education branch of The Institution of Professional Engineers Myanmar (IPEM) NSW Australia Chapter registered with NSW Government of Australia and The Institution of Professional Engineers Myanmar which is a Member of International Federation of Engineering Education Societies (IFEES) and affiliated to The Society of Professional Engineers International and Singapore Institute of Engineering Technologists.

- The students who have achieved 60 credits can be issued with Diploma in Engineering Legal Practice provided that they must complete at least 10 credits from Part 3 and 10 credits from Part 4
- The students who have achieved 120 credits can be issued with Bachelor of Engineering Legal Practice & Professional Diploma in Engineering Legal Practice provided that they must complete at least 20 credits from Part 3 and 20 credits from Part 4

Part 1-Engineering Practice in Legal Context

(To be taught by IQY Technical College) (30 credits at 10 credits/ subject)

1.BAE605 Engineering Project Management

2. BAE 704 Risk Management & Industrial Safety

3.BAE 707 Engineering Ethics

Part 2-Non Destructive Testing and Third Party Verifying (90 credits)

(To be taught by IQY Technical College)

<http://www.iqytechnicalcollege.com/thirdparty.htm>

- Professional Engineer Support (10 Credits)
- Professional Engineers References (10 Credits)
- Engineering Fundamental References (10 Credits)

- Professional Engineers Theory Support (10 Credits)
- Professional Engineers Practical Support (10 Credits)
- Graduate Capstone
- Engineering Standard (10 Credits)

www.highlightcomputer.com/NDT.htm

- Non Destructive Testing (10 Credits)

(2) Submit minimum one to maximum three case study report related to failures in engineering construction, project, plant, equipment or systems. (20 credits)

www.iqytechnicalcollege.com/verifiercasestudy.pdf

Part 3- Business and Commercial Law Studies

(To be taught by Phoe Phyu School of Law) (60 credits) (10 credits/ subject)

1. Technology and Cyber Law(LLM718)
2. Intellectual Property Law(LLM719)
3. International Competition and Consumer Rights Law(LLM720)
4. International Commercial Dispute Resolution and Litigation(LLM717)
5. Principles of International Commercial Contracts and Payments(LLM722)
6. Business Law (LLM719)

Part 4-Industrial Laws (60 credits)

(Self studies on provided Myanmar Language Law books)

To be supervised by IQY Technical College

10. Work Place Laws Studies (20 Credits)

WS3018E Shop and Office Place Law

WS3018A Environmental Assessment

WS2018E Factory-Act Amended

11. Laws related to employee affairs (20 Credits)

WS2018A Amended-Law-for-Leave-and-Holiday-Law

WS2018B Employment Contract

WS2018C Equal Employment Right

WS2018D Factory Work

WS2018F Code of Conduct

WS3018B Payment Laws

12. Laws related to worker compensation (20 Credits)

WS3018BC Second-Dispute-Settlement-Law

WS3018D Worker Compensation

WS2018G Human Right

Master of Engineering (St Clements University) together with Professional Diploma in Engineering

This program is designed as Practical Engineers and Technicians who are working in Industries without BE/BTech Qualifications but possesses the experience and need the formal qualification papers.

On completion of this program, the graduates will receive the followings

- Professional Diploma in Engineering (IQY Technical College)
- Master Diploma in Engineering (IQY Technical College)
- Bachelor of Engineering (STC Technological University)
- Master of Engineering (St Clements University)

Entry Requirements

- Any Diploma/ Degree other than BE/BTech/AGTI

Study Stage 1

Teaching plan for Advanced Diploma/ Professional Diploma in Engineering . The detailed contents can be flexibility negotiated between the candidate and supervisor that the candidate is allowed to choose the most relevant contents for their work.

The subjects can be chosen from the following link

<http://www.iqytechnicalcollege.com/offeredcourses.htm>

On completion of Stage 1, Professional Diploma in Engineering (IQY Technical College) and Bachelor of Engineering (STC Technological University) will be issued.

Specific Discipline-

Based on the subjects that you chose, the appropriate discipline will be written on your testamur which will be sent electronically and you need to download/ print in colour and laminate it.

The list of graduates will also be expressed on our IQY website

Study Stage 2 Part A

IQY Master Diploma in Engineering

(240 credits including Bachelor Degree 120 credits)

(St Clements University -Master of Applied Engineering)

(STC Technological University-Master of Engineering)

Study Program

PART (A) IQY Master Diploma in Engineering Part 1-

(St Clements University's Graduate Diploma in Applied Engineering)

(STC Technological University Graduate Diploma in Engineering) (80 credits at 10 credits/ unit)

Download from given link

BAE 701 Engineering Fundamental

Download from given link

The candidates need to download the following textbooks

Electrical

Download from given link

Then study **Section 4-Electrical Engineering (PDF File Page 885)**

For every topic, you need to write the short note on what you understand, formula, summary, outlines and at least 2 problems solution (Please note, each problem is solved in short form, you need to clearly reproduce them by step by step)

Mechanical

Then study **Section 3-Mechanical Engineering (PDF File Page 307)**

For every topic, you need to write the short note on what you understand, formula, summary, outlines and at least 2 problems solution (Please note, each problem is solved in short form, you need to clearly reproduce them by step by step)

Civil

Download from given link

Section 1-Civil Engineering (PDF File Page 7)

Section 6- Water & Waste Water Engineering (PDF File Page 1041)

Section 7-Environmental Engineering (PDF File Page 1078)

For every topic, you need to write the short note on what you understand, formula, summary, outlines and at least 2 problems solution (Please note, each problem is solved in short form, you need to clearly reproduce them by step by step)

Telecommunication

Myanmar Text Books

DTE301M Part A-Network Management-Telecom Circuit Analysis

Download from given link

DTE301M Part B-Network Management-Telecommunication Network Analysis-LC Calculation

Download from given link

DTE303M Part A-Telecom Engg-Line Communication Theory Part 1

Download from given link

DTE303M Part B-Telecom Engg-Line Communication Theory Part 2

Download from given link

DTE306-Wireless Communication

Download from given link

For every topic, you need to write the short note on what you understand, formula, summary, outlines and at least 2 problems solution (Please note, each problem is solved in short form, you need to clearly reproduce them by step by step)

After having done all above tasks, BAE 701 Engineering Fundamental will be completed.

Renewable Energy Engineering

BAE701 and BAE708 can be concurrently completed , the list of units that you need to study will be advised. You need to study at least one unit for BAE701 and at least one unit for BAE708

Reference links

Download from given link

BAE701

For every topic, you need to write the short note on what you understand, formula, summary, outlines and at least 2 problems solution (Please note, each problem is solved in short form, you need to clearly reproduce them by step by step)

After having done all above tasks, BAE 701 Engineering Fundamental will be completed.

BAE708

From the list of the subject, select two subjects, ask me to send the e-Book. Then you have to do the followings

The students will have to write 20 pages study report for each of the subjects outlined below. The report needs to include

- ☐ Book review- Review on each chapter of the book highlighting the key concepts, key formula, key theory & practical application concepts

- ☐ Own idea on how to apply those concepts in real practical applications.

- ☐ Examples of engineering designs that use the concepts & knowledge expressed in those books (If any)

- ☐ Your comment on each book

ICT Engineering

BAE701 and BAE708 can be concurrently completed , the list of units that you need to study will be advised. You need to study at least one unit for BAE701 and at least one unit for BAE708

Reference links

Download from given link

BAE701

For every topic, you need to write the short note on what you understand, formula, summary, outlines and at least 2 problems solution (Please note, each problem is solved in short form, you need to clearly reproduce them by step by step)

After having done all above tasks, BAE 701 Engineering Fundamental will be completed.

BAE708

From the list of the subject, select two subjects, ask me to send the e-Book. Then you have to do the followings

The students will have to write 20 pages study report for each of the subjects outlined below.

The report needs to include

☐ Book review- Review on each chapter of the book highlighting the key concepts, key formula, key theory & practical application concepts

☐ Own idea on how to apply those concepts in real practical applications.

☐ Examples of engineering designs that use the concepts & knowledge expressed in those books (If any)

☐ Your comment on each book

BAE 702 Engineering Management

See the site

Download from given link

View the videos, download the lessons, study and then do the exercises in

[Exercises Download Link](#)

Download from given link

BAE 703 Leadership & Human Resources Management

See the site

Download from given link

View the videos, download the lessons, study and then do the exercises in

[Exercises Download Link](#)

Study Guide

Download from given link

Download from given link

BAE 704 Risk Management & Industrial Safety

Download from given link

View the videos, download the lessons, study and then write an essay

“How I will assess the risks in my workplace” You can write 3 to 5 pages.

BAE 705 Engineering Competency Development

Download from given link

View the videos, download the lessons, study

Assignment

During your study

- List the subjects that you have learnt in your study at college/ university
- List the subjects that you have achieved the good mark and explain why and how you got it
- List the subjects that you just marginally passed and explain why it happened
- List the practical tasks that you have done at college/ university
- List any reference books, tuition classes, practical books that you have read at college/ university

After Graduation

- If you are working, provide your CV that shows the detailed of your employment
- If you have not worked, list any training, engineering books, online websites, online videos etc that you study

Your future plan

- Provide an outline what you want to be, what training you will attend, what practical tasks you will do. If you have already attended the trainings and courses, provide the certificates

BAE705 will be completed when you have done the above tasks

BAE 706 Engineering Report Writing

Study Download from given link

You need to read one news paper article or web information or if you can, visit a practical work site and then write a report by following steps

- Title
- Brief description of topics

- Contents
- Detailed information
- Reference data, photos, tables, diagrams to be inserted
- Conclusion
- Reference list

BAE706 will be completed when you have done the above tasks

BAE 707 Engineering Ethics

Society of Professional Engineers-UK

<http://www.professionalengineers-uk.org/index.php/the-society/code-of-professional-conduct>

Code of Professional Conduct

All individuals registered as Professional Engineers and those aspiring to become registered Professional Engineers shall deliver services in accordance with the Society's Code of Professional Conduct and shall:

1. Competence

- only undertake professional tasks for which they are competent and will at all times exercise all reasonable professional skill and care to prevent avoidable danger to health or safety and the creation of adverse impacts on the environment.
- maintain and broaden their knowledge, experience and competence and encourage others to do so.

2. Integrity

- treat all persons fairly with respect and without bias
- avoid where possible real or perceived conflict of interest and advise affected parties should such conflicts arise.
- observe the proper duties of confidentiality owed to appropriate parties.
- discharge their professional duties with integrity, impartiality and objectivity and have no involvement with any form of bribery.

3. Responsibility

- a) accept appropriate responsibility for work carried out under their supervision.
- b) assess relevant risks and liability and, if appropriate, have in force appropriate liability insurances.
- c) notify the Society within 28 days:
 - if convicted of a criminal offence other than parking fines or convictions for exceeding the speed limit:
 - upon becoming bankrupt or disqualified as a Company Director:
 - if they are removed from the membership of another professional body as the result of a matter relating to conduct.
- d) notify the Society of any significant violation of the Code of Conduct by any Professional Engineer on the register or any aspiring member seeking to gain access to the register.

4. Information

- a) co-operate with the Society and provide such information as may be requested to facilitate any investigation into the conduct of any Professional Engineer on the register or any aspiring member seeking to gain access to the register.

5. Relationships

- a) have due regard to their duty of care to clients and not take advantage of any client or potential client for whatever cause or reason in obtaining and carrying out instructions.
 - b) put all terms of engagement in writing and state the fees to be charged; whenever practicable, these should be issued to the client before a project is begun.
 - c) inform his/her client immediately if it appears that his/her estimate as to the total fees to be charged is likely to be or will be exceeded.
 - d) take care not to mislead a client as to the range of services that a quoted fee is intended to cover and the amount of future fees which may be involved.
- Note in respect of relationships: Any Professional Engineer on the register or any aspiring member seeking to gain access to the register shall not:

- accept a professional assignment if he/she is aware or has reasonable cause to suspect that another member is acting for the client in respect of the same assignment, until either the first contract has been determined by the client, or the other member has consented to him acting.
- induce a client to agree to pay sums of money which are not justified by reference to the work which the member has carried out or has been instructed to carry out.
- offer or give any fee, commission, discount or other inducement (financial or otherwise) to a third party in return for the introduction of clients or particular professional assignments unless, before entering into a legally binding agreement

with that client he/she makes full disclosure to the relevant client of the nature or amount of such fee, commission, discount or inducement and the name of the person or persons to whom such fee, commission, discount or inducement was offered or given.

6. Practice

a) Ensure that in respect of any firm in which he/she is or is held out to be a sole proprietor, partner or a director or through which he/she practises or conducts business:

- the composition (list of partners or directors) is clearly stated on all appropriate documentation and that where there has been a material alteration to the composition, all clients of the firm or company are notified of the change promptly;
- the style or title does not adversely reflect upon his/her professional status as a Professional Engineer and the dignity and reputation of the engineering profession;
- the name is not misleading or liable to cause confusion with the public, nor does it imply any partnership arrangement with or endorsement of services by the Society.

b) Titles associated with the registration of Professional Engineers such as "PEng" and "PEng(UK)" and membership of the Society such as "Fellow of the Society of Professional Engineers", "Member of the Society of Professional Engineers", and all others relating to membership of the Society of Professional Engineers, and the designations FSPE, MSPE, Hon.FSPE, Hon.MSPE shall only be used or authorised to be used in connection with a partnership or company

- in the name of any partnership in which such member practises provided all the member's partners are similarly entitled to use the Title and designatory letters
- to describe the name of any company provided only that all the shareholders and/or members of such company and all the directors of such company are similarly entitled to use the Title.
- to describe the name of a firm or business which is not a partnership or company in which he/she practises provided such use of the Title does not give the impression that any other person or persons with whom such member is carrying on business or whom such member employs or with whom such member is associated in any way is entitled to use the same Relevant Title or, if the impression referred to is given, such other person or persons is or are similarly entitled to use the Title.

7. Managerial responsibility

a) In addition to the responsibilities referred to in the Rules of Professional Conduct, but subject to the following, any Professional Engineer on the register or any aspiring member seeking to gain access to the register shall be prima facie responsible, as a matter of professional conduct, for the acts or omissions including, in particular, breach of any of the provisions of the Articles and Bye-Laws of the Society or these Rules of Professional Conduct of:

- any firm in which the member is, or holds him/herself out to be, or allows him/herself to be held out as a partner, or any firm which the member allows to use his/her name and/or style and title or designatory letters in any of its advertisements, publicity material or notepaper; and
- any company of which he/she is a director or any co-director of that company or any company which the member allows to use his/her name and/or style and title or designatory letters in any of its advertisements, publicity material or notepaper.

b) If any Professional Engineer on the register or any aspiring member seeking to gain access to the register is able to show that, without default on his/her part, he/she was not aware, and there was no reason for him to be aware at the time of any breach of these provisions by any firm or company referred to above and he/she had, prior to the breach, taken all reasonable steps to ensure that such a breach would not occur, then he/she shall not be in breach of this Rule.

8 Publicity and Advertising

a) Any Professional Engineer on the register or any aspiring member seeking to gain access to the register may publicise his/her services or permit another person to do so, but in doing so the member must have due regard to the standards set by the Advertising Standards Authority and any standards set by any other regulatory or governmental authority in relation to advertising and ensure that any publicity for which he/she is in any way responsible is neither inaccurate nor misleading.

b) In all advertising, publicity material or public statements for which any Professional Engineer on the register or any aspiring member seeking to gain access to the register is in any way responsible, he/she shall avoid all claims of superiority over, or critical comparisons of, the services provided by other engineers and shall avoid any direct comparison of fees and charges levied by other engineers.

c) Any Professional Engineer on the register or any aspiring member seeking to gain access to the register may only refer to the name of a client in any advertising, publicity material or public statement if the prior written consent of that client is first obtained.

d) Advertisements or other publicity material issued by any Professional Engineer on the register or any aspiring member seeking to gain access to the register or by a firm in which they are held out to be a partner or director or a company through which they practise or conducts their business may state (subject to compliance with any other relevant regulations or legal requirements) either expressly or implied that they, the firm or the company (as the case may be) offers expertise or specialist advice in relation to a particular field of engineering provided only that this is the case.

ASSIGNMENT

From newspaper, journal, internet, online chatting groups, show one event that signify the breach of engineering ethics such as use of substandard materials, breach of safety law, breach of fair practice, attempt to monopolizing , use of law and authority for safeguarding own benefits or personal associates , depressing others and highlight how engineering ethics are breached.

BAE 708 Engineering Knowledge

Civil

Download from given link

Master Diploma resources

Download from given link

From the list of the subject, select two subjects, ask me to send the e-Book. Then you have to do the followings

The students will have to write 20 pages study report for each of the subjects outlined below.

The report needs to include

☐ Book review- Review on each chapter of the book highlighting the key concepts, key formula, key theory & practical application concepts

☐ Own idea on how to apply those concepts in real practical applications.

☐ Examples of engineering designs that use the concepts & knowledge expressed in those books (If any)

☐ Your comment on each book

Electrical

<http://www.highlightcomputer.com/MasterofEngineeringElectricalCourseWorkGraduateDiplomaSyllabus.pdf>

Master Diploma resources

Download from given link

From the list of the subject, select two subjects, ask me to send the e-Book. Then you have to do the followings

The students will have to write 20 pages study report for each of the subjects outlined below.

The report needs to include

☐ Book review- Review on each chapter of the book highlighting the key concepts, key formula, key theory & practical application concepts

☐ Own idea on how to apply those concepts in real practical applications.

☐ Examples of engineering designs that use the concepts & knowledge expressed in those books (If any)

☐ Your comment on each book

Mechanical

<http://www.highlightcomputer.com/MasterofEngineeringMechanicalCourseWorkGraduateDiplomaSyllabus.pdf>

Master Diploma resources

Download from given link

From the list of the subject, select two subjects, ask me to send the e-Book. Then you have to do the followings

The students will have to write 20 pages study report for each of the subjects outlined below.

The report needs to include

☐ Book review- Review on each chapter of the book highlighting the key concepts, key formula, key theory & practical application concepts

☐ Own idea on how to apply those concepts in real practical applications.

☐ Examples of engineering designs that use the concepts & knowledge expressed in those books (If any)

☐ Your comment on each book

BAE708 will be completed when you have done the above tasks

Telecommunication

Download from given link

Go to the end and access the following units

DTE301 Network Management.zip

DTE302 Photonics.zip

DTE303 Telecom Engg.zip

DTE304 TCPIP.zip

DTE305 Optical Comm.zip

DTE306 Wireless Comm.zip

DTE307 Settlite Comm.zip

DTE308 Mobile Comm.zip

DTE309 VOIP.zip

DTE310 Customer Premise Installation.zip

DTE311 OFDMCDMA.zip

DTE312 SDHSONET.zip

From the list of the subject, select two subjects, ask me to send the e-Book. Then you have to do the followings

The students will have to write 20 pages study report for each of the subjects outlined below.

The report needs to include

☐ Book review- Review on each chapter of the book highlighting the key concepts, key formula, key theory & practical application concepts

☐ Own idea on how to apply those concepts in real practical applications.

☐ Examples of engineering designs that use the concepts & knowledge expressed in those books (If any)

☐ Your comment on each book

BAE708 will be completed when you have done the above tasks

Study Stage 2 Part B

PART (B) IQY Master Diploma in Engineering Part 2-

(St Clements University's Master of Applied Engineering)

(STC Technological University Master of Engineering

BAE709 Design Project (40 Credits)

You need to do a supervised design. In this unit, Singapore Institute of Engineering Technologists can provide the supervised design which is a part of Professional Engineers (UK) Assessment. If you do not want to apply for part of Professional Engineers (UK), IQY Technical College itself will provide design supervision that you can later use it to apply for Professional Engineers (UK)

Alternate Routes for 'Mature Candidates become FSIET & MSPE, PEng(UK)

■ By Design (6-hours open-book Exam)

- [Exam Fee per Design Paper per sitting : S\$160]
- The following main disciplines will be available:
 - Civil Engineering Design
 - Electrical Engineering Design
 - Mechanical Engineering Design
 - Chemical Engineering Design
 - Industrial Engineering Design

■ By Individual Project (3 – 6 months)

- . On a chosen topic to be approved by Joint ICES-SIET Membership Committee.
- . Length : About 10,000 words.
- . To be supervised by Supervisor approved by Joint ICES-SIET Membership Committee.
- . **Project Supervision Fee** : S\$500 (5 x 2 hours = 10 hours of face-to-face counselling).
- . **Project Assessment Fee** : S\$200

The followings are required engineering handbooks

2. Building Services Engineering Spreadsheets

This contains Building Service/ Air Con heat flow problems

Download from given link

3. Electrical Engineering formulae & tables

Download from given link

4. Mathematics-The Civil Engineering Handbook

Download from given link

5. McGraw-Hill - Civil Engineering Formulas 2002 Tlf

Download from given link

6. Mech_Eng_Calculations

Download from given link

Dynamics

Download from given link

This contains all Mechanical Engineering Calculations

7.Newnes Electrical Power Engineer Handbook

Download from given link

8.Newnes Electrical Engineers Handbook

www.mongroupsydney1.com/8.pdf

Those are basic handbooks. Furthermore you can explore wider books in the following links.

You can ask the teacher to send you the e-Books if you want to use it for your selected design

Download from given link

Civil

Download from given link

Electrical/ Electronics

Download from given link

Mechanical

Download from given link

For other disciplines, the links to download the resources will be sent when you start doing the design project

IQY Master Diploma in Applied Science (Information Technology)

Master of Applied Science (Information Technology)

(St Clements University and STC Technological University)

Follow the instructions in

Download from given link

The candidates will need to request the e-book for study

IQY Master Diploma in Renewable Energy Engineering

Master of Applied Engineering (St Clements University)

Master of Engineering (STC Technological University)

Follow the instructions in

Download from given link

The candidates will need to request the e-book for study

ADDITIONAL COURSE

Doctoral Research Studies

IQY Master Diploma in Research Studies

Download from given link

Only St Clements University will confer the Doctoral Degree while IQY Technical College will provide the joint supervision.

Dissertation for Doctorate

MAE 601 Research Method

MAE602 Thesis

[http://www.filefactory.com/file/111r1k0ftawt/n/11.Research+Thesis_\(ICT_605\).zip](http://www.filefactory.com/file/111r1k0ftawt/n/11.Research+Thesis_(ICT_605).zip)

MAE601 Research Method

This course guides the student, step by step, through the research process, from problem selection through writing up results. It provides all of the basics necessary to complete a research project in any discipline.

Outline. The following aspects are reflected in this course:

What is research?

Tools of research

The problem: the heart of the research process

Review of the related literature

Planning your research design

Writing the research proposal

Qualitative research

Historical research

Descriptive research

Experimental and causal - comparative designs

Statistical techniques for analyzing quantitative data

Technical details: style, format, and organization of the research report

Doctoral Research Proposal

Synopsis: Research students are expected to present a written research proposal within three months after commencement. The proposal is handed in to the study leader.

Assessors of this proposal are selected by the faculty for their understanding of the field and the research involved. The purpose of a research is to set out a plan for conducting the research and writing the dissertation within the available time. It should take account of the availability and guidance of the study leader.

The starting point for a research proposal is the topic, which is the field of interest in which the research is to be carried out. In introducing the topic, the proposal should clarify the field that it falls into and the specific part that field which the research will explore.

It should clarify why the topic is of interest and importance, and how the proposed research will contribute to the field of knowledge or profession. The proposal should clarify the research questions, ensuring that these are specific and answerable.

It is important to show how these questions relate to the topic are, and how they will advance the student's contribution. The proposal should detail the research to be carried out, and clarify the research methods, the timeframe and the reasons for selecting particular methods.

Where a period of literature review or research should precede any empirical research, this should be factored in as part of the research. It is important to estimate any periods of field research and to flag their duration and cost in your research proposal.

MAE 602 Thesis

Thesis Dissertation for Doctorate

Candidates need to complete a 60000-words dissertation (in Myanmar or English) and a 3000-words executive portfolio (in English).

This program requires the candidates to complete a thesis as part of the assessment for the Doctorate

Doing a thesis / dissertation means that instead of knowledge and information being presented and following a prescribed route for answering questions, candidates are thrust into an active role of managing an investigation into a topic area. This means researching and discovering things for themselves.

They will have to set their own targets and parameters, pose their own central research questions and decide on the appropriate sources of information to support the research. It therefore requires the use of the higher-level cognitive skills of analysis, synthesis and evaluation. Candidates may choose an area of particular interest to them within the scope of course title.

Doctoral dissertation

A dissertation is an individual effort and the candidate, academic tutor and the course professor will work together on constructing an approved topic (research question) and methodologies.

Dissertation Defence for doctorate

It is expected of Doctoral candidates to defend their thesis by means of a colloquium (academic discussion). The purpose of the meeting is for the candidates to convince a panel of experts in the field of the dissertation how well they have done in the conducting of their research study and the preparation of their dissertation

Candidates need to complete all course assessments with the results of Grade B+ or above.

Weblink

www.highlightcomputer.com/iqymasterdiploma.pdf

IQY TECHNICAL COLLEGE

STC TECHNOLOGICAL UNIVERSITY

ST CLEMENTS UNIVERSITY MYANMAR COLLEGE

IPEM TECHNOLOGICAL UNIVERSITY

MASTERS DEGREE LEARNING SUPPORT

There are two types of Masters Programs in Engineering

1. [Master of Engineering Practice](#)
2. [Master of Engineering](#)

(1) Master of Engineering Practice (240 credits, 120 credits for BE degree)

Master of Engineering Practice is for experienced engineers . It will include the following subjects of 10 credits each

- BAE 701 Engineering Fundamental
- BAE 702 Engineering Management
- BAE 703 Leadership & Human Resources Management
- BAE 704 Risk Management & Industrial Safety
- BAE 705 Engineering Competency Development
- BAE 706 Engineering Report Writing
- BAE 707 Engineering Ethics
- BAE 708 Engineering Knowledge

Completion of the above subjects will earn Graduate Diploma in Engineering Practice (80 credits at Masters level +120 Credits for Bachelors degree level total 200 credits. Completion of two or more units can earn Graduate Certificate in Engineering.

The candidate will need to do Engineering Design Project of 40 credits to complete Master of Engineering Practice of 240 credits

The followings are study instruction

Form 15

IQY Master Diploma

BAE701 to 708, you will complete the Graduate Diploma

Then submit the design project to complete the Masters

From the above links, textbooks can be downloaded. Choose Civil Engineering

[Form 45 St Clements University Master of Engineering for Non standard Entry Study Support](#)

The following link shows the example of the tasks that you need to do

[Form 46 Master Diploma Civil Worked Example](#)

The following link contains the Masters Course References.

[Form 18](#)

Master Diploma resources

(1) Master of Engineering (Professional Engineering)

(240 credits, 120 credits for BE degree)

Masters of Engineering (Professional Engineering) program is for recent graduates who have completed their BE degrees.

It will include the following 24 subjects of 5 credits each

The students will have to write 20 pages study progress report for each of the subjects outlined below.

The report needs to include

- Date and chapters that the candidate reads (The student will need to read the book
- at least 4 days per week)

- Highlight the key concepts, key formula, key theory & practical application concepts .
- Notes of the topic that you read.
- Key diagrams, formula, problem solutions
- Power point slides to express the key topics

There are 24 units in Masters of Engineering (Professional Engineering) Program, the candidate will need to complete one unit per month so that the whole program will be completed within 24 months. (120 credits at Masters level and 120 Credits for Bachelors degree total 240 credits).

As Master of Professional Engineering is delivered entirely in English and very intensive program, to encourage the students to earn the Graduate Diploma and Masters degree, the following arrangements are also made.

Graduate Diploma in Engineering (140 credits)

Completion of the compulsory 4 subjects will earn Graduate Diploma in Engineering (20 credits at Masters level +120 Credits for Bachelors degree level total 140 credits. Completion of two or more units can earn Graduate Certificate in Engineering.

Master of Engineering Science

Completion of the compulsory 6 subjects will earn Master of Engineering Science (30 credits at Masters level +120 Credits for Bachelors degree level total 150 credits.

Master of Engineering

Completion of the compulsory 6 subjects PLUS project (30 credits) will earn Master of Engineering (60 credits at Masters level +120 Credits for Bachelors degree level total 180 credits.

Master of Engineering from SCPU School of Engineering registered in Switzerland

Please note that the candidates who want to get the Master of Engineering from SCPU School of Engineering registered in Switzerland must complete

Masters of Engineering (Professional Engineering) by either studying the lectures of entire English medium of language instruction or self study in provided textbooks written in English which they need to do self study and submit the study report.

Electrical Compulsory Subjects

- BAE 655-Wireless Communications
- BAE656 Advanced Digital Signal Processing
- BAE 670-Power System Engineering
- BAE 661-Design of Electrical Services for Buildings
- BAE 677-Photovoltaic Systems
- BAE 660-Control Engineering

The above subjects will be provide with English and Myanmar Instructions and guidance. The candidates can choose the other subjects from the available subjects but they are entire English medium of instruction or self study in provided textbooks written in English which they need to do self study and submit the study report.

Instead of doing the project, the following options are also open for the students.

Option (1) Self study or two more subjects

The students can select choose two more subjects from the available subjects in same discipline or other discipline , follow the entire English medium of instruction or self study in provided textbooks written in English which they need to do self study and submit the study report.

Option (2) Complete any two of the following subjects by submitting the assignments

- BAE 702 Engineering Management
- BAE 703 Leadership & Human Resources Management
- BAE 704 Risk Management & Industrial Safety
- BAE 707 Engineering Ethics

Civil Compulsory Subjects

BAE 631-Advanced Concrete Technology

BAE 634-Building Construction

BAE 636-Building Technology Electrical Mechanical System (BAE661-Design of Electrical Services for Buildings)

BAE 650-Steel Design

BAE 635-Building Survey

BAE 644-Estimating

The above subjects will be provide with English and Myanmar Instructions and guidance. The candidates can choose the other subjects from the available subjects but they are entire English medium of instruction or self study in provided textbooks written in English which they need to do self study and submit the study report.

Instead of doing the project, the students can select choose two more subjects from the available subjects in same discipline or other discipline , follow the entire English medium of instruction or self study in provided textbooks written in English which they need to do self study and submit the study report.

Mechanical Compulsory Subjects

BAE 678A/B-Machine Design

BAE 689A/B-Mechanical Design

BAE 698-Thermal Engineering

BAE 694-Control Engineering

BAE 699-Rotating Machinery Vibration

BAE 690-Mechanical Estimating

The above subjects will be provide with English and Myanmar Instructions and guidance. The candidates can choose the other subjects from the available subjects but they are entire English medium of instruction or self study in provided textbooks written in English which they need to do self study and submit the study report.

Instead of doing the project, the students can select choose two more subjects from the available subjects in same discipline or other discipline , follow the entire English medium of instruction or self study in provided textbooks written in English which they need to do self study and submit the study report.

Professional Engineer Support

Master of Professional Engineering Practice

(120 Credits)

6688901

Course Objective

This course aims to provide both engineering fundamental knowledge and engineering application practice for Professional Engineer.

Contents

BAE701S Engineering Fundamental (16 Credits)

BAE 708S Engineering Knowledge (16 Credits)

BAE 705S Engineering Competency Development(16 Credits)

BAE 706S Engineering Report Writing(16 Credits)

BAE 707S Engineering Ethics(16 Credits)

BAE709 Design Project (40 Credits)

Assessment

Professional report/ Project/ Presentation/ Practical based design project

Master of Information Technology

This degree is designed for the experienced professionals who wish to develop their skills and knowledge as Information Technology professionals.

Graduate Diploma in Information Technology

Compulsory Modules

ICT 501 Programming in Visual C++ PLUS ICT 507 Visual Computing

ICT 502 Database Systems

ICT 503 Business System Development

ICT 504 Business Data Communications

ICT 505 Applied Computing I

ICT 506 Applied Computing II PLUS ICT 508 Object-Oriented Analysis & Design

Master of Science (Information Technology)

Electives

ICT 601 Programming in Java

ICT 602 E-Commerce

ICT 603 Software Engineering

ICT 604 Multimedia Systems

ICT 605 IT Management **Project/Thesis**

A written report between 10,000 – 12,000 words that covers both theory & practical knowledges of the above units.

To qualify for a MSc.IT degree, a student must take and pass 10 modules from the above list of modules, 6 modules are compulsory and the rest are electives.

Additionally, the student must undertake and pass a research-based or work-related project.

Graduate Diploma in Architectural Engineering Course Work

To complete the Graduate Diploma in Engineering, the students will have to complete 12 units with each 8 credit points totalling 96 credit points.

By adding Masters thesis of 24 credit points, they will complete 120 credit points . Total credit points for Masters degree is (Bachelor degree 120 credit points+ Graduate Diploma+ Masters degree 120 credit points Total 240 Credit points).

Graduate Diploma is pre-requisite for Masters degree.

Follow the instruction for Professional Diploma in Civil Engineering

www.highlightcomputer.com/profdipcivilengg.htm

Then complete the architecture units

<http://www.highlightcomputer.com/turesources.htm#i>

Also refer the followings which are not included in the above link.

- Professional Diploma in Civil and Architectural Engineering will be awarded , if 4 Architecture units are completed. 80 points at 20 points each
- Professional Diploma in Civil Engineering and Professional Diploma in Architectural I Engineering will be awarded if 6 Architecture units are completed. (120 points at 20 points each)
- If 8 Architecture Units are completed , Graduate Diploma in Architectural Engineering will be awarded (160 points at 20 points each)
- If 12 Architecture Units are completed , Master Diploma in Architectural Engineering will be awarded (ME-Architecture award by STC Technological University) (240 points)

Year 4 BE (Architectural Engineering)

AchE401 Architecture Theory

AchE402 Architectural Design

AchE403 Building Construction

AchE404 Building Services

AchE405 Construction Materials

AchE406 Sustainable Building Design

AchE407 Architectural Drafting

AchE408 Construction Quantity Surveying

Year 5 BE/ME(Year) (Architectural Engineering)

AchE501 Architectural Management

AchE502 Interior Design

AchE503 Green Building Design

AchE504 Construction Contract

AchE505 Solar Architecture & Smart House Design

AchE506 Architecture Commercial Design

AchE507 Urban Design

AE508 Landscape Design

Year 6 BE/ME (Year 2) (Architectural Engineering)

AchE601 Architectural Design & Ethics

AchE602 Building Survey & Reporting

AchE603 Building Control Systems

AchE604 Sustainable Architecture

AchE605 Details Design

AchE606 Outdoor Structure Design

Course Work Plan

The students will have to write 20 pages study report for each of the subjects outlined below.

The report needs to include

- Book review- Review on each chapter of the book highlighting the key concepts, key formula, key theory & practical application concepts
- Own idea on how to apply those concepts in real practical applications.
- Examples of engineering designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book

BAE 655-Wireless Communications

BAE 656-Advanced Digital Signal Processing

BAE 657-Advanced Electromagnetics

BAE 658-Real-time Systems

BAE 659-Computer-aided Control Systems

BAE 660-Control Engineering

BAE 661-Design of Electrical Services for Buildings

BAE 662-Design of Rotating Electrical Machines

BAE 663-Digital Electronics

BAE 664-Distributed Generation in Power System

BAE 665-Embedded Digital Signal Processing Systems

BAE 666- Low Emission Electricity Generation

BAE 667-Industrial Control System

BAE 668-Photonics

BAE 669-Power Electronics and Instrumentation Engineering

BAE 670-Power System Engineering

BAE 671-Satellite Communications and Navigation Systems

BAE 672-Industrial & System Engineering

BAE 673-Frequency Stability

BAE 674-Intelligent Systems

BAE 675-Nanoelectronics

BAE 676-Failure Analysis

BAE 677-Photovoltaics System

Graduate Diploma in Chemical Engineering Course Work

Professional Diploma (BE)/ Master Diploma (ME) in Chemical Engineering /Metallurgy/Petroleum

Follow the instruction for Professional Diploma in Chemical Engineering

<http://www.highlightcomputer.com/profdipchemengg.htm>

Then do specialized additional studies in Metallurgy/ Explosion Protection/ Petroleum

Based on the units selection and amount of studies, the following qualifications can be issued

Professional Diploma/ Master Diploma in Metallurgical Engineering and Petroleum Engineering

- Professional Diploma in Chemical and Metallurgical Engineering will be awarded , if 4 Metallurgy units are completed. 80 points at 20 points each
- Professional Diploma in Chemical Engineering and Professional Diploma in Metallurgical Engineering will be awarded if 6 Metallurgy units are completed. (120 points at 20 points each)
- If 8 Metallurgy Units are completed , Graduate Diploma in Metallurgical Engineering will be awarded (160 points at 20 points each)
- If 12 Metallurgy Units are completed , Master Diploma in Metallurgical Engineering will be awarded (ME-Metallurgical award by STC Technological University) (240 points)
- Professional Diploma in Chemical and Petroleum Engineering will be awarded , if 4 Petroleum units are completed. (80 points at 20 points each)
- Professional Diploma in Chemical Engineering and Professional Diploma in Petroleum Engineering will be awarded if 6 Petroleum units are completed. (120 points at 20 points each)
- If 8 Petroleum Units are completed , Graduate Diploma in Petroleum Engineering will be awarded (160 points at 20 points each)
- If 12 Petroleum Units are completed , Master Diploma in Metallurgical Engineering will be awarded (ME-Petroleum award by STC Technological University) (240 points at 20 points each)

Graduate Diploma & Master Diploma in Chemical Engineering

- Graduate Diploma in Chemical Engineering will be awarded if the following additional units are completed
 1. PE 41014+42014+Natural Gas Processing-PE 51024Natural Gas Engineering
 2. PE 21002+22002-Drilling Fluids

3. Met507 Explosive Engineering

From <http://www.highlightcomputer.com/profdiphazardous.htm>

4. BAE 637E Hazardous Chemical Management
5. BAE 638E Environmental Engineering in Hazardous Areas
6. BAE 636 E Hazardous Area Inspection
7. BAE 634 Explosion Protection
8. BAE 633E Hazardous Area Safety Audits (160 points at 20 points each)

Then complete Chemical Engineering Thesis to complete Master Diploma in Chemical Engineering (ME-Chemical)

Course Work Plan

The students will have to write 20 pages study report for each of the subjects outlined below.

The report needs to include

- Book review- Review on each chapter of the book highlighting the key concepts, key formula, key theory & practical application concepts
- Own idea on how to apply those concepts in real practical applications.
- Examples of engineering designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book

Graduate Diploma in Civil Engineering Course Work

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Graduate Diploma is pre-requisite for Masters degree.

Course Work Plan

The students will have to write 20 pages study report for each of the subjects outlined below.

The report needs to include

- Book review- Review on each chapter of the book highlighting the key concepts, key formula, key theory & practical application concepts
- Own idea on how to apply those concepts in real practical applications.
- Examples of engineering designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book

BAE 631-Advanced Concrete Technology

BAE 632-Architectural Design

BAE 633-Bridge Construction

BAE 634-Building Construction

BAE 635-Building Survey

BAE 636-Building Technology Electrical Mechanical System

BAE 637-Composite Structure of Steel & Concrete

BAE 638-Construction Drawing

BAE 639-Construction Materials

BAE 640-Construction Mathematics

BAE 641-Construction Site Planning

BAE 642-Design of Reinforce Concrete

BAE 643-Earthquake Resistant Structure

BAE 644-Estimating

BAE 645-Geotechnics

BAE 646- Highway Engineering

BAE 647-Piling Engineering

BAE 648-Railways Bridges

BAE 649-Soil & Rock Mechanic

BAE 650-Steel Design

BAE 651-Strom & Waste Water

BAE 652-Structural Analysis

BAE 653-Surveying

BAE 654-Theory & Design of Bridges

Graduate Diploma in Electrical Engineering Course Work

To complete the Graduate Diploma in Engineering, the students will have to complete 12 units with each 8 credit points totalling 96 credit points.

By adding Masters thesis of 24 credit points, they will complete 120 credit points . Total credit points for Masters degree is (Bachelor degree 120 credit points+ Graduate Diploma+ Masters degree 120 credit points Total 240 Credit points).

Graduate Diploma is pre-requisite for Masters degree.

Course Work Plan

The students will have to write 20 pages study report for each of the subjects outlined below.

The report needs to include

- Book review- Review on each chapter of the book highlighting the key concepts, key formula, key theory & practical application concepts
- Own idea on how to apply those concepts in real practical applications.
- Examples of engineering designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book

BAE 655-Wireless Communications

BAE 656-Advanced Digital Signal Processing

BAE 657-Advanced Electromagnetics

BAE 658-Real-time Systems

BAE 659-Computer-aided Control Systems

BAE 660-Control Engineering

BAE 661-Design of Electrical Services for Buildings

BAE 662-Design of Rotating Electrical Machines

BAE 663-Digital Electronics

BAE 664-Distributed Generation in Power System

BAE 665-Embedded Digital Signal Processing Systems

BAE 666- Low Emission Electricity Generation

BAE 667-Industrial Control System

BAE 668-Photonics

BAE 669-Power Electronics and Instrumentation Engineering

BAE 670-Power System Engineering

BAE 671-Satellite Communications and Navigation Systems

BAE 672-Industrial & System Engineering

BAE 673-Frequency Stability

BAE 674-Intelligent Systems

BAE 675-Nanoelectronics

BAE 676-Failure Analysis

BAE 677-Photovoltaics System

Graduate Diploma in Mechanical Engineering Course Work

To complete the Graduate Diploma in Engineering, the students will have to complete 12 units with each 8 credit points totalling 96 credit points.

By adding Masters thesis of 24 credit points, they will complete 120 credit points . Total credit points for Masters degree is (Bachelor degree 120 credit points+ Graduate Diploma+ Masters degree 120 credit points Total 240 Credit points).

Graduate Diploma is pre-requisite for Masters degree.

Course Work Plan

The students will have to write 20 pages study report for each of the subjects outlined below.

The report needs to include

- Book review- Review on each chapter of the book highlighting the key concepts, key formula, key theory & practical application concepts
- Own idea on how to apply those concepts in real practical applications.
- Examples of engineering designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book

BAE 625- Structural Engineering Mechanics

BAE 678A/B-Machine Design

BAE 679- Materials Science

Composite Materials & Joining Technology

BAE 680-Quality Control

BAE 681- Welding Engineering

BAE 682-Assembly Automation & Product Design

BAE 683-Material Engineering

BAE 684-Computerised Engine Control

BAE 685-Electric Vehicle Technology

BAE 686-Electro-Mechanical Manufacturing

BAE 687-Lasers in Manufacturing

BAE 688-Manufacturing Management

BAE 689A/B-Mechanical Design

BAE 690-Mechanical Estimating

BAE 691-Mechatronics

BAE 692-Metallurgy

BAE 693-Piping System

BAE 694-Control Engineering

BAE 695-Random Vibration

BAE 696-Specification Development

BAE 697-Structural Foundation Design

BAE 698-Thermal Engineering

BAE 699-Rotating Machinery Vibration

Graduate Diploma in Metallurgical Engineering Course Work

To complete the Graduate Diploma in Engineering, the students will have to complete 12 units with each 8 credit points totalling 96 credit points.

By adding Masters thesis of 24 credit points, they will complete 120 credit points . Total credit points for Masters degree is (Bachelor degree 120 credit points+ Graduate Diploma+ Masters degree 120 credit points Total 240 Credit points).

Graduate Diploma is pre-requisite for Masters degree.

Course Work Plan

The students will have to write 20 pages study report for each of the subjects outlined below.

The report needs to include

- Book review- Review on each chapter of the book highlighting the key concepts, key formula, key theory & practical application concepts
- Own idea on how to apply those concepts in real practical applications.
- Examples of engineering designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book
- **Metallurgical Engineering**
- Met501 Mechanical Estimating
- Met502 Mechanical Properties of Metals
- Met503 Metallurgy
- Met504 Engineered Metals
- Met505 Metallurgical Alloys
- Met507 Explosive Engineering
- Met508 Metallic Materials
- Met509 Stress Assessment in Metallurgy
- Met601 Metallurgical Processing
- Met602 Machineries Failure Analysis
- Met603 Materials Selection in Mechanical Design
- Met604 Strain Testing

- Met605 Applied Metallurgy

BAE 701 Architecture Subjects

- AchE401 Architecture Theory
- AchE402 Architectural Design
- AchE403 Building Construction
- AchE404 Building Services
- AchE405 Construction Materials
- AchE406 Sustainable Building Design
- AchE407 Architectural Drafting
- AchE408 Construction Quantity Surveying
- AchE501 Architectural Management
- AchE502 Interior Design
- AchE503 Green Building Design
- AchE504 Construction Contract
- AchE505 Solar Architecture & Smart House Design
- AchE506 Architecture Commercial Design
- AchE507 Urban Design
- AchE508 Landscape Design
- AchE601 Architectural Design & Ethics
- AchE602 Building Survey & Reporting
- AchE603 Building Control Systems
- AchE604 Sustainable Architecture
- AchE605 Details Design
- AchE606 Outdoor Structure Design

BAE 702 Engineering Management

- Management
- Quality Management
- Performance Management
- Project Planning
- Project Management

BAE 703 Leadership & Human Resources Management

- Human Resources Management
- Organization and Leadership

BAE 704 Risk Management & Industrial Safety

- Risk Management
- Risk assessment
- Non destructive Testing and Preventive Management
- Industrial Safety

BAE705 – Engineering Competency Development

• Assessment Types and Methods (100% coursework)

- **Option A – Research Proposal (RP)**@ (at postgraduate standard) for Engineering Professionals in Academic Field
-
- **Option B – Feasibility Study** on an Approved Engineering Project for Engineering Professionals in Practice.
- **@ Suggested Format of Research Proposal (RP):**

Research Proposal (Max: 50 pages)	
1	Introduction to Research/Project Title
2	Research Goal: Aim; Objectives; Key Questions
3	Problem Statement
4	Importance of the Study (Rational of study)

5	Initial literature review
6	Proposed research methodology
7	Proposed contents for each chapter
8	Initial reference
9	Work plan or schedule of works

- **Report** (60% weightage) Plus **Oral Presentation** (40% weightage)

Oral Presentation/Viva: Assessment Criteria (within 45 minutes: 30 minutes for presentation + 14 minutes for Q&A)		Percentage (%)
1	Overview : Title stated and defined	4
2	Body: Scope; Objectives; Proposed research methodology; likely outcomes; Work plan; Possible funding.	8
3	Technique: Good diction; Gestures; Visual aids; Logical flow of presentation	8
4	Questions & Answers: positive and confident; clear and logical; provide data/evidence to support the answer (15 minutes)	16
5	Summary	4
Total		40

Recommended Reading Materials

UK-SPEC

<https://www.engc.org.uk/ukspec.aspx>

<https://www.aerosociety.com/media/3836/uk-spec-third-edition.pdf>

<https://www.aerosociety.com/media/3846/step-by-step-guide-to-registration.pdf>

Engineers Australia: Stage 1- Competency Standards

<https://www.engineersaustralia.org.au/Chartered>

https://www.engineersaustralia.org.au/sites/default/files/2019-11/Stage1_Competency_Standards.pdf

https://www.engineersaustralia.org.au/sites/default/files/Stage%201%20Guide_November%202019.pdf

USA- NCEES

<https://ncees.org/exams/examinee-guide/>

<https://ncees.org/licensure/>

UK-ICE

<https://www.ice.org.uk/membership>

<https://www.ice.org.uk/my-ice/routes-to-ice-membership>

<https://www.ice.org.uk/my-ice/my-membership/member-assessment>

<https://www.ice.org.uk/my-ice/membership-documents/ipd-online-guidance>

<https://thecivilengineeringexam.com/ice-attributes-introduction/>

UK-IStructE

<https://www.istructe.org/membership/chartered-membership/>

<https://www.istructe.org/training-and-development/ipd/>

<https://www.istructe.org/training-and-development/membership-exams/>

<https://www.istructe.org/training-and-development/membership-exams/professional-review-interview/>

PEB-Singapore

<https://www.peb.gov.sg/>

https://www.peb.gov.sg/pe_registration_intro.aspx

https://www.peb.gov.sg/pereg_fee.aspx

https://www.peb.gov.sg/pereg_ppe.aspx

SOCIÉTÉ NATIONALE DES INGÉNIEURS PROFESSIONNELS DE FRANCE (SNIPF)

www.iqytechnicalcollege.com/SNIF.zip

Society of Professional Engineers International

www.thespeukinternational.org

<http://www.thespeukinternational.org/membershipinformation.htm>

<http://www.thespeukinternational.org/internationalapplication.htm>

<http://www.thespeukinternational.org/Code%20of%20Professional%20Conduct.htm>

BAE 707 Engineering Report Writing

Report Writing

[Electrical Report](#)

BAE 707 Engineering Ethics

Society of Professional Engineers-UK

<http://www.professionalengineers-uk.org/index.php/the-society/code-of-professional-conduct>

Code of Professional Conduct

All individuals registered as Professional Engineers and those aspiring to become registered Professional Engineers shall deliver services in accordance with the Society's Code of Professional Conduct and shall:

1. Competence

- a) only undertake professional tasks for which they are competent and will at all times exercise all reasonable professional skill and care to prevent avoidable danger to health or safety and the creation of adverse impacts on the environment.
- b) maintain and broaden their knowledge, experience and competence and encourage others to do so.

2. Integrity

- a) treat all persons fairly with respect and without bias
- b) avoid where possible real or perceived conflict of interest and advise affected parties should such conflicts arise.
- c) observe the proper duties of confidentiality owed to appropriate parties.
- d) discharge their professional duties with integrity, impartiality and objectivity and have no involvement with any form of bribery.

3. Responsibility

- a) accept appropriate responsibility for work carried out under their supervision.
- b) assess relevant risks and liability and, if appropriate, have in force appropriate liability insurances.
- c) notify the Society within 28 days:
 - if convicted of a criminal offence other than parking fines or convictions for exceeding the speed limit:
 - upon becoming bankrupt or disqualified as a Company Director:
 - if they are removed from the membership of another professional body as the result of a matter relating to conduct.
- d) notify the Society of any significant violation of the Code of Conduct by any Professional Engineer on the register or any aspiring member seeking to gain access to the register.

4. Information

- a) co-operate with the Society and provide such information as may be requested to facilitate any investigation into the conduct of any Professional

Engineer on the register or any aspiring member seeking to gain access to the register.

5. Relationships

a) have due regard to their duty of care to clients and not take advantage of any client or potential client for whatever cause or reason in obtaining and carrying out instructions.

b) put all terms of engagement in writing and state the fees to be charged; whenever practicable, these should be issued to the client before a project is begun.

c) inform his/her client immediately if it appears that his/her estimate as to the total fees to be charged is likely to be or will be exceeded.

d) take care not to mislead a client as to the range of services that a quoted fee is intended to cover and the amount of future fees which may be involved.

Note in respect of relationships: Any Professional Engineer on the register or any aspiring member seeking to gain access to the register shall not:

- accept a professional assignment if he/she is aware or has reasonable cause to suspect that another member is acting for the client in respect of the same assignment, until either the first contract has been determined by the client, or the other member has consented to him acting.
- induce a client to agree to pay sums of money which are not justified by reference to the work which the member has carried out or has been instructed to carry out.
- offer or give any fee, commission, discount or other inducement (financial or otherwise) to a third party in return for the introduction of clients or particular professional assignments unless, before entering into a legally binding agreement

with that client he/she makes full disclosure to the relevant client of the nature or amount of such fee, commission, discount or inducement and the name of the person or persons to whom such fee, commission, discount or inducement was offered or given.

6. Practice

a) Ensure that in respect of any firm in which he/she is or is held out to be a sole proprietor, partner or a director or through which he/she practises or conducts business:

- the composition (list of partners or directors) is clearly stated on all appropriate documentation and that where there has been a material alteration to the composition, all clients of the firm or company are notified of the change promptly;
- the style or title does not adversely reflect upon his/her professional status as a Professional Engineer and the dignity and reputation of the engineering profession;
- the name is not misleading or liable to cause confusion with the public, nor does it imply any partnership arrangement with or endorsement of services by the Society.

b) Titles associated with the registration of Professional Engineers such as “PEng” and “PEng(UK)” and membership of the Society such as “Fellow of the Society of Professional Engineers”, “Member of the Society of Professional Engineers”, and all others relating to membership of the Society of Professional Engineers, and the designations FSPE, MSPE, Hon.FSPE, Hon.MSPE shall only be used or authorised to be used in connection with a partnership or company

- in the name of any partnership in which such member practises provided all the member’s partners are similarly entitled to use the Title and designatory letters
- to describe the name of any company provided only that all the shareholders and/or members of such company and all the directors of such company are similarly entitled to use the Title.
- to describe the name of a firm or business which is not a partnership or company in which he/she practises provided such use of the Title does not give the impression that any other person or persons with whom such member is carrying on business or whom such member employs or with whom such member is associated in any way is entitled to use the same Relevant Title or, if the impression referred to is given, such other person or persons is or are similarly entitled to use the Title.

7. Managerial responsibility

a) In addition to the responsibilities referred to in the Rules of Professional Conduct, but subject to the following, any Professional Engineer on the register or any aspiring member seeking to gain access to the register shall be prima facie responsible, as a matter of professional conduct, for the acts or omissions including, in particular, breach of any of the provisions of the Articles and Bye-Laws of the Society or these Rules of Professional Conduct of:

- any firm in which the member is, or holds him/herself out to be, or allows him/herself to be held out as a partner, or any firm which the member allows to use his/her name and/or style

and title or designatory letters in any of its advertisements, publicity material or notepaper;
and

- any company of which he/she is a director or any co-director of that company or any company which the member allows to use his/her name and/or style and title or designatory letters in any of its advertisements, publicity material or notepaper.

b) If any Professional Engineer on the register or any aspiring member seeking to gain access to the register is able to show that, without default on his/her part, he/she was not aware, and there was no reason for him to be aware at the time of any breach of these provisions by any firm or company referred to above and he/she had, prior to the breach, taken all reasonable steps to ensure that such a breach would not occur, then he/she shall not be in breach of this Rule.

8 Publicity and Advertising

a) Any Professional Engineer on the register or any aspiring member seeking to gain access to the register may publicise his/her services or permit another person to do so, but in doing so the member must have due regard to the standards set by the Advertising Standards Authority and any standards set by any other regulatory or governmental authority in relation to advertising and ensure that any publicity for which he/she is in any way responsible is neither inaccurate nor misleading.

b) In all advertising, publicity material or public statements for which any Professional Engineer on the register or any aspiring member seeking to gain access to the register is in any way responsible, he/she shall avoid all claims of superiority over, or critical comparisons of, the services provided by other engineers and shall avoid any direct comparison of fees and charges levied by other engineers.

c) Any Professional Engineer on the register or any aspiring member seeking to gain access to the register may only refer to the name of a client in any advertising, publicity material or public statement if the prior written consent of that client is first obtained.

d) Advertisements or other publicity material issued by any Professional Engineer on the register or any aspiring member seeking to gain access to the register or by a firm in which they are held out to be a partner or director or a company through which they practise or conducts their business may state (subject to compliance with any other relevant regulations or legal requirements) either expressly or implied that they, the firm or the company (as

the case may be) offers expertise or specialist advice in relation to a particular field of engineering provided only that this is the case.

ASSIGNMENT

From newspaper, journal, internet, online chatting groups, show one event that signify the breach of engineering ethics such as use of substandard materials, breach of safety law, breach of fair practice, attempt to monopolizing, use of law and authority for safeguarding own benefits or personal associates, depressing others and highlight how engineering ethics are breached.

- BAE 707 Engineering Ethics

(Prepared by Dr Sam Man Keong)

[www.iqytechnicalcollege.com/BAE707-Engineering Ethics- SAmMK-2020.pptx](http://www.iqytechnicalcollege.com/BAE707-Engineering%20Ethics-SAMMK-2020.pptx)

- BAE 708 Engineering Knowledge

Civil Engineering

BAE708 – Engineering Knowledge

[Special Routes to FSIET: Thesis/Report; Project]

Assessment Types and Methods

(100% coursework)

Option A – Research Thesis/Report (RT)@ (at postgraduate standard) for Engineering Professionals in Academic Field

Option B – Design on an Approved Engineering Project for Engineering Professionals in Practice.

@ Suggested Format of Research Thesis (RT):

Research Thesis (Max: 200 pages; excluding appendices)

1	Title Page
2	Acknowledgement
3	Declaration
4	Abstract
5	Content Page
6	List of illustrations
7	List of photographic plates, if any
8	Body (actual report) Chapter 1 – Introduction Chapter 2 – Literature Review Chapter 3 – Proposed Research Methodology Chapter 4 – Findings and Discussion Chapter 5 – Conclusions and Recommendations
9	List of References
10	Appendices

Report (60% weightage) Plus **Oral Presentation** (40% weightage)

Oral Presentation/Viva: Assessment Criteria (within 45 minutes: 30 minutes for presentation + 15 minutes for Q&A)	Percentage (%)
--	-----------------------

1	Overview : Title stated and defined	4
2	Body: Scope; Objectives; methodology; findings; conclusions	8
3	Technique: Good diction; Gestures; Visual aids; Logical flow of presentation	8
4	Questions & Answers: positive and confident; clear and logical; provide data/evidence to support the answer (15 minutes)	16
5	Summary	4
Total		40

MASTER OF SCIENCE (RENEWABLE ENERGY COURSE OUTLINE)

Part (1) Preliminary Course

RE001- Foundation Studies in Renewable Energy and Sustainability
RE002- Grid Connected Photovoltaic Power Systems
RE003- Solar and Thermal Energy Systems
RE004- Energy Storage Systems
RE005- Renewable Energy Resource Analysis
RE006- Wind Energy Conversion Systems
RE007- Energy System Efficiency

Part (2) Qualified (1) Course

Semester (1)

RE008-Mathematics & Physics (I)
RE009-Mathematics & Physics (II)
RE010-Engineering Materials
RE011-Civil & Mechanical Engineering

Semester (2)

RE012-Electrical Engineering
RE013-Electrical Machines
RE014-Electronics Control
RE015-Electrical Project
RE016-Design & Management

Part (3) Qualified (2) Course

RE 501-Control of Solar Energy System
RE502- Biomass Gasification
RE503- Energy Management in Industrial and Commercial Facilities
RE504- Engineering Solution for Sustainability
RE505- Green Building Design
RE506- Low Emission Power Generation Technologies
RE507- Offshore Wind Turbines
RE508- Solar Hydrogen Energy System
RE509- Applied Photovoltaics
RE510- Water Conservation
RE511- Sustaining Earth Energy resource

A written report between 10,000 – 12,000 words that covers both theory & practical knowledge of the above units.

Part (4) Final Thesis

Res 601 Research Method
MAE 602 Thesis

This course guides the student, step by step, through the research process, from problem selection through writing up results. It provides all of the basics necessary to complete a research project in any discipline.

Outline. The following aspects are reflected in this course:

What is research?

Tools of research

The problem: the heart of the research process

Review of the related literature

Planning your research design

Writing the research proposal

Qualitative research

Historical research

Descriptive research

Experimental and causal - comparative designs

Statistical techniques for analyzing quantitative data

Technical details: style, format, and organization of the research report

Masters Research Proposal

Synopsis: Research students are expected to present a written research proposal within three months after commencement. The proposal is handed in to the study leader.

Assessors of this proposal are selected by the faculty for their understanding of the field and the research involved. The purpose of a research is to set out a plan for conducting the research and writing the dissertation within the available time. It should take account of the availability and guidance of the study leader.

The starting point for a research proposal is the topic, which is the field of interest in which the research is to be carried out. In introducing the topic, the proposal should clarify the field that it falls into and the specific part that field which the research will explore. It should clarify why the topic is of interest and importance, and how the proposed research will contribute to the field of knowledge or profession. The proposal should clarify the research questions, ensuring that these are specific and answerable.

It is important to show how these questions relate to the topic are, and how they will advance the student's contribution. The proposal should detail the research to

be carried out, and clarify the research methods, the timeframe and the reasons for selecting particular methods. Where a period of literature review or research should precede any empirical research, this should be factored in as part of the research. It is important to estimate any periods of field research and to flag their duration and cost in your research proposal.

Res 601 Research Method

MENG6005 Quantitative Methods and Statistics (45 hrs) 3 credits

MAE 602 Thesis

Engineering Project/Thesis 24 credits

Candidates need to complete a 60000-words engineering dissertation (in Myanmar or English) and a 3000-words executive portfolio (in English).

This program requires the candidates to complete a dissertation as part of the assessment for the MSc (RE) degree. Doing a thesis means that instead of knowledge and information being presented and following a prescribed route for answering questions, candidates are thrust into an active role of managing an investigation into a topic area. This means researching and discovering things for themselves. They will have to set their own targets and parameters, pose their own central research questions and decide on the appropriate sources of information to support the research. It therefore requires the use of the higher-level cognitive skills of analysis, synthesis and evaluation. Candidates may choose an area of particular interest to them within the scope of course title. A dissertation is an individual effort and the candidate, academic tutor and the course professor will work together on constructing an approved topic (research question) and methodologies.

Engineering Dissertation Defense 9 credits

It is expected of Master's candidates to defend their thesis by means of a colloquium doctum (academic discussion). The purpose of the meeting is for the candidates to convince a panel of experts in the field of the dissertation how well they have done in the conducting of their research study and the preparation of their dissertation

Program Total Credits 48 credits

Candidates need to complete all course assessments with the results of Grade B+ or above.

Master of Science (Computer Network) (Each 10 credits) (70883)

Bachelor of Applied Science (Network)- 120 Credits

Master of Applied Science (Network)- 120 Credits

Total 240 credits

PART (1) Course Work in Graduate Diploma in Computer Network Level

(60 credits) (Each 10 credits)

ICTN701 APNET Content Management System

ICTN702 CISCO Certified Design Associate

ICTN703 CISCO Certified Network Associate

ICTN704 CISCO Firewall

ICTN705 CISCO LAN Switching Configuration

ICTN706 Computer Architecture and Security

PART (2) Course Work in Masters Level

(40 credits) (Each 10 credits)

Select 4 units

ICTN707 Computer Systems

ICTN708 Python Network Programming

ICTN709 Microsoft.NET Framework

ICTN710 Enterprise Network Monitoring

ICTN711 Parallel Computer Architecture

ICTN712 Cloud Computing

The students will have to write 20 pages study report for each of the subjects outlined below.

The report needs to include

- Book review- Review on each chapter of the book highlighting the key concepts, key points, key theory & practical application concepts in IT.
- Own idea on how to apply those concepts in real practical applications.

- Examples of IT system designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book

Master of Applied Science Work Example

[http://www.iqytechnicalcollege.com/Master Diploma in Information Technology-Worked Sample Report on IT Topics.pdf](http://www.iqytechnicalcollege.com/Master%20Diploma%20in%20Information%20Technology-Worked%20Sample%20Report%20on%20IT%20Topics.pdf)

PART (3) Master Project in Computer Network

(20 credits)

The candidate needs to write the project report for one topic mutually selected by the candidate and supervisor

REPORT GUIDE

<http://www.mongroupsydney1.com/Report.pdf>

Part (4) Master of Engineering (Computer Network) (70884)

Complete the following units after completion of Master of Applied Science (Computer Network) Each 10 credits

BAE 702 Engineering Management

BAE 703 Leadership & Human Resources Management

BAE 704 Risk Management & Industrial Safety

BAE 705 Engineering Competency Development

BAE 706 Engineering Report Writing

BAE 707 Engineering Ethics

Total Credits 320 Credits

MASTER OF SCIENCE (RENEWABLE ENERGY) LEARNING SUPPORT WEBSITE

Click **HERE** to access the study materials

Part (1) Preliminary Course

ENERGY101A FOUNDATION STUDIES IN RENEWABLE ENERGY AND SUSTAINABILITY

RE001 Audio.zip (398.77MB)

http://www.filefactory.com/file/bivi3ahp1dj/n/RE001_Audio.zip

RE001+ENERGY 101A.pptx (209.26MB)

http://www.filefactory.com/file/2uf9ao1a2v1b/n/RE001+ENERGY_101A.pptx

AEEGY202A RENEWABLE ENERGY RESOURCES ANALYSIS

AEEGY202A+RE005 Part 1.ppt (53.86MB)

http://www.filefactory.com/file/77y5i78hdzcn/n/AEEGY202A+RE005_Part_1.ppt

AEEGY202A+RE005 Part 1 Audio.zip (41.66MB)

http://www.filefactory.com/file/3bpvzmy8xbzd/n/AEEGY202A+RE005_Part_1_Audio.zip

AEEGY202A+RE005 Part 2.pptx (39.15MB) (A)

http://www.filefactory.com/file/64zy2zn488hz/n/AEEGY202A+RE005_Part_2.pptx

AEEGY202A+RE005 Part 2 Audio.zip (45.64MB) (A)

http://www.filefactory.com/file/28ezfxr81nrd/n/AEEGY202A+RE005_Part_2_Audio.zip

AEEGY202A+RE005 Part 2B.pptx (93.09MB)

http://www.filefactory.com/file/64klwvxw0ihr/n/AEEGY202A+RE005_Part_2B.pptx

AEEGY202A+RE005 Part 2B Audio.zip (81.25MB)

http://www.filefactory.com/file/5bj0lat5uj9n/n/AEEGY202A+RE005_Part_2B_Audio.zip

AEEGY202A+RE005 Part 3.pptx (118.93MB)

http://www.filefactory.com/file/2p5ermf05afl/n/AEEGY202A+RE005_Part_3.pptx

AEEGY202A+RE005 Part 3 Audio.zip (64.72MB)

http://www.filefactory.com/file/4i49w8o1ji9h/n/AEEGY202A+RE005_Part_3_Audio.zip

AEEGY202A+RE005 Part 4.pptx (123.38MB)

http://www.filefactory.com/file/sbv dq1ehtr9/n/AEEGY202A+RE005_Part_4.pptx

AEEGY202A+RE005 Part 4 Audio.zip (59.74MB)

http://www.filefactory.com/file/9y5u1pmai6v/n/AEEGY202A+RE005_Part_4_Audio.zip

AEEGY202A+RE005 Part 5.pptx (198.14MB)

http://www.filefactory.com/file/56apturehhr/n/AEEGY202A+RE005_Part_5.pptx

AEEGY202A+RE005 Part 5 Audio.zip (109.2MB)

http://www.filefactory.com/file/4ta6mux5uzk7/n/AEEGY202A+RE005_Part_5_Audio.zip

AEEGY202A+RE005 Part 5a.pptx (181.83MB)

http://www.filefactory.com/file/4o9q6qr2xr0r/n/AEEGY202A+RE005_Part_5a.pptx

AEEGY202A+RE005 Part 5a Audio.zip (82.43MB)

http://www.filefactory.com/file/13akyrzczg9tf/n/AEEGY202A+RE005_Part_5a_Audio.zip

AEEGY202A+RE005 Part 6.pptx (140.55MB)

http://www.filefactory.com/file/6ecfxxbaih11/n/AEEGY202A+RE005_Part_6.pptx

AEEGY202A+RE005 Part 7.pptx (37.26MB)

http://www.filefactory.com/file/6kw4yv0yd4lh/n/AEEGY202A+RE005_Part_7.pptx

AEEGY202A+RE005 Part 7 Audio.zip (12.28MB)

http://www.filefactory.com/file/44xii255egpr/n/AEEGY202A+RE005_Part_7_Audio.zip

AEEGY202A+RE005 Part 6 Audio.zip (56.4MB)

http://www.filefactory.com/file/31cfsc70cqn7/n/AEEGY202A+RE005_Part_6_Audio.zip

AEEGY 203A WIND ENERGY CONVERSION SYSTEM

AEEGY202A+RE005 Part 4.pptx (123.38MB)

http://www.filefactory.com/file/sbvdq1ehtr9/n/AEEGY202A+RE005_Part_4.pptx

AEEGY 201A ENERGY STORAGE SYSTEM

AEEGY201A-RE004 Part 1.pptx (84.17MB)

http://www.filefactory.com/file/3zjf4agidtd1/n/AEEGY201A-RE004_Part_1.pptx

AEEGY201A-RE004 Part 1 Audio.zip (98.34MB)

http://www.filefactory.com/file/2cq8kk74lcch/n/AEEGY201A-RE004_Part_1_Audio.zip

AEEGY201A-RE004 Part 2 Audio.zip (78.24MB)

http://www.filefactory.com/file/59f24emes5d5/n/AEEGY201A-RE004_Part_2_Audio.zip

AEEGY201A-RE004 Part 2.pptx (81.12MB)

http://www.filefactory.com/file/593fqr2l92gl/n/AEEGY201A-RE004_Part_2.pptx

AEEGY201A-RE004 Part 3.pptx (122.11MB)

http://www.filefactory.com/file/3sb7u9ni7bx1/n/AEEGY201A-RE004_Part_3.pptx

AEEGY201A-RE004 Part 3 Audio.zip (54.66MB)

http://www.filefactory.com/file/99lsa2qr9j1/n/AEEGY201A-RE004_Part_3_Audio.zip

AEEGY 102A SOLAR AND THERMAL ENERGY SYSTEM

AEEGY102A-Solar & Thermal Energy System-RE003 Part 1.pptx (86.74MB)

[http://www.filefactory.com/file/4pfhys6r4f5v/n/AEEGY102A-Solar & Thermal Energy System-RE003 Part 1.pptx](http://www.filefactory.com/file/4pfhys6r4f5v/n/AEEGY102A-Solar_&_Thermal_Energy_System-RE003_Part_1.pptx)

AEEGY102A Solar & thermal Energy system-RE003 Audio Part 1.zip (78.57MB)

[http://www.filefactory.com/file/3g7xyhh758iv/n/AEEGY102A Solar & thermal Energy system-RE003 Audio Part 1.zip](http://www.filefactory.com/file/3g7xyhh758iv/n/AEEGY102A_Solar_&_thermal_Energy_system-RE003_Audio_Part_1.zip)

AEEGY102A Solar & thermal Energy system-RE003 Audio Part 2.zip (114.71MB)

[http://www.filefactory.com/file/6j6d6ba68kmt/n/AEEGY102A Solar & thermal Energy system-RE003 Audio Part 2.zip](http://www.filefactory.com/file/6j6d6ba68kmt/n/AEEGY102A_Solar_&_thermal_Energy_system-RE003_Audio_Part_2.zip)

AEEGY102A Solar & thermal Energy system-RE003 Audio Part 3.zip (101.76MB)

[http://www.filefactory.com/file/6fpzm5yhalkb/n/AEEGY102A Solar & thermal Energy system-RE003 Audio Part 3.zip](http://www.filefactory.com/file/6fpzm5yhalkb/n/AEEGY102A_Solar_&_thermal_Energy_system-RE003_Audio_Part_3.zip)

AEEGY 101A GRID CONNECTED PHOTOVOLTAICS POWER SYSTEM

AEEGY101A Grid Connected Inverter-RE001 Part 1.pptx (200.1MB)

[http://www.filefactory.com/file/7gj00winbhgl/n/AEEGY101A Grid Connected Inverter-RE001 Part 1.pptx](http://www.filefactory.com/file/7gj00winbhgl/n/AEEGY101A_Grid_Connected_Inverter-RE001_Part_1.pptx)

AEEGY101A Grid Connected Inverter-RE001 Part 2.pptx (42.84MB)

[http://www.filefactory.com/file/2inbe45j7daf/n/AEEGY101A Grid Connected Inverter-RE001 Part 2.pptx](http://www.filefactory.com/file/2inbe45j7daf/n/AEEGY101A_Grid_Connected_Inverter-RE001_Part_2.pptx)

AEEGY101A Grid Connected PV Power System-RE002 Audio 1.zip (87.52MB)

[http://www.filefactory.com/file/zugaz0y0a7z/n/AEEGY101A Grid Connected PV Power System-RE002 Audio 1.zip](http://www.filefactory.com/file/zugaz0y0a7z/n/AEEGY101A_Grid_Connected_PV_Power_System-RE002_Audio_1.zip)

AEEGY101A Grid Connected PV Power System-RE002 Audio 2.zip (146.66MB)

[http://www.filefactory.com/file/3rnl5ra5u1yp/n/AEEGY101A Grid Connected PV Power System-RE002 Audio 2.zip](http://www.filefactory.com/file/3rnl5ra5u1yp/n/AEEGY101A_Grid_Connected_PV_Power_System-RE002_Audio_2.zip)

AEEGY101A Grid Connected PV Power System-RE002 Audio 3.zip (37.72MB)

[http://www.filefactory.com/file/4t3e8rcrczcpp/n/AEEGY101A Grid Connected PV Power System-RE002 Audio 3.zip](http://www.filefactory.com/file/4t3e8rcrczcpp/n/AEEGY101A_Grid_Connected_PV_Power_System-RE002_Audio_3.zip)

AEEGY 204 A ENERGY EFFICIENCY

AEEGY204A-Energy Effcy.pptx (308.2MB)

http://www.filefactory.com/file/4m2zxs94ooyh/n/AEEGY204A-Energy_Effcy.pptx

AEEGY204A-Energy Syst Effcy-RE007 Audio.zip (283.59MB)

[http://www.filefactory.com/file/64pi797xv52t/n/AEEGY204A-Energy Syst Effcy-RE007 Audio.zip](http://www.filefactory.com/file/64pi797xv52t/n/AEEGY204A-Energy_Syst_Effcy-RE007_Audio.zip)

ENEY101A FOUNDATION STUDIES IN RENEWABLE ENERGY

AND SUSTAINABILITY

Course Outline

In this subject you will learn about the areas of renewable energy technologies and sustainability. You will develop foundation knowledge relating to:

- Defining sustainability and renewable energy
- Non-technical issues in sustainability and renewable energy
- Energy basics efficiency and calculations
- Solar energy systems
- Wind energy systems
- Hydro energy systems
- Biomass energy systems
- Ocean energy systems
- Principles of sustainable living
- Moving to a sustainable economy.

Prescribed Texts:

Mackay, D.J.C. 2008, *Sustainable Energy without the Hot Air*, UIT, Cambridge, England

Study Guide

WEEK NO:	TOPICS AND ACTIVITIES
Orientation Week	Orientation activities Review of syllabus and assessment activities.
Week 1	<ul style="list-style-type: none"> • Introduction to the Subject. • The cause of Climate Change. • Global and Australian Figures. • Climate Change - The Impacts and the imperative for change. Reading List: <ul style="list-style-type: none"> • <i>Sustainable Energy Without the Hot air</i>, pp. 5-18 • <i>ZCA Stationary Energy Plan</i>, pp. 2-3
Week 2	<ul style="list-style-type: none"> • Energy use in Australia. • Energy conversion and efficiency. • Primary, Secondary and End Use energy. Reading List: <ul style="list-style-type: none"> • Dept. of Energy Resources and Tourism, <i>Energy in Australia 2012</i>, pp. 15-28
Week 3	<ul style="list-style-type: none"> • Coal, Oil, Gas and Nuclear Energy Systems. Reading List: <ul style="list-style-type: none"> • Course notes
Week 4	<ul style="list-style-type: none"> • Solar Energy Systems – The Solar Resource – Photovoltaics. Reading List: <ul style="list-style-type: none"> • <i>Sustainable Energy Without the Hot air</i>, pp. 38-49
Week 5	Field Trip <ul style="list-style-type: none"> • Solar Energy Systems - Solar Hot Water, Solar Air conditioning and Solar Thermal Electricity. Reading List: <ul style="list-style-type: none"> • <i>Sustainable Energy Without the Hot air</i>, pp. 38-49 • <i>ZCA Solar Thermal Power Basics and Solar Thermal Power fact sheets</i>
Week 6	<ul style="list-style-type: none"> • Wind Energy Systems – size of the resource, principles of operation, World and Australian wind energy. Reading List: <ul style="list-style-type: none"> • <i>Sustainable Energy Without the Hot air</i>, pp. 32-34, 186-189 • <i>Clean Energy Council Fact sheet on Wind Energy</i> Assessment 1 due: Individual written report - 10%
Week 7	
Week 8	<ul style="list-style-type: none"> • Hydro Energy Systems – size of the resource, principles of operation, World and Australian Hydro energy. Reading List:

WEEK NO:	TOPICS AND ACTIVITIES
	<ul style="list-style-type: none"> • <i>Sustainable Energy Without the Hot air</i>, pp. 55-56 and pp. 190-194 • <i>Clean Energy Council Fact sheet on Hydro Electricity</i> Assessment 2 due: Written report on field trip - 5%
Week 9	<ul style="list-style-type: none"> • Biomass • Geothermal Reading List <ul style="list-style-type: none"> • <i>Clean Energy Council Fact sheet on Geothermal Energy</i> • <i>Clean Energy Council Fact sheet on Bio Energy</i> • <i>Sustainable Energy Without the Hot air</i>, pp. 96-99
Week 10	<ul style="list-style-type: none"> • Ocean Energy – Wave and tidal Reading List: <ul style="list-style-type: none"> • <i>Sustainable Energy Without the Hot air</i>, pp. 73-75; pp. 81-87; pp. 307-321 • <i>Clean Energy Council Fact sheet on Marine Energy</i>
Week 11	<ul style="list-style-type: none"> • The imperative for Sustainability • Moving to Renewable Energy Reading List: <ul style="list-style-type: none"> • <i>Less is More</i>, pp. 205-235
Week 12	<ul style="list-style-type: none"> • Sustainable Building Design • Sustainable Food and Farming Reading List: <ul style="list-style-type: none"> • <i>Sustainable Energy Without the Hot air</i>, pp. 76-80 • www.yourhome.gov.au <i>Technical Manual</i>, pp. 69-127
Week 13	<ul style="list-style-type: none"> • Sustainable Transport • Sustainable Mining and Manufacturing Reading List: <ul style="list-style-type: none"> • <i>Sustainable Energy Without the Hot air</i>, pp. 29-31; 35-37; 118-139; 88-95 and 322-326 • <i>ZCA Stationary Energy Plan</i>, pp. 16-19 Assessment 3 due: Collaborative written report – 30% Assessment 4: Presentation based on collaborative written report – 10%
Week 14	Study Week
Week 15	Examination Week B: Assessment 5: Written examination - 45%

Lesson Power Points

<http://www.filefactory.com/file/29b5cjy28f4p/RE001%2BENERGY%20101A.pdf>

Password- Joe2013

Textbook

Prescribed Texts:

Mackay, D.J.C. 2008, *Sustainable Energy without the Hot Air*, UIT, Cambridge, England

http://www.filefactory.com/file/1ptdekissa69/Sustainable_energy_without_hot_air_pdf

Password- Joe2013

Tutorial Exercises

Further Readings

[K131](#)

http://www.filefactory.com/file/7hvv22gtz2lx/n/K131_zip

http://www.filefactory.com/file/1mr75xfm92ux/n/K032_zip

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AEEGY 101A Grid Connected Photovoltaics Power System

Course

Outline

In this subject you will learn the basics about photovoltaics and grid design. You will develop knowledge and applied skills relating to:

- Solar geometry
- Solar radiation terms and measurements
- Photovoltaic cell and module characteristics
- Manufacture of photovoltaic modules
- Photovoltaic array design and characteristics
- Effects of tilt, orientation, temperature and shading
- Workplace health and safety standards, Australian and industry standards
- Inverter principles and requirements for grid-connected inverters in Australia
- Inverter and Array matching
- Wiring, Protection and Earthing
- Metering and Tariff arrangements
- Installation and Commissioning
- Maintenance.

Study Guide

Lesson Power Points

<http://www.filefactory.com/file/5u2urjc3d0hx/AEEGY101A%20Grid%20Connected%20Inverter-RE001%20Part%201.pdf>

Password- Joe2013

Textbook

Prescribed Texts:

Stapleton G & Neill S 2012, *Grid-Connected Solar Electric Systems*, Earthscan, Abingdon, Oxon

http://www.filefactory.com/file/14nwysld3g7t/Grid_Connected_Electrical_System_Textbook_pdf

http://www.filefactory.com/file/4lmpmse2xmp1/Applied_Photovoltaics_pdf

http://www.filefactory.com/file/55cxpfou1kwt/Control_of_Power_Inverters_in_Renewable_Energy_and_Smart_Grid_Integration_pdf

Password- Joe2013

Tutorial Exercises

http://www.filefactory.com/file/59rpcqog18ux/n/K035_Answer_sheet_doc

http://www.filefactory.com/file/6uye10nst3ad/n/K035_Test_pdf

Password- joe2013

Further Readings

K035Inverter K035PV_Inverter

Stage 4 Part 17.zip

http://www.filefactory.com/file/c0cc76b/n/Stage_4_Part_17.zip

K035_Tutorials.zip

Stage 4 Part 16.zip

http://www.filefactory.com/file/c0cc703/n/Stage_4_Part_16.zip

Renewable Energy-K025+K035.zip

http://www.filefactory.com/file/c0b7c5e/n/Renewable_Energy-K025_K035.zip

Video Lessons

[K035 Lesson 1-Inverter principle.zip](#)

http://www.filefactory.com/file/c0b6a01/n/K035_Lesson_1-Inverter_principle.zip

[K035 Lesson 2-Modified sine wave inverter.zip](#)

http://www.filefactory.com/file/c0b6a26/n/K035_Lesson_2-Modified_sine_wave_inverter.zip

[K035 Lesson 3-Pulse width modulation.zip](#)

http://www.filefactory.com/file/c0b6a33/n/K035_Lesson_3-Pulse_width_modulation.zip

[K035 Lesson 4-PV Inverter.zip](#)

http://www.filefactory.com/file/c0b6a6c/n/K035_Lesson_4-PV_Inverter.zip

[K035 Lesson-5 MOSFET Driver.zip](#)

http://www.filefactory.com/file/c0b5978/n/K035_Lesson-5_MOSFET_Driver.zip

[K035 Lesson-6 PWM Inverter.zip](#)

http://www.filefactory.com/file/c0b6ac2/n/K035_Lesson-6_PWM_Inverter.zip

[K035 Lesson-7 Grid Connected Inverter.zip](#)

http://www.filefactory.com/file/c108253/n/K035_Lesson-7_Grid_Connected_Inverter.zip

[K035 Lesson-8 Inverter Power Flow Model.zip](#)

http://www.filefactory.com/file/c0b6aff/n/K035_Lesson-8_Inverter_Power_Flow_Model.zip

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Online Practicals

Practicals **Work performance and practical instruction**

Click [HERE](#) to download practicals

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OTHER RESOURCES

K025 Resources

Stage 2 Part 5.zip

http://www.filefactory.com/file/c0cc187/n/Stage_2_Part_5.zip

Protection_1

Protection_2

PV_System_installation_Overview_-_PV_Power_Systems

PVSoftware

Regulatory_Requirement

SPS_Components

Stage 2 Part 2A.zip

http://www.filefactory.com/file/c0cca4a/n/Stage_2_Part_2A.zip

Electrical_safe_working

Electrical_trade_review_questions_and_answers

ELV_Accessories_-_SPS_Components

ELV_Cable_termination

Stage 3 Part 1B.zip

http://www.filefactory.com/file/c0ccc42/n/Stage_3_Part_1B.zip

Cable_CktProt_E_Accessories

Cable_Conduit_E_Accessories

AEEGY 102A Solar and Thermal Energy Systems

Course Outline

In this subject you will learn about solar and thermal energy systems. You will develop specialised knowledge and applied skills relating to:

- Solar energy utilisation - introduction and overview
- Heating load calculations
- Thermal environment – solar radiation, shading and energy conservation
- Solar collectors
- Collector requirements for some specific applications
- Thermal energy storage
- Solar cooling
- Mechanical Power generation
- Sizing of heating, cooling and mechanical power generation components
- Ancillary equipment
- Equipment specification and installation
- Performance analysis.

Study Guide

Lesson Power Points

Part 1

<http://www.filefactory.com/file/c9acnzqhs13/AEEGY102A%2BRE003%20Part%202-ME108.pdf>

Part 2

http://www.filefactory.com/file/2i3h1v6qqkuv/AEEGY102A%2BRE003%20Part%203-Fact_sheet_-_Geothermal_Energy.pdf

Part 3

<http://www.filefactory.com/file/57k90jem46f/AEEGY102A-Solar%20%26amp%3B%20Thermal%20Energy%20System-RE003%20Part%201.pdf>

Password- Joe2013

Textbook

Prescribed Texts

The German Solar Energy Society, 2009 *Planning and Installing Solar Thermal Systems*, Earthscan (UK) All Chapters

http://www.filefactory.com/file/39q0d0rb9t7h/185936187-Planning-and-Installing-Solar-Thermal-Systems_pdf

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Tutorial Exercises

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Further Readings

K025_Note_1

K025_Note_2

Stage 2 Part 4.zip

http://www.filefactory.com/file/c0ccb53/n/Stage_2_Part_4.zip

K025 Resources

ELV_Accessories_-_SPS_Components

ELV_Cable_termination

Stage 2 Part 2A.zip

http://www.filefactory.com/file/c0cca4a/n/Stage_2_Part_2A.zip

PV_System_installation_Overview_-_PV_Power_Systems

SPS_Components

PVSoftware

Stage 2 Part 5.zip

http://www.filefactory.com/file/c0cc187/n/Stage_2_Part_5.zip

System_Installation_Examples_-_NUER02_version

Stage 2 Part 6.zip

http://www.filefactory.com/file/c0cccc0/n/Stage_2_Part_6.zip

[Renewable Energy-K025+K035.zip](#)

http://www.filefactory.com/file/c0b7c5e/n/Renewable_Energy-K025_K035.zip

Lesson 1 Lesson 2 Lesson 3 Lesson 4 Lesson 5 Lesson 6

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Online Practicals

Practicals Work performance and practical instruction

Click [HERE](#) to download practicals

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AEEGY 201A Energy Storage System

Course Outline

In this subject you will learn about energy storage systems. You will develop specialised knowledge and skills relating to:

- The need for and benefits of energy storage technologies
 - Current energy storage technologies and their application
 - Environmental impacts and benefits of energy storage systems
 - Designing an energy storage system for specific engineering applications
 - Costing and payback of energy storage systems
 - Designing and building a small scale energy storage system.
-

Study Guide

Lesson Power Points

Part 1

<http://www.filefactory.com/file/68whdsdbwtfh/AEEGY201A-RE004%20Part%201.pdf>

Part 2

<http://www.filefactory.com/file/gh1dls7edlp/AEEGY201A-RE004%20Part%202.pdf>

Part 3

<http://www.filefactory.com/file/48jt93opz4b5/AEEGY201A-RE004%20Part%203.pdf>

Password- Joe2013

Textbook

Prescribed Texts:

Brunet, Y, 2010, *Energy Storage*, John Wiley & Sons UK.

<http://www.filefactory.com/file/56ymtb4pptz1/Energy%20Storage.pdf>

Other Related book

http://www.filefactory.com/file/2wpc2idmobv9/Energy_Stroage_pdf

http://www.filefactory.com/file/3poecuxu7yxb/energy-in-australia-2012_pdf

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Tutorial Exercises

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Further Readings

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Online Practicals

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AEEGY202A Renewable Energy Resources Analysis

Course Outline

In this subject you will learn about renewable energy resource analysis. You will develop specialised knowledge and skills relating to:

- National and international trends in renewable energy resource analysis
- Energy history
- Australian Renewable Energy reserves
- Energy and power conversion
- Behavioural trends and misconceptions
- Power Cycles
- Oil, coal and natural gas
- Solar photovoltaics
- Solar thermal
- Wind Energy
- Hydro-power
- Bio-mass
- Geo-thermal
- Ocean energy
- Hydrogen Economy
- Limitations in existing infrastructure.

Study Guide

Lesson Power Points

Part 1

<http://www.filefactory.com/file/2248bo0gcbor/AEEGY202A%2BRE005%20Part%201.pdf>

Part 2

<http://www.filefactory.com/file/5us491ooh1cl/AEEGY202A%2BRE005%20Part%201.pdf>

Part 3

<http://www.filefactory.com/file/5e3gt7cv1rid/AEEGY202A%2BRE005%20Part%202.pdf>

Part 4

<http://www.filefactory.com/file/5ld0bqgs3049/AEEGY202A%2BRE005%20Part%202.pdf>

Part 5

<http://www.filefactory.com/file/47m4fhje9k73/AEEGY202A%2BRE005%20Part%203.pdf>

Part 6

<http://www.filefactory.com/file/5mfsxsln72ll/AEEGY202A%2BRE005%20Part%203.pdf>

Part 7

<http://www.filefactory.com/file/26efv2p36hpf/AEEGY202A%2BRE005%20Part%204.pdf>

Part 8

<http://www.filefactory.com/file/4szjlkhva34t/AEEGY202A%2BRE005%20Part%204.pdf>

Part 9

<http://www.filefactory.com/file/5n4ixwsih1vb/AEEGY202A%2BRE005%20Part%205.pdf>

Part 10

<http://www.filefactory.com/file/7jb0atgu4xst/AEEGY202A%2BRE005%20Part%205.pdf>

Part 11

<http://www.filefactory.com/file/3vix5oofhjex/AEEGY202A%2BRE005%20Part%205a.pdf>

Part 12

<http://www.filefactory.com/file/4jt03kopqyhp/AEEGY202A%2BRE005%20Part%205a.pdf>

Part 13

<http://www.filefactory.com/file/23v9r0ymiy8n/AEEGY202A%2BRE005%20Part%206.pdf>

Part 14

<http://www.filefactory.com/file/2yyceyvo1knh/AEEGY202A%2BRE005%20Part%206.pdf>

Part 15

<http://www.filefactory.com/file/2qiuhz8imqjf/AEEGY202A%2BRE005%20Part%207.pdf>

Part 16

<http://www.filefactory.com/file/33va2juvew5b/AEEGY202A%2BRE005%20Part%207.pdf>

Password- Joe2013

Textbook

Prescribed Text:

Boyle, G 2004, *Renewable Energy: Power for a sustainable future* 2nd or latest edition Oxford University Press

<http://www.filefactory.com/file/11jwo86pxn0j/Renewable%20Energy-Power%20for%20sustainable%20Future.pdf>

Password- Joe2013

Tutorial Exercises

Password- joe2013

Further Readings

[K131](#) + EE 308

http://www.filefactory.com/file/7hvv22gtz2lx/n/K131_zip

[Additional 3.zip](#)

http://www.filefactory.com/file/c0cb6a8/n/Additional_3.zip

[Additional 1.zip](#)

http://www.filefactory.com/file/c0cc0f7/n/Additional_1.zip

http://www.filefactory.com/file/1mr75xfm92ux/n/K032_zip

Password- joe2013

Online Practicals

Password- joe2013

AEEGY 203A Wind Energy Conversion System

Course Outline

In this subject you will learn about wind energy conversion systems. You will develop specialised knowledge and skills relating to:

- Introduction to wind as a natural resource
- Energy, power and wind
- Wind characteristics
- Data acquisition methods
- Site characteristics
- Correlation, wind and site
- Predicting energy output
- Turbines, types and construction
- Wind Energy Conversion Systems (WECS) sizing
- Retrospective performance.

Study Guide

Lesson Power Points

<http://www.filefactory.com/file/3hyoby6eqe3p/AEEGY%20203A%20%20Wind%20Energy-RE006.pdf>

Password- Joe2013

Textbook

Prescribed Texts:

Boyle, G, 2004, *Renewable Energy: Power for a sustainable future*. 2nd edition, Oxford University Press

<http://www.filefactory.com/file/11jwo86pxn0j/Renewable%20Energy-Power%20for%20sustainable%20Future.pdf>

Password- Joe2013

Tutorial Exercises

Password- joe2013

Further Readings

ME 202 Introduction to Aero Dynamics

http://www.filefactory.com/file/401s96o982uf/n/ME_202_Introduction_to_Aero_Dynamics_.pdf

ME 234 Wind Turbines

http://www.filefactory.com/file/30w0u2u36a19/n/ME_234_wind-turbines_.pdf

[Aerodynamics Part 1](#)

http://www.filefactory.com/file/7axzc9j37g91/n/ME202_Part_1_zip

[Aerodynamics Part 2](#)

http://www.filefactory.com/file/2tlei8t6e4xn/n/ME202_Part_2_zip

[Aerodynamics Part 3](#)

http://www.filefactory.com/file/6mt5m5wi6dfn/n/ME202_Part_3_zip

[Wind Turbine Part 1](#)

http://www.filefactory.com/file/1f2dio8ik4zd/n/ME_234_Part_1_zip

[Wind Turbine Part 2](#)

http://www.filefactory.com/file/olr2lwjdpc5/n/ME_234_Part_2_zip

[Wind Turbine Part 3](#)

http://www.filefactory.com/file/117k3a3shh4f/n/ME_234_Part_3_zip

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Online Practicals

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AEEGY 204 A Energy Efficiency

Course Outline

In this subject you will learn about the efficiency of energy systems. You will develop specific knowledge and skills relating to:

- Energy conversion efficiencies of conventional and renewable energy systems
- Energy auditing
- Economic and environmental benefits of energy efficiency
- Energy efficiency of various energy loads
- Cogeneration (CHP)
- Pros and cons of distributed generation in terms of energy efficiency
- Ways to improve energy efficiency at the generation point and in the distribution system
- Ways to improve energy efficiency at the load points.

Study Guide

Lesson Power Points

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Textbook

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Tutorial Exercises

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Further Readings

1	Building Design+Material Science-K041+E047.zip http://www.filefactory.com/file/c0b645d/n/Building_Design_Material_Science-K041_E047.zip
2	Stage 3 Part 7.zip http://www.filefactory.com/file/c0ccfc7/n/Stage_3_Part_7.zip HazardLightingPanel K041 Building Design 1 K041 Building Design 2 K041Airconditioning K041Energy Management Textbook Stage 3 Part 3.zip http://www.filefactory.com/file/c0ccd44/n/Stage_3_Part_3.zip E047 Mech
3	As 1

4	As 2
5	<p><u>Renewable Energy+ Energy Efficiency</u></p> <p><u>K041 Lesson 1-Solar Design.zip</u></p> <p>http://www.filefactory.com/file/c0b6a9f/n/K041_Lesson_1-Solar_Design.zip</p> <p><u>K041 Lesson 2-Basic psychrometric chart.zip</u></p> <p>http://www.filefactory.com/file/c0b6bc9/n/K041_Lesson_2-Basic_psychrometric_chart.zip</p> <p><u>K041 Lesson 3-Total heat resistance.zip</u></p> <p>http://www.filefactory.com/file/c0b6b18/n/K041_Lesson_3-Total_heat_resistance.zip</p> <p><u>K041 Lesson 4-U value Heat conductance calculation.zip</u></p> <p>http://www.filefactory.com/file/c0b6b57/n/K041_Lesson_4-U_value_Heat_conductance_calculation.zip</p> <p><u>K041 Lesson 5-Glazing+Net Heat gain heat loss.zip</u></p> <p>http://www.filefactory.com/file/c0b6cc2/n/K041_Lesson_5-Glazing_Net_Heat_gain_heat_loss.zip</p> <p><u>K041 Lesson 6-Shading.zip</u></p> <p>http://www.filefactory.com/file/c0b6cd7/n/K041_Lesson_6-Shading.zip</p> <p><u>K041 Lesson 7-Insulation+ Thermal mass.zip</u></p> <p>http://www.filefactory.com/file/c0b6c06/n/K041_Lesson_7-Insulation_Thermal_mass.zip</p>

[K041 Lesson 8-Thermal mass insulation.zip](#)

http://www.filefactory.com/file/c0b6c30/n/K041_Lesson_8-Thermal_mass_insulation.zip

[K041 Lesson 9-Airconditioning load calculation.zip](#)

http://www.filefactory.com/file/c0b6dc8/n/K041_Lesson_9-Airconditioning_load_calculation.zip

[K041 Lesson 10-Heat gain per day.zip](#)

http://www.filefactory.com/file/c0b6dfe/n/K041_Lesson_10-Heat_gain_per_day.zip

[K041 Lesson 11-Ventilation.zip](#)

http://www.filefactory.com/file/c0b6d13/n/K041_Lesson_11-Ventilation.zip

[K041 Lesson 12-Building heating load](#)

http://www.filefactory.com/file/c0b6d47/n/K041_Lesson_12-Building_heating_load_calculation.zip

[K041 Lesson 14-Design for Australian climate.zip](#)

http://www.filefactory.com/file/c0b6d76/n/K041_Lesson_14-Design_for_Australian_climate.zip

[K041 Lesson 15-Domestic solar hot water system.zip](#)

http://www.filefactory.com/file/c0b6eaf/n/K041_Lesson_15-Domestic_solar_hot_water_system.zip

[K041 Lesson 16-Energy efficiency+Lighting.zip](#)

http://www.filefactory.com/file/c0b6e0f/n/K041_Lesson_16-Energy_efficiency_Lighting.zip

[K041 Lesson 17-Illumination+Smoke alarm.zip](#)

http://www.filefactory.com/file/c0b6fc5/n/K041_Lesson_17-Illumination_Smoke_alarm.zip

[K041 Lesson 18-Water supply.zip](#)

http://www.filefactory.com/file/c0b61ec/n/K041_Lesson_18-Water_supply.zip

[K041 Lesson 19-Ventilation+Lighting control.zip](#)

http://www.filefactory.com/file/c0b6058/n/K041_Lesson_19-Ventilation+Lighting_control.zip

[K041 Lesson 20-Electrical system design.zip](#)

http://www.filefactory.com/file/c0b6085/n/K041_Lesson_20-Electrical_system_design.zip

[K041 Lesson 21-Building materials.zip](#)

http://www.filefactory.com/file/c0b61b8/n/K041_Lesson_21-Building_materials.zip

6 Click [HERE](#) to download other Exercises

7 [EE07 & EE011 units mapping for Theory study & Exercises](#)

	UEENEEK041B_E047B_Tutorials Energy_survey_assignment in Stage 3 Part 8.zip http://www.filefactory.com/file/c0ccf09/n/Stage_3_Part_8.zip
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf
9	E07 & EE011 units mapping for Theory study & Exercises Assignment + Project work
10	K041 Text book http://www.filefactory.com/file/61dmv976e7tl/n/K041Textbook1_zip http://www.filefactory.com/file/4lsx0pk00guj/n/K041Textbook2_zip http://www.filefactory.com/file/2kwcxkrnasyf/n/K041Textbook3_zip

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Online Practicals

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Part (2) Qualified (1) Course

ENMAT 101A Engineering Materials & Processes

Course Outline

In this subject you will learn about the structure, properties and usage of a variety of materials used in engineering applications. You will develop specialised knowledge relating to:

- Material structure and properties
- Mechanical properties
- Metals - ferrous and non-ferrous
- Polymers
- Ceramics
- Composites, concrete, other
- Basic destructive testing
- Steel – FeC (Iron/Carbon), heat treatment
- Casting - perm/non-perm
- Forming - hot, cold
- Processes - PowderM, welding, Rapid Proto
- Polymer processes - IM, BM, extrus, thermoset, composites
- Joining - fasteners, weld, non-fusion
- Corrosion
- Surface treatments - plating, coatings, peening, anodising
- Non-destructive testing
- Quality assurance and control, certified testing, safety, materials safety data sheets (MSDS)
- Economic and environmental issues - production/recycling.

Study Guide

WEEK	LECTURES / EXAMINATIONS	LABORATORY	QUIZ
Orientation Week	Orientation activities Review of syllabus and assessment activities. Laboratory orientation. Academic Foundations: Note taking; study skills; introduction to conducting research.		
Week 1	Lecture (2 hrs): Readings: Ch 1: Engineering materials; Ch 2: Properties of materials.	Laboratory 1 (2 hrs): Hardness test	
Week 2	Lecture (2 hrs): Readings: Ch 3: Mechanical testing; Ch 4: The crystal structure of metals.	Laboratory 2 (2 hrs): Tensile Test	
Week 3	Lecture (2 hrs): Readings: Ch 5: Casting process; Ch 6: Mechanical deformation of metals; Ch 7: The mechanical shaping of metals.	Laboratory 3 (2 hrs): Metal Casting	10101
Week 4	Lecture (2 hrs): Readings: Ch 8: Alloys; Ch 9: Equilibrium diagrams; Ch 10: Practical microscopy	Laboratory 4 (2 hrs): Microscopy, Weld samples	10102
Week 5	Lecture (2hrs): Readings: Ch 11: Iron and steel; Ch 12: The heat-treatment of plain-carbon steels	Laboratory 5 (2 hrs): Torsion, Bending Tests	10103
Week 6	Lecture (2hrs): Readings: Ch 13: Alloy steels; Ch 14: The surface hardening of steels; Ch 15: Cast iron.	Laboratory 6 (2 hrs): Heat Treatment	
Week 7	Examination Week A: Assessment 2: Short answer test on content from weeks 1 to 5 (Ch 1 to Ch 15) 15%	Assessment 3 due: Portfolio of Laboratory Reports 1, 2, 3 & 4 - 15%	
Week 8	Lecture (2hrs): Readings: Ch 16: Copper and its alloys; Ch 17: Aluminium and its alloys; Ch 18: Other non-ferrous metals and their alloys.	Laboratory 7 (2 hrs): Polymer tensile test,	10105

WEEK	LECTURES / EXAMINATIONS	LABORATORY	QUIZ
Week 9	Lecture (2hrs): Readings: Ch 19: Plastics materials and rubbers; Ch 20: Properties of plastics.	Site Visit: e.g. Rolling Mill, Materials process/testing	
Week 10	Lecture (2hrs): Readings: Ch 21: Ceramics; Ch 22: Glasses; Ch 23: Composite materials.	Demo: Epoxy FRC, thermoforming	10106
Week 11	Lecture (2hrs): Readings: Ch 24: Fibre-reinforced composite materials; Ch 25: Methods of joining materials.	Laboratory 8 (2 hrs): Dye, Mag, Ultrasound	10104
Week 12	Lecture (2hrs): Readings: Ch 26: Causes of failure; NDT; Material Standards.	Laboratory 9 (2 hrs): Product Study	10107
Week 13	Lecture (2 hrs): Readings: Ch 27 Choice of Materials and Processes; Design. Economic, Environmental, Social Issues.	Assessment 4 due: Collaborative Report (Product Study) 15%	10108
Week 14	Study Week		
Week 15	Examination Week B: Assessment 5: Written examination: 30%	Assessment 3 due: Portfolio of Laboratory Reports 5, 6, 7, 8 & 9 - 15%	

Lesson Power Points

E081 Material Science

http://www.filefactory.com/file/pq2r36bvgnv/n/E081_Material_Science1_pdf

Non Metallic Materials

http://www.filefactory.com/file/2czhyovkn32x/n/Materials_ppt

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Textbook

Prescribed Text:

Higgins, R. & Bolton, W., 2010, *Materials for Engineers and Technicians*, 5th Edition, Butterworth Heinemann, Oxford UK. ISBN 9781856177696.

http://www.filefactory.com/file/724kx95f2ayf/27767685-Materials-Engineers-Technicians_pdf

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Tutorial Exercises

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Further Readings

Engineering Mechanics

http://www.filefactory.com/file/63sqtnrqf55/n/ME_103_Engineering_Mechanics_zip

Chemical Thermodynamics

http://www.filefactory.com/file/5ussq0pnpi4t/n/ME_207_Chemical_thermodynamics_pdf

Introduction-to-polymer-science-and-technology

http://www.filefactory.com/file/6epib0ijvbjt/n/ME_209_Introduction-to-polymer-science-and-technology_pdf

http://www.filefactory.com/file/7dhamrs5c3z7/n/ME207_zip

[ME 305+ ME 209](#)

http://www.filefactory.com/file/76fbf48z2h7j/n/ME305_ME209_zip

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Online Practicals

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ENELE 101A Principle of Electrical Engineering

Course Outline

In this subject you will learn about basic principles of electrical engineering. You will develop a range of foundation knowledge and skills relating to:

- Notation and units
- Circuit topologies

Direct current (DC) circuit principles:

- Voltage, current, power, resistance, conductance
- Ohm's Law; Kirchhoff voltage and current laws
- Series and parallel configurations
- Linearity and Superposition
- Thévenin and Norton equivalent circuits (simple cases)
- Nodal and mesh analysis (simple cases)
- Maximum power transfer
- Capacitors
- Passive and switched resistor-capacitor (RC) circuits
- Inductors
- Passive and switched resistor-inductor (RL) circuits
- Diodes

Alternating current (AC) circuit principles:

- Amplitude, frequency and phase
- Voltage
- Current and power in resistors, inductors & capacitors
- Time domain analysis of ac circuits
- Review of complex numbers
- Phasors and phasor notation
- Complex impedance and admittance
- Thévenin and Norton equivalents (simple cases)
- AC power (real, reactive, complex)
- Root-mean-square (RMS) values
- Maximum power transfer.

Study Guide

WEEK NO:	TOPICS AND ACTIVITIES
Orientation Week	Orientation activities Review of syllabus and assessment activities.
Week 1	Introduction to DC Circuits Reading List: Chapter 1 Sections: 1.1 – 1.5 Chapter 2 Sections: 2.1 – 2.6 & 2.9 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 2	Kirchhoff Voltage & Current Laws Reading List: Chapter 3 Sections: 3.1 – 3.6 & 3.10 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 3	Node & Mesh Analysis Reading List: Chapter 4 Sections: 4.1 – 4.3, 4.5, 4.6, 4.8, 4.13 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 4	Superposition Principle & Source Transformation Thévenin & Norton Equivalent DC Circuits Reading List: Chapter 5 Sections: 5.1 – 5.6 & 5.11 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 5	Capacitors & Inductors Reading List: Chapter 7 Sections: 7.1 – 7.8 & 7.13 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 6	Passive & Switched RL & RC Circuits Reading List: Chapter 8 Sections: 8.1 – 8.4, 8.6 & 8.12 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 7	Examination Week A: Assessment 1: Written examination - 25%

WEEK NO:	TOPICS AND ACTIVITIES
Week 8	Diodes in DC Circuits Introduction to AC Circuits Reading List: Chapter 10 Sections: 10.1 & 10.2 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 9	AC Steady-State Analysis Reading List: Chapter 10 Sections: 10.3 & 10.4 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 10	Complex Numbers & Phasor Notation Reading List: Chapter 10 Sections: 10.5 – 10.6 & 10.11 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 11	Impedance & Admittance Thevenin & Norton Equivalent AC Circuits Reading List: Chapter 10 Section: 10.7 & 10.10 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ. Assessment 2 Due: Portfolio and/or written report on practicum work and experiments (Laboratory Workbook) – 25%
Week 12	AC Power Reading List: Chapter 11 Sections: 11.1 – 11.6 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 13	Power Superposition & Maximum Power Reading List: Chapter 11 Sections: 11.7 – 11.8 Text: Dorf, R & Svoboda, J, 2010, <i>Introduction to Electric Circuits</i> , 8 th Edn, John Wiley & Sons, Hoboken, NJ.
Week 14	Study Week
Week 15	Examination Week B: Assessment 3: Written examination – 50%

[Lesson Power Points](#)

[Week 1 Lesson](#)

[Week 2 Lesson](#)

[Week 3 Lesson](#)

Week 3A Lesson

Video- <http://www.filefactory.com/file/cf8739b/n/E003+E004.zip>

Circuit Analysis

Advanced Circuit Analysis

Electro-magnetics+Electronics

Advanced Circuits+Electromagnetics+Electronics

Electrical Circuits 1

Engineering Circuit Analysis

Electrical Measurement

Folder				Electrical Circuit
				<u>Instruction</u> Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	27	to	52	Circuit theorem
	54	to	71	Sinusoids & phasors
	73	to	81	Frequency response

Folder				Engineering Circuit Analysis
				<u>Instruction</u> Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
2/ 3				Basic circuits Examples 2.2, 2.3, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9, 3.10, 3.11, 3.12
4				Basic Nodal and Mesh analysis Example 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 4.9, 4.10, 4.11, 4.12
5				Linear and Superposition/ Source Transformation Example 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7, 5.8, 5.9, 5.10, 5.11
8				RL/ RC Circuits

				Example 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, 8.8, 8.9, 8.10, 8.11
9				RLC Circuits Example 9.1, 9.2, 9.3, 9.4, 9.5, 9.6, 9.7, 9.8, 9.9
10				Sinusoidal steady state analysis Example 10.1, 10.2, 10.3, 10.4, 10.5, 10.6, 10.7, 10.8
11				AC Power Circuit Analysis Example 11.1, 11.2, 11.3, 11.4, 11.5
12				Polyphase Circuits Example 12.1, 12.2, 12.3, 12.4, 12.5, 12.6
13				Magnetically coupled circuits Example 13.1, 13.2, 13.3, 13.4, 13.5, 13.6, 13.7, 13.8
14				Complex Frequency / Laplace Transform Example 14.1, 14.2, 14.3, 14.4, 14.5, 14.6, 14.7, 14.8, 14.11
				Laplace Transform Table 14.1, 14.2
15				Circuit analysis in “ S “ domain Example 15.1, 15.2, 15.3, 15.4, 15.5, 15.6, 15.7 Pole/ Zero constellation Example 15.12, 15.13
16				Frequency Response Example 16.1, 16.2
17				Two ports network Example 17.1, 17.2, 17.3, 17.4, 17.5
18				Fourier Circuit Analysis Example 18.1 Use of symmetry theory Table 18.1 Example 18.2, 18.3
Exercise	Q328	to	Q367	of Assignment Number (23)

Folder				EE404 Electrical Measurement
				<u>Instruction</u> Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
6	197			Measurement of inductance and capacitance
7	270			Measurement of resistance
9	352			Magnetic measurement
11	437			High voltage measurement and tesating
12	480			Location of cable fault
20	730			Measurement of power
21	771			Measurement of energy

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Textbook

Prescribed Text:

Dorf, R & Svoboda, J 2010, *Introduction to Electric Circuits*, 8th or latest edition, John Wiley & Sons, Hoboken, NJ.

http://www.filefactory.com/file/626gk4lkg37z/Introduction_to_Electric_Circuits_8th_Edition_by_Richard_C_Dorf_amp_James_A_Svoboda_pdf

http://www.filefactory.com/file/7kaiz26cy6vf/LabView_pdf

http://www.filefactory.com/file/2rrdma1udpkv/Principles_and_Applications_of_Electrical_Engineering_pdf

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Tutorial Exercises

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Further Readings

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Online Practicals

Practicals [Work performance and practical instruction](#)

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ENELE201A Advanced Electrical Engineering

Course Outline

In this subject you will build on basic engineering knowledge gained in previous sub and develop further knowledge and skills relating to electrical engineering:

Circuit analysis:

- DC and AC Network theorems (Kirchhoff's, Superposition)
- Resonance
- Magnetically coupled circuits

Communications and signalling processing and applications:

- Analogue and digital communications principles
- Filters
- Amplifiers and attenuators
- Communication protocols

Analogue and digital communication systems and control circuits:

- Telemetry and monitoring systems
- Control systems and applications.

Study Guide

Lesson Power Points

Electromagnetics

Electromagnetics 1

http://www.filefactory.com/file/f8hx3kz5gd1/n/BAE407_Wk_1_zip

Electromagnetics 2

http://www.filefactory.com/file/40r0fd3sta2p/n/BAE407_Wk_2_zip

Electromagnetics 3

http://www.filefactory.com/file/snre8qvw3j5/n/BAE407_Wk_3_zip

Circuits

Circuit 1

http://www.filefactory.com/file/65j9pisrtg0j/n/BAE405_Wk_1_zip

Circuit 2

http://www.filefactory.com/file/1o71eepje7up/n/BAE405_Wk_2_zip

Circuit 3

http://www.filefactory.com/file/1mm2f82zqhix/n/BAE405_Wk_3_zip

http://www.filefactory.com/file/3spcgz270krb/BAE405_Wk_3a.zip

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Textbook

Prescribed Texts:

Rizzoni, G & Hartley, T 2007, *Principles and Applications of Electrical Engineering*, 5th or latest edition, McGraw-Hill Companies Inc. USA

Recommended Readings:

Nahvi, M (Ed) & Edminister, J (Ed) 2011, *Schaum's Outline of Electric Circuits*, McGraw-Hill Companies Inc. USA

All About Circuits 2012, viewed 8 May 2012, <http://www.allaboutcircuits.com/>

http://www.filefactory.com/file/70zpg419d9mf/_Rizzoni_G_Principles_and_Applications_of_Electr_Bookos_org_pdf

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Tutorial Exercises

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Further Readings

Stage 2 Part 3.zip

http://www.filefactory.com/file/c0ccb1f/n/Stage_2_Part_3.zip

E025_Circuits_1 E025_Circuits_2

Stage 3 Part 2.zip

http://www.filefactory.com/file/c0ccdbc/n/Stage_3_Part_2.zip

E025_Tutorial

Stage 2 Part 2A.zip

http://www.filefactory.com/file/c0cca4a/n/Stage_2_Part_2A.zip

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Online Practicals

Practicals [Work performance and practical instruction](#)

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ENELE202A Principle of Electrical Machines

Course Outline

In this subject you will learn basic principles of electrical machinery. You will develop specialised knowledge and skills relating to:

Transformers:

- Transformer Principles and Construction
- Efficiency
- Impedance
- Equivalent circuit
- Polarity
- Vector groups
- Parallel operations
- Special Transformers (Auto and Instrument etc)

Induction Motors:

- Principle of Induction Motor
- Construction and operation of Squirrel Cage Induction Motors (SCIM) and Wound Rotor Induction Motors (WRIM)
- Operation and characteristics
- Induction Generator
- Single Phase Induction Motor

Synchronous Machines:

- Principles of operation
- Characteristics
- Motors
- Alternators

DC Machines:

- Principles of operation
- Shunt Series Compound Machines
- Characteristics

Single Phase and Special Motors:

- Split Phase motor
- Capacitor Start/Run motor

- Shaded Pole motor
- Universal motor
- Hysteresis motor
- Stepper motors
- Brushless DC motors
- Permanent magnet motors
- Variable reluctance motors
- Stepper motors
- Brushless DC motors

Electronic Control of Motors

- DC Motors
- AC Motors.

Study Guide

Lesson Power Points

AC MACHINES

[Elect Machine-G043+G044+G045.zip](#)

http://www.filefactory.com/file/c0b6668/n/Elect_Machine-G043_G044_G045.zip

[G043 G045 7762AF Notes](#)

[G043 G045 Part 1 7762AF Notes](#)

Induction and synchronous machines & control

[G043+G045 Lesson 1 AC Machine Introduction.zip](#)

http://www.filefactory.com/file/c0bf660/n/G043_G045_Lesson_1_AC_Machine_Introduction.zip

[G043+G045 Lesson 2 Slip+Equivalent Ckt.zip](#)

http://www.filefactory.com/file/c0bf7b9/n/G043_G045_Lesson_2_Slip_Equivalent_Ckt.zip

[G043+G045 Lesson 3 Power Transfer.zip](#)

http://www.filefactory.com/file/c0bf773/n/G043_G045_Lesson_3_Power_Transfer.zip

[G043+G045 Lesson 4 Test for equivalent ckt.zip](#)

http://www.filefactory.com/file/c0b03f9/n/G043_G045_Lesson_4_Test_for_equivalent_ckt.zip

[G043+G045 Lesson 5 Equivalent Ckt Problems.zip](#)

http://www.filefactory.com/file/c0bf842/n/G043_G045_Lesson_5_Equivalent_Ckt_Problems.zip

[G043+G045 Lesson 6 Motor starting and control.zip](#)

http://www.filefactory.com/file/c0bf90e/n/G043_G045_Lesson_6_Motor_starting_and_control.zip

[G043+G045 Lesson 7 Synchronous machine introduction.zip](#)

http://www.filefactory.com/file/c0bf92d/n/G043_G045_Lesson_7_Synchronous_machine_introduction.zip

[G043+G045 Lesson 8 Synchronous machine ckt problems.zip](#)

http://www.filefactory.com/file/c0bf955/n/G043_G045_Lesson_8_Synchronous_machine_ckt_problems.zip

[G043+G045 Lesson 9 Synchronous machine starting.zip](#)

http://www.filefactory.com/file/c0b0342/n/G043_G045_Lesson_9_Synchronous_machine_starting.zip

[G043+G045 Lesson 10 Single phase motor.zip](#)

http://www.filefactory.com/file/c0b0362/n/G043_G045_Lesson_10_Single_phase_motor.zip

[G043+G045 Lesson 11 Factors affecting motor operation.zip](#)

http://www.filefactory.com/file/c0b037b/n/G043_G045_Lesson_11_Factors_affecting_motor_operation.zip

[Induction and synchronous machines & control](#)

DC MACHINES

1 [Elect Fundamental E029+G012+G001+G002+G060.zip](#)

http://www.filefactory.com/file/c0b6601/n/Elect_Fundamental_E029_G012_G001_G002_G060.zip

[Elect Machine-G043+G044+G045.zip](#)

	http://www.filefactory.com/file/c0b6668/n/Elect_Machine-G043_G044_G045.zip
2	E029 Motor Control 1 E029 Motor Control 2 E047Mech G044 7762AC1 G044 7762AC2

TRANSFORMERS

	Power Transformer+Line-G040.zip http://www.filefactory.com/file/c0b7bd2/n/Power_Transformer_Line-G040.zip
	G040 7762AD Notes
	<u>As 1</u>
	<u>As 2</u>
	G040 Lesson 1 Power transformer rating 1.zip http://www.filefactory.com/file/c0bcff1/n/G040_Lesson_1_Power_transformer_rating_1.zip G040 Lesson 1 Power transformer rating 2.zip http://www.filefactory.com/file/c0bcf9b/n/G040_Lesson_1_Power_transformer_rating_2.zip G040 Lesson 2 Open circuit short circuit test.zip http://www.filefactory.com/file/c0bc0b9/n/G040_Lesson_2_Open_circuit_short_circuit_test.zip G040 Lesson 3 Transformer regulation.zip http://www.filefactory.com/file/c0bc0d1/n/G040_Lesson_3_Transformer_regulation.zip G040 Lesson 4 Power transformer connection.zip http://www.filefactory.com/file/c0bc09a/n/G040_Lesson_4_Power_transformer_connection.zip G040 Lesson 5 Maximum efficiency.zip http://www.filefactory.com/file/c0bc1db/n/G040_Lesson_5_Maximum_efficiency.zip G040 Lesson 6 Transformer parallel operation.zip http://www.filefactory.com/file/c0bc164/n/G040_Lesson_6_Transformer_parallel_operation.zip G040 Lesson 7 Harmonic in transformer.zip http://www.filefactory.com/file/c0bc2ab/n/G040_Lesson_7_Harmonic_in_transformer.zip G040 Lesson 8 Transformer problem + auto transformer.zip http://www.filefactory.com/file/c0bc2cb/n/G040_Lesson_8_Transformer_problem_auto_transformer.zip

[G040 Lesson 9 Transformer rating cooling connection tap changing.zip](http://www.filefactory.com/file/c0bc294/n/G040_Lesson_9_Transformer_rating_cooling_connection_tap_changing.zip)

http://www.filefactory.com/file/c0bc294/n/G040_Lesson_9_Transformer_rating_cooling_connection_tap_changing.zip

[G040 Lesson 10 Phase shift transformer.zip](http://www.filefactory.com/file/c0bc2f5/n/G040_Lesson_10_Phase_shift_transformer.zip)

http://www.filefactory.com/file/c0bc2f5/n/G040_Lesson_10_Phase_shift_transformer.zip

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Textbook

Prescribed Texts:

Wildi, T 2006, *Electrical Machines, Drives and Power Systems* 6th or latest edition. Pearson Prentice Hall, Australia

http://www.filefactory.com/file/7hcvfk7cai6b/Electrical_Machines_drive_power_system.pdf

http://www.filefactory.com/file/2ua3qpynkv43/ENELE202A-Principle_of_Elect_Machine.pdf

Password- Joe2013

Tutorial Exercises

Password- joe2013

Further Readings

Subjects	Points	Competency Units
Advanced Electro-magnetics Field & Materials		Electromagnetism

[Advanced Electro-magnetics](#)

[Field & Materials](#)

Readings

[Electro-magnetics Field](#)

[Electromagnetism](#)

[Electro-magnetism](#)

[Examples](#)

Electro-mechanics (2 pt)

Part (1) Overview Knowledge of the subject

Folder					Advanced Engineering Mathematics
					Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
File name	Chapter		Page		Topics
					Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
Theory					
chap01_emd.pdf			All		Electro-mechanics -1.0.1 Scope of application <ul style="list-style-type: none"> Electro-magnetic theory 1.1.1a Magnetic field system, Table 1.1 1.1.1.b Electric field system Table 1.2
chap02_emd.pdf			All		Lumped electro-mechanical elements
chap03_sec_emd.pdf			All		Lumped parameter-electro-mechanics
chap04_sec_emd.pdf			All		Rotating machines
chap05_sec_emd.pdf			All		Lumped parameter-electro mechanical dynamics
Problems					
chap02_prb_emd.pdf			All		Example problems
chap03_prb_emd.pdf			All		Example problems
chap04_prb_emd.pdf			All		Example problems
chap05_prb_emd.pdf			All		Example problems
emdsoln_01.pdf			All		Solutions for all example problems

Electrical Machines Machine Principle

Folder				Electrical Machines
File				Electrical Machines
				Instruction

				Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	45			DC Generator, Example problems
	58			DC Motors, Example problems
	121			Efficiency & heating of electrical machines, Example problems
	131			Three phase transformer, Example problems
	142			Three phase induction motors, Example problems
	177			Synchronous generators, Example problems
	194			Synchronous motors, Example problems
	229			Basic of industrial motor control, Example problems

Machine Principle

Folder				Machine Principle
				<u>Instruction</u> Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
2	114			Rotating machines
3	116			Machinery mounting
4	118			Balancing
6	124			Bearing
7	139			Power transmission

Advanced Electro-magnetics Field & Materials

Folder					Advanced Electro-magnetic Field & Materials
File					
					<u>Instruction</u> Study the notes, calculate the example problems then do the exercises numbers as indicated
File name		Chapter		Page	Topics
					Note- PDF File page number and the page

				number of the scanned document may be different. The student need to check both as necessary
Pre-readings				
em01.pdf	1		All	Electric field
em02.pdf	2		All	Electrostatic potential
em03.pdf	3		All	Dipole and quadrature pole movements
em04.pdf	4		All	Batteries, resistors, ohm laws
em05.pdf	5		All	Capacitors
em06.pdf	6		All	Magnetic effect of an electric current
em07.pdf	7		All	Force on current in a magnetic field
em08.pdf	8		All	Electro-dynamics of moving bodies
em09.pdf	9		All	Magnetic potential
em10.pdf	10		All	Electro-magnetic Induction
em11.pdf	11		All	Dimensions
em12.pdf	12		All	Properties of magnetic materials
em13.pdf	13		All	Alternating current
em14.pdf	14		All	Laplace transform
em15.pdf	15		All	Maxwell Equation
em16.pdf	16		All	CGS Electricity & Magnetism
em17.pdf	17		All	Magnetic dipole movement
Highlight Points				
Lecture1.pdf			All	Outlines
Lecture 2.pdf			All	Electric field
Lecture 3.pdf			All	Electrostatic Energy
Lecture 4.pdf			All	Laplace's equation (1)
Lecture 5.pdf			All	Laplace's equation (2)
Lecture 6.pdf			All	Remarks on units
Lecture 7.pdf			All	Green's functions
Lecture 8.pdf			All	Multipole expansion
Lecture 9.pdf			All	Electro-static in matter
Lecture 10.pdf			All	Boundary condition
Lecture 11.pdf			All	Magneto statics (1)
Lecture 12.pdf			All	Magneto statics (2)
Lecture 13.pdf			All	Macroscopic magneto statics
Lecture 14.pdf			All	Maxwell's equation
Lecture 15.pdf			All	DISC movement

Lecture 16.pdf			All		Electro-magnetic plane waves
Lecture 17.pdf			All		Reflection & refraction
Lecture 18.pdf			All		Casual relation between D & E
Lecture 19.pdf			All		Wave guides and load cavities
Lecture 20.pdf			All		Electromagnetic radiation and scattering (1)
Lecture 21.pdf			All		Electromagnetic radiation and scattering (2)
Lecture 22.pdf			All		Scattering by small di-electric sphere
Lecture 27.pdf			All		Electro-magnetism
Lecture 28.pdf			All		Electro magnetic fields and moving charges
Formulas					
CW950212_1.pdf			All		Multipole expansion
CW950320_1.pdf			All		Magnetic constants and materials
CW950329_1.pdf			All		Ampere law
CW950128_3.pdf			All		Brief history of electro magnetism
CW950219_2.pdf			All		Gauss's law
CW950313_2.pdf			All		Numerical solutions to Laplace's equation
CW960430_2.pdf			All		Small current loop
CW970129_3.pdf			All		Curvilinear co-ordinate system
CW970210_1.pdf			All		Problems
CW970303_1.pdf			All		Dielectric tensors and constants
CW970317_2.pdf			All		Analytic solution to Laplace equation
CW970606_1.pdf			All		Magnetostatic boundary condition
CW970606_1.pdf			All		Electrostatic boundary condition
Symbols					
CW970606_3.pdf			All		Electromagnetic field
CW980205_2.pdf			All		The gradient vector
Di-electric.pdf			All		Maxwell's equation
Propagation.pdf			All		Electro-magnetic wave propagation

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Online Practicals

Practicals Work performance and practical instruction

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ENELE 203A Electronics and Power Control

Course Outline

In this subject you will learn about electronics and power control. You will develop specialised knowledge and skills relating to:

Semiconductors, diodes, transistors and integrated circuits:

- Semiconductor materials and junctions
- Diode construction, operation, ratings and applications
- Transistor construction, operation, ratings and applications
- Integrated circuit construction, operation, ratings and applications especially as related to operational amplifiers

Linear regulated dc power supplies:

- Basic power supplies (ac to dc and dc to dc), circuits and applications
- Regulation requirements and applications

Switching power control circuits:

- Basic types, operation
- Critical issues, solutions and applications

Digital electronics

- Digital logic, circuits and power control applications

Power Inverters (DC to AC):

- Basic types, operation
- Critical issues, solutions and applications.

Study Guide

Lesson Power Points

POWER ELECTRONICS

[Power Electronics -H025+H026.zip](#)

http://www.filefactory.com/file/c0b6857/n/Power_Electronics_-H025_H026.zip

H025_Operational_Amplifier
H026_3_Ph_Power_Control_Electronics_1
H026_3_Ph_Power_Control_Electronics_2
H026_3_Ph_Power_Control_Electronics_3
H026_3_Ph_Power_Control_Electronics_4
In

[Stage 3 Part 6.zip](#)

http://www.filefactory.com/file/c0cce63/n/Stage_3_Part_6.zip

[Operational amplifier+ single phase power control equipments](#)

[H025 Lesson 1-Differential Amplifier.zip](#)

http://www.filefactory.com/file/c20fef9/n/H025_Lesson_1-Differential_Amplifier.zip

[H025 Lesson 2-Comparator.zip](#)

http://www.filefactory.com/file/c0b072e/n/H025_Lesson_2-Comparator.zip

[H025 Lesson 3-Timer IC.zip](#)

http://www.filefactory.com/file/c0b077e/n/H025_Lesson_3-Timer_IC.zip

[H025 Lesson 4-Op Amp Circuit 1 & 2.zip](#)

http://www.filefactory.com/file/c0b08c8/n/H025_Lesson_4-Op_Amp_Circuit_1_2.zip

[H025 Lesson 5-Op amp characteristics+Band](#) widthe compensation.zip

http://www.filefactory.com/file/c0b09da/n/H025_Lesson_5-Op_amp_characteristics_Band_widthe_compensation.zip

[H025 Lesson 6-Op amp diode characteristics.zip](#)

http://www.filefactory.com/file/c0b09e1/n/H025_Lesson_6-Op_amp_diode_characteristics.zip

[H025 Lesson 7-Sine & square wave oscillators.zip](#)

http://www.filefactory.com/file/c0b090a/n/H025_Lesson_7-Sine_square_wave_oscillators.zip

[H025 Lesson 8-Op amp ckt-Integrator+Differentiator.zip](#)

http://www.filefactory.com/file/c0b0909/n/H025_Lesson_8-Op_amp_ckt-Integrator_Differentiator.zip

[H025 Lesson 9-Active filter.zip](#)

http://www.filefactory.com/file/c0b0916/n/H025_Lesson_9-Active_filter.zip

[H025 Lesson 10-Multistage Op amp ckt.zip](#)

http://www.filefactory.com/file/c0b0948/n/H025_Lesson_10-Multistage_Op_amp_ckt.zip

[H025 Lesson 11-Transducers.zip](#)

http://www.filefactory.com/file/c0b0978/n/H025_Lesson_11-Transducers.zip

[H025 Lesson 12-Introduction to control.zip](#)

http://www.filefactory.com/file/c0b0986/n/H025_Lesson_12-Introduction_to_control.zip

[Operational amplifier+ single phase power control equipments](#)

[Power Electronics -H025+H026.zip](#)

http://www.filefactory.com/file/c0b6857/n/Power_Electronics_-H025_H026.zip

[Three phase power control equipments](#)

[H026 Lesson 1-Single &Three phase power control.zip](#)

http://www.filefactory.com/file/c0b1ac9/n/H026_Lesson_1-Single_Three_phase_power_control.zip

[H026 Lesson 2-Solid state switching devices.zip](#)

http://www.filefactory.com/file/c0b1af2/n/H026_Lesson_2-Solid_state_switching_devices.zip

[H026 Lesson 3-Inverter Converter.zip](#)

http://www.filefactory.com/file/c0b1a59/n/H026_Lesson_3-Inverter_Converter.zip

[H026 Lesson 4-Power Diodes.zip](#)

http://www.filefactory.com/file/c0b1a8f/n/H026_Lesson_4-Power_Diodes.zip

[H026 Lesson 5-AC Motor speed control.zip](#)

http://www.filefactory.com/file/c0b1ba7/n/H026_Lesson_5-AC_Motor_speed_control.zip

[H026 Lesson 6-Current fed inverter.zip](#)

http://www.filefactory.com/file/c0b1b0d/n/H026_Lesson_6-Current_fed_inverter.zip

[Three phase power control equipments](#)

ANALOG ELECTRONICS

[H045 Lesson 1 Op-amp.zip](#)

http://www.filefactory.com/file/c0b1b3a/n/H045_Lesson_1_Op-amp.zip

[H045 Lesson 1 Op-amp](#)

[H045 Lesson 2 DC Non idealities.zip](#)

http://www.filefactory.com/file/c0b1b5b/n/H045_Lesson_2_DC_Non_idealities.zip

[H045 Lesson 3 Bias compensation.zip](#)

http://www.filefactory.com/file/c0b1b86/n/H045_Lesson_3_Bias_compensation.zip

[H045 Lesson 4 Slew rate.zip](#)

http://www.filefactory.com/file/c0b1ca0/n/H045_Lesson_4_Slew_rate.zip

[H045 Lesson 5 AC Noise.zip](#)

http://www.filefactory.com/file/c0b1cb2/n/H045_Lesson_5_AC_Noise.zip

[H045 Lesson 5 AC Noise](#)

<http://uploading.com/files/6dmm1ccf/H045%2BLesson%2B5%2BAC%2BNoise.zip/>

[H045 Lesson 6 Source noise resistance.zip](#)

http://www.filefactory.com/file/c268af2/n/H045_Lesson_6_Source_noise_resistance.zip

[H045 Lesson 7 Signal to noise ratio.zip](#)

http://www.filefactory.com/file/c0b1cff/n/H045_Lesson_7_Signal_to_noise_ratio.zip

[H045 Lesson 8 Frequency compensation.zip](#)

http://www.filefactory.com/file/c0b1c0e/n/H045_Lesson_8_Frequency_compensation.zip

[H045 Lesson 9 Stability analysis.zip](#)

http://www.filefactory.com/file/c0b1c95/n/H045_Lesson_9_Stability_analysis.zip

[H045 Lesson 10 Feedforward compensation.zip](#)

http://www.filefactory.com/file/c0b1c56/n/H045_Lesson_10_Feedforward_compensation.zip

Analogue Electronics

[H045 Lesson 1 Op-amp.zip](#)

http://www.filefactory.com/file/c0b1b3a/n/H045_Lesson_1_Op-amp.zip

[H045 Lesson 2 DC Non idealities.zip](#)

http://www.filefactory.com/file/c0b1b5b/n/H045_Lesson_2_DC_Non_idealities.zip

[H045 Lesson 3 Bias compensation.zip](#)

http://www.filefactory.com/file/c0b1b86/n/H045_Lesson_3_Bias_compensation.zip

[H045 Lesson 4 Slew rate.zip](#)

http://www.filefactory.com/file/c0b1ca0/n/H045_Lesson_4_Slew_rate.zip

[H045 Lesson 5 AC Noise.zip](#)

http://www.filefactory.com/file/c0b1cb2/n/H045_Lesson_5_AC_Noise.zip

[H045 Lesson 6 Source noise resistance.zip](#)

http://www.filefactory.com/file/c268af2/n/H045_Lesson_6_Source_noise_resistance.zip

[H045 Lesson 7 Signal to noise ratio.zip](#)

http://www.filefactory.com/file/c0b1cff/n/H045_Lesson_7_Signal_to_noise_ratio.zip

[H045 Lesson 8 Frequency compensation.zip](#)

http://www.filefactory.com/file/c0b1c0e/n/H045_Lesson_8_Frequency_compensation.zip

[H045 Lesson 9 Stability analysis.zip](#)

http://www.filefactory.com/file/c0b1c95/n/H045_Lesson_9_Stability_analysis.zip

[H045 Lesson 10 Feedforward compensation.zip](#)

http://www.filefactory.com/file/c0b1c56/n/H045_Lesson_10_Feedforward_compensation.zip

AMPLIFIER

http://www.filefactory.com/file/c0cb6a8/n/Additional_3.zip

DC Power Supply

<http://www.filefactory.com/file/4f92zgjjzg7j/DC%20Power%20Supply.pdf>

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Textbook

Prescribed Texts:

Meade, R, Diffenderfer, R 2006, *Foundations of Electronics: Circuits and Devices* (Conventional Flow), 5th or latest edition, Delmar Cengage Learning, USA

<http://www.filefactory.com/file/2yu0qvkoqppn/Electronic%20Devices.pdf>

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Tutorial Exercises

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Further Readings

Analog & Digital Electronics 1

<http://www.filefactory.com/file/27alnx6skg2x/BAE408Wk1.zip>

Analog & Digital Electronics 2

http://www.filefactory.com/file/3vpyub43h53p/n/BAE408Wk2_zip

Analog & Digital Electronics 3

http://www.filefactory.com/file/4c6snjh05cel/n/BAE408Wk3_zip

Control 1

http://www.filefactory.com/file/4lahmzh0qf3b/n/BAE502_Wk_1_zip

Control 2

http://www.filefactory.com/file/46t9zbh859rl/BAE502_Wk_2.zip

Control 3

http://www.filefactory.com/file/15qea45hhvxx/n/BAE502_Wk_3_zip

Control 4

http://www.filefactory.com/file/22cy88iyi78f/n/BAE503Wk1PPT_zip

Control 5

http://www.filefactory.com/file/2d82bvgvzgx3/n/BAE503Wk2PPT_zip

Control 6

http://www.filefactory.com/file/3v7x6hmksvnf/n/BAE503Wk3PPT_zip

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Online Practicals

Practicals Work performance and practical instruction

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ENPRA101A Engineering Practice

Course Outline

In this subject you will learn about the practices of an engineering professional within a multidisciplinary framework. You will develop basic knowledge and skills relating to electrical and other engineering specialisations, including:

Introduction to the Regulatory System:

- Electricity Act
- Electricity Regulation Australian
- Standards State Regulators
- Workplace Health and Safety
- Engineers Code of Ethics

Drawings And Specifications:

- Drawing Interpretation
- Overview of Computer Aided Design (CAD)
- Writing a Specification

Generation and Distribution:

- Generating Plant
- Transmission Grid
- Substations

Fasteners and Fastening Methods:

- Methods of securing electrical equipment to various surfaces

Wiring Systems:

- Load Calculations
- Max. Demand
- Cables and Systems
- AS3008

Control and Protection:

- Earthing
- Protection for safety
- Faults and overloads
- Protective devices and methods

Illumination:

Study Guide

Lesson Power Points

AUSTRALIAN ELECTRICIAN TRAINING

[G106 Cable Termination](#)

[G106+G033 Practical](#)

[G063 Wk 7+8](#)

http://www.filefactory.com/file/423vowj4o34b/G063_Wk_7_8_zip

[G033+G063+G107 Week 10 to 15](#)

Study Guide EE07 & EE011

What to study			Which exercises to do		What practical to do	Resources
Main study		Additional study	Main exercise		Additional exercises	
EE07 Unit	EE011 Unit	For EE07+EE011 +Video	Study Option (1) EE-07	Study Option (2) EE-07	for EE011	
UEENEE005B Fix and secure equipment	UEENEE01105A Fix and secure electrotechnology equipment	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below
Study Option 1	Study Option 1					
See 1 below	See 3 below		EE011	=	EE07 +	Additional
Study Option 2	Study Option 2					
See 2 below	See 4 below					

1	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
2	
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
4	
5	<p>Video-- Electrical workshop Lesson 1 OHS.zip http://www.filefactory.com/file/c0adbfa/n/Electrical_workshop_Lesson_1_OHS.zip Electrical workshop Lesson 2 Workplace hazard+Fix & secure equipment.zip http://www.filefactory.com/file/c0adca2/n/Electrical_workshop_Lesson_2_Workplace_hazard_Fix_secure_equipment.zip Electrical workshop Lesson 3 Mechanical fixing.zip http://www.filefactory.com/file/c0adc1d/n/Electrical_workshop_Lesson_3_Mechanical_fixing.zip Electrical workshop Lesson 4 Basic electrical wiring.zip http://www.filefactory.com/file/c0add65/n/Electrical_workshop_Lesson_4_Basic_electrical_wiring.zip Electrical workshop Lesson 5 Wiring circuits.zip http://www.filefactory.com/file/c0ade9b/n/Electrical_workshop_Lesson_5_Wiring_circuits.zip Electrical workshop Lesson 6 Electrical safety testing.zip http://www.filefactory.com/file/c0adf90/n/Electrical_workshop_Lesson_6_Electrical_safety_testing.zip Electrical workshop Lesson 7 Testing insulation and polarity.zip http://www.filefactory.com/file/c0ad031/n/Electrical_workshop_Lesson_7_Testing_insulation_and_polarity.zip Electrical workshop Lesson 8 Testing lighting polarity.zip http://www.filefactory.com/file/c0ad1d8/n/Electrical_workshop_Lesson_8_Testing_lighting_polarity.zip</p>
6	(2) Click HERE to download other Exercises
7	EE07 & EE011 units mapping for Theory study & Exercises
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011.pdf
9	Stage_1_Electrical_workshop_practicals.pdf Wiring_Equipments_to_purchase IN THE LINK INDICATED IN ROLL 11
10	Fixing Equipments E002_E005.zip IN THE LINK INDICATED IN ROLL 11
11	BACK UP FOR 9 & 10 Stage 1 Part 1.zip http://www.filefactory.com/file/c0cb8ab/n/Stage_1_Part_1.zip

1	Stage 1 Part 5.zip http://www.filefactory.com/file/c0cb9b3/n/Stage_1_Part_5.zip
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Study Guide EE07 & EE011

What to study	study		Which exercises to do		What practical to do	Resources	
Main	study	Additional study	Main exercise		Additional exercises		
EE07 Unit	EE011 Unit	For EE07+EE011 +Video	Study Option (1) EE-07	Study Option (2) EE-07	for EE011		
UEENEE E007B	UEENEE E011A	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Use drawings, diagrams, schedules and manuals	Use drawings, diagrams, schedules, standards, codes and specifications						
Study Option 1	Study Option 1						
See 1 below	See 3 below		EE011	=	EE07 +	Additional	
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
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2	<p>ElectricalDrawing1</p> <p>ElectricalDrawing2</p> <p>ElectricalDrawing3</p> <p>Stage 1 Part 3.zip http://www.filefactory.com/file/c0cb8f5/n/Stage_1_Part_3.zip</p> <p>GeneralDrawing1</p> <p>GeneralDrawing2</p> <p>Stage 1 Part 4.zip http://www.filefactory.com/file/c0cc1cd/n/Stage_1_Part_4.zip</p>
3	<p>http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip</p>
4	<p>ElectricalDrawing1</p> <p>ElectricalDrawing2</p> <p>ElectricalDrawing3</p> <p>Stage 1 Part 3.zip http://www.filefactory.com/file/c0cb8f5/n/Stage_1_Part_3.zip</p> <p>GeneralDrawing1</p> <p>GeneralDrawing2</p> <p>Stage 1 Part 4.zip http://www.filefactory.com/file/c0cc1cd/n/Stage_1_Part_4.zip</p>
5	<p>Video-- Electrical workshop Lesson 1 OHS.zip http://www.filefactory.com/file/c0adbfa/n/Electrical_workshop_Lesson_1_OHS.zip</p> <p>Electrical workshop Lesson 2 Workplace hazard+Fix & secure equipment.zip http://www.filefactory.com/file/c0adca2/n/Electrical_workshop_Lesson_2_Workplace_hazard_Fix_secure_equipment.zip</p> <p>Electrical workshop Lesson 3 Mechanical fixing.zip http://www.filefactory.com/file/c0adc1d/n/Electrical_workshop_Lesson_3_Mechanical_fixing.zip</p> <p>Electrical workshop Lesson 4 Basic electrical wiring.zip http://www.filefactory.com/file/c0add65/n/Electrical_workshop_Lesson_4_Basic_electrical_wiring.zip</p> <p>Electrical workshop Lesson 5 Wiring circuits.zip http://www.filefactory.com/file/c0ade9b/n/Electrical_workshop_Lesson_5_Wiring_circuits.zip</p> <p>Electrical workshop Lesson 6 Electrical safety testing.zip</p>

	http://www.filefactory.com/file/c0adf90/n/Electrical_workshop_Lesson_6_Electrical_safety_testing.zip Electrical workshop Lesson 7 Testing insulation and polarity.zip http://www.filefactory.com/file/c0ad031/n/Electrical_workshop_Lesson_7_Testing_insulation_and_polarity.zip Electrical workshop Lesson 8 Testing lighting polarity.zip http://www.filefactory.com/file/c0ad1d8/n/Electrical_workshop_Lesson_8_Testing_lighting_polarity.zip
6	(2) Click HERE to download other Exercises
7	Stage 1 Electrical workshop practicals.pdf
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011.pdf
9	EE07 & EE011 units mapping for Theory study & Exercises Attend the face to face session Stage_1_Electrical_workshop_practicals.pdf Wiring_Equipments_to_purchase in Stage 1 Part 3.zip http://www.filefactory.com/file/c0cb8f5/n/Stage_1_Part_3.zip
10	ElectricalDrawing1 ElectricalDrawing2 ElectricalDrawing3 Stage 1 Part 3.zip http://www.filefactory.com/file/c0cb8f5/n/Stage_1_Part_3.zip GeneralDrawing1 GeneralDrawing2 Stage 1 Part 4.zip http://www.filefactory.com/file/c0cc1cd/n/Stage_1_Part_4.zip
11	BACK UP FOR 9 & 10 Stage 1 Part 3.zip http://www.filefactory.com/file/c0cb8f5/n/Stage_1_Part_3.zip

Study Guide EE07 & EE011

What to study		Which exercises to do		What practical to do	Resources
Main study	Additional	Main	Additional		

		l study	exerc ise		nal exercise s		
EE07 Unit	EE011 Unit	For EE07+EE 011 +Video	Study Optio n (1) EE- 07	Study Optio n (2) EE-07	for EE011		
UEENEE008B Lay wiring/cabl ing and terminate accessorie s for extra- low voltage circuits	UEENEE008A Lay wiring/cabl ing and terminate accessorie s for extra- low voltage (ELV) circuits	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1						
See 1 below	See 3 below		EE01 1	=	EE07 +	Additio nal	
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
2	
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
4	
5	<p>Video-- Electrical workshop Lesson 1 OHS.zip</p> <p>http://www.filefactory.com/file/c0adbfa/n/Electrical_workshop_Lesson_1_OHS.zip Electrical workshop Lesson 2 Workplace hazard+Fix & secure equipment.zip</p> <p>http://www.filefactory.com/file/c0adca2/n/Electrical_workshop_Lesson_2_Workplace_hazard_Fix_secure_equipment.zip</p> <p>Electrical workshop Lesson 3 Mechanical fixing.zip</p> <p>http://www.filefactory.com/file/c0adc1d/n/Electrical_workshop_Lesson_3_Mechanical_fixing.zip</p> <p>Electrical workshop Lesson 4 Basic electrical wiring.zip</p> <p>http://www.filefactory.com/file/c0add65/n/Electrical_workshop_Lesson_4_Basic_electrical_wiring.zip</p> <p>Electrical workshop Lesson 5 Wiring circuits.zip</p>

	http://www.filefactory.com/file/c0ade9b/n/Electrical_workshop_Lesson_5_Wiring_circuits.zip Electrical workshop Lesson 6 Electrical safety testing.zip http://www.filefactory.com/file/c0adf90/n/Electrical_workshop_Lesson_6_Electrical_safety_testing.zip Electrical workshop Lesson 7 Testing insulation and polarity.zip http://www.filefactory.com/file/c0ad031/n/Electrical_workshop_Lesson_7_Testing_insulation_and_polarity.zip Electrical workshop Lesson 8 Testing lighting polarity.zip http://www.filefactory.com/file/c0ad1d8/n/Electrical_workshop_Lesson_8_Testing_lighting_polarity.zip
6	2) Click HERE to download other Exercises
7	EE07 & EE011 units mapping for Theory study & Exercises
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf
9	EE07 & EE011 units mapping for Theory study & Exercises Attend the face to face session Stage_1_Electrical_workshop_practicals.pdf Wiring_Equipments_to_purchase IN THE LINK INDICATED IN ROLL 11
10	Wiring_Notes_1. Wiring_Notes_2 Switchboard_Wiring 1Wiring_E033_E008 2Wiring_E033_E008 IN THE LINK INDICATED IN ROLL 11
11	BACK UP for 9 & 10 Stage 1 Part 5.zip http://www.filefactory.com/file/c0cb9b3/n/Stage_1_Part_5.zip Stage 1 Part 1.zip http://www.filefactory.com/file/c0cb8ab/n/Stage_1_Part_1.zip

Study Guide EE07 & EE011

What to study		Which exercises to do	What practical to do	Resources
Main study	Additional study	Main exercise	Additional exercises	
EE07 Unit	EE011 Unit	For EE07+EE011 +Video	Study Option (1) EE-07	Study Option (2) EE-07 for EE011
UEENEEE033B Document occupation	UEENEEE137A Document and apply	See 5 below	See 6 below	See 7 below
			See 8 below	See 9 below
				See 10 below

al hazards and risks in electrical work	measures to control OHS risks associated with electrotechnology work						
Study Option 1	Study Option 1						
See 1 below	See 3 below		EE01 1	=	EE07 +	Additi onal	
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
2	
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
4	
5	<p>Video-- Electrical workshop Lesson 1 OHS.zip http://www.filefactory.com/file/c0adbfa/n/Electrical_workshop_Lesson_1_OHS.zip Electrical workshop Lesson 2 Workplace hazard+Fix & secure equipment.zip http://www.filefactory.com/file/c0adca2/n/Electrical_workshop_Lesson_2_Workplace_hazard_Fix_secure_equipment.zip Electrical workshop Lesson 3 Mechanical fixing.zip http://www.filefactory.com/file/c0adc1d/n/Electrical_workshop_Lesson_3_Mechanical_fixing.zip Electrical workshop Lesson 4 Basic electrical wiring.zip http://www.filefactory.com/file/c0add65/n/Electrical_workshop_Lesson_4_Basic_electrical_wiring.zip Electrical workshop Lesson 5 Wiring circuits.zip http://www.filefactory.com/file/c0ade9b/n/Electrical_workshop_Lesson_5_Wiring_circuits.zip Electrical workshop Lesson 6 Electrical safety testing.zip http://www.filefactory.com/file/c0adf90/n/Electrical_workshop_Lesson_6_Electrical_safety_testing.zip Electrical workshop Lesson 7 Testing insulation and polarity.zip http://www.filefactory.com/file/c0ad031/n/Electrical_workshop_Lesson_7_Testing_insulation_and_polarity.zip</p>

	on_7_Testing_insulation_and_polarity.zip Electrical workshop Lesson 8 Testing lighting polarity.zip http://www.filefactory.com/file/c0ad1d8/n/Electrical_workshop_Lesson_8_Testing_lighting_polarity.zip
6	2) Click HERE to download other Exercises
7	EE07 & EE011 units mapping for Theory study & Exercises
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf
9	EE07 & EE011 units mapping for Theory study & Exercises Attend the face to face session Stage_1_Electrical_workshop_practicals.pdf Wiring_Equipments_to_purchase IN THE LINK INDICATED IN ROLL 11
10	Electrical_safe_working.zip NREL_Disconnect_Reconnect.zip IN THE LINK INDICATED IN ROLL 11
11	BACK UP for 9 & 10 Stage 1 Part 5.zip http://www.filefactory.com/file/c0cb9b3/n/Stage_1_Part_5.zip Stage 1 Part 1.zip http://www.filefactory.com/file/c0cb8ab/n/Stage_1_Part_1.zip

Study Guide EE07 & EE011

What to	study		Which	exercises to do		What practical to do	Resources
Main	study	Additional study	Main exercise		Additional exercises		
EE07 Unit	EE011 Unit	For EE07+EE011 +Video	Study Option (1) EE-07	Study Option (2) EE-07	for EE011		
	UEENEEG106A Terminate cables, cords and accessories for low voltage circuits	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1						
See 1 below	See 3 below		EE011	=	EE07 +	Additional	

Study Option 2	Study Option 2						
See 2 below	See 4 below						

4	<p>ELV_Cable_termination</p> <p>in Stage 2 Part 2A.zip</p> <p>http://www.filefactory.com/file/c0cca4a/n/Stage_2_Part_2A.zip</p>
5	<p>Video-- Electrical workshop Lesson 1 OHS.zip http://www.filefactory.com/file/c0adbfa/n/Electrical_workshop_Lesson_1_OHS.zip Electrical workshop Lesson 2 Workplace hazard+Fix & secure equipment.zip http://www.filefactory.com/file/c0adca2/n/Electrical_workshop_Lesson_2_Workplace_hazard_Fix_secure_equipment.zip Electrical workshop Lesson 3 Mechanical fixing.zip http://www.filefactory.com/file/c0adc1d/n/Electrical_workshop_Lesson_3_Mechanical_fixing.zip Electrical workshop Lesson 4 Basic electrical wiring.zip http://www.filefactory.com/file/c0add65/n/Electrical_workshop_Lesson_4_Basic_electrical_wiring.zip Electrical workshop Lesson 5 Wiring circuits.zip http://www.filefactory.com/file/c0ade9b/n/Electrical_workshop_Lesson_5_Wiring_circuits.zip Electrical workshop Lesson 6 Electrical safety testing.zip http://www.filefactory.com/file/c0adf90/n/Electrical_workshop_Lesson_6_Electrical_safety_testing.zip Electrical workshop Lesson 7 Testing insulation and polarity.zip http://www.filefactory.com/file/c0ad031/n/Electrical_workshop_Lesson_7_Testing_insulation_and_polarity.zip Electrical workshop Lesson 8 Testing lighting polarity.zip http://www.filefactory.com/file/c0ad1d8/n/Electrical_workshop_Lesson_8_Testing_lighting_polarity.zip</p>
6	
7	Only practical assessment in class

8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf
9	Attend face to face class http://www.filefactory.com/file/2f8e3fph9trr/n/G106_G033_Practical_zip
10	ELV_Cable_termination Wiring_Notes_1. Wiring_Notes_2 Switchboard_Wiring 1Wiring_E033_E008 2Wiring_E033_E008 ElectricalDrawing1.zip ElectricalDrawing2.zip ElectricalDrawing3.pdf IN THE LINK INDICATED IN ROLL 11
11	BACK UP Stage 2 Part 2A.zip http://www.filefactory.com/file/c0cca4a/n/Stage_2_Part_2A.zip

Study Guide EE07 & EE011

What to study	study		Which	exercis es to do		What practica l to do	Resourc es
Main	study	Additional study	Main exerci se		Addition al exercises		
EE07 Unit	EE011 Unit	For EE07+EE011 +Video	Study Option (1) EE-07	Study Option (2) EE-07	for EE011		
	UEENEEG063A Arrange circuits, control and protection for general electrical installations	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1						
See 1 below	See 3 below		EE011	=	EE07 +	Addition al	
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	
2	
3	
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5	<p><u>Electrical wiring + Electrical Installation requirement</u></p> <p><u>G003+G004+G007 Lesson 1 Electrical installation protection.zip</u></p> <p>http://www.filefactory.com/file/c35d2f2/n/G003_G004_G007_Lesson_1_Electrical_installation_protection.zip</p> <p><u>G003+G004+G007 Lesson 2 Electrical system safety.zip</u></p> <p>http://www.filefactory.com/file/cf937ac/n/G003_G004_G007_Lesson_2_Electrical_system_safety.zip</p> <p><u>G003+G004+G007 Lesson 3 Heating+Cable</u> ckt protection exercise.zip</p> <p>http://www.filefactory.com/file/c0abfe8/n/G003_G004_G007_Lesson_3_Heating_Cable_ckt_protection_exercise.zip</p> <p><u>G003+G004+G007 Lesson 4 Wiring system.zip</u></p> <p>http://www.filefactory.com/file/cf939f0/n/G003_G004_G007_Lesson_4_Wiring_system.zip</p> <p><u>G003+G004+G007 Lesson 5 Hazardous area electrical system.zip</u></p> <p>http://www.filefactory.com/file/cf94af8/n/G003_G004_G007_Lesson_5_Hazardous_area_electrical_system.zip</p> <p><u>G003+G004+G007 Lesson 6 Overload protection RCD.zip</u></p> <p>http://www.filefactory.com/file/cf94bcf/n/G003_G004_G007_Lesson_6_Overload_protection_RCD.zip</p>

	<p>G003+G004+G007 Lesson 7 RCD + Metering.zip</p> <p>http://www.filefactory.com/file/cf94cae/n/G003_G004_G007_Lesson_7_RCD_Metering.zip</p> <p>G003+G004+G007 Lesson 8 Switch board installation.zip</p> <p>http://www.filefactory.com/file/cf94c40/n/G003_G004_G007_Lesson_8_Switch_board_installation.zip</p> <p>G003+G004+G007 Lesson 9 Cable selection+Maximum demand.zip</p> <p>http://www.filefactory.com/file/cf94dbb/n/G003_G004_G007_Lesson_9_Cable_selection_Maximum_demand.zip</p> <p>G003+G004+G007 Lesson 10 Electrical installation safety testing.zip</p> <p>http://www.filefactory.com/file/cf94123/n/G003_G004_G007_Lesson_10_Electrical_installation_safety_testing.zip</p>
6	
7	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p>Only face to face class assessment</p>
8	Only face to face class assessment
9	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p>Attend face to face class</p> <p>PRACTICAL</p> <p>Workshop 2+3</p> <p>WorkShop_Part_2_Practical_1_to_6_.zip</p> <p>WorkShop_Part_2_Practical_7_to_12_.zip</p> <p>WorkShop_Part_2_Practical_13_to_17_.zip</p> <p>WorkShop_Part_2_Practical_18_to_21_.zip</p> <p>ElectricalWorkshopPart3_G008_Group1Machine_.zip</p> <p>ElectricalWorkshopPart3_G008_Group2LineProtection_.zip</p> <p>ElectricalWorkshopPart3_G008_Group3InstrumentsDevices_.zip</p> <p>OTHER PRACTICALS</p> <p>ELECTRICAL_WORKSHOP_PART_2_G003_G004_G009_.zip</p> <p>Electrical_Workshop_Part_2_Practical_1_to_18.zip</p>

	Electrical_Workshop_Part_2_Practical_19_to_21.zip G003_G004_G009Practicals.pdf IN THE LINK INDICATED IN ROLL 11
1 0	Construction ElectricalSafety.zip InserviceTesting.zip Wiring_Notes_1. Wiring_Notes_2 Switchboard_Wiring 1Wiring_E033_E008 2Wiring_E033_E008 IN THE LINK INDICATED IN ROLL 11
1 1	<u>BACK UP FOR 9 & 10</u> Stage 2 Part 1B.zip http://www.filefactory.com/file/c0ccac0/n/Stage_2_Part_1B.zip Stage 2 Part 3.zip http://www.filefactory.com/file/c0ccb1f/n/Stage_2_Part_3.zip Stage 2 Part 6.zip http://www.filefactory.com/file/c0cccc0/n/Stage_2_Part_6.zip Stage 3 Part 3.zip http://www.filefactory.com/file/c0ccd44/n/Stage_3_Part_3.zip Stage 3 Part 4.zip http://www.filefactory.com/file/c0ccd9a/n/Stage_3_Part_4.zip Stage 4 Part 8.zip http://www.filefactory.com/file/c0cc5a1/n/Stage_4_Part_8.zip Stage 4 Part 9.zip http://www.filefactory.com/file/c0cc5db/n/Stage_4_Part_9.zip Stage 4 Part 10.zip http://www.filefactory.com/file/c0cc5f8/n/Stage_4_Part_10.zip Stage 3 Part 5.zip http://www.filefactory.com/file/c0ccefd/n/Stage_3_Part_5.zip Stage 3 Part 8.zip http://www.filefactory.com/file/c0ccf09/n/Stage_3_Part_8.zip Stage 3 Part 9.zip http://www.filefactory.com/file/c0ccf48/n/Stage_3_Part_9.zip

Study Guide EE07 & EE011

What to study		Which exercises to do		What practical to do	Resources
Main study	Additional study	Main exercise	Additional exercises		
EE07 Unit	EE011 Unit	For EE07+EE011 +Video	Study Option (1) EE-07	Study Option (2) EE-07	for EE011

UEENEEG007A Select wiring systems and cables for low voltage general electrical installations	UEENEEG107A Select wiring systems and cables for low voltage general electrical installations	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1						
See 1 below	See 3 below		EE011	=	EE07 +	Additio nal	
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
2	AS3000-2007Overview.zip AS3000_AS3008TablesExtract.zip WiringRules.zip Part (1) Study the following notes Installation_Requirement_1-A.zip Installation_Requirement_1-B.zip Installation_Requirement_2-A.zip Installation_Requirement_2-B.zip Stage_2_Wiring.zip In Stage 2 Part 3.zip http://www.filefactory.com/file/c0ccb1f/n/Stage_2_Part_3.zip Stage 2 Part 6.zip http://www.filefactory.com/file/c0cccc0/n/Stage_2_Part_6.zip Stage 3 Part 1B.zip http://www.filefactory.com/file/c0ccc42/n/Stage_3_Part_1B.zip Stage 3 Part 3.zip http://www.filefactory.com/file/c0ccd44/n/Stage_3_Part_3.zip Stage 3 Part 4.zip http://www.filefactory.com/file/c0ccd9a/n/Stage_3_Part_4.zip

	Stage 3 Part 5.zip Stage 3 Part 6.zip Stage 3 Part 9.zip Stage 4 Part 7.zip Stage 4 Part 8.zip Stage 4 Part 9.zip Stage 4 Part 14.zip
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
4	AS3000-2007Overview.zip AS3000_AS3008TablesExtract.zip WiringRules.zip Part (1) Study the following notes Installation_Requirement_1-A.zip Installation_Requirement_1-B.zip Installation_Requirement_2-A.zip Installation_Requirement_2-B.zip Stage_2_Wiring.zip in www.electricaldiploma2013.zoomshare.com AUSTRALIAN ELECTRICIAN TRAINING
5	<u>G007</u> G007 Lesson 1 AS3000 Wiring rule overview.zip http://www.filefactory.com/file/cf94220/n/G007_Lesson_1_AS3000_Wiring_rule_overview.zip G007 Lesson 2 Maximum Demand calculation.zip

	<p>http://www.filefactory.com/file/cf9456f/n/G007_Lesson_2_Maximum_Demand_calculation.zip</p> <p>G007 Lesson 3 Cable selection.zip</p> <p>http://www.filefactory.com/file/cf9465c/n/G007_Lesson_3_Cable_selection.zip</p> <p>G007 Lesson 4 Cable voltage drop calculation.zip</p> <p>http://www.filefactory.com/file/cf9479e/n/G007_Lesson_4_Cable_voltage_drop_calculation.zip</p> <p>G007 Lesson 5 Derating of cable part 1.zip</p> <p>http://www.filefactory.com/file/cf95acb/n/G007_Lesson_5_Derating_of_cable_part_1.zip</p> <p>G007 Lesson 6 Derating of cable part 2.zip</p> <p>http://www.filefactory.com/file/cf95a6b/n/G007_Lesson_6_Derating_of_cable_part_2.zip</p> <p>G007 Lesson 7 Derating of cable for HRC fuse protection.zip</p> <p>http://www.filefactory.com/file/cf95cd7/n/G007_Lesson_7_Derating_of_cable_for_HRC_fuse_protection.zip</p> <p>G007 Lesson 8 Final subcircuit fault loop impedance.zip</p> <p>http://www.filefactory.com/file/cf95dd1/n/G007_Lesson_8_Final_subcircuit_fault_loop_impedance.zip</p> <p>Electrical Installation requirement</p>
6	Click HERE to download the other exercises
7	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p>Do the assignments from the following book & submit the assignment (1) Cable Installation.zip</p> <p>Do the assignments from the following book & submit the assignment (2) Regulatory Requirement.zip</p>
8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011.pdf
9	<p>EE07 & EE011 units mapping for Theory study & Exercises</p> <p>PRACTICAL</p> <p>Workshop 2+3</p> <p>WorkShop_Part_2_Practical_1_to_6_.zip</p> <p>WorkShop_Part_2_Practical_7_to_12_.zip</p> <p>WorkShop_Part_2_Practical_13_to_17_.zip</p>

	<p>WorkShop_Part_2_Practical_18_to_21_.zip</p> <p>ElectricalWorkshopPart3_G008_Group1Machine_.zip</p> <p>ElectricalWorkshopPart3_G008_Group2LineProtection_.zip</p> <p>ElectricalWorkshopPart3_G008_Group3InstrumentsDevices_.zip</p> <p>OTHER PRACTICALS</p> <p>ELECTRICAL_WORKSHOP_PART_2_G003_G004_G009_.zip</p> <p>Electrical_Workshop_Part_2_Practical_1_to_18.zip</p> <p>Electrical_Workshop_Part_2_Practical_19_to_21.zip</p> <p>G003_G004_G009Practicals.pdf</p> <p>In</p> <p>www.electricaldiploma2013.zoomshare.com</p> <p>AUSTRALIAN ELECTRICIAN TRAINING</p>
1 0	
1 1	<p><u>BACK UP FOR 9 & 10</u></p> <p>Stage 2 Part 1B.zip http://www.filefactory.com/file/c0ccac0/n/Stage_2_Part_1B.zip</p> <p>Stage 2 Part 3.zip http://www.filefactory.com/file/c0ccb1f/n/Stage_2_Part_3.zip</p> <p>Stage 2 Part 6.zip http://www.filefactory.com/file/c0cccc0/n/Stage_2_Part_6.zip</p> <p>Stage 3 Part 3.zip http://www.filefactory.com/file/c0ccd44/n/Stage_3_Part_3.zip</p> <p>Stage 3 Part 4.zip http://www.filefactory.com/file/c0ccd9a/n/Stage_3_Part_4.zip</p> <p>Stage 3 Part 5.zip http://www.filefactory.com/file/c0ccefd/n/Stage_3_Part_5.zip</p> <p>Stage 3 Part 8.zip http://www.filefactory.com/file/c0ccf09/n/Stage_3_Part_8.zip</p> <p>Stage 3 Part 9.zip http://www.filefactory.com/file/c0ccf48/n/Stage_3_Part_9.zip</p> <p>Stage 4 Part 7.zip http://www.filefactory.com/file/c0cc479/n/Stage_4_Part_7.zip</p> <p>Stage 4 Part 8.zip http://www.filefactory.com/file/c0cc5a1/n/Stage_4_Part_8.zip</p> <p>Stage 4 Part 9.zip http://www.filefactory.com/file/c0cc5db/n/Stage_4_Part_9.zip</p> <p>Stage 4 Part 10.zip http://www.filefactory.com/file/c0cc5f8/n/Stage_4_Part_10.zip</p>

Study Guide EE07 & EE011

What to study	study		Which exercises to do		What practical to do	Resources
Main	study	Additional study	Main exercise		Additional exercises	
EE07 Unit	EE011 Unit	For EE07+EE011 +Video	Study Option (1) EE-07	Study Option (2) EE-07	for EE011	
UEENEEG003A Install low voltage wiring and accessories	UEENEEG103A Install low voltage wiring and accessories	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below See 10 below
Study Option 1	Study Option 1					
See 1 below	See 3 below		EE011	=	EE07 +	Additional
Study Option 2	Study Option 2					
See 2 below	See 4 below					

1	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip
2	
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip <u>G103+104 Notes+Lessons</u> http://www.filefactory.com/file/2bg8qift6nzh/n/G103_G104_zip
4	Wiring_Notes_1. Wiring_Notes_2 Switchboard_Wiring 1Wiring_E033_E008 2Wiring_E033_E008 Fixing Equipments

	<p>E002_E005.zip Lighting.zip</p> <p>E_trade_1.zip</p> <p>E_trade_2.zip</p> <p>E_trade_3.zip</p> <p>E_trade_4.zip</p> <p>G008_General_Notes_1.zip</p> <p>G008_General_Notes_2.zip</p> <p>Hazard_Identification.zip</p> <p>G003_G004_Wiring_2_Part_1.zip</p> <p>G003_G004_Wiring_2_Part_2.zip</p> <p>Cable_CktProt_E_Accessories.zip</p> <p>Cable_Conduit_E_Accessories.zip</p> <p>Elect_Installation_Protection_Method_Devices.zip</p> <p>Elect_Installation_Requirement_1.zip</p> <p>Elect_Installation_Requirement_1.zip</p> <p>Elect_Installation_Requirement_2.zip</p> <p>ElectricInstallationDesign.zip</p> <p>ElectSystSafety1.zip</p> <p>ElectSystSafety2.zip</p> <p>FireProtHeatingTestingEarthing.zip</p> <p>GeneralWiring.zip</p> <p>HazardLightingPanel.zip</p> <p>PanelRCDWireSpecial_Installation.zip</p> <p>ProtectionMethods.zip</p> <p>in</p> <p>www.electricaldiploma2013.zoomshare.com</p> <p>AUSTRALIAN ELECTRICIAN TRAINING</p>
5	<p><u>Electrical wiring + Electrical Installation requirement</u></p> <p>G003+G004+G007 Lesson 1 Electrical installation protection.zip</p> <p>http://www.filefactory.com/file/c35d2f2/n/G003_G004_G007_Lesson_1_Electrical_installation_protection.zip</p> <p>G003+G004+G007 Lesson 2 Electrical system safety.zip</p> <p>http://www.filefactory.com/file/cf937ac/n/G003_G004_G007_Lesson_2_Electrical_system_safety.zip</p> <p>G003+G004+G007 Lesson 3 Heating+Cable ckt protection exercise.zip</p> <p>http://www.filefactory.com/file/c0abfe8/n/G003_G004_G007_Lesson_3_Heating_Cable_ckt_protection_exercise.zip</p>

	<p>G003+G004+G007 Lesson 4 Wiring system.zip http://www.filefactory.com/file/cf939f0/n/G003_G004_G007_Lesson_4_Wiring_system.zip</p> <p>G003+G004+G007 Lesson 5 Hazardous area electrical system.zip http://www.filefactory.com/file/cf94af8/n/G003_G004_G007_Lesson_5_Hazardous_area_electrical_system.zip</p> <p>G003+G004+G007 Lesson 6 Overload protection RCD.zip http://www.filefactory.com/file/cf94bcf/n/G003_G004_G007_Lesson_6_Overload_protection_RCD.zip</p> <p>G003+G004+G007 Lesson 7 RCD + Metering.zip http://www.filefactory.com/file/cf94cae/n/G003_G004_G007_Lesson_7_RCD_Metering.zip</p> <p>G003+G004+G007 Lesson 8 Switch board installation.zip http://www.filefactory.com/file/cf94c40/n/G003_G004_G007_Lesson_8_Switch_board_installation.zip</p> <p>G003+G004+G007 Lesson 9 Cable selection+Maximum demand.zip http://www.filefactory.com/file/cf94dbb/n/G003_G004_G007_Lesson_9_Cable_selection_Maximum_demand.zip</p> <p>G003+G004+G007 Lesson 10 Electrical installation safety testing.zip http://www.filefactory.com/file/cf94123/n/G003_G004_G007_Lesson_10_Electrical_installation_safety_testing.zip</p>
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10	Stage 3 Part 8.zip http://www.filefactory.com/file/c0ccf09/n/Stage_3_Part_8.zip Power Distribution Trade Power_Distribution_Trade.zip Metering Metering.zip
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Study Guide EE07 & EE011

What to	study		Which	exercis es to do		What practica l to do	Resourc es
Main	study	Additional study	Main exerci se		Addition al exercises		
EE07	EE011 Unit	For	Study	Study	for		

Unit		EE07+EE011 +Video	Option (1) EE-07	Option (2) EE-07	EE011		
	UEENEEG033A Solve problems in single and three phase low voltage electrical apparatus and circuits	See 5 below	See 6 below	See 7 below	See 8 below	See 9 below	See 10 below
Study Option 1	Study Option 1						
See 1 below	See 3 below		EE011	=	EE07 +	Additional	
Study Option 2	Study Option 2						
See 2 below	See 4 below						

1		
2		
3	http://www.filefactory.com/file/c0b67b7/n/Electrical_Workshop_Wiring_E001_2_3_4_5_7_8_33_G003_4_7.zip <u>G033</u> http://www.filefactory.com/file/1b2utxydvcx7/n/G033_zip	
4	Wiring_Notes_1. Wiring_Notes_2 Switchboard_Wiring 1Wiring_E033_E008 2Wiring_E033_E008 Fixing Equipments E002_E005.zip Lighting.zip E_trade_1.zip E_trade_2.zip E_trade_3.zip E_trade_4.zip G008_General_Notes_1.zip G008_General_Notes_2.zip Hazard_Identification.zip	

	<p> G003_G004_Wiring_2_Part_1.zip G003_G004_Wiring_2_Part_2.zip Cable_CktProt_E_Accessories.zip Cable_Conduit_E_Accessories.zip Elect_Installation_Protection_Method_Devices.zip Elect_Installation_Requirement_1.zip Elect_Installation_Requirement_1.zip Elect_Installation_Requirement_2.zip ElectricInstallationDesign.zip ElectSystSafety1.zip ElectSystSafety2.zip FireProtHeatingTestingEarthing.zip GeneralWiring.zip HazardLightingPanel.zip PanelRCDWireSpecial_Installation.zip ProtectionMethods.zip In www.electricaldiploma2013.zoomshare.com AUSTRALIAN ELECTRICIAN TRAINING </p>
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	<p>G003+G004+G007 Lesson 5 Hazardous area electrical system.zip http://www.filefactory.com/file/cf94af8/n/G003_G004_G007_Lesson_5_Hazardous_area_electrical_system.zip</p> <p>G003+G004+G007 Lesson 6 Overload protection RCD.zip http://www.filefactory.com/file/cf94bcf/n/G003_G004_G007_Lesson_6_Overload_protection_RCD.zip</p> <p>G003+G004+G007 Lesson 7 RCD + Metering.zip http://www.filefactory.com/file/cf94cae/n/G003_G004_G007_Lesson_7_RCD_Metering.zip</p> <p>G003+G004+G007 Lesson 8 Switch board installation.zip http://www.filefactory.com/file/cf94c40/n/G003_G004_G007_Lesson_8_Switch_board_installation.zip</p> <p>G003+G004+G007 Lesson 9 Cable selection+Maximum demand.zip http://www.filefactory.com/file/cf94dbb/n/G003_G004_G007_Lesson_9_Cable_selection_Maximum_demand.zip</p> <p>G003+G004+G007 Lesson 10 Electrical installation safety testing.zip http://www.filefactory.com/file/cf94123/n/G003_G004_G007_Lesson_10_Electrical_installation_safety_testing.zip</p> <p>Electrical wiring + Electrical Installation requirement</p>	
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8	http://www.filefactory.com/file/3qun68epu0lp/n/Advanced_Diploma_in_Electrical_Engineering_Exercises_EE011_pdf	
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1 0	<p>Power Distribution Trade Power_Distribution_Trade.zip</p> <p>Metering Metering.zip</p> <p>PRACTICAL</p> <p>Workshop 2+3</p> <p>WorkShop_Part_2_Practical_1_to_6_.zip</p> <p>WorkShop_Part_2_Practical_7_to_12_.zip</p> <p>WorkShop_Part_2_Practical_13_to_17_.zip</p> <p>WorkShop_Part_2_Practical_18_to_21_.zip</p> <p>ElectricalWorkshopPart3_G008_Group1Machine_.zip</p> <p>ElectricalWorkshopPart3_G008_Group2LineProtection_.zip</p> <p>ElectricalWorkshopPart3_G008_Group3InstrumentsDevices_.zip</p> <p>OTHER PRACTICALS</p> <p>ELECTRICAL_WORKSHOP_PART_2_G003_G004_G009_.zip</p> <p>Electrical_Workshop_Part_2_Practical_1_to_18.zip</p> <p>Electrical_Workshop_Part_2_Practical_19_to_21.zip</p> <p>G003_G004_G009Practicals.pdf</p> <p>In</p> <p>www.electricaldiploma2013.zoomshare.com</p> <p>AUSTRALIAN ELECTRICIAN TRAINING</p>	
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Textbook

Prescribed Texts:

TAFE NSW Higher Education 2012, *Engineering Practices (ENPRA101A) Lecture Notes and Workbook*, lecture notes distributed in Engineering Practices

Recommended Readings:

Hampson, J 2006, *Electrical Trade Principles*, Pearson Education Australia (Chapter 6)

Pethebridge, K & Neeson I 2009, *Electrical Wiring Practice Vol 1*, 7th or latest edition, McGraw Hill, Australia (Chapters 1, 4 and 7)

Pethebridge, K & Neeson I 2002, *Electrical Wiring Practice Vol 2*, 6th or latest edition, McGraw Hill, Australia (Section 22.6)

Standards Australia AS/NZS 3000:Electrical installations (*Wiring Rules*)

Standards Australia AS/NZS 3008 *Electrical installations—Selection of cables*

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Tutorial Exercises

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Further Readings

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Online Practicals

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Text Books for

ENEMP101A Introduction to Engineering Mathematics and Physics

ENEMP102A Foundation Engineering Mathematics and Physics

ENEMP201A Intermediate Engineering Mathematics and Physics

ENEMP202A Advanced Engineering Mathematics and Physics

Giancoli, DC, 2000, Physics For Scientists And Engineers, 4th or latest edition, Volumes 1,2,3, ISBN: 9780132273596.

http://www.filefactory.com/file/7c514m4yw0ov/Giancoli_-_Physics_6th_Solutions_pdf

http://www.filefactory.com/file/1588szswdljx/Giancoli_-_Physics_6th_pdf

Bird, J, 2007, Engineering Mathematics, 4th or latest edition, Newnes Publishing, ISBN: 0-7506-5776-6,

http://www.filefactory.com/file/2z1jzorebdwx/2-john-bird-higher-engineering-mathematics_pdf

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http://www.filefactory.com/file/2179ehd xp9g5/MatlabNotes_pdf

Text Books for

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ENMCC 201A Advanced Mechanical & Civil Engineering Principle

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http://www.filefactory.com/file/4k7yvsvt47jr/123974244-strength-of-material-by-r-k-bansal_pdf

http://www.filefactory.com/file/3h4q2snf4kgd/Fluid_Mechanics_and_Thermodynamics_of_Turbomachinery_4E_pdf

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<http://www.filefactory.com/file/4f92zgjjzg7j/DC%20Power%20Supply.pdf>

Part (3) Qualified (2) Course

RE 501-Control of Solar Energy System

RE502- Biomass Gasification

RE503- Energy Management in Industrial and Commercial Facilities

RE504- Engineering Solution for Sustainability

RE505- Green Building Design

RE506- Low Emission Power Generation Technologies

RE507- Offshore Wind Turbines

RE508- Solar Hydrogen Energy System

RE509- Applied Photovoltaics

RE510- Water Conservation

RE511- Sustaining Earth Energy resources

A written report between 10,000 – 12,000 words that covers both theory & practical knowledges of the above units.

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Part (4) Final Thesis

Res 601 Research Method

MAE 602 Thesis

[http://www.filefactory.com/file/1l1r1k0ftawt/n/11.Research+Thesis \(ICT 605\).zip](http://www.filefactory.com/file/1l1r1k0ftawt/n/11.Research+Thesis (ICT 605).zip)

This course guides the student, step by step, through the research process, from problem selection through writing up results. It provides all of the basics necessary to complete a research project in any discipline.

Outline. The following aspects are reflected in this course:

What is research?

Tools of research

The problem: the heart of the research process

Review of the related literature

Planning your research design

Writing the research proposal

Qualitative research

Historical research

Descriptive research

Experimental and causal - comparative designs

Statistical techniques for analyzing quantitative data

Technical details: style, format, and organization of the research report

Masters Research Proposal

Synopsis: Research students are expected to present a written research proposal within three months after commencement. The proposal is handed in to the study leader. Assessors of this proposal are selected by the faculty for their understanding of the field and the research involved. The purpose of a research is to set out a plan for conducting the research and writing the dissertation within the available time. It should take account of the availability and guidance of the study leader. The starting point for a research proposal is the topic, which is the field of interest in which the research is to be carried out. In introducing the topic, the proposal should clarify the field that it falls into and the specific part that field which the research will explore. It should clarify why the topic is of interest and importance, and how the proposed research will contribute to the field of knowledge or profession. The proposal should clarify the research questions, ensuring that these are specific and answerable. It is important to show how these questions relate to the topic are, and how they will advance the student's contribution. The proposal should detail the research to be carried out, and clarify the research methods, the timeframe and the reasons for selecting particular methods. Where a period of literature review or research should precede any empirical research, this should be factored in as part of the research. It is important to estimate any periods of field research and to flag their duration and cost in your research proposal.

MAE 601 Professional Engineering Practice

MENG6003 Selective I: management subject (45 hrs) 3 credits

MENG6004 Selective II: management subject (45 hrs) 3 credits

Res 601 Research Method

MENG6005 Quantitative Methods and Statistics (45 hrs) 3 credits

MAE 602 Thesis

Engineering Project/Thesis 24 credits

Candidates need to complete a 60000-words engineering dissertation (in Myanmar or English) and a 3000-words executive portfolio (in English).

This program requires the candidates to complete a dissertation as part of the assessment for the MSc (RE) degree. Doing a thesis means that instead of knowledge and information being presented and following a prescribed route for answering questions, candidates are thrust into an active role of managing an investigation into a topic area. This means researching and discovering things for themselves. They will have to set their own targets and parameters, pose their own central research questions and decide on the appropriate sources of information to support the research. It therefore requires the use of the higher-level cognitive skills of analysis, synthesis and evaluation. Candidates may choose an area of particular interest to them within the scope of course title. A dissertation is an individual effort and the candidate, academic tutor and the course professor will work together on constructing an approved topic (research question) and methodologies.

Engineering Dissertation Defense 9 credits

It is expected of Master's candidates to defend their thesis by means of a colloquium doctum (academic discussion). The purpose of the meeting is for the candidates to convince a panel of experts in the field of the dissertation how well they have done in the conducting of their research study and the preparation of their dissertation

Program Total Credits 48 credits

Candidates need to complete all course assessments with the results of Grade B+ or above.

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Myanmar Vocational Training Collaboration and Alternative Education

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Myanmar Engineering Jobs

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30615-Engg

Master Level Electronics, Civil, Mechanical ဘာသာဗဟုသုတတွေ့နဲ့စီစဉ်ထားတဲ့ Online Video Lesson တွေကို IQY Technical College အလုပ်ခွင်ဝင်အကြိုသင်တန်း Myanmar Vocational Training Certificate (Level 3) (Engineer Pre-employment) Course မှာ AGTI/BTech/BE / City & Guild Diploma/ IQY Advanced Diploma/ IQY Professional Diploma/ Bachelor of Engineering Science ကျောင်းဆင်းတွေအလုပ်အင်တာဗျူးမှာဘာသာရပ်ဆိုင်ရာဗဟုသုတသာမကလက်တွေ့အလုပ်အတွက်ပါအကြိုးဝင်အောင် Online ပို့ချပါမယ်။

[illegible]

အစိုးရကခေါ်ယူသော ရာထူးများအတွက် Electrical Power/Electronics/ Civil/ Mechanical
ONLINE REFRESHER class Lesson Linkကို IQY Teaching Class & Alumni
Groupတွင်တင်ထားသည်။

<https://www.facebook.com/groups/637757666926395>

တွင် Lesson /Textbook / Download Link ပေးပါမည်။

တက်လို့သမျှ

<https://www.emailmeform.com/builder/form/b0LQY1DCa753FP>

တိုင်စာရင်းသွင်းပါ။

Apprentice Engineer Certificate Number (Myanmar Engineering Council)

အောက်တွင် Government Job Exam ဟုဖြည့်ပါ။

သင်တန်းခ-- ကျပ်နှစ်သောင်း --- ငွေသွင်းရန်KBZ ACcount ပေးမည်။

[illegible]

CIVIL ENGINEER

ELECTRICAL POWER ENGINEER

ELECTRONICS ENGINEER

MECHANICAL ENGINEER

MECHATRONICS ENGINEER

CHEMICAL AND MATERIALS ENGINEER

ARCHITECT

2124-11 Civil Engineer

Plans, designs, organises and oversees the construction and operation of civil engineering projects such as structural, transportation or hydraulic engineering systems.

Skill Level:

The entry requirement for this occupation is a bachelor degree or higher qualification. In some instances relevant experience is required in addition to the formal qualification. Registration or licensing may be required.

Tasks Include:

- designs civil engineering projects such as hydraulic systems, roads, aerodromes, water supply systems, bridges and buildings
- studies, evaluates and reports on the environmental implications of projects
- determines construction methods, materials and quality standards
- drafts and interprets specifications, drawings, plans, construction methods and procedures
- organises and directs site labour and the delivery of construction materials, plant and equipment
- administers contracts and verifies and certifies satisfactory completion
- establishes detailed programs for the coordination of site activities
- sets up work control systems to ensure that standards of performance, quality, cost and safety are met
- consults with other engineers, architects, landscape architects and environmental scientists
- researches, investigates and evaluates materials, processes or systems related to civil engineering works
- supervises the testing and commissioning of completed works

မြို့ပြအင်ဂျင်နီယာ

ဆောက်လုပ်ရေး၊

သယ်ယူပို့ဆောင်ရေးနှင့်ဟိုက်ဒရောလစ်အင်ဂျင်နီယာစသည့်မြို့ပြအင်ဂျင်နီယာစီမံကိန်းများသည် ဆောက်ခြင်းနှင့်လည်ပတ်ခြင်းတို့ကိုစီမံခြင်း၊ ဒီဇိုင်းဆွဲခြင်း၊ စုစည်းခြင်းနှင့်ကြီးကြပ်ခြင်း။

•ဟိုက်ဒရောလစ်စနစ်များ၊ လမ်းများ၊ လေယာဉ်များ၊ ရေပေးဝေရေးစနစ်များ၊

•စီမံကိန်းများ၏ပတ်ဝန်းကျင်ဆိုင်ရာသက်ရောက်မှုများကိုလေ့လာခြင်း၊ အကဲဖြတ်ခြင်းနှင့်အစီရင်ခံခြင်း

•ဆောက်လုပ်ရေးနည်းလမ်းများ၊ ပစ္စည်းများနှင့်အရည်အသွေးစံနှုန်းများကိုဆုံးဖြတ်သည်
အသေးစိတ်ဖော်ပြချက်များ၊ ပုံများ၊ အစီအစဉ်များ၊
ဆောက်လုပ်ရေးနည်းလမ်းများနှင့်လုပ်ထုံးလုပ်နည်းများကိုမူကြမ်းနှင့်အဓိပ္ပာယ်ကောက်ယူသည်

•ဆောက်လုပ်ရေးပစ္စည်းများ၊ စက်ရုံနှင့်စက်ပစ္စည်းများဖြန့်ဝေခြင်းနှင့်လုပ်ငန်းခွင်
ဝင်ရောက်ခြင်းကိုစီစဉ်သည်

•စာချုပ်များကိုစီမံခန့်ခွဲပြီးကျေနပ်အားရမှုပြီးဆုံးကြောင်းအတည်ပြုပြီးအတည်ပြုသည်

•လုပ်ငန်းခွင်ညှိနှိုင်းဆောင်ရွက်မှုအတွက်အသေးစိတ်အစီအစဉ်များချမှတ်သည်

•စွမ်းဆောင်ရည်၊ အရည်အသွေး၊

ကုန်ကျစရိတ်နှင့်လုံခြုံမှုစံနှုန်းများကိုပြည့်မီစေရန်သေချာစေရန်အလုပ်ထိန်းချုပ်မှုစနစ်များကိုတပ်ဆင်သည်

•အခြားအင်ဂျင်နီယာများ၊ ဗိသုကာများ၊

ရှုခင်းများဆိုင်ရာဗိသုကာများနှင့်ပတ်ဝန်းကျင်ဆိုင်ရာသိပ္ပံပညာရှင်များနှင့်တိုင်ပင်ဆွေးနွေးသည်

•ဆောက်လုပ်ရေးလုပ်ငန်းနှင့်သက်ဆိုင်သောပစ္စည်းများ၊

လုပ်ငန်းစဉ်များသို့မဟုတ်စနစ်များကိုသုတေသနပြု၊

•ပြီးစီးသောအလုပ်များကိုစစ်ဆေးခြင်းနှင့်ခွင့်ပြုခြင်းကိုကြီးကြပ်သည်

Mapping

Tasks

GEC -General Engineering Competency

GCEP-Graduate Civil Engineer Proficiency

GEEP-Graduate Electrical Engineer Proficiency

GMEP-Graduate Mechanical Engineer Proficiency

GCEP601

Design civil engineering projects such as hydraulic systems, roads, aerodromes, water supply systems, bridges and buildings

ဟိုက်ဒရောလစ်စနစ်များ၊ လမ်းများ၊ လေယာဉ်များ၊ ရေပေးဝေရေးစနစ်များ၊ပုံစံပြုခြင်း
GCEP602 Study, evaluate report environmental implication on project စီမံကိန်းများ၏ပတ်ဝန်းကျင်ဆိုင်ရာသက်ရောက်မှုများကိုလေ့လာခြင်း၊ အကဲဖြတ်ခြင်းနှင့်အစီရင်ခံခြင်း
GCEP603 Determine construction methods, materials and quality standards •ဆောက်လုပ်ရေးနည်းလမ်းများ၊ပစ္စည်းများနှင့်အရည်အသွေးစံနှုန်းများကိုဆုံးဖြတ်သည်
GCEP604 Draft and interpret specifications, drawings, plans, construction methods and procedures အသေးစိတ်ဖော်ပြချက်များ၊ ပုံများ၊ အစီအစဉ်များ၊ ဆောက်လုပ်ရေးနည်းလမ်းများနှင့်လုပ်ထုံးလုပ်နည်းများကိုမူကြမ်းနှင့်အဓိပ္ပာယ်ကောက်ယူသည်
GCEP605 Organise and direct site labour and the delivery of construction materials, plant and equipment ဆောက်လုပ်ရေးပစ္စည်းများ၊ စက်ရုံနှင့်စက်ပစ္စည်းများဖြန့်ဝေခြင်းနှင့်လုပ်ငန်းခွင်ဝင်ရောက်ခြင်းကိုစီစဉ်သည်
GCEP606 Administer contracts and verify and certify satisfactory completion •စာချုပ်များကိုစီမံခန့်ခွဲပြီးကျေနပ်အားရမှုပြီးဆုံးကြောင်းအတည်ပြုသည်
GCEP607 Establish detailed programs for the coordination of site activities လုပ်ငန်းခွင်ညှိနှိုင်းဆောင်ရွက်မှုအတွက်အသေးစိတ်အစီအစဉ်များချမှတ်သည်
GCEP608 Set up work control systems to ensure that standards of performance, quality, cost and safety are met စွမ်းဆောင်ရည်၊ အရည်အသွေး၊ ကုန်ကျစရိတ်နှင့်လုံခြုံမှုစံနှုန်းများကိုပြည့်မီစေရန်သေချာစေရန်အလုပ်ထိန်းချုပ်မှုစနစ်များကိုတပ်ဆင်သည်
GCEP609 Consult with other engineers, architects, landscape architects and environmental scientists အခြားအင်ဂျင်နီယာများ၊ မိသုကာများ၊ ရှုခင်းများဆိုင်ရာမိသုကာများနှင့်ပတ်ဝန်းကျင်ဆိုင်ရာသိပ္ပံပညာရှင်များနှင့်တိုင်ပင်ဆွေးနွေးသည်

GCEP610

Research, investigate and evaluate materials, processes or systems related to civil engineering works

ဆောက်လုပ်ရေးလုပ်ငန်းနှင့်သက်ဆိုင်သောပစ္စည်းများ၊

လုပ်ငန်းစဉ်များသို့မဟုတ်စနစ်များကိုသုတေသနပြုသည်

GCEP611

Supervise the testing and commissioning of completed works

ပြီးစီးသောအလုပ်များကိုစစ်ဆေးခြင်းနှင့်ခွင့်ပြုခြင်းကိုကြီးကြပ်သည်

2125-11 Electrical Engineer

Designs, develops and supervises the manufacture, installation, operation and maintenance of equipment, machines and systems for the generation, distribution, utilisation and control of electric power.

Skill Level:

The entry requirement for this occupation is a bachelor degree or higher qualification. In some instances relevant experience is required in addition to the formal qualification. Registration or licensing may be required.

Tasks Include:

- plans and designs the manufacture and installation of electric power equipment and facilities
- determines the type and arrangement of circuits, transformers, circuit-breakers, transmission lines and other equipment
- develops products such as electric motors, components, equipment and appliances
- interprets specifications, drawings, standards and regulations relating to electric power equipment and use
- organises and manages resources used in the supply of electrical components, machines, appliances and equipment
- establishes delivery and installation schedules for machines, switchgear, cables and fittings
- supervises the operation and maintenance of power stations, transmission and distribution systems and industrial plants
- may specialise in research in areas such as power generation and transmission systems, transformers, switchgear and electric motors, telemetry and control systems

Specialisations:

Electrical Design Engineer

လျှပ်စစ်အင်ဂျင်နီယာ

လျှပ်စစ်ဓာတ်အားထုတ်လုပ်ခြင်း၊ ဖြန့်ဖြူးခြင်း၊
အသုံးပြုခြင်းနှင့်ထိန်းချုပ်ခြင်းအတွက်စက်ပစ္စည်းများ၊
စက်ပစ္စည်းများနှင့်စက်ပစ္စည်းများထုတ်လုပ်ခြင်း၊ တပ်ဆင်ခြင်း၊

•လျှပ်စစ်ဓာတ်အားသုံးစက်ကိရိယာများနှင့်စက်ပစ္စည်းများထုတ်လုပ်ခြင်းနှင့်တပ်ဆင်ခြင်းကိုစီစဉ်
ပြီးဒီဇိုင်းဆွဲသည်

• circuit မှား၊ transformer များ၊ circuit breaker များ၊ transmission line
များနှင့်အခြားပစ္စည်းကိရိယာများ၏အမျိုးအစားနှင့်အစီအစဉ်ကိုဆုံးဖြတ်သည်

•လျှပ်စစ်မော်တာများ၊ အစိတ်အပိုင်းများ၊
ကိရိယာများနှင့်ကိရိယာများကဲ့သို့သောထုတ်ကုန်များကိုတီထွင်သည်

•လျှပ်စစ်ဓာတ်အားသုံးကိရိယာနှင့်အသုံးပြုမှုဆိုင်ရာသတ်မှတ်ချက်များ၊ ပုံများ၊
စံနှုန်းများနှင့်စည်းမျဉ်းများကိုအဓိပ္ပာယ်ကောက်ယူသည်

•လျှပ်စစ်အစိတ်အပိုင်းများ၊ စက်များ၊
အသုံးအဆောင်များနှင့်ပစ္စည်းကိရိယာများထောက်ပံ့ခြင်းတွင်အသုံးပြုသောအရင်းအမြစ်များကိုစီ
စဉ်ခြင်းနှင့်စီမံခြင်း

•စက်များ၊ switchgear, cable များနှင့် fittings
များအတွက်ပေးပို့ခြင်းနှင့်တပ်ဆင်ခြင်းအချိန်ဇယားကိုချမှတ်သည်
ဓာတ်အားပေးစက်ရုံများ၊
ထုတ်လွှင့်ခြင်းနှင့်ဖြန့်ဖြူးခြင်းစနစ်များနှင့်စက်မှုလုပ်ငန်းသုံးစက်ရုံများ၏လည်ပတ်မှုနှင့်ထိန်းသိမ်းမှု
ကိုကြီးကြပ်သည်

•လျှပ်စစ်ဓာတ်အားထုတ်လုပ်ခြင်းနှင့်ထုတ်လွှင့်ခြင်းစနစ်များ၊ ထရန်စဖော်မာများ၊ switchgear နှင့်လျှပ်စစ်မော်တာများ၊

Mapping

Tasks	Degree Subjects	Diploma Subjects	Practical Subjects
GEC -General Engineering Competency GCEP-Graduate Civil Engineer Proficiency GEEP-Graduate Electrical Engineer Proficiency GMPE-Graduate Mechanical Engineer Proficiency Professional Diploma in Engineering (Year 3) www.iqytechnicalcollege.com/profdipengg.htm www.iqytechnicalcollege.com/profdipenggmod.htm	BAE401 Engineering Maths BAE 402 Calculus BAE 603 Software Engineering Professional Diploma in Engineering (Year 3) www.iqytechnicalcollege.com/profdipengg.htm www.iqytechnicalcollege.com/profdipenggmod.htm Engineer Practice http://www.iqytechnicalcollege.com/Form108ADMECLearningSupport.htm#a1 Engineering Practice http://www.iqytechnicalcollege.com/Form108ADMECLearningSupport.htm#a2 Design and Technology http://www.iqytechnicalcollege.com/Form108ADMECLearningSupport.htm#a3 Form 258 Language www.iqytechnicalcollege.com	EE201 Engineering Mathematics EE204 Engineering Physics EE302 Advanced Engineering Mathematics EE110 Computer Applications	

	icalcollege.com/language.htm m Study Record to submit http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf		
GEEP601 Plan and design the manufacture and installation of electric power equipment and facilities လျှပ်စစ်ဓာတ်အားသုံးစက်ကိရိယာများနှင့်စက်ပစ္စည်းများထုတ်လုပ်ခြင်းနှင့်တပ်ဆင်ခြင်းကိုစီစဉ်ပြီးဒီဇိုင်းဆွဲသည်	Practice Training Bachelor of Engineering (Computer Aided Engineering) www.iqytechnicalcollege.com/BTechBECAE.htm Do BAE403/407/504 Computer Software Applications Theory Review Professional Diploma in Engineering (Year 3) www.iqytechnicalcollege.com/profdipengg.htm www.iqytechnicalcollege.com/profdipenggmod.htm BAE 403 Engineering Mechanics Professional Diploma in Electrical Engineering www.iqytechnicalcollege.com/profdipelectengg.htm BAE 407 Advanced	Advanced Diploma in Electrical Engineering www.iqytechnicalcollege.com/advdiplectengg.htm EE101 DC Circuit Problems EE102 Basic Electrical Fitting & Wiring EE202 Electrical Circuits EE203 Three Phase Power Circuits EE205 Electrical Power System Advanced Diploma in Engineering (Myanmar Language) www.highlightcomputer.com/For85engineeringmyanmar.htm	Practical Courses http://www.highlightcomputer.com/PracticalCourse2.htm PC 9- Certificate in Electrical Wiring

	<p>Electromagnetics Field & Materials BAE 504 Power System Analysis</p> <p>Study Record to submit http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf</p>	See Electrical	
<p>GEEP602 Determine the type and arrangement of circuits, transformers, circuit-breakers, transmission lines and other equipment</p> <p>circuitများ၊ transformer များ၊ circuit breaker များ၊ transmission line များနှင့်အခြားပစ္စည်းကိရိယာများ၏အမျိုးအစားနှင့်အစီအစဉ်ကိုဆုံးဖြတ်သည်</p>	<p>Bachelor of Engineering (Computer Aided Engineering)</p> <p>www.iqytechnicalcollege.com/BTechBECAE.htm</p> <p>DO BAE501 Computer Application</p> <p>Theory Review Professional Diploma in Electrical Engineering www.iqytechnicalcollege.com/profdipectengg.htm</p> <p>BAE 501 Advanced Power Systems & Power Transmission Networks BAE 601 Computer Programming RE003- Solar and Thermal Energy Systems RE012a-Electrical Engineering Part 1 RE012b-Electrical Engineering Part 2 BAE 405 Advanced Circuit Analysis BAE 602 Computer Network</p> <p>Study Record to submit</p>	<p>Advanced Diploma in Electrical Engineering www.iqytechnicalcollege.com/advdiplectengg.htm</p> <p>EE103 Basic Electrical Drafting EE104 Electrical Equipments Safety Protection EE105 Electrical Installation Design EE112 Alternating Current Principle EE113 Electrical Fundamental EE114 Electrical Power Principle EE106 Advanced Electrical Wiring EE108 Electrical Fault Finding</p> <p>EE303 Transmission Line EE304 Power System</p>	<p>Practical Courses http://www.highlightcomputer.com/PracticalCourse2.htm</p> <p>PC 9- Certificate in Electrical Wiring</p>

	http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf	Protection EE305 Power Transformer	
GEEP603 Develop products such as electric motors, components, equipment and appliances •လျှပ်စစ်မော်တာများ၊ အစိတ်အပိုင်းများ၊ ကိရိယာများနှင့်ကိရိယာများ ကဲ့သို့သော ထုတ်ကုန်များကိုတီထွင်သည်	Professional Diploma in Engineering (Year 3) www.iqytechnicalcollege.com/profdipengg.htm www.iqytechnicalcollege.com/profdipenggmod.htm BAE 404 Engineering Materials & Thermodynamics RE004- Energy Storage Systems RE005- Renewable Energy Resource Analysis RE010-Engineering Materials Study Record to submit http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf	Advanced Diploma in Electrical Engineering www.iqytechnicalcollege.com/advdiplectengg.htm EE107 Electrical Equipments EE206 AC Machines EE207 DC Machine EE208 Operational Amplifiers EE209 Analogue Electronics EE301 Advanced Electrical Drafting	Practical Courses http://www.highlightcomputer.com/PracticalCourse2.htm PC 10- Certificate in Electrical Machine Winding
GEEP604 Interprets specifications, drawings, standards and regulations relating to electric power equipment and use •လျှပ်စစ်ဓာတ်အားသုံးကိရိယာနှင့်အသုံးပြုမှုဆိုင်ရာသတ်မှတ်ချက်များ၊ ပုံများ၊ စံနှုန်းများနှင့်စည်းမျဉ်းများကို အဓိပ္ပာယ်ကောက်ယူသည်	RE015-Electrical Project/ Practice http://www.iqytechnicalcollege.com/profdipengngmod.htm#a19 Electrical Engineer Practice http://www.iqytechnicalcollege.com/electricalengineerpractice.htm Safe Electrical Design Lessons+Video (Myanmar)	Advanced Diploma in Electrical Engineering www.iqytechnicalcollege.com/advdiplectengg.htm EE117 Solar Electrical System EE118 Electrical Energy Supply System EE301 Advanced Electrical Drafting	Practical Courses http://www.highlightcomputer.com/PracticalCourse2.htm PC 9- Certificate in Electrical Wiring

	http://www.iqytechnicalcollege.com/safelectricaldesign.htm Electrical Wiring http://www.highlightcomputer.com/onlinecpdcourses1.htm#z1 Airconditioning http://www.highlightcomputer.com/onlinecpdcourses1.htm#z18 Building Construction http://www.highlightcomputer.com/onlinecpdcourses1.htm#z15 Engineering Myanmar Language (CE+ME+EE) http://www.highlightcomputer.com/Form85engineeringmyanmar.htm Electrical Engineer Practice http://www.iqytechnicalcollege.com/electricalengineerpractice.htm Workshops http://www.iqytechnicalcollege.com/Form147CombinedWorkshop.htm Hotel Construction http://www.iqytechnicalcollege.com/hotelconstruction.htm COURSES Dip EI+Dip M & E + Prof Cert Hotel Construction http://www.iqytechnicalcollege.com/85engineeringmyanmar.htm		
	Study Record to submit		

	http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf		
GEEP605 organises and manages resources used in the supply of electrical components, machines, appliances and equipment •စက်များ၊ switchgear, cable များနှင့် fittings များအတွက်ပေးပို့ခြင်းနှင့်တပ်ဆင်ခြင်းအချိန်ဇယားကိုချမှတ်သည်	Theory Review Professional Diploma in Electrical Engineering www.iqytechnicalcollege.com/profdipectengg.htm RE002- Grid Connected Photovoltaic Power Systems RE007- Energy System Efficiency Study Record to submit http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf	Advanced Diploma in Electrical Engineering www.iqytechnicalcollege.com/advdiplectengg.htm EE111 Electromagnetism & Basic Electrical Machines	Practical Courses http://www.highlightcomputer.com/PracticalCourse2.htm PC 10- Certificate in Electrical Machine Winding
GEEP606 Establishes delivery and installation schedules for machines, switchgear, cables and fittings ဓာတ်အားပေးစက်ရုံများ၊ ထုတ်လွှင့်ခြင်းနှင့်ဖြန့်ဖြူးခြင်းစနစ်များနှင့်စက်မှုလုပ်ငန်းသုံးစက်ရုံများ၏လည်ပတ်မှုနှင့်ထိန်းသိမ်းမှုကိုကြီးကြပ်သည်	Practice Form185 Engineering Handbook Applications www.iqytechnicalcollege.com/Form185engineeringhandbookapplication.htm RE016-Design& Management (BAE508) Study Record to submit http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf	Advanced Diploma in Electrical Engineering www.iqytechnicalcollege.com/advdiplectengg.htm EE309 Project Management EE120 Electrical Contracting & Specification EE119 Electrical Risk Assessment	Practical Courses http://www.highlightcomputer.com/PracticalCourse2.htm PC 11- Certificate in Electrical Power Wiring & Switch Gear Installation
GEEP607 supervises the operation and maintenance of power stations, transmission and distribution systems and	Electrical Engineer Practice http://www.iqytechnicalcollege.com/electricalengin	Advanced Diploma in Electrical Engineering www.iqytechnicalcollege.com/advdip	PC 11- Certificate in Electrical Power Wiring

<p>industrial plants</p> <p>ဓာတ်အားပေးစက်ရုံများ၊ ထုတ်လွှင့်ခြင်းနှင့်ဖြန့်ဖြူးခြင်းစနစ်များနှင့်စက်မှု လုပ်ငန်းသုံးစက်ရုံများ၏လည်ပတ်မှုနှင့်ထိန်းသိမ်းမှုကိုကြီးကြပ်သည်</p>	<p>www.iqytechnicalcollege.com/BTechBECAE.htm</p> <p>Bachelor of Engineering (Computer Aided Engineering)</p> <p>Do BAE406/606/506/604 / 408 Computer Applications</p> <p>Theory Review Professional Diploma in Electrical Engineering</p> <p>www.iqytechnicalcollege.com/profdipelectengg.htm</p> <p>BAE 406 Electro-mechanics RE013- Electrical Machines RE014-Electronics Control BAE 606 Building Service Electrical & Mechanical Engineering BAE 506 Power System Stability & Protection BAE 604 Telecommunication Engineering BAE 408 Analogue & Digital Electronics</p> <p>Study Record to submit http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf</p>	<p>www.iqytechnicalcollege.com/BTechBECAE.htm</p> <p>EE109 Electrical Control Circuits EE115 Basic Analogue & Digital Electronics EE116 Process Control System EE121 Electronics Power Control Device</p> <p>Advanced Diploma in Engineering (Myanmar Language)</p> <p>www.highlightcomputer.com/For85engineeringmyanmar.htm</p> <p>See Electrical</p>	<p>& Switch Gear Installation</p> <p>PC 13- Certificate in Manufacturing Process Control & CNC</p>
<p>GEEP608 Specialise in research in areas such as power generation and transmission systems,</p>	<p>BAE 608 Engineering Competency Demonstration Report Writing</p> <p>Internship and Final</p>	<p>Advanced Diploma in Electrical Engineering</p> <p>www.iqytechnicalcollege.com/advdip</p>	<p>Practical Courses</p> <p>http://www.highlightcomputer.com/PracticalC</p>

transformers, switchgear and electric motors, telemetry and control systems လျှပ်စစ်ဓာတ်အားထုတ်လုပ်ခြင်းနှင့်ထုတ်လွှင့်ခြင်းစနစ်များ၊ ထရန်စမီတာများ၊ switchgear နှင့်လျှပ်စစ်မော်တာများ၊အထူး ပြုသုတေသနပြု သည်	Design Project http://www.iqytechnicalcollege.com/InternshipFinalProject.htm Study Record to submit http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf	electengg.htm EE306 Electro-mechanical Control EE307 Energy Efficient Building Design EE308 Sustainability EE310 Engineering Officer Competency Report	course2.htm PC 11- Certificate in Electrical Power Wiring & Switch Gear Installation
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2125-13 Electronics Engineer

Designs, develops, adapts, installs, tests and maintains electronic components, circuits and systems used for computer systems, communication systems and other industrial applications.

Skill Level:

The entry requirement for this occupation is a bachelor degree or higher qualification. In some instances relevant experience is required in addition to the formal qualification. Registration or licensing may be required.

Tasks Include:

- designs electronic components, circuits and systems used for computer, communication and control systems, and other industrial applications
- designs software, especially embedded software, to be used within such systems
- develops apparatus and procedures to test electronic components, circuits and systems
- supervises installation and commissioning of computer, communications and control systems, and ensures proper control and protection methods
- establishes and monitors performance and safety standards and procedures for operation, modification, maintenance and repair of such systems
- designs communications bearers based on wired, optical fibre and wireless communications media
- analyses communications traffic and level of service, and determines the type of installation, location, layout and transmission medium for communications systems

designs and develops signal processing algorithms and implements these through appropriate choice of hardware and software

အီလက်ထရောနစ်အင်ဂျင်နီယာ

- ဒီဇိုင်းများ၊ တည်ဆောက်မှုများ၊ လိုက်လျောညီထွေဖြစ်အောင်တပ်ဆင်ခြင်း၊ တပ်ဆင်ခြင်းများ၊
- IQY ဘာသာရပ်များ
-
- ကွန်ပျူတာ၊
ဆက်သွယ်ရေးနှင့်ထိန်းချုပ်ရေးစနစ်များနှင့်အခြားစက်မှုလုပ်ငန်းသုံးအီလက်ထရောနစ်အစိတ်အပိုင်းများ၊ ဆားကစ်များနှင့်စနစ်များကိုဒီဇိုင်းထုတ်သည်
-
- •ထိုကဲ့သို့သောစနစ်များအတွင်းအသုံးပြုရန်အတွက်အထူးသဖြင့် embedded software ကိုဒီဇိုင်း အီလက်ထရောနစ်အစိတ်အပိုင်းများ၊
ဆားကစ်များနှင့်စနစ်များကိုစမ်းသပ်ရန်စက်ပစ္စည်းနှင့်လုပ်ထုံးလုပ်နည်းများကိုတီထွင်သည်
-
- •ကွန်ပျူတာဆက်သွယ်ရေးနှင့်ထိန်းချုပ်ရေးစနစ်များတပ်ဆင်ခြင်းနှင့်အသုံးပြုခြင်းကိုကြီးကြပ်ပြီးသင့်တော်သောထိန်းချုပ်မှုနှင့်ကာကွယ်မှုနည်းလမ်းများကိုသေချာစေသည်
-
- •ထိုကဲ့သို့သောစနစ်များကိုလည်ပတ်ခြင်း၊ ပြုပြင်ခြင်း၊
ပြုပြင်ခြင်းနှင့်ပြုပြင်ခြင်းတို့အတွက်စွမ်းဆောင်ရည်နှင့်လုံခြုံရေးစံချိန်စံညွှန်းများနှင့်လုပ်ထုံးလုပ်နည်းများကိုချမှတ်ပြီးစောင့်ကြည့်စစ်ဆေးသည်
-
- •ကြိုး၊ optical ဖိုင်ဘာနှင့်ကြိုးမဲ့ဆက်သွယ်ရေးမီဒီယာများပေါ်တွင် အခြေခံ၍
ဆက်သွယ်ရေးကွန်ရက်ဝန်ဆောင်သူများကိုဒီဇိုင်းထုတ်သည်

- ဆက်သွယ်ရေးလမ်းကြောင်းနှင့် ၀ န်ဆောင်မှုအဆင့်ကိုခွဲခြမ်းစိတ်ဖြာပြီး ဆက်သွယ်မှုစနစ်အတွက်တပ်ဆင်ခြင်း၊ တည်နေရာ၊
-
- signal processing algorithms ကိုဒီဇိုင်းထုတ်ခြင်းနှင့်တည်ဆောက်ခြင်းနှင့် hardware နှင့် software တို့အားသင့်လျော်သောရွေးချယ်ခြင်းဖြင့်ယင်းတို့ကိုအကောင်အထည်ဖော်သည်

Mapping

Tasks	Degree Subjects	Diploma Subjects	Practical Subjects
GEC -General Engineering Competency GCEP-Graduate Civil Engineer Proficiency GEEP-Graduate Electrical Engineer Proficiency GMPE-Graduate Mechanical Engineer Proficiency	BAE401 Engineering Maths BAE 402 Calculus BAE 603 Software Engineering Professional Diploma in Engineering (Year 3) www.iqytechnicalcollege.com/profdipengg.htm www.iqytechnicalcollege.com/profdipenggmod.htm Engineer Practice http://www.iqytechnicalcollege.com/Form108ADMECLearningSupport.htm#a1 Engineering Practice http://www.iqytechnicalcollege.com/Form108ADMECLearningSupport.htm#a2 Design and	EE201 Engineering Mathematics EE204 Engineering Physics EE302 Advanced Engineering Mathematics EE110 Computer Applications	

	<p>Technology</p> <p>http://www.iqytechnicalcollege.com/Form108ADMECLearningSupport.htm#a3</p> <p>Form 258 Language</p> <p>www.iqytechnicalcollege.com/language.htm</p> <p>Study Record to submit http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf</p>		
<p>GEEP609</p> <p>Design electronic components, circuits and systems used for computer, communication and control systems, and other industrial application</p> <p>ကွန်ပျူတာ၊ ဆက်သွယ်ရေးနှင့်ထိန်းချုပ်ရေးစနစ်များနှင့်အခြားစက်မှုလုပ်ငန်းသုံး အီလက်ထရောနစ်အစိတ်အပိုင်းများ၊ ဆားကစ်များနှင့်စနစ်များကိုဒီဇိုင်းထုတ်သည်</p>	<p>Practice</p> <p>Bachelor of Engineering (Computer Aided Engineering)</p> <p>www.iqytechnicalcollege.com/BTechBECAE.htm</p> <p>Do BAE604/405 RE012 Computer Applications</p> <p>Theory Review</p> <p>Professional Diploma in Electrical Engineering</p> <p>www.iqytechnicalcollege.com/profdipecteng</p>	<p>Advanced Diploma in Electrical Engineering</p> <p>www.iqytechnicalcollege.com/dvdipecteng.htm</p> <p>EE101 DC Circuit Problems</p> <p>EE102 Basic Electrical Fitting & Wiring</p> <p>EE202 Electrical Circuits</p> <p>Advanced</p>	<p>Practical Courses</p> <p>http://www.hightcomputer.com/PracticalCourse2.htm</p> <p>(PC15/H102) Certificate in Basic Electronics & Telecommunication PC 13- Certificate in Manufacturing Process Control & CNC</p>

	<p>g.htm</p> <p>BAE 604 Telecommunication Engineering RE012a-Electrical Engineering Part 1 RE012b-Electrical Engineering Part 2 BAE 405 Advanced Circuit Analysis</p> <p>Study Record to submit http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf</p>	<p>Diploma in Engineering (Myanmar Language)</p> <p>www.highlightcomputer.com/Form85engineeringmyanmar.htm</p> <p>See Electronics</p>	
<p>GEEP610 Design software, especially embedded software, to be used within such systems</p> <p>ထိုကဲ့သို့သောစနစ်များအတွင်းအသုံးပြုရန်အတွက်အထူးသဖြင့် embedded software ကိုဒီဇိုင်းအီလက်ထရောနစ်အစိတ်အပိုင်းများ၊ဆားကစ်များနှင့်စနစ်များကိုစမ်းသပ်ရန်စက်ပစ္စည်းနှင့်လုပ်ထုံးလုပ်နည်းများကိုတီထွင်သည်</p>	<p>Practice</p> <p>Bachelor of Engineering (Computer Aided Engineering)</p> <p>www.iqytechnicalcollege.com/BTechBECAE.htm</p> <p>Do BAE601/603 Computer Applications</p> <p>Theory Review Professional Diploma in Electrical Engineering www.iqytechnicalcollege.com/profdipectengg.htm</p> <p>BAE 603 Software Engineering BAE 601 Computer</p>	<p>Advanced Diploma in Electrical Engineering</p> <p>www.iqytechnicalcollege.com/advdipectengg.htm</p> <p>EE103 Basic Electrical Drafting</p>	<p>Form 186 Short Courses</p> <p>www.iqytechnicalcollege.com/Form186ShortCourses.htm</p> <p>Do GE 8/9/10/11</p>

	<p>Programming</p> <p>Study Record to submit http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf</p>		
<p>GEEP611</p> <p>Develop apparatus and procedures to test electronic components, circuits and systems</p> <p>ကွန်ပျူတာဆက်သွယ်ရေးနှင့်ထိန်းချုပ်ရေးစနစ်များတပ်ဆင်ခြင်းနှင့်အသုံးပြုခြင်းကိုကြီးကြပ်ပြီးသင့်တော်သောထိန်းချုပ်မှုနှင့်ကာကွယ်မှုနည်းလမ်းများကိုသေချာစေသည်</p>	<p>Practice</p> <p>Bachelor of Engineering (Computer Aided Engineering)</p> <p>www.iqytechnicalcollege.com/BTechBECAE.htm Do BAE408Computer Applications</p> <p>Theory Review Professional Diploma in Electrical Engineering www.iqytechnicalcollege.com/profdipecteng.htm</p> <p>BAE 408 Analogue & Digital Electronics</p> <p>Study Record to submit http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf</p>	<p>Advanced Diploma in Electrical Engineering</p> <p>www.iqytechnicalcollege.com/advdipecteng.htm</p> <p>EE107 Electrical Equipments</p> <p>EE208 Operational Amplifiers</p> <p>EE209 Analogue Electronics</p> <p>EE301 Advanced Electrical Drafting</p>	<p>Practical Courses</p> <p>http://www.highlightcomputer.com/PracticalCourse2.htm</p> <p>(PC15/H102) Certificate in Basic Electronics & Telecommunication</p>
<p>GEEP612</p> <p>Supervise installation and commissioning of computer,</p>	<p>Practice</p> <p>Bachelor of</p>	<p>Advanced Diploma in Electrical</p>	<p>Practical Courses</p> <p>http://www.highlightcomputer.com</p>

<p>communications and control systems, and ensures proper control and protection methods</p> <p>ထိုကဲ့သို့သောစနစ်များကိုလည်ပတ်ခြင်း၊ ပြုပြင်ခြင်း၊ ပြုပြင်ခြင်းနှင့်ပြုပြင်ခြင်းတို့အတွက်စွမ်းဆောင်ရည်နှင့်လိုခြံရေးစံချိန်စံညွှန်းများနှင့်လုပ်ထုံးလုပ်နည်းများကိုချမှတ်ပြီးစောင့်ကြည့်စစ်ဆေးသည်</p>	<p>Engineering (Computer Aided Engineering)</p> <p>www.iqytechnicalcollege.com/BTechBECAE.htm</p> <p>Do RE014/BAE502/503 Computer Applications</p> <p>Theory Review</p> <p>Professional Diploma in Electrical Engineering</p> <p>www.iqytechnicalcollege.com/profdipelectengg.htm</p> <p>RE014-Electronics Control BAE 502 Linear System BAE 503 Control System</p> <p>Study Record to submit http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf</p>	<p>Engineering</p> <p>www.iqytechnicalcollege.com/dvdipectengg.htm</p> <p>EE104 Electrical Equipments Safety Protection</p>	<p>m/PracticalCourse2.htm</p> <p>PC 11- Certificate in Electrical Power Wiring & Switch Gear Installation</p>
<p>GEEP613</p> <p>Design communications bearers based on wired, optical fibre and wireless communications media</p> <p>ကြိုး၊ optical ဖိုင်ဘာနှင့်ကြိုးမဲ့ဆက်သွယ်ရေး မီဒီယာများပေါ်တွင် အခြေခံ၍ ဆက်သွယ်</p>	<p>Practice</p> <p>http://www.iqytechnicalcollege.com/Form86ProfDiplCTEnggBENetworkStudyResources.htm</p> <p>Theory Review</p> <p>Professional Diploma in Electrical Engineering</p> <p>www.iqytechnicalcollege.com/profdipelectengg.htm</p>	<p>Advanced Diploma in Electrical Engineering</p> <p>www.iqytechnicalcollege.com/dvdipectengg.htm</p> <p>EE111 Electromagnetism & Basic</p>	<p>Practical Courses</p> <p>http://www.highlightcomputer.com/PracticalCourse2.htm</p> <p>(PC15/H102) Certificate in Basic Electronics & Telecommunication</p>

<p>ရေးကွန်ရက်ဝန်ဆောင်သူများကိုဒီ ဇိုင်းထုတ်သည်</p>	<p>BAE 607 Radio Wave Propagation & Microwave Techniques BAE 604 Telecommunication Engineering</p> <p>Study Record to submit http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf</p>	<p>Electrical Machines</p>	
<p>GEEP614 Analyss communications traffic and level of service, and determines the type of installation, location, layout and transmission medium for communications systems</p> <p>ဆက်သွယ်ရေးလမ်းကြောင်းနှင့် ဝန်ဆောင်မှု အဆင့်ကိုခွဲခြမ်းစိတ်ဖြာပြီး ဆက်သွယ်မှုစနစ်အတွက်တပ်ဆင်ခြင်း၊ တည်နေရာရှာဖွေသည်</p>	<p>Practice http://www.iqytechnicalcollege.com/Form86ProfDiplCTEnggBENetworkStudyResources.htm</p> <p>Theory Review Professional Diploma in Electrical Engineering www.iqytechnicalcollege.com/profdipectengg.htm</p> <p>BAE 607 Radio Wave Propagation & Microwave Techniques BAE 604 Telecommunication Engineering</p> <p>Study Record to submit http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf</p>	<p>Advanced Diploma in Electrical Engineering www.iqytechnicalcollege.com/advanceddipectengg.htm EE309 Project Management EE120 Electrical Contracting & Specification EE119 Electrical Risk Assessment</p>	<p>Practical Courses http://www.hightcomputer.com/PracticalCourse2.htm (PC15/H102) Certificate in Basic Electronics & Telecommunication</p>
<p>GEEP615 Design and develop signal processing algorithms and implements these through appropriate choice of hardware and software</p>	<p>Practice Bachelor of Engineering</p>	<p>Advanced Diploma in Electrical Engineering www.iqytechnicalcollege.com/</p>	

<p>Signal processing algorithms ကိုဒီဇိုင်းထုတ်ခြင်းနှင့်တည်ဆောက်ခြင်းနှင့် hardware နှင့် software တို့ အားသင့်လျော်သော ရွေးချယ်ခြင်း ဖြင့်ယင်းတို့ကိုအကောင်အထည်ဖော်သည်</p>	<p>(Computer Aided Engineering)</p> <p>www.iqytechnicalcollege.com/BTechBECAE.htm Do BAE408 Computer Applications Form 181 M & E Software</p> <p>www.iqytechnicalcollege.com/M&ESoftware.htm</p> <p>www.iqytechnicalcollege.com/VideoDownloadZip.htm</p> <p>Theory Review Professional Diploma in Electrical Engineering</p> <p>www.iqytechnicalcollege.com/profdipelectengg.htm</p> <p>BAE 408 Analogue & Digital Electronics</p> <p>Study Record to submit http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf</p>	<p>alcollege.com/dvdipelectengg.htm</p> <p>EE109 Electrical Control Circuits EE115 Basic Analogue & Digital Electronics EE116 Process Control System EE121 Electronics Power Control Device</p> <p>Advanced Diploma in Engineering (Myanmar Language)</p> <p>www.highlightcomputer.com/Form85engineeringmyanmar.htm</p> <p>See Electronics</p>	
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<p>GEEP616 Establish and monitor performance and safety standards and procedures for operation, modification, maintenance and repair of such systems</p> <p>ထိုကဲ့သို့သောစနစ်များကိုလည်ပတ်ခြင်း၊ ပြုပြင်ခြင်း၊ ပြုပြင်ခြင်းနှင့်ပြုပြင်ခြင်းတို့အတွက် စွမ်းဆောင် ရည် နှင့်လိုခြံရေးစံချိန်စံညွှန်းများနှင့်လုပ်ထုံးလုပ်နည်းများကိုချမှတ်ပြီးစောင့်ကြည့်စစ်ဆေးသည်</p>	<p>Practice</p> <p>Bachelor of Engineering (Computer Aided Engineering)</p> <p>www.iqytechnicalcollege.com/BTechBECAE.htm Do BAE607 Computer Applications Form 181 M & E Software</p> <p>www.iqytechnicalcollege.com/M&ESoftware.htm</p> <p>www.iqytechnicalcollege.com/VideoDownloadZip.htm</p> <p>Theory Review Professional Diploma in Electrical Engineering www.iqytechnicalcollege.com/profdipectengg.htm</p> <p>BAE 607 Radio Wave Propagation & Microwave Techniques</p> <p>Study Record to submit http://www.iqytechnicalcollege.com/stu</p>	<p>Advanced Diploma in Electrical Engineering</p> <p>www.iqytechnicalcollege.com/dvdipectengg.htm</p> <p>EE306 Electro-mechanical Control</p>	
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2126-11 Mechanical Engineer

Plans, designs, organises and oversees the assembly, erection, operation and maintenance of mechanical and process plant and installations.

Skill Level:

The entry requirement for this occupation is a bachelor degree or higher qualification. In some instances relevant experience is required in addition to the formal qualification. Registration or licensing may be required.

Tasks Include:

- designs mechanical equipment, machinery, components, products for manufacture; and plant and systems for construction
- develops specifications for manufacture, determining materials, equipment, piping, material flows, capacities and layout of plant or systems
- organises and manages project labour and the delivery of materials, plant and equipment
- establishes detailed programs for the coordination of project activities
- sets up work control systems to ensure that standards of performance, quality, cost and safety are met
- administers contracts and verifies and certifies satisfactory completion
- supervises the functioning of manufacturing process plants such as coal handling installations, power station steam generating systems, and sewerage and water supply pumping stations
- supervises in consultation with other engineers the testing and commissioning of completed works
- may specialise in research in areas such as utilisation of energy, materials handling, thermodynamic processes, fluid mechanics and environmental controls

• စက်မှုအင်ဂျင်နီယာ

- စက်ပိုင်းဆိုင်ရာနှင့်စက်ရုံနှင့်စက်တပ်ဆင်ခြင်းများတပ်ဆင်ခြင်း၊ တပ်ဆင်ခြင်း၊ လည်ပတ်ခြင်းနှင့်ထိန်းသိမ်းခြင်းများအားစီမံခြင်း၊ ဒီဇိုင်းဆွဲခြင်း၊ စက်ပစ္စည်း၊ အစိတ်အပိုင်းများ၊ ထုတ်လုပ်ရန်ထုတ်ကုန်များကိုဒီဇိုင်းဆွဲသည်။
နှင့်စက်ရုံနှင့်ဆောက်လုပ်ရေးအတွက်စနစ်များ ပစ္စည်း၊ စက်ကိရိယာ၊ ပိုက်၊

ပစ္စည်းစီးဆင်းမှု၊ စွမ်းဆောင်နိုင်မှုနှင့်စက်ရုံ (သို့)
စက်ပစ္စည်းများ၏အပြင်အဆင်တို့ကိုသတ်မှတ်ခြင်း၊

- စီမံကိန်းလုပ်သားနှင့်ပစ္စည်းများ၊
စက်ရုံနှင့်စက်ပစ္စည်းများဖြန့်ဝေခြင်းကိုစီစဉ်ခြင်းနှင့်စီမံခြင်း
-
- စီမံကိန်းဆောင်ရွက်မှုများကိုညှိနှိုင်းရန်အသေးစိတ်အစီအစဉ်များချမှတ်သည်
• စွမ်းဆောင်ရည်၊ အရည်အသွေး၊
ကုန်ကျစရိတ်နှင့်လုံခြုံမှုစံနှုန်းများကိုပြည့်မီစေရန်သေချာစေရန်အလုပ်ထိန်းချုပ်မှုစနစ်များ
ကိုတပ်ဆင်သည်
-
- စာချုပ်များကိုစီမံခန့်ခွဲပြီးကျေနပ်အားရမှုပြီးဆုံးကြောင်းအတည်ပြုပြီးအတည်ပြုသည်
• ကျောက်မီးသွေးသုံးဓာတ်အားပေးစက်ရုံများ၊
လျှပ်စစ်ဓာတ်အားပေးစက်ရုံရေနွေးငွေ့ထုတ်ယူသည့်စနစ်များ၊
-
- အခြားအင်ဂျင်နီယာများနှင့်တိုင်ပင်ပြီးသည်နှင့်အပြီးသတ်ပြီးစီးသောအလုပ်များကိုစစ်
ဆေးခြင်း
- နှင့်ခွင့်ပြုခြင်းကိုကြီးကြပ်သည် • စွမ်းအင်၊ ပစ္စည်းများကိုကိုင်တွယ်ခြင်း၊
အပူစွမ်းအင်သိပ္ပံဘာသာရပ်ဆိုင်ရာဖြစ်စဉ်များ၊
အရည်စက်ပြင်များနှင့်သဘာဝပတ်ဝန်းကျင်ဆိုင်ရာထိန်းချုပ်မှုများစသည့်များတွင်သုတေ
သနာလုပ်ငန်းကိုအထူးပြုနိုင်သည်။

Mapping

Tasks	Degree Subjects	Diploma Subjects	Practical Subjects
GEC -General Engineering Competency GCEP-Graduate Civil Engineer Proficiency GEEP-Graduate Electrical Engineer Proficiency GMEP-Graduate Mechanical Engineer	BAE401 Engineering Maths BAE 402 Calculus BAE 603 Software Engineering BAE 601 Computer Programming Professional Diploma in	E 101 Applied Mathematics Maths 403 Engineering-Mathematics (EE302) Maths 301 Introductory Finite Difference	

Proficiency	<p>Engineering (Year 3)</p> <p>www.iqytechnicalcollege.com/profdipengg.htm</p> <p>www.iqytechnicalcollege.com/profdipenggmod.htm</p> <p>Engineer Practice</p> <p>http://www.iqytechnicalcollege.com/Form108ADMECLearningSupport.htm#a1</p> <p>Engineering Practice</p> <p>http://www.iqytechnicalcollege.com/Form108ADMECLearningSupport.htm#a2</p> <p>Design and Technology</p> <p>http://www.iqytechnicalcollege.com/Form108ADMECLearningSupport.htm#a3</p> <p>Form 258 Language</p> <p>www.iqytechnicalcollege.com/language.htm</p> <p>Study Record to submit http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf</p>	<p>Methods-</p> <p>Maths 302 Elementary-Linear-Algebra (EE302)</p> <p>Maths 303 Introductory Finite Volume Methods</p>	
GMEP 601 Design mechanical	Practice	Advanced Diploma in	Practical Courses http://www.high

<p>equipment, machinery, components, products for manufacture; and plant and systems for construction</p> <p>စီမံကိန်းလုပ်သားနှင့်ပစ္စည်းများ</p> <p>I</p> <p>စက်ရုံနှင့်စက်ပစ္စည်းများဖြန့်ဝေခြင်းကိုစီစဉ်ခြင်းနှင့်စီမံခြင်း</p>	<p>Bachelor of Engineering (Computer Aided Engineering)</p> <p>www.iqytechnicalcollege.com/BTechBECAE.htm</p> <p>Do BAE403/RE003/004/005/006/010/BAE613/614 Computer Applications</p> <p>Theory Review</p> <p>Professional Diploma in Engineering (Year 3)</p> <p>www.iqytechnicalcollege.com/profdipengg.htm</p> <p>www.iqytechnicalcollege.com/profdipenggmod.htm</p> <p>BAE 403 Engineering Mechanics RE001- Foundation Studies in Renewable Energy and Sustainability RE003- Solar and Thermal Energy Systems RE004- Energy Storage Systems RE005- Renewable Energy Resource Analysis RE006- Wind Energy Conversion Systems</p> <p>Study Record to submit http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf</p>	<p>Mechanical Engineering</p> <p>www.iqytechnicalcollege.com/advdipmechengg.htm</p> <p>ME 103 Engineering Mechanics</p> <p>ME 104 Machine Principle</p> <p>ME 108 Principle of Engines</p> <p>ME 206 Introduction to Turbo Machinery</p> <p>ME 208 Hydrocarbons</p> <p>ME 209 Introduction-to-polymer-science-and-technology</p> <p>ME 301 Fluid Dynamics</p> <p>ME 305 Corrosion Prevention</p> <p>ME 306 Theory-of-waves-in-materials</p>	<p>lightcomputer.com/PracticalCourse2.htm</p> <p>PC 5-Certificate in Fitting & Machining</p> <p>PC 6-Certificate in Welding</p> <p>PC 7-Certificate in Engine Operation & Basic Servicing</p> <p>PC 8-Certificate in Air-conditioning & Refrigeration Basic Servicing</p>
<p>GMEP602</p> <p>Develop specifications for</p>	<p>Practice</p>	<p>Advanced Diploma in</p>	<p>Practical Courses</p> <p>http://www.high</p>

<p>manufacture, determining materials, equipment, piping, material flows, capacities and layout of plant or systems</p> <p>စီမံကိန်းလုပ်သားနှင့်ပစ္စည်းများ</p> <p>I</p> <p>စက်ရုံနှင့်စက်ပစ္စည်းများဖြန့်ဝေခြင်းကိုစီစဉ်ခြင်းနှင့်စီမံခြင်း</p>	<p>Bachelor of Engineering (Computer Aided Engineering)</p> <p>www.iqytechnicalcollege.com/BTechBECAE.htm</p> <p>Do RE010/BAE314/613 Computer Applications</p> <p>Theory Review</p> <p>Professional Diploma in Engineering (Year 3)</p> <p>www.iqytechnicalcollege.com/profdipengg.htm</p> <p>www.iqytechnicalcollege.com/profdipenggmod.htm</p> <p>RE010-Engineering Materials BAE314 Mechanical Power Generation BAE613 Mechanical Instrumentation Process</p> <p>Study Record to submit http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf</p>	<p>Mechanical Engineering</p> <p>www.iqytechnicalcollege.com/advdipmechengg.htm</p> <p>ME201 Introduction to Fluid Mechanics ME 202 Introduction to Aero Dynamics ME 204 Engineering Fluid Mechanics ME 234 Wind Turbines</p> <p>Advanced Diploma in Engineering (Myanmar Language)</p> <p>www.highlightcomputer.com/Form85engineeringmyanmar.htm</p> <p>See Mechanical</p>	<p>lightcomputer.com/PracticalCourse2.htm</p> <p>PC 13- Certificate in Manufacturing Process Control & CNC</p>
<p>GMEP603</p> <p>Organise and manage project labour and the delivery of materials, plant and equipment</p> <p>စီမံကိန်းဆောင်ရွက်မှုများကိုညှိနှိုင်းရန်အသေးစိတ်အစီအစဉ်များချမှတ်သည်</p>	<p>RE016-Design& Management</p> <p>Form 181 M & E Software</p> <p>www.iqytechnicalcollege.com/M&ESoftware.htm</p> <p>www.iqytechnicalcollege.com/</p>	<p>Advanced Diploma in Mechanical Engineering</p> <p>www.iqytechnicalcollege.com/advdipmechengg.htm</p> <p>Mgt 501 Basic Management</p>	

	llege.com/VideoDownloadZip.htm Form 182 CAM/CNC/Master CAM www.iqytechnicalcollege.com/mastercam.htm www.iqytechnicalcollege.com/VideoDownloadZip.htm Study Record to submit http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf		
GMEP604 Establish detailed programs for the coordination of project activities စီမံကိန်းလုပ်ငန်းများကိုညှိနှိုင်းဆောင်ရွက်ရန် အသေးစိတ်အစီအစဉ်များချမှတ်သည်	RE016-Design& Management http://www.iqytechnicalcollege.com/profdipenggmod.htm#a19 Study Record to submit http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf	Advanced Diploma in Mechanical Engineering www.iqytechnicalcollege.com/advdipmechengg.htm Mgt 501 Basic Management	
GMEP605 Set up work control systems to ensure that standards of performance, quality, cost and safety are met စွမ်းဆောင်ရည်၊ အရည်အသွေး၊ ကုန်ကျစရိတ်နှင့်လုံခြုံမှုစံနှုန်းများကိုပြည့်မီစေရန်သေချာစေရန်အလုပ်	BAE 608 Engineering Competency Demonstration Report Internship http://www.highlightcomputer.com/internship.htm Internship and Final Design Project http://www.iqytechnicalcollege.com/Inters	Advanced Diploma in Mechanical Engineering www.iqytechnicalcollege.com/advdipmechengg.htm Mgt 501 Basic Management	

ထိန်းချုပ်မှုစနစ်များကိုတပ်ဆင်သည်	hipFinalProject.htm Study Record to submit http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf		
GMEP606 Administer contracts and verifies and certifies satisfactory completion စာချုပ်များကိုစီမံခန့်ခွဲပြီးကျေနပ်အားရမှုပြီးဆုံးကြောင်းအတည်ပြုသည်	BAE 605 Engineering Management http://www.iqytechnicalcollege.com/profdipectengg.htm#z24 Study Record to submit http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf	Mgt 501 Basic Management	
GMEP607 Supervise the functioning of manufacturing process plants such as coal handling installations, power station steam generating systems, and sewerage and water supply pumping stations ကျောက်မီးသွေးသုံးဓာတ်အားပေးစက်ရုံများ၊ လျှပ်စစ်ဓာတ်အား ပေးစက်ရုံ၊ ရေနွေးငွေ့ထုတ်ယူသည့်စနစ်များ၊ လည်ပတ်ဆောင်ရွက်မှုကိုကြီးကြပ်သည်။	Practice Form185 Engineering Handbook Applications www.iqytechnicalcollege.com/Form185engghandbookapplication.htm Bachelor of Engineering (Computer Aided Engineering) www.iqytechnicalcollege.com/BTEchBECAE.htm Do BAE311/511/512 Computer Applications	Advanced Diploma in Mechanical Engineering www.iqytechnicalcollege.com/advdipmechengg.htm ME 203 Control Engineering ME 205 Manufacturing Processes-and-Materials ME 302 Automation-and-Robotics ME 434 Mechtronics-Robotics ME 534 Numerical Control ME 303 Computer Aided Design and	Practical Courses http://www.highlightcomputer.com/PracticalCourse2.htm PC 7-Certificate in Engine Operation & Basic Servicing PC 8-Certificate in Air-conditioning & Refrigeration Basic Servicing Diploma/ Advanced Diploma in Air-conditioning and Refrigeration

	<p>Theory Review http://www.iqytechnicalcollege.com/profdipmechengg.htm</p> <p>BAE311 Plant Engineering BAE511 Air-conditioning & Refrigeration Part 1 BAE512 Building Service Water Supply System</p> <p>Study Record to submit http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf</p>	<p>Manufacturing</p> <p>ME 304 Introduction to Nonlinearity-in-control-systems</p>	<p>Engineering http://www.iqytechnicalcollege.com/advdipare.htm</p>
<p>GMEP608 Supervise in consultation with other engineers the testing and commissioning of completed works အခြားအင်ဂျင်နီယာများနှင့်တိုင်ပင်ကာပြီးစီးခဲ့သောအလုပ်များကိုစစ်ဆေးခြင်းနှင့်ခွင့်ပြုခြင်းကိုကြီးကြပ်သည်</p>	<p>Bachelor of Engineering (Computer Aided Engineering) www.iqytechnicalcollege.com/BTechBECAE.htm Do BAE606</p> <p>http://www.iqytechnicalcollege.com/profdipmechengg.htm Form185 Engineering Handbook Applications www.iqytechnicalcollege.com/Form185engghandbookapplication.htm</p> <p>Form 188 Professional C</p>	<p>Advanced Diploma in Mechanical Engineering www.iqytechnicalcollege.com/advdipmechengg.htm</p> <p>ME 105 Electrical Principle</p> <p>ME 106 Electrical Circuits</p> <p>Advanced Diploma in Engineering (Myanmar Language) www.highlightcomputer.com/Form85engineeringmyanmar.htm See Mechanical</p>	<p>Practical Courses http://www.highlightcomputer.com/PracticalCourse2.htm PC 14- Certificate in Building Energy Efficiency</p>

	<p>ertificate in Hotel Construction</p> <p>www.iqytechnicalcollege.com/hotelconstruction.htm</p> <p>Theory Review http://www.iqytechnicalcollege.com/profdipmechengg.htm</p> <p>RE016-Design& Management RE012a-Electrical Engineering Part 1 RE011a-Civil & Mechanical Engineering Part 1 RE011b-Civil & Mechanical Engineering Part 2 BAE 606 Building Service Electrical & Mechanical Engineering BAE315 Materials Engineering</p> <p>Study Record to submit http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf</p>		
<p>GMEP609 Specialise in research in areas such as utilisation of energy, materials handling, thermodynamic processes, fluid mechanics and environmental controls စွမ်းအင်၊ ပစ္စည်းများကိုင်တွယ်ခြင်း၊ အပူစွမ်းအင်သိပ္ပံဘာသာရပ်ဆိုင်ရာဖြစ်စဉ်များ၊</p>	<p>Bachelor of Engineering (Computer Aided Engineering)</p> <p>www.iqytechnicalcollege.com/BTechBECAE.htm Do</p>	<p>Advanced Diploma in Mechanical Engineering</p> <p>www.iqytechnicalcollege.com/advdipmechengg.htm</p> <p>ME 102 Engineering Thermodynamics</p> <p>ME 107 Heat Transfer</p>	<p>Practical Courses http://www.highlightcomputer.com/PracticalCourse2.htm</p> <p>PC 14- Certificate in Building Energy Efficiency</p>

အရည်စက်ပြင်များနှင့်သဘာဝ ပတ်ဝန်းကျင်ဆိုင်ရာထိန်းချုပ်မှု များစသည့်များတွင်သုတေသန လုပ်ငန်းကိုအထူးပြုနိုင်သည်။	BAE404/403/614/RE007 Theory Review http://www.iqytechnicalcollege.com/profdipmechengg.htm BAE 404 Engineering Materials & Thermodynamics BAE 403 Engineering Mechanics BAE614 Machine Design RE007- Energy System Efficiency Study Record to submit http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf	ME 207 Chemical Thermodynamics ME 334 Air-conditioning and Refrigeration	
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ARCHITECTS AND LANDSCAPE ARCHITECTS

design commercial, industrial, institutional, residential and recreational buildings and landscapes.

ဗိသုကာနှင့်ရှုခင်းဆိုင်ရာဗိသုကာများသည်ကူးသန်းရောင်းဝယ်ရေး၊ စက်မှုလုပ်ငန်း၊ အဖွဲ့အစည်းဆိုင်ရာ၊ လူနေအိမ်နှင့်အပန်းဖြေအဆောက်အ ဦး များနှင့်ရှုခင်းများကိုဒီဇိုင်းထုတ်သည်။

Registration or licensing may be required.

Tasks Include:

- obtaining advice from clients and management to determine type, style and size of planned buildings and alterations to existing buildings
- providing information regarding designs, materials and estimated building times
- preparing project documentation, including sketches and scale drawings, and integrating structural, mechanical and aesthetic elements in final designs

- writing specifications and contract documents for use by builders and calling tenders on behalf of clients
- consulting with Professionals and clients about external area designs, costs and construction
- compiling and analysing site and community data about geographical and ecological features, landforms, soils, vegetation, site hydrology, visual characteristics and human-made structures, to formulate land use and development recommendations, and for preparing environmental impact statements
- preparing reports, site plans, working drawings, specifications and cost estimates for land development, showing location and details of proposals, including ground modelling, structures, vegetation and access
- inspecting construction work in progress to ensure compliance with plans, specifications and quality standards

ဖောက်သည်များနှင့်စီမံခန့်ခွဲသူများထံမှအကြံဉာဏ်ရယူခြင်း၊ စီစဉ်ထားသောအဆောက်အ ဦး များ၏ပုံစံ၊ ပုံစံနှင့်အရွယ်အစားနှင့်ရှိပြီးသားအဆောက်အ ဦး များကိုပြောင်းလဲခြင်း

•ဒီဇိုင်းများ၊

ပစ္စည်းများနှင့်ခန့်မှန်းတည်ဆောက်မှုကာလနှင့်ပတ်သက်သောသတင်းအချက်အလက်များကိုပေးခဲ့ သည်

•စီမံကိန်းရေးဆွဲခြင်းဆိုင်ရာစာရွက်စာတမ်းများ၊

ပုံကြမ်းများနှင့်စကေးဆွဲခြင်းများနှင့်ဖွဲ့စည်းတည်ဆောက်ပုံ၊

စက်ယန္တရားနှင့်ဗေဒင်ဒြပ်စင်များကိုနောက်ဆုံးဒီဇိုင်းများနှင့်ပေါင်းစပ်ခြင်း

•ဖောက်သည်များ၏ကိုယ်စားဆောက်လုပ်သူများနှင့်ခေါ်ဆိုမှုတင်ဒါများအတွက်အသုံးပြုရန်အတွက်သတ်မှတ်ချက်များနှင့်စာချုပ်စာတမ်းများကိုရေးသားခြင်း

•ပြင်ပalsရိယာဒီဇိုင်းများ၊ ကုန်ကျစရိတ်များနှင့်ဆောက်လုပ်ရေးလုပ်ငန်းများနှင့် ပတ်သက်၍ ပညာရှင်များနှင့်ဖောက်သည်များနှင့်တိုင်ပင်ခြင်း

မြေမျက်နှာသွင်ပြင်များ၊ မြေဆီလွှာများ၊ အသီးအရွက်များ၊ မြေအနေအထားဇေယျဇာတိ၊

အမြင်အာရုံလက္ခဏာများနှင့်လူသားဖန်တီးသောအဆောက်အအုံများနှင့်ပတ်သက်သည့်နေရာနှင့်လူ ထုအချက်အလက်များကိုစုဆောင်းခြင်းနှင့်ဆန်းစစ်ခြင်း၊

မြေယာဖွံ့ဖြိုးတိုးတက်မှုအတွက်အစီရင်ခံစာများ၊ လုပ်ငန်းအစီအစဉ်များ၊ လုပ်ငန်းရေးဆွဲပုံများ၊

အသေးစိတ်အချက်အလက်များနှင့်ကုန်ကျစရိတ်ခန့်မှန်းချက်များ၊ မြေပုံပုံစံ၊ အဆောက်အအုံများ၊

•စီမံကိန်းများ၊

သတ်မှတ်ချက်များနှင့်အရည်အသွေးစံချိန်စံညွှန်းများနှင့်ကိုက်ညီမှုရှိစေရန်တည်ဆောက်နေသောလုပ်ငန်းများကိုစစ်ဆေးခြင်း

Occupations:

232111 Architect

232112 Landscape Architect

232111 ARCHITECT

Plans and designs buildings, provides concepts, plans, specifications and detailed drawings, negotiates with builders and advises on the procurement of buildings.

Registration or licensing is required.

Skill Level: 1

Specialisation:

Conservation or Heritage Architect

232112 LANDSCAPE ARCHITECT

Plans and designs land areas for projects such as open space networks, parks, schools, institutions, roads, external areas for all building types, land subdivisions, and commercial, industrial and residential sites.

Skill Level: 1

Tasks	Degree Subjects	Diploma Subjects	Practical Subjects
GEC -General Engineering Competency GCEP-Graduate Civil Engineer Proficiency GEEP-Graduate Electrical Engineer Proficiency GMEP-Graduate Mechanical Engineer Proficiency	BAE401 Engineering Maths BAE 402 Calculus Professional Diploma in Engineering (Year 3) www.iqytechnicalcollege.com/profdipengg.htm www.iqytechnicalcollege.com/profdipenggmod.htm Engineer Practice http://www.iqytechnicalcollege.com/Form108ADMECLearningS	CE 101 Mathematics (EE201) CE 102 Physics	

	upport.htm#a1 Engineering Practice http://www.iqytechnicalcollege.com/Form108ADMECLearningSupport.htm#a2 Design and Technology http://www.iqytechnicalcollege.com/Form108ADMECLearningSupport.htm#a3 Form 258 Language www.iqytechnicalcollege.com/language.htm		
GAP601 obtaining advice from clients and management to determine type, style and size of planned buildings and alterations to existing buildings ဖောက်သည်များနှင့်စီမံခန့်ခွဲသူများထံမှအကြံဉာဏ်ရယူခြင်း၊ စီစဉ်ထားသောအဆောက်အအုံများ၏ပုံစံ၊ ပုံစံနှင့်အရွယ်အစားနှင့်ရှိပြီးသားအဆောက်အအုံများကိုပြောင်းလဲခြင်း	AchE501 Architectural Management AchE502 Interior Design AchE504 Construction Contract AchE602 Building Survey & Reporting		

<p>GAP602 providing information regarding designs, materials and estimated building times ဒီဇိုင်းများ၊ ပစ္စည်းများနှင့်ခန့်မှန်းတည်ဆောက်မှုကာလနှင့်ပတ်သက်သောသတင်းအချက်အလက်များကို ပေးခဲ့သည်</p> <p>GCEP601 Design civil engineering projects such as hydraulic systems, roads, aerodromes, water supply systems, bridges and buildings</p> <p>ဟိုက်ဒရောလစ်စနစ်များ၊ လမ်းများ၊ လေယာဉ်များ၊ ရေပေးဝေရေးစနစ်များ၊ပုံစံပြုခြင်း</p>	<p>Practice Training Form185 Engineering Handbook Applications www.iqytechnicalcollege.com/Form185engineeringhandbookapplications.htm</p> <p>Theory Review Professional Diploma in Civil Engineering www.iqytechnicalcollege.com/profdipcivilengg.htm www.iqytechnicalcollege.com/profdipcivilenggmod.htm</p> <p>Form 314 IQY TU Online http://www.highlightcomputer.com/tuonline.htm</p> <p>BAE423 Fluid Mechanics BAE424 Reinforced Concrete BAE425 Timber Engineering BAE521 Road & Bridge BAE522 Rock Mechanics BAE523 Soil Mechanics BAE623 Surveying& Traffic Engineering BAE624 Water Supply , Sanitation & Finishing BAE 403 Engineering Mechanics</p> <p>Study Record to submit http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf</p>	<p>Advanced Diploma in Civil Engineering www.iqytechnicalcollege.com/advdipcivilengg.htm</p> <p>CE 104 Fluid Dynamics CE 105 Hydraulic CE 106 Hydrology CE 107 Sanitation-and-Water-supply CE111A-Road+Bridges CE103-Surveying</p>	<p>Practical Courses http://www.highlightcomputer.com/PracticalCourse2.htm</p> <p>PC 2- Certificate in Plumbing</p>
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<p>GAP603 compiling and analysing site and community data about geographical and ecological features, landforms, soils, vegetation, site hydrology, visual characteristics and human-made structures, to formulate land use and development recommendations, and for preparing environmental impact statements စီမံကိန်းရေးဆွဲခြင်းဆိုင်ရာစာရွက်စာတမ်းများ၊ ပုံကြမ်းများနှင့်စကေးဆွဲခြင်းများနှင့်ဖွဲ့စည်း တည်ဆောက်ပုံ၊ စက်ယန္တရားနှင့်ဗေဒင်ဒြပ်စင်များကိုနောက်ဆုံးဒီဇိုင်းများနှင့်ပေါင်းစပ်ခြင်း</p> <p>GCEP602 Study, evaluate report environmental implication on project စီမံကိန်းများ၏ပတ်ဝန်းကျင်ဆိုင်ရာသက်ရောက်မှုများကိုလေ့လာခြင်း၊ အကဲဖြတ်ခြင်းနှင့်အစီရင်ခံခြင်း</p>	<p>Practice Training Sustainability http://www.iqytechnicalcollege.com/Form108ADMECLearningSupport.htm#a1 Professional Diploma in Engineering (Year 3) www.iqytechnicalcollege.com/profdipengg.htm www.iqytechnicalcollege.com/profdipenggmod.htm</p> <p>RE001- Foundation Studies in Renewable Energy and Sustainability RE006- Wind Energy Conversion Systems Theory Review</p> <p>Professional Diploma in Civil Engineering www.iqytechnicalcollege.com/profdipcivilengg.htm www.iqytechnicalcollege.com/profdipcivilenggmod.htm</p> <p>BAE 523A Environmental Engineering</p> <p>Study Record to submit http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf</p>	<p>Advanced Diploma in Civil Engineering www.iqytechnicalcollege.com/advdipcivilengg.htm CE 109 Energy Efficient Building Design EE308 Sustainability</p>	<p>Practical Courses http://www.highlightcomputer.com/PracticalCourse2.htm PC 14- Certificate in Building Energy Efficiency</p>
<p>GAP604 preparing project documentation, including sketches and scale drawings, and integrating structural, mechanical and aesthetic elements in final designs •ဖောက်သည်များ၏ကိုယ်စားဆောက်လုပ်သူများနှင့်ခေါ်ဆိုမှု</p>	<p>AchE401 Architecture Theory</p> <p>AchE402 Architectural</p>		

<p>တင်ဒါများအတွက်အသုံးပြုရန်အတွက်သတ်မှတ်ချက်များနှင့်စာချုပ်စာတမ်းများကိုရေးသားခြင်း</p>	<p><u>Design</u></p> <p><u>AchE403 Building Construction</u></p> <p><u>AchE404 Building Services</u></p> <p><u>AchE405 Construction Materials</u></p> <p><u>AchE406 Sustainable Building Design</u></p> <p><u>AchE407 Architectural Drafting</u></p> <p><u>AchE408 Construction Quantity Surveying</u></p> <p><u>AchE503 Green Building Design</u></p>		
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	<p><u>AchE505 Solar Architecture & Smart House Design</u></p> <p><u>AchE506 Architecture Commercial Design</u></p> <p><u>AchE507 Unban Design</u></p> <p><u>AE508 Landscape Design</u></p> <p><u>AchE601 Architectural Design & Ethics</u></p> <p><u>AchE602 Building Survey & Reporting</u></p> <p><u>AchE603 Building Control Systems</u></p> <p> </p>		
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	<p>AchE605 Details Design</p> <p>AchE606 Outdoor Structure Design</p>		
<p>GCEP603 Determine construction methods, materials and quality standards</p> <p>•ဆောက်လုပ်ရေးနည်းလမ်းများ၊ပစ္စည်းများနှင့်အရည်အသွေးစံနှုန်းများကို ဆုံးဖြတ်သည်</p>	<p>Practice Training Civil Engineering Skills</p> <p>Form 103 Professional Diploma in Structural Engineering/MSc (Structure)</p> <p>www.iqytechnicalcollege.com/Form103StructureEngineeringOnline.htm</p> <p>Form 110 Certificate in Estimating</p> <p>www.iqytechnicalcollege.com/Form110CertificateinEstimating.htm</p> <p>Form 142 Construction Skills Training Professional Diploma Courses</p> <p>www.iqytechnicalcollege.com/Form142ConstructionSkillsTrainingProfessionalDiplomaCourses.htm</p> <p>Theory Review</p>	<p>Advanced Diploma in Civil Engineering</p> <p>www.iqytechnicalcollege.com/advdipcivilengg.htm</p> <p>CE 106A Detailed Construction & Building Construction Materials</p> <p>CE113 Structure 1</p> <p>CE114 Structure 2</p> <p>CE 112 Engineering Mechanics</p> <p>ME 301 Applied Mathematics</p>	<p>Practical Courses</p> <p>http://www.highlightcomputer.com/PracticalCourse2.htm</p> <p>PC 1- Certificate in Bricklaying & Masonry</p>

	Professional Diploma in Civil Engineering www.iqytechnicalcollege.com/profdipcivilengg.htm www.iqytechnicalcollege.com/profdipcivilenggmod.htm BAE421 Building Construction Engineering BAE422 Estimating BAE403 Engineering Mechanics BAE 404 Engineering Materials & Thermodynamics RE004- Energy Storage Systems RE005- Renewable Energy Resource Analysis RE010-Engineering Materials Form 314 IQY TU Online http://www.highlightcomputer.com/tuonline.htm Study Record to submit http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf		
GAP605 writing specifications and contract documents for use by builders and calling tenders on behalf of clients ဖောက်သည်များ၏ကိုယ်စားဆောင် ကလုပ်သူများနှင့်ခေါ်ဆိုမှုတင်ဒါ များအသုံးပြုရန်သတ်မှတ်ချက် များနှင့်စာချုပ်စာ	Practice Training Form 186 Short Courses www.iqytechnicalcollege.com/Form186ShortCourses.htm Do GE15/GE16/GE17/GE22/GE 25/GE26/GE30/GE31/	Advanced Diploma in Civil Engineering www.iqytechnicalcollege.com/advdipcivilengg.htm CE 104 A Building Drawing	Practical Courses http://www.highlightcomputer.com/PracticalCourse2.htm PC 3- Certificate in Building Construction

<p>တမ်းများကိုရေးသားခြင်း</p> <p>GCEP604 Draft and interpret specifications, drawings, plans, construction methods and procedures</p> <p>အသေးစိတ်ဖော်ပြချက်များ၊ ပုံများ၊ အစီအစဉ်များ၊ ဆောက်လုပ်ရေးနည်းလမ်းများနှင့်လုပ်ထုံးလုပ်နည်းများကိုမူကြမ်းနှင့်အမိပွယ်ကောက်ယူသည်</p>	<p>Theory Review</p> <p>Professional Diploma in Civil Engineering</p> <p>www.iqytechnicalcollege.com/profdipcivilengg.htm</p> <p>www.iqytechnicalcollege.com/profdipcivilenggmod.htm</p> <p>BAE421 Building Construction Engineering BAE621 Structural Engineering BAE422 Estimating</p> <p>Form 314 IQY TU Online</p> <p>http://www.highlightcomputer.com/tuonline.htm</p> <p>Study Record to submit http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf</p>		<p>PC 4- Certificate in Gutter Construction</p>
<p>GAP606 preparing reports, site plans, working drawings, specifications and cost estimates for land development, showing location and details of proposals, including ground modelling, structures, vegetation and access</p> <p>မြေမျက်နှာသွင်ပြင်များ၊ မြေဆီလွှာများ၊ အသီးအရွက်များ၊ မြေအနေအထားဇယားပေးပါ။</p>	<p>BAE 605 Engineering Management</p> <p>http://www.iqytechnicalcollege.com/profdiplectengg.htm#z24</p> <p>Study Record to submit http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf</p>	<p>Advanced Diploma in Civil Engineering</p> <p>www.iqytechnicalcollege.com/advdipcivilengg.htm</p> <p>CE 110 Building Construction</p>	<p>Practical Courses</p> <p>http://www.highlightcomputer.com/PracticalCourse2.htm</p> <p>PC 3- Certificate in Building Construction</p> <p>PC 4- Certificate in Gutter Construction PC16 Certificate in</p>

<p>အမြင်အာရုံလက္ခဏာများနှင့်လူသားဖန်တီးသောအဆောက်အအုံများနှင့်ပတ်သက်သည့်နေရာနှင့်လူထုအချက်အလက်များကိုစုဆောင်းခြင်းနှင့်ဆန်းစစ်ခြင်း၊</p> <p>မြေယာဖွံ့ဖြိုးတိုးတက်မှုအတွက်အစီရင်ခံစာများ၊</p> <p>လုပ်ငန်းအစီအစဉ်များ၊</p> <p>လုပ်ငန်းရေးဆွဲပုံများ၊</p> <p>အသေးစိတ်အချက်အလက်များနှင့်ကုန်ကျစရိတ်ခန့်မှန်းချက်များ၊</p> <p>မြေပုံပုံစံ၊ အဆောက်အအုံများ၊</p> <p>GCEP605 Organise and direct site labour and the delivery of construction materials, plant and equipment ဆောက်လုပ်ရေးပစ္စည်းများ၊ စက်ရုံနှင့်စက်ပစ္စည်းများဖြန့်ဝေခြင်းနှင့်လုပ်ငန်းခွင် ဝင်ရောက်ခြင်းကိုစီစဉ်သည်</p>			Rigging & Scaffolding
<p>GAP inspecting construction work in progress to ensure compliance with plans, specifications and quality standards</p> <p>GCEP606 Administer contracts and verify and certify satisfactory completion</p>	<p>BAE 605 Engineering Management http://www.iqytechnicalcollege.com/profdiplectengg.htm#z24 Study Record to submit http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf</p>		

<p>•စာချုပ်များကိုစီမံခန့်ခွဲပြီးကျေနပ်အားရမှုပြီးဆုံးကြောင်းအတည်ပြုသည်</p>			
<p>GAP607 inspecting construction work in progress to ensure compliance with plans, specifications and quality standards</p> <p>•စီမံကိန်းများ၊ သတ်မှတ်ချက်များနှင့်အရည်အသွေးစံချိန်စံညွှန်းများနှင့်ကိုက်ညီမှုရှိစေရန်တည်ဆောက်နေသောလုပ်ငန်းများကိုစစ်ဆေးခြင်း</p> <p>GCEP607 Establish detailed programs for the coordination of site activities လုပ်ငန်းခွင်ညှိနှိုင်းဆောင်ရွက်မှုအတွက်အသေးစိတ်အစီအစဉ်များချမှတ်သည်</p>	<p>BAE 609 Design Project Practice Training Practice Training</p> <p>Form 180 ETAB+REVIT</p> <p>www.iqytechnicalcollege.com/etabrevit.htm</p> <p>Form185 Engineering Handbook Applications</p> <p>www.iqytechnicalcollege.com/Form185engineeringhandbookapplications.htm</p> <p>Study Record to submit http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf</p>	<p>Advanced Diploma in Civil Engineering</p> <p>www.iqytechnicalcollege.com/advdipcivilengg.htm</p> <p>CE115 Estimating & Specification</p>	<p>Practical Courses</p> <p>http://www.highlightcomputer.com/PracticalCourse2.htm</p> <p>PC 3- Certificate in Building Construction</p> <p>PC 4- Certificate in Gutter Construction</p> <p>PC16 Certificate in Rigging & Scaffolding</p>
<p>GCEP608 Set up work control systems to ensure that standards of performance, quality, cost and safety are met</p> <p>စွမ်းဆောင်ရည်၊ အရည်အသွေး၊ ကုန်ကျစရိတ်နှင့်လုံခြုံမှုစံနှုန်းများကိုပြည့်မီစေရန်သေချာစေရန်အလုပ်ထိန်းချုပ်မှုစနစ်များကိုတပ်ဆင်သည်</p>	<p>Practice Training</p> <p>Form 110 Certificate in Estimating</p> <p>www.iqytechnicalcollege.com/Form110CertificateinEstimating.htm</p> <p>Theory Review</p> <p>Professional Diploma in Civil Engineering</p>	<p>Advanced Diploma in Civil Engineering</p> <p>www.iqytechnicalcollege.com/advdipcivilengg.htm</p> <p>CE115 Estimating & Specification</p>	<p>Practical Courses</p> <p>http://www.highlightcomputer.com/PracticalCourse2.htm</p> <p>PC 12- Certificate in Surveying. Quantity Surveying & Estimating</p>

	www.iqytechnicalcollege.com/profdipcivilengg.htm www.iqytechnicalcollege.com/profdipcivilenggmod.htm BAE422 Estimating Study Record to submit http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf		
GAP608 consulting with Professionals and clients about external area designs, costs and construction •ပြင်ပဧရိယာဒီဇိုင်းများ၊ ကုန်ကျစရိတ်များနှင့်ဆောက်လုပ်ရေးလုပ်ငန်းများနှင့် ပတ်သက်၍ ပညာရှင်များနှင့်ဖောက်သည်များနှင့်တိုင်ပင်ခြင်း GCEP609 Consult with other engineers, architects, landscape architects and environmental scientists အခြားအင်ဂျင်နီယာများ၊ မိသုကာများ၊ ရှုခင်းများဆိုင်ရာမိသုကာများနှင့်ပတ်ဝန်းကျင်ဆိုင်ရာသိပ္ပံပညာရှင်များနှင့်တိုင်ပင်ဆွေးနွေးသည်	Theory Review Professional Diploma in Civil Engineering www.iqytechnicalcollege.com/profdipcivilengg.htm www.iqytechnicalcollege.com/profdipcivilenggmod.htm BAE622 Architecture Professional Diploma in Electrical Engineering http://www.iqytechnicalcollege.com/profdipelectengg.htm BAE 606 Building Service Electrical & Mechanical Engineering BAE 601 Computer Programming Professional Diploma in Engineering (Year 3) www.iqytechnicalcollege.com/profdipengg.htm www.iqytechnicalcollege.com/profdipenggmod.htm	Advanced Diploma in Civil Engineering www.iqytechnicalcollege.com/advdipcivilengg.htm CE 108 Electrical Principle CE 109 Energy Efficient Building Design EE102 Basic Electrical Fitting & Wiring	Practical Courses http://www.highlightcomputer.com/PracticalCourse2.htm PC 14- Certificate in Building Energy Efficiency

	<p>RE003- Solar and Thermal Energy Systems RE012a-Electrical Engineering Part 1</p> <p>Study Record to submit http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf</p>		
<p>GCEP610 Research, investigate and evaluate materials, processes or systems related to civil engineering works ဆောက်လုပ်ရေးလုပ်ငန်းနှင့်သက်ဆိုင်သောပစ္စည်းများ၊ လုပ်ငန်းစဉ်များသို့မဟုတ်စနစ်များကို သုတေသနပြုသည်</p>	<p>BAE 608 Engineering Competency Demonstration Report Writing</p> <p>Internship http://www.highlightcomputer.com/internship.htm</p> <p>Internship and Final Design Project http://www.iqytechnicalcollege.com/InternshipFinalProject.htm</p>	<p>Advanced Diploma in Civil Engineering</p> <p>www.iqytechnicalcollege.com/advdipcivilengg.htm</p> <p>CE 109 Energy Efficient Building Design</p>	
<p>GCEP611 Supervise the testing and commissioning of completed works ပြီးစီးသောအလုပ်များကိုစစ်ဆေးခြင်းနှင့်ခွင့်ပြုခြင်းကိုကြီးကြပ်သည်</p>	<p>BAE 609 Design Project RE016-Design & Management (BAE508) http://www.iqytechnicalcollege.com/profdipengineeringmod.htm#a19</p> <p>Internship http://www.highlightcomputer.com/internship.htm</p> <p>Internship and Final Design Project http://www.iqytechnicalcollege.com/InternshipFinalProject.htm</p>		

	Study Record to submit http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf		
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Mechatronics Engineer

Do for both [Electronics Engineer](#) and [Mechanical Engineer](#)

Chemical & Materials Engineer

UNIT GROUP 2331 CHEMICAL AND MATERIALS ENGINEERS

CHEMICAL AND MATERIALS ENGINEERS design and prepare specifications for chemical process systems and the construction and operation of commercial-scale chemical plants, supervise industrial processing and fabrication of products undergoing physical and chemical change, and investigate the properties of metals, ceramics, polymers and other materials and assess and develop their engineering and commercial applications.

Indicative Skill Level:

In Australia and New Zealand:

Most occupations in this unit group have a level of skill commensurate with a bachelor degree or higher qualification. In some instances relevant experience and/or on-the-job training may be required in addition to the formal qualification (ANZSCO Skill Level 1).

Registration or licensing may be required.

Tasks Include:

- preparing designs for chemical process systems and planning control systems for processes such as those used to remove and separate components, effect chemical changes, test and evaluate fuels, transfer heat, and control the storing and handling of solids, liquids and gases
- monitoring the operation and maintenance of equipment to achieve maximum efficiency under safe operating conditions
- ensuring correct materials and equipment are used and that they conform to specifications
- diagnosing malfunctions in chemical plants and instituting remedial action
- studying product utilisation and pollution control problems
- reviewing plans for new products and submitting material selection recommendations in accordance with design specifications and factors such as strength, weight and cost

- planning and implementing laboratory operations to develop new materials and fabrication procedures for new materials to fulfil production cost and performance standards
- conferring with producers of materials, such as metals, ceramics, polymers, cements and elastomers, during the investigation and evaluation of materials suitable for specific product applications
- reviewing product failure data and implementing laboratory tests to establish or reject possible causes, and advising on ways to overcome any problems

- ဓာတုဖြစ်စဉ်စနစ်များအတွက်ဒီဇိုင်းများကိုပြင်ဆင်ခြင်းနှင့်အစိတ်အပိုင်းများကိုဖယ်ရှားခြင်းနှင့်သီးခြားခွဲထုတ်ခြင်း၊ ဓာတုပြောင်းလဲမှုများကိုအကျိုးသက်ရောက်ခြင်း၊ လောင်စာများကိုစမ်းသပ်ခြင်းနှင့်အကဲဖြတ်ခြင်း၊ အပူလွှဲပြောင်းခြင်းနှင့်စိုင့်အခဲများ၊
- လုံခြုံစိတ်ချရသောလည်ပတ်မှုအခြေအနေများတွင်အမြင့်ဆုံးထိရောက်မှုရှိစေရန်ပစ္စည်းကိရိယာများလည်ပတ်ခြင်းနှင့်ထိန်းသိမ်းခြင်းကိုစောင့်ကြည့်ခြင်း
- မှန်ကန်သောပစ္စည်းများနှင့်ပစ္စည်းကိရိယာများအသုံးပြုခြင်းကိုသေချာစေရန်နှင့်၎င်းတို့သည်သတ်မှတ်ချက်များနှင့်ကိုက်ညီစေရန်
- ဓာတုဗေဒစက်ရုံများရှိအမှားအယွင်းများကိုရှာဖွေခြင်းနှင့်ပြန်လည်ကုစားခြင်းကိုစတင်ခြင်း
- ထုတ်ကုန်အသုံးချမှုနှင့်ညစ်ညမ်းမှုထိန်းချုပ်ရေးပြproblemsနာများကိုလေ့လာခြင်း
- ထုတ်ကုန်အသစ်များအတွက်အစီအစဉ်များကိုပြန်လည်သုံးသပ်ခြင်းနှင့်ဒီဇိုင်းသတ်မှတ်ချက်များနှင့်အစွမ်း၊
အလေးချိန်နှင့်ကုန်ကျစရိတ်စသည့်အချက်များနှင့်အညီပစ္စည်းရွေးချယ်မှုဆိုင်ရာအကြံပြုချက်များကိုတင်ပြခြင်း
- ထုတ်လုပ်မှုစရိတ်နှင့်စွမ်းဆောင်ရည်စံချိန်စံညွှန်းများနှင့်ကိုက်ညီရန်ပစ္စည်းများအသစ်များအတွက်ပစ္စည်းများအသစ်များနှင့်လုပ်ကြံသတ်ဖြတ်မှုလုပ်ထုံးလုပ်နည်းများကိုဖော်ထုတ်ရန် ဓာတ်ခွဲခန်းလုပ်ငန်းများအားစီစဉ်ခြင်းနှင့်အကောင်အထည်ဖော်ခြင်း
- တိကျသောထုတ်ကုန်အသုံးချမှုများအတွက်သင့်လျော်သောပစ္စည်းများစစ်ဆေးခြင်းနှင့်အကဲဖြတ်ခြင်းပြုလုပ်ရာတွင်သတ္တု၊ ကြွေထည်မြေထည်၊ ပိုလီမာ၊
- ထုတ်ကုန်ပျက်ကွက်မှုအချက်အလက်များကိုပြန်လည်သုံးသပ်ခြင်းနှင့်ဖြစ်နိုင်ချေရှိသောအကြောင်းတရားများကိုဖော်ထုတ်ရန်သို့မဟုတ်ငြင်းပယ်ရန်ဓာတ်ခွဲခန်းစမ်းသပ်မှုများကိုအ

ကောင်အထည်ဖော်ခြင်းနှင့်မည်သည့်ပြproblemsနာကိုမဆိုကျော်လွှားရန်နည်းလမ်းများကို
အကြံပေးခြင်း

Mapping

Tasks	Degree Subjects	Diploma Subjects	Practical Subjects
GEC -General Engineering Competency GCEP-Graduate Civil Engineer Proficiency GEEP-Graduate Electrical Engineer Proficiency GMPE-Graduate Mechanical Engineer Proficiency	BAE401 Engineering Maths BAE 402 Calculus BAE 603 Software Engineering BAE 601 Computer Programming Professional Diploma in Engineering (Year 3) www.iqytechnicalcollege.com/profdipengg.htm www.iqytechnicalcollege.com/profdipenggmod.htm Engineer Practice http://www.iqytechnicalcollege.com/Form108ADMECLearningSupport.htm#a1 Engineering Practice http://www.iqytechnicalcollege.com/Form108ADMECLearningSupport.htm#a1	E 101 Applied Mathematics Maths 403 Engineering-Mathematics (EE302) Maths 301 Introductory Finite Difference Methods- Maths 302 Elementary-Linear-Algebra (EE302) Maths 303 Introductory Finite Volume Methods	

	port.htm#a2 Design and Technology http://www.iqytechnicalcollege.com/Form108ADMECLearningSupport.htm#a3 Form 258 Language www.iqytechnicalcollege.com/language.htm Study Record to submit http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf		
GMEP 601 Design mechanical equipment, machinery, components, products for manufacture; and plant and systems for construction စီမံကိန်းလုပ်သားနှင့်ပစ္စည်းများ၊ စက်ရုံနှင့်စက်ပစ္စည်းများဖြန့်ဝေခြင်းကိုစီစဉ်ခြင်းနှင့်စီမံခြင်း	Practice Bachelor of Engineering (Computer Aided Engineering) www.iqytechnicalcollege.com/	Advanced Diploma in Mechanical Engineering www.iqytechnicalcollege.com/advdipmchengg.htm ME 103 Engineering Mechanics ME 104 Machine Principle	Practical Courses http://www.highlightcomputer.com/PracticalCourse2.htm PC 5- Certificate in Fitting & Machining PC 6-

	e.com/BTec hBECAE.htm Do BAE403/RE003/04/005/006/010/BAE613/614 Computer Applications Theory Review Professional Diploma in Engineering (Year 3) www.iqytechnicalcollege.com/profdipengg.htm www.iqytechnicalcollege.com/profdipenggmod.htm BAE 403 Engineering Mechanics RE001- Foundation Studies in Renewable Energy and Sustainability RE003- Solar and Thermal Energy Systems RE004- Energy Storage Systems RE005- Renewable Energy Resource Analysis RE006- Wind Energy Conversion Systems	ME 108 Principle of Engines ME 206 Introduction to Turbo Machinery ME 208 Hydrocarbons ME 209 Introduction-to-polymer-science-and-technology ME 301 Fluid Dynamics ME 305 Corrosion Prevention ME 306 Theory-of-waves-in-materials	Certificate in Welding PC 7- Certificate in Engine Operation & Basic Servicing PC 8- Certificate in Air-conditioning & Refrigeration Basic Servicing
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	Study Record to submit http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf		
<p>GChEP601 preparing designs for chemical process systems and planning control systems for processes such as those used to remove and separate components, effect chemical changes, test and evaluate fuels, transfer heat, and control the storing and handling of solids, liquids and gases</p> <p>ဓာတုပြောင်းလဲမှုဖြစ်စဉ်များအတွက်ဒီဇိုင်းများပြင်ဆင်ခြင်းနှင့်အစိတ်အပိုင်းများကိုဖယ်ထုတ်ခြင်းနှင့်ခွဲထုတ်ခြင်း၊ ဓာတုဗေဒပြောင်းလဲမှုများကိုဖြစ်ပေါ်စေခြင်း၊ လောင်စာဆီစစ်ဆေးခြင်း၊ အကဲဖြတ်ခြင်း၊ အပူလွှဲပြောင်းခြင်းနှင့်စိုင်အံ့များ၊</p> <p>GMEP602 Develop specifications for manufacture, determining materials, equipment, piping, material flows, capacities and layout of plant or systems</p> <p>စီမံကိန်းလုပ်သားနှင့်ပစ္စည်းများ၊ စက်ရုံနှင့်စက်ပစ္စည်းများဖြန့်ဝေခြင်းကိုစီစဉ်ခြင်းနှင့်စီမံခြင်း</p>	<p>Practice Bachelor of Engineering (Computer Aided Engineering) www.iqytechnicalcollege.com/BTechBECAE.htm www.iqytechnicalcollege.com/advdipm echengg.htm m Do RE010/BAE314/6 13 Computer Applications Theory Review Professional Diploma in Engineering (Year 3) www.iqytechnicalcollege.com/profdipengg.htm www.iqytechnicalcollege.com/profdipenggmod.htm RE010-Engineering Materials</p>	<p>Advanced Diploma in Mechanical Engineering www.iqytechnicalcollege.com/advdipm echengg.htm ME201 Introduction to Fluid Mechanics ME 202 Introduction to Aero Dynamics ME 204 Engineering Fluid Mechanics ME 234 Wind Turbines</p>	<p>Practical Courses http://www.highlightcomputer.com/PracticalCourse2.htm PC 13- Certificate in Manufacturing Process Control & CNC</p>

	BAE314 Mechanical Power Generation BAE613 Mechanical Instrumentation Process Study Record to submit http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf		
GMEP603 Organise and manage project labour and the delivery of materials, plant and equipment စီမံကိန်းဆောင်ရွက်မှုများကိုညှိနှိုင်းရန်အသေးစိတ်အစီအစဉ်များချမှတ်သည်	RE016-Design& Management Form 181 M & E Software www.iqytechnicalcollege.com/M&ESoftware.htm www.iqytechnicalcollege.com/VideoDownloadZip.htm Form 182 CAM/CNC/ Master CAM www.iqytechnicalcollege.com	Advanced Diploma in Mechanical Engineering www.iqytechnicalcollege.com/advdipmchengg.htm Mgt 501 Basic Management	

	e.com/mastercam.htm www.iqytechnicalcollege.com/VideoDownloadZip.htm Study Record to submit http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf		
GChEP602 Ensuring correct materials and equipment are used and that they conform to specifications မှန်ကန်သောပစ္စည်းများနှင့်ပစ္စည်းကိရိယာများကို သေချာစွာအသုံးပြုခြင်းနှင့်၎င်းတို့သည်သတ်မှတ်ချက်များနှင့်ကိုက်ညီမှုရှိစေခြင်း Conferring with producers of materials, such as metals, ceramics, polymers, cements and elastomers, during the investigation and evaluation of materials suitable for specific product applications တိကျသောထုတ်ကုန် application များအတွက်သင့်လျော်သောပစ္စည်းများ၏စုံစမ်းစစ်ဆေးမှုနှင့်အကဲဖြတ်စဉ်အတွင်းထိုကဲ့သို့သောသတ္တုများ, ကြွေထည်မြေထည်, ပိုလီမာ, ဘီလပ်မြေနှင့် elastomers အဖြစ်ပစ္စည်းများ	http://www.iqytechnicalcollege.com/profdipchemengg.htm Met 21071 Engineering Material RE010-Engineering Materials	http://www.iqytechnicalcollege.com/Form108ADMECLearningSupport.htm#a8	
GMEP604 Establish detailed programs for the coordination of project activities	RE016-Design& Management http://www.iqytechnicalcollege.com	Advanced Diploma in Mechanical Engineering	

<p>စီမံကိန်းလုပ်ငန်းများကိုညှိနှိုင်းဆောင်ရွက်ရန် အသေးစိတ်အစီအစဉ်များချမှတ်သည်</p>	<p>om/profdipenggmod.htm#a19</p> <p>Study Record to submit http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf</p>	<p>www.iqytechnicalcollege.com/advdipmechengg.htm</p> <p>Mgt 501 Basic Management</p>	
<p>GChEP603 Reviewing plans for new products and submitting material selection recommendations in accordance with design specifications and factors such as strength, weight and cost</p> <p>ထုတ်ကုန်အသစ်များအတွက်အစီအစဉ်များကိုပြန်လည်ဆန်းစစ်ခြင်းနှင့်ဒီဇိုင်းသတ်မှတ်ချက်များနှင့်အစွမ်းသတ္တိ၊ အလေးချိန်နှင့်ကုန်ကျစရိတ်စသည့်အချက်များနှင့်အညီ ပစ္စည်းရွေးချယ်မှုဆိုင်ရာအကြံပြုချက်များကိုတင်ပြခြင်း</p> <p>GMEP605 Set up work control systems to ensure that standards of performance, quality, cost and safety are met စွမ်းဆောင်ရည်၊ အရည်အသွေး၊ ကုန်ကျစရိတ်နှင့်လုံခြုံမှု စံနှုန်းများကိုပြည့်မီစေရန်သေချာစေရန်အလုပ်ထိန်းချုပ်မှုစနစ်များကိုတပ်ဆင်သည်</p>	<p>BAE 608 Engineering Competency Demonstration Report</p> <p>Internship http://www.highlightcomputer.com/internship.htm</p> <p>Internship and Final Design Project http://www.iqytechnicalcollege.com/InternshipFinalProject.htm</p> <p>Study Record to submit http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf</p>	<p>Advanced Diploma in Mechanical Engineering</p> <p>www.iqytechnicalcollege.com/advdipmechengg.htm</p> <p>Mgt 501 Basic Management</p>	
<p>GMEP606 Administer contracts and verifies and certifies satisfactory completion စာချုပ်များကိုစီမံခန့်ခွဲပြီးကျေနပ်အားရမှုပြီးဆုံး</p>	<p>BAE 605 Engineering Management http://www.iqytechnicalcollege.com/EngineeringManagement.htm</p>	<p>Mgt 501 Basic Management</p>	

ကြောင်းအတည်ပြုသည်	ytechnicalcollege.com/profdipectengg.htm#z24 Study Record to submit http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf		
CChEP604 Monitoring the operation and maintenance of equipment to achieve maximum efficiency under safe operating conditions အန္တရာယ်ကင်းစွာလည်ပတ်သောအခြေအနေများတွင်အများဆုံးထိရောက်မှုရှိစေရန်ပစ္စည်းကိရိယာများ၏လည်ပတ်မှုနှင့်ထိန်းသိမ်းမှုကိုစောင့်ကြည့်စစ်ဆေးခြင်း GMEP607 Supervise the functioning of manufacturing process plants such as coal handling installations, power station steam generating systems, and sewerage and water supply pumping stations ကျောက်မီးသွေးသုံးဓာတ်အားပေးစက်ရုံများ၊ လျှပ်စစ်ဓာတ်အား ပေးစက်ရုံ၊ ရေနွေးငွေ့ထုတ်ယူသည့်စနစ်များ၊ လည်ပတ်ဆောင်ရွက်မှုကိုကြီးကြပ်သည်။	Practice Form185 Engineering Handbook Applications www.iqytechnicalcollege.com/Form185engghandbookapplication.htm Bachelor of Engineering (Computer Aided Engineering) www.iqytechnicalcollege.com/BTechBECAE.htm Do	Advanced Diploma in Mechanical Engineering www.iqytechnicalcollege.com/advdipmchengg.htm ME 203 Control Engineering ME 205 Manufacturing Processes-and-Materials ME 302 Automation-and-Robotics ME 434 Mechtronics-Robotics ME 534 Numerical Control ME 303 Computer Aided Design and Manufacturinig ME 304 Introduction	Practical Courses http://www.highlightcomputer.com/PracticalCourse2.htm PC 7- Certificate in Engine Operation & Basic Servicing PC 8- Certificate in Air-conditioning & Refrigeration Basic Servicing Diploma/ Advance d Diploma in Air-conditio

	<p>BAE311/511/512 Computer Applications</p> <p>Theory Review http://www.iqytechnicalcollege.com/profdipmechengg.htm</p> <p>BAE311 Plant Engineering BAE511 Air-conditioning & Refrigeration Part 1 BAE512 Building Service Water</p> <p>Supply System http://www.iqytechnicalcollege.com/profdipchemengg.htm</p> <p>RE004+ ChE 51016 Chemical Process Design</p> <p>Study Record to submit http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf</p>	to Nonlinearity-in-control-systems	<p>ning and Refrigeration Engineering</p> <p>http://www.iqytechnicalcollege.com/advdipare.htm</p>
<p>GChEP605 Diagnosing malfunctions in chemical plants and instituting remedial action</p> <p>ဓာတုဗေဒစက်ရုံများရှိ အမှားအယွင်းများရှာဖွေတွေ့ရှိခြင်းနှင့် ကုစားအရေးယူစတင်</p>	<p>Practice</p> <p>Bachelor of Engineering (Computer Aided Engineering)</p>	<p>Advanced Diploma in Electrical Engineering</p> <p>www.iqytechnicalcollege.com/advdipelectengg.htm</p> <p>EE306 Electro-mechanical</p>	

	www.iqytechnicalcollege.com/BTechBECAE.htm Do BAE607 Computer Applications Form 181 M & E Software www.iqytechnicalcollege.com/M&ESoftware.htm www.iqytechnicalcollege.com/VideoDownloadZip.htm Theory Review Professional Diploma in Electrical Engineering www.iqytechnicalcollege.com/profdipelectengg.htm BAE 607 Radio Wave Propagation & Microwave Techniques Study Record to submit	Control	
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	http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf		
GChEP studying product utilisation and pollution control problems ထုတ်ကုန်အသုံးချနှင့်ညစ်ညမ်းမှုကိုထိန်းချုပ်ပြဿနာများကိုလေ့လာ	http://www.iqytechnicalcollege.com/profdipengngmod.htm#a5	http://www.iqytechnicalcollege.com/Form108ADMECLearningSupport.htm#a1	
GChEP606 Planning and implementing laboratory operations to develop new materials and fabrication procedures for new materials to fulfil production cost and performance standards ထုတ်လုပ်မှုကုန်ကျစရိတ်နှင့်စွမ်းဆောင်ရည်စံချိန်စံညွှန်းများနှင့်ကိုက်ညီရန်ပစ္စည်းများအသစ်များအတွက်ပစ္စည်းများအသစ်များနှင့်လုပ်ကြံသတ်ဖြတ်မှုလုပ်ထုံးလုပ်နည်းများဖွံ့ဖြိုးတိုးတက်ဖို့ဓာတ်ခွဲခန်းစစ်ဆင်ရေးစီမံကိန်းနှင့်အကောင်အထည်ဖော် Reviewing product failure data and implementing laboratory tests to establish or reject possible causes, and advising on ways to overcome any problems ထုတ်ကုန်ပျက်ကွက်မှုအချက်အလက်များကိုပြန်လည်သုံးသပ်ခြင်းနှင့်ဖြစ်နိုင်ချေရှိသောအကြောင်းတရားများကိုဖော်ထုတ်ရန်သို့မဟုတ်ငြင်းပယ်ရန်ဓာတ်ခွဲခန်းစစ်ဆေးမှုများကိုအကောင်အထည်ဖော်	http://www.iqytechnicalcollege.com/profdipchemengg.htm ChE 11001 Organic Chemistry ME 31014 Strength of Materials ME 41031 Design of Machine Elements ME 209		Strength of Materials https://www.youtube.com/watch?v=pS2HSTwHpSw Water Testing https://www.youtube.com/watch?v=ey-xqU0i9PI Tensile Testing Machine https://www.youtube.com/watch?v=ItsrinTZKoY

<p>ည်ဖော်ခြင်းနှင့်မည်သည့်ပြဿနာကိုမဆိုကျော် လွှားရန်နည်းလမ်းများကိုအကြံပေးခြင်း</p>		<p>Universal Testing Machine https://www.youtube.com/watch?v=Z7NMs9xQwnw</p> <p>Intensive machine testing https://www.youtube.com/watch?v=UPhvLHMuIpU</p> <p>Fatigue Testing https://www.youtube.com/watch?v=0hiyMsKENxY</p> <p>Test Machine https://www.youtube.com/watch?v=17xipnsOygc Hardnes s Test https://www.youtube.com/watch?v=RJXJp</p>
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			<p><u>eH78iU</u></p> <p><u>https://www.youtube.com/watch?v=439POmkcG-E</u></p> <p><u>https://www.youtube.com/watch?v=NIWVmp_q_XE</u></p> <p><u>https://www.youtube.com/watch?v=G2JGNIIvNC4</u></p> <p><u>https://www.youtube.com/watch?v=7Z90OZ7C2jI</u></p> <p><u>https://www.youtube.com/watch?v=wLfNwX039_s</u></p> <p><u>https://www.youtube.com/watch?v=i1x-vJ85sBA</u></p>
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			<p>https://www.youtube.com/watch?v=u9wZVyHgZYo</p> <p>Oil testing</p> <p>https://www.youtube.com/watch?v=XDI2TlzBpE</p> <p>https://www.youtube.com/watch?v=zIC-a3J4hSM</p> <p>https://www.youtube.com/watch?v=9kJnZIPoXWI</p> <p>Pump testing</p> <p>https://www.youtube.com/watch?v=1gxBtjqbeCc</p> <p>https://www.youtube.com/</p>
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			watch?v=gZWugqF3ZFQ https://www.youtube.com/watch?v=2LHuP0LpdEc
GMEP608 Supervise in consultation with other engineers the testing and commissioning of completed works အခြားအင်ဂျင်နီယာများနှင့်တိုင်ပင်ကာပြီးစီးခဲ့သောအလုပ်များကိုစစ်ဆေးခြင်းနှင့်ခွင့်ပြုခြင်းကိုကြီးကြပ်သည်	Bachelor of Engineering (Computer Aided Engineering) www.iqytechnicalcollege.com/BTechBECAE.htm Do BAE606 http://www.iqytechnicalcollege.com/profdipmechengg.htm Form185 Engineering Handbook Applications www.iqytechnicalcollege.com/Form185engghandbookapplication.	Advanced Diploma in Mechanical Engineering www.iqytechnicalcollege.com/advdipmechengg.htm ME 105 Electrical Principle ME 106 Electrical Circuits	Practical Courses http://www.highlightcomputer.com/PracticalCourse2.htm PC 14- Certificate in Building Energy Efficiency

	<p>htm</p> <p>Form 188 Professional Certificate in Hotel Construction</p> <p>www.iqytechnicalcollege.com/hotelconstruction.htm</p> <p>Theory Review http://www.iqytechnicalcollege.com/profdipmechengg.htm</p> <p>RE016-Design& Management RE012a-Electrical Engineering Part 1 RE011a-Civil & Mechanical Engineering Part 1 RE011b-Civil & Mechanical Engineering Part 2 BAE 606 Building Service Electrical & Mechanical Engineering BAE315 Materials Engineering</p> <p>Study Record to submit http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf</p>		
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<p>GMEP609 Specialise in research in areas such as utilisation of energy, materials handling, thermodynamic processes, fluid mechanics and environmental controls စွမ်းအင်၊ ပစ္စည်းများကိုင်တွယ်ခြင်း၊ အပူစွမ်းအင်သိပ္ပံဘာသာရပ်ဆိုင်ရာဖြစ်စဉ်များ၊ အရည်စက်ပြင်များနှင့်သဘာဝပတ်ဝန်းကျင်ဆိုင်ရာထိန်းချုပ်မှုများစသည့်များတွင်သုတေသနလုပ်ငန်းကိုအထူးပြုနိုင်သည်။</p>	<p>Bachelor of Engineering (Computer Aided Engineering)</p> <p>www.iqytechnicalcollege.com/BTechBECAE.htm</p> <p>Do BAE404/403/614 /RE007</p> <p>Theory Review http://www.iqytechnicalcollege.com/profdipmechengg.htm</p> <p>BAE 404 Engineering Materials & Thermodynamics BAE 403 Engineering Mechanics BAE614 Machine Design RE007- Energy System Efficiency</p> <p>Study Record to submit http://www.iqytechnicalcollege.com/studyrecordmyanmar.pdf</p>	<p>Advanced Diploma in Mechanical Engineering</p> <p>www.iqytechnicalcollege.com/advdipmechengg.htm</p> <p>ME 102 Engineering Thermodynamics</p> <p>ME 107 Heat Transfer</p> <p>ME 207 Chemical Thermodynamics</p> <p>ME 334 Air-conditioning and Refrigeration</p>	<p>Practical Courses</p> <p>http://www.highlightcomputer.com/PracticalCourse2.htm</p> <p>PC 14- Certificate in Building Energy Efficiency</p>
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အခြေခံပညာအလည်တန်းအဆင့်ရှိသူများ၊အကြောင်းအမျိုးမျိုးကြောင့်ကျောင်းဆက်မတက်နိုင်ဘဲအလုပ်လုပ်ရသူများအတွက်ကျောင်းသင်ခန်းစာပါဝင်သောအသက်မွေးဝမ်းကြောင်းပညာလက်မှတ်သင်တန်းများ။

IQY Technical College သည် THS/ ITC/ Year 10/ AGTI များအတွက်ပညာရေးလမ်းကြောင်းပြန်ဖွင့်ပေးသော အခြားရွေးချယ်လမ်းကြောင်းပညာရေး (Alternative Education) ဖြင့် Diploma/. Advanced Diploma/ Professional Diploma/ Bachelor of Technology/ Bachelor of Engineering/ Master of Engineering/ Graduate Diploma သင်တန်းများ၊ Singapore Institute of Engineering Technologists / International Federation of Engineering Education Societies-IFEES-USA)/ The Society of Professional Engineers (UK and International)/ The Institute of Management Specialists (UK)/ SCPU School of Engineering (Switzerland) အသိအမှတ်ပြု Engineering/ Management/ Information Technology သင်တန်းများကိုဖွင့်လှစ်နေသည်။

အဆိုပါအစီအစဉ်တွင်ပညာရေးအဆင့်ရှစ်တန်းအဆင့်ရှိသူများပါပါဝင်လာနိုင်ရန်ကျောင်းသင်ခန်းစာ (Year 9+10) ပါဝင်သောအသက်မွေးဝမ်းကြောင်းပညာလက်မှတ်သင်တန်းများ (Myanmar Vocational Training Certificate Level 1/2/3) (မြန်မာအသက်မွေးဝမ်းကြောင်းပညာလက်မှတ်အဆင့်၁/၂/၃) ကိုသင်ကြားမည်။

မြန်မာအသက်မွေးဝမ်းကြောင်းပညာလက်မှတ်အဆင့် (၁) (Myanmar Vocational Training Certificate Level 1)

အလုပ်အတွေ့ အကြုံကိုအခြေခံကာတရားဝင်အသိအမှတ်ပြုအသက်မွေးဝမ်းကြောင်းပညာလက်မှတ်ထုတ်ပေးခြင်းဖြစ်သည်။

မြန်မာအသက်မွေးဝမ်းကြောင်းပညာလက်မှတ်အဆင့် (၂) (Myanmar Vocational Training Certificate Level 2)

ကျောင်းသင်ခန်းစာ(Year 9+10)နှင့်ပူးတွဲ၍ အသက်မွေးဝမ်းကြောင်းပညာရပ်ကိုစာတွေ့ သင်ပေးခြင်းဖြစ်သည်။

ဘာသာများ

Engineering

Year 9+10 Maths/ Physics/ Science/ English/Myanmar နှင့်အောက်ပါဘာသာများမှတစ်ဘာသာ

PC 1-Certificate in Bricklaying & Masonry--Construction

PC 2-Certificate in Plumbing--Construction

PC 3-Certificate in Building Construction--Construction

PC 4-Certificate in Gutter Construction--Construction

PC 5-Certificate in Fitting & Machining--Metal & Engineering

PC 6-Certificate in Welding--Metal & Engineering

PC 7-Certificate in Engine Operation & Basic Servicing- Manufacturing, Production & Plant Operation

PC 8-Certificate in Air-conditioning & Refrigeration Basic Servicing-- Manufacturing, Production & Plant Operation

PC 9-Certificate in Electrical Wiring--Electrical

PC 10-Certificate in Electrical Machine Winding--Electrical

မှတ်ချက်--စာတွေ့ ကိုအထူးပြုကာလက်တွေ့ ဗီဒီယိုများအချို့ လက်တွေ့ ပစ္စည်းများသင်ကြားခြင်း။

သင်တန်းကာလ-Minimum 1 Year/ Maximum 2 Years

ပြီးစီးပါက Diploma in General Engineering (THS Course)/ Advanced Diploma in Engineering/

Professional Diploma in Engineering/ Bachelor of Technology/ Bachelor of Engineering

သင်တန်းများဆက်တက်နိုင်သည်။

Non Engineering

Year 9+10 Maths/ Physics/ Science/ English/Myanmar နှင့်အောက်ပါဘာသာများမှတစ်ဘာသာ

CERTIFICATE IN AGRICULTURE FOOD PRODUCTION (MVTC201)- Agri Food Production

CERTIFICATE IN ANIMALS HANDLING (MVTC202)- Animal Handling

CERTIFICATE IN BUSINESS (MVTC203)-- Business Services

CERTIFICATE IN LABORATORY WATER OPERATIONS (MVTC204)-- Health Services

CERTIFICATE IN COMMUNITY SERVICE (MVTC205)-- Community Service

(FOODS SERVICE/HEALTH SERVICES/LIBRARY SERVICES/AGE CARE/CHILD CARE)

CERTIFICATE IN PROPERTIES SERVICES (MVTC206)-- Community Service

CERTIFICATE IN PERFORMING (MVTC207)-- Performing Arts

CERTIFICATE IN PUBLIC SAFETY (MVTC208)-- Public Safety & Personal Services

CERTIFICATE IN LOGISTICS (MVTC209)-- Transport

စာတွေ့ ကိုအထူးပြုကာရိုက်နှိပ်ထားသောသင်ခန်းစာများကိုလေ့လာကာ Assignment များတင်ပြခြင်းဖြစ်သည်။

သင်တန်းကာလ-Minimum 1 Year/ Maximum 2 Years

ပြီးစီးပါက Diploma in Humanities Studies (Free course) / Advanced Diploma in Humanities (Free

Course)/ Bachelor of Humanities Studies (Free Course) / Diploma in Management (Fees paying

course)/ Advanced Diploma in Business Management (Fees paying course)/ Professional

Diploma+Bachelor of Business Management (Fees paying course)/ Diploma in Information

Technology (Fees Paying course)/ Advanced Diploma in Information Technology (Fees paying

course)/Professional Diploma/Bachelor of Applied Science (Information Technology) (Fees paying

course) သင်တန်းများဆက်တက်နိုင်သည်။

Year 9+10 သင်နေသောပညာဒါနကျောင်းများနှင့်လည်းပူးပေါင်းဆောင်ရွက်ခြင်း၊ပညာဒါနပြုခြင်းများ

လည်းပြုမည်။ Year 9+10 သင်လိုသော Tutors/ Study Guides များဆက်သွယ်နိုင်သည်။

Phone Numbers-Enrolment/Tutors-Dr Hla Myat Mon 09893974117 (Viber) / 09893974117

E-mail iqytechnicalcollege@gmail.com

မြန်မာအသက်မွေးဝမ်းကြောင်းပညာလက်မှတ်အဆင့်(၃) (Myanmar Vocational Training Certificate Level 3)

ကျွမ်းကျင်အဆင့်သင်တန်းဖြစ်သည်။

Only Online Training ---Contct-- Dr Kyaw Naing (Only e mail) E mail

iqytechnicalcollege@gmail.com

UPDATED COURSES

Click the following link to view the updated courses

<http://iqycoursesupdate.blogspot.com.au/>

VIDEO (MYANMAR) FOR THE OFFERED COURSES

www.iqytechnicalcollege.com/IQYIPEMCourseInformation.htm

[IQY Technical College Programs and Career](#)

Offered Courses

<u>Bachelor of Engineering/ Professional Diploma in Engineering Courses</u>
<u>Advanced Diploma/ Diploma in Engineering Courses</u>
<u>Self Study CPD Online Courses</u>
<u>Double Degrees Program</u>
<u>Graduate Diploma/ Master Diploma/ Master of Engineering /Doctor of Engineering/Doctor of Philosophy Courses</u>
<u>Engineering Trades Practical Courses</u>
<u>IQY Technical College Rural Development Engineering Program</u> <u>Myanmar Vocational Training Certificate Courses</u>
<u>Professional Engineer Support Program</u>
<u>Renewable Energy Programs</u>
<u>Certificate II, III, IV in Workplace English + Engineering & Diploma to Associate Degree in Engineering Practice Course</u>
<u>International Engineering & Engineering Trades Support Program</u>
<u>Engineering Design / BE (TU) Final Year Thesis/ Internship Report/Project Support Program</u>
<u>Bachelor of Engineering Science for THS/ITC/Year 9 Passed/AGTI</u>

Engineering Professional Development Courses SPE international +APEC

BE/ Professional Diploma in Engineering Courses

Live Lesson Courses

Advanced Diploma in Electro-mechanical and Construction Engineering (45667)

Bachelor of Technology/Professional Diploma in Engineering Technology in
Electrical/Civil/Mechanical and Renewable Energy Engineering (65667)

Bachelor of Engineering/Professional Diploma in Engineering in
Electrical/Civil/Mechanical and Renewable Energy Engineering (65668)

Diploma in Drone Technology (4/5/ 6778809)

Personal Attendance, Guided Study and Self Study e-Learning Courses

Professional Diploma in Engineering (Electrical/ Civil/Mechanical with Renewable
Energy)_(Course 67110A/67111A)

Professional Diploma +BE Automotive Engineering_(6722113)

Diploma/Advanced Diploma /Professional Diploma in Renewable Energy
Engineering_(Course 27333,37333, 67333)

Professional Diploma in Electrical Engineering (Electrical Power &
Electronics) (60115)

Professional Diploma in Industrial Engineering+BE(Industrial Engineering)
(677889)

Professional Diploma in Structural Engineering/ Master of Science
(Structural Engineering)_(677553/7776654)

Professional Diploma/ Advanced Diploma in Engineering
(Engineering Practice) for Diploma/AGTI/BTech/BE Degree holders

IQY Construction and Civil Specialist Skills Courses

Professional Diploma for 3 Years AGTI

Bachelor of Engineering (Special) (688974)

Bachelor of Engineering Practice (688975)

(For Site Practical People)

Bachelor of Trade Practice (699976)

(For Tradesmen)

See
Professional Diploma for 3 Years AGTI

Bachelor of Engineering Science -Mechanical Electrical
Construction (688977)

Bachelor of Engineering -Mechanical Electrical Construction
(688978)

AGTI to BE Conversion Program

(Course 67110/67111)

Arrangement of BTech and BE Courses for Instalment payments

Bachelor of Technology Program (56778)

Career Conversion Courses for BE/BTech/AGTI/City &
Guild Diplomas

SELF STUDY ENGINEERING PROFESSIONAL DIPLOMA PROGRAMS

Professional Diploma in Architectural Engineering (60116)

Professional Diploma in Metallurgical & Materials Engineering (60216)

Professional Diploma in Mineral Extraction & Explosion Protection Engineering
(Combined Mining& Petroleum Course) (60316)

Professional Diploma in Chemical Engineering (60416)

Certificate in Occupational Health and Safety (12128)

Professional Diploma in Hazardous Safety Engineering (60814)

Diploma in Hazardous Safety Engineering (39919)

Professional Diploma in Automotive and Mechanical Engineering (63111),

Professional Diploma in Marine and Mechanical Engineering (63112)

Professional Diploma in Naval Architectural Engineering (63113)

Professional Diploma in IT (Network) (63347), BE (ICT-Network) (63348)

**Bachelor Degree Programs (St Clements University
Higher Education School &**

STC Technological University of British West Indies)

Bachelor of Engineering (Electrical/ Civil/ Mechanical with Renewable Energy).
Course outline

Bachelor of Engineering (Electrical Engineering) Course Outline (60114/61112)

Bachelor of Engineering (Mechanical Engineering-Mechatronics) Course Outline (61012/61512)

Bachelor of Engineering (Civil Engineering-Building Services) Course Outline (60912/61412)

Bachelor of Engineering (Renewable Energy) (67333A)

Bachelor of Engineering (Computer Aided Engineering) with Electrical/Civil/Mechanical (6889907)

Graduate Diploma / Graduate Bachelors Degree Programs

Graduate Diploma of Civil Engineering + Bachelor of Applied Engineering (Final Year Civil Design) Course Outline (70214/71215)

Bachelor of Engineering (Civil) Course outline (60214/61212)

Bachelor of Engineering (Mechanical) Course outline (60314/61312)

Graduate Diploma of Mechanical Engineering + Bachelor of Applied Engineering (Final Year Mechanical Design) Course Outline (70314/71415)

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Bachelor of Engineering (Mechanical Engineering Management) /Professional Diploma in Mechanical Engineering and Management Course (38811/68811)

Bachelor of Engineering (Genetic) (63321349)

Bachelor of Engineering (Nuclear Engineering) **6544321**

Bachelor of Engineering (Textile Engineering) 68812

Bachelor of Engineering Science (Genetic Engineering) Course(43321349)

Graduate Diploma of Engineering Practice (Computer Control Engineering) Course Outline(70714)

Advanced Diploma/ Diploma in Engineering Courses

Diploma Programs (IQY Technical College)

Electrical Engineering Course Outline (20112/30112/30112)

Mechanical Engineering Course Outline (20312/30312/40313)

Civil Engineering Course Outline (20212/30212/40213)

Automotive Engineering Course Outline (30512)

Diploma in Computer Aided Engineering (3556678)

Advanced Diploma in Engineering Design (Electrical/Civil/Mechanical
(30915/31015/31115)

Diploma / Advanced Diploma in Air-conditioning and Refrigeration
Engineering (28775/38775)

The following programs highlighted in this area are embedded with
Certificate in Tertiary Preparation (Year 11+12) General Education

Advanced Diploma in General Engineering and Drafting (with Basic Business
and IT). (32115)

For the students who have not passed Year 10/ University Entrance Examination.

Tutoring for the university entrance examination level subjects are concurrently provided

Advanced Diploma in Engineering (Myanmar Language)(27764).

Advanced Diploma in Electro-mechanical and Construction Engineering (27765)_____
_(Course for THS/ITC/Matured Workers).

Diploma in General Engineering + Advanced Diploma in Mechanical Electrical and Civil
Engineering

For the students who complete Year 8 Myanmar Vocational Certificate Courses (12115).

Diploma in Engineering (Drafting and Design) (20915)

Diploma/Advanced Diploma in Engineering (Trade) Practice Courses for
experienced workers in Myanmar

THS Certificate to IQY Advanced Diploma+ Degree Program

Marine Engineering Course Outline (30612)

Diploma in Telecommunication Engineering (30116)

Bachelor of Applied Science (Computer Science & Computer Technology.)
(63112/63212)

Diploma in Telecommunication Engineering_(30116)

Self Study CPD Online Courses

Self study online CPD Courses (12111/13111).

Open Public Courses and Continuing Professional Development Courses

Certificate of Attendance in Diploma/ Professional Diploma in Engineering,
Management and Information Technology Programs
(A66223) Form-Click [HERE](#)

Double Degrees Program

Double Degrees (BE+BMgt/ BE+BAppSc(IT)/ BMgt+BAppSc(IT))

Dip EI+Dip M & E + Prof Cert Hotel Construction

Professional Diploma in Work Studies-Engineering/ Professional Diploma in
Engineering science/ Bachelor of Work Studies/ Bachelor of Science-Engineering/
(Course 5066689)Associate Degree in Work Studies-Engineering (Course
332256).

Bachelor of Engineering Science for THS/ITC/Year 9 Passed /AGTI (3 years 6
months) For AGTI, 2 Years 6 months Exemption

Course 432556)

Bachelor of Engineering Science Course Mapping to Australian Training Packages

[Electrical](#)

Detailed Contents-Electrical

Detailed Contents-ICT

Detailed Contents-Energy Supply

Civil

Detailed Contents-Civil Construction

Mechanical +Marine

Detailed Contents-Mechanical

Detailed Contents-Marine

Detailed Contents-Automotive

Engineer Pre-employment and Internship Course (20615-Engg)

Graduate Diploma/ Master Diploma/ Master of Engineering Courses

STC Technological University & IQY Technical College

Master of Engineering Science, Master of Engineering, Graduate Diploma in Engineering

76555 E/M/C

Graduate Diploma of Engineering Practice (Electrical) Course (70114/71115).

Graduate Diploma of Engineering Practice (Electronics) Course(71114/72515).

Graduate Diploma of Engineering Practice (Mechanical) Course (70314/72315).

Graduate Diploma of Engineering Practice (Civil) Course (70214/72215).

Graduate Diploma of Engineering Professional Development
(7655432) for The Society of Professional Engineers International
APEC Region Monitoring Committee's APEC Engineer Certificate
Professional Development Program

Master of Science (Engineering) / Master of Engineering

IQY Master Diploma In Engineering/ Applied Science/Management- Research Programs (80214/81215) (80314/81315) (80114/81115)

Special Master of Engineering Courses (Engineering Disciplines other than Electrical/Civil/Mechanical) (83215)

Master of Science (Renewable Energy Engineering) (80914).

Master of Engineering (Renewable Energy) (80414)

Master of Engineering (Chemical) (83215A).

Master of Engineering (Metallurgy) (83215B).

Master of Engineering (Mineral) (83215C).

Master of Engineering (Architectural) (83215D).

Master of Professional Architecture (83216).

IQY Masters Degree (M Mgt+ ME (EE,CE,ME)+M App Sc (IT)+MSc (RE))+ Associate Degree in RE+ BE (Civil+ Mechanical) Courses Learning Support

Website

Graduate Certificate/ Graduate Diploma in Aeronautical Engineering (68877653/78877653)

IQY Technical College Masters Degree Information

Graduate Certificate/Graduate Diploma/Masters Degree in Explosive Engineering (61112345/61112346)

Graduate Diploma in Biomedical Engineering (62222345)

Graduate Diploma of Civil Engineering + Bachelor of Applied Engineering (Final Year Civil Design) Course Outline (70214/71215)

Graduate Diploma of Mechanical Engineering + Bachelor of Applied Engineering (Final Year Mechanical Design) Course Outline (70314/71415)

Graduate Diploma of Engineering Practice (Computer Control Engineering) Course Outline (70714)

(Master Diploma in Applied Science-Information Technology)

Master of Applied Science (Computer Networking) (70883)+

Master of Engineering (Computer Networking) (70884)

Graduate Diploma/ Master Diploma/ Master of Management Courses

Master Degree Programs (St Clements University and

STC Technological University of British West Indies)

Graduate Diploma/ Master Diploma/ Master of Engineering Courses

SCPU School of Engineering (Switzerland),

IPEM Technological University &

St Clements University Myanmar College

The students who complete the following programs will also be awarded Master of Engineering (Professional Engineering) or Master of Engineering Honours by STC Technological University

Master of Engineering +Graduate Diploma in Engineering.(Civil) Course
Outline (80214/81215)

Master of Engineering +Graduate Diploma in Engineering.(Mechanical)
Course Outline (80314/81315)

Master of Engineering +Graduate Diploma in Engineering (Electrical) Course
Outline (80114/81115)

Master of Engineering (Civil High Rise Building Construction),
(801121)

Graduate Diploma in Geographic Information Systems(6886650)

Master of Professional Engineering (6688900)

Master of Professional Engineering Practice (6688901)

Diploma in Doctorate Studies/ Doctor of Philosophy Programs

Doctor of Philosophy Degree Programs (St Clements University and

STC Technological University of British West Indies)

IQY Diploma in Doctorate Studies (90110)

Doctor of Engineering (IPEMTU Degree College+IPEM Technological
University (90111)

Engineering Trades Practical Courses

Practical Courses (Certificate of Attendance) (10515)

IQY Technical College Rural Development Engineering
Program

Course MVTC 301/401/501/601)

Diploma in Intermediate Science (10777)

BE (Rural Development Engineering)

BE (Agricultural Engineering) 67433321

Myanmar Vocational Training Certificate Courses

<http://www.highlightcomputer.com/mvtc.htm>

General Vocational Courses

(10615)

Professional Engineer Support Program

Professional Engineers Support Course

(73115/73215/73315/73715/73815)

Engineering Fundamental Course

(73115/73215/73315/73715/73815)

Engineering Fundamental & PE Support

(73115/73215/73315/73715/73815)

Renewable Energy Programs

Certificate II, III, IV in Workplace English + Engineering & Diploma to Associate Degree in Engineering Practice Course

Certificate II, III, IV in Workplace English + Engineering & Diploma to Associate Degree in Engineering Practice Course Outline

(11114/21114/21214/50115/50215/50315/50715)

International Engineering & Engineering Trades Support Program

international Bachelors Degree in Engineering Electrical

(62115)

UEE11-UEE20 Mapping

International Bachelor of Applied Engineering (Electrical and Electronics) Australian Context

(62116)

Professional Diploma in Applied Engineering (Electrical and Electronics) Australian Context

(62116)

Certificate in Electrical Assisting (New Apprentice First Semester Course) (12116)

Advanced Certificate in Electrical Assisting mapping with Certificate III in Electro-technology -Electrician (UEE30820)) (22116)

Certificate/Diploma/Advanced Diploma in Electricity Supply Industry (ESI) (22117/32117/42117)(Form 71 Latest Engineering)

You can become Electrician and Electrical Engineer at the same time.

<http://www.iqytechnicalcollege.com/Electrician and Electrical Engineer Dual Qualification.htm>

International Civil Engineering

(41215)

International Mechanical Engineering

(41315)

INTERNATIONAL ELECTRICIAN TRAINING (41108/51413)

Engineering Design Course

www.iqytechnicalcollege.com/engineeringdesign1.htm

IQY Technical College Unit Coding

Phoe Phyu School of Law, IPMTU Degree College, STC Technological University, IQY Technical College

Master of Engineering Legal Practice (7766554)

Engineering Professional Development Courses SPE international +APEC

Graduate Diploma in Engineering (Professional Development) 774321

The Society of Professional Engineers International & APEC Engineer Certificate Professional Development Training

HAND BOOKS

[IQY Engineering Courses Assessment Validation](#)

Engineering Disciplines

Electrical Engineering

Electrical Power, Electronics, Mechatronics, Information Technology, Network Engineering, Computer, Renewable Energy

Civil Engineering

Civil, Structure, Hydro, Architecture, Rural Development ,Agriculture

Mechanical Engineering

Mechanical, Mechatronics, Industrial, Chemical, Metallurgy, Mineral, Marine, Automotive,
Production, Petroleum, Explosion Protection

Self Study Online CPD Courses

www.highlightcomputer.com/onlinecpdcourses.htm

To enrol these course , follow the steps

1. Pay the fees (First course is Kyats 30000, then Kyats 10000 per additional course) . Deposit into the following account

Daw Hla Myat Mon –Account Number 020-33-500265-2 (Yoma Bank) and attached the evidence of deposit to this application form

2. Fill the online form. (Without evidence of fund deposit, no reply will be made.)

<http://www.emailmeform.com/builder/form/H7zdPO8n8K6EBIG>

3. Then , we will send you the download links to download the e-Books

4. We will send you CPD Course Attendance Certificate electronically.

5. Each course has 20 CPD Hours.

6. They are self study courses. No needs to submit the assessment tasks

7. The list of the CPD course attenders are not included in IQY Technical College Graduates List but the authenticity of issued IQY CPD Certificates can be enquired by emailing to iqytechnicalcollege@gmail.com

Study Areas

GE1	Electrical Wiring (EE)
GE2	Electrical Machine (EE)
GE3	Electrical Distribution (EE)
GE4	Power System Operation (EE)
GE5	Power System Protection
GE6	Occupational Health & Safety
GE7	Project Management (EE/CE/ME)
GE8	Electronics (EE)
GE9	Process Control (EE/ME)
GE10	Industrial Electronics (EE)
GE11	Programmable Logic Controller (EE/ME)

GE12	Photovoltaic Solar Electrical System
GE13	Principle of Engine(ME)
GE14	Fitting & Machining (ME)
GE15	Building Construction (CE)
GE16	Engineering Drawing I (EE/CE/ME)
GE17	Pipe Fitting (CE/ME)
GE18	Air-conditioning & Refrigeration (ME)
GE19	Computer Programming (EE/CE/ME)
GE20	Computer Networking (EE)
GE21	Welding (ME)
GE22	Painting & Decoration (CE)
GE23	Pneumatics (CE/ME)
GE24	Manufacturing Management (ME)
GE25	Surveying (CE)
GE26	Energy Efficient Building Design
GE27	Machine Principle(ME)
GE28	Hydraulic (CE/ME)
GE29	Materials & Corrosion Prevention (CE/ME)
GE30	Bricklaying (CE)
GE31	Sprouting & Guttering (CE)
GE32	Electronic Security Installation
GE33	Explosion Protection
GE34	Engineering Business Management
GE35	Scaffolding
GE36	Materials Handling & Storage
IE1	Engineering Mathematics
IE2	Engineering Physics
IE3	Material Science
IE4	Advanced Engineering Mathematics
IE5	Mechanical Science
IE6	Principle of Electricity
IE7	Electrical Circuit I (EE)
IE8	Electrical Circuit II (EE)
IE9	Advanced Building Construction (CE)
IE10	Transmission Line (EE)
IE11	Electrical & Mechanical Engineering Work Experience
IE12	Civil Engineering Work Experience

IE13	Workshop
IE15	Advanced Engineering Design & Project Work
IE16	Power System Analysis-Fault Calculation
IE17	Power Line Design
IE18	Building services
IE19	PCB Design
IE20	Maths References
IE21	Electrical Principle
IE22	Co-generation
IE23	Industrial Computer System
IE24	Microprocessor
IE25	Power System Fundamental
IE26	Electrical Communication Fundamental
IE27	Control Concept
IE28	Electronic Signal & System
IE29	Electrical Estimating
IE30	Electronic Workbench
IE31	Introduction to Renewable Energy Technology
IE32	Telecommunication Cabling & Installation
IE33	Hybrid Energy System
IE34	Electricity Supply Industrial Skills

Myanmar Professional Engineers Register
(The Institution of Professional Engineers-Myanmar)

www.highlightcomputer.com/mper.htm

Myanmar Engineering Council Law Changing Campaign

www.highlightcomputer.com/mengclaw.htm

**PROFESSIONAL ENGINEER SUPPORT WEBSITE
OF IQY TECHNICAL COLLEGE OF HIGHLIGHT COMPUTER GROUP**

(if the direct download link is unavailable, the resources can be found & downloaded from the download centre)

www.highlightcomputer.com/pesupport.htm

www.highlightcomputer.com

A Professional Engineer needs wide knowledge of theory and practical applications of engineering. The knowledge is not limited to a particular course.

This Professional Engineer Support Website includes Engineering Job Competencies, Technician+ Technologist Level, Theoretical Knowledge requirement for Professional Engineer, Undergraduate Level Theoretical Knowledge requirement for Professional Engineer, Post graduate Level Theoretical Knowledge requirement for Professional Engineer, Practical Knowledge requirement for Professional Engineer, Professional Engineer Postgraduate Competency Development (Electrical & Civil), Knowledge refreshing by watching lesson videos, Youtube Engineering Lessons, MP4 Engineering Lessons, Engineering Rules/Regulation/Safety Knowledge (Electrical Safety, Construction site safety & OHS, Explosion Protection & safety etc are included & the reference materials are referred from relevant Australian Industrial Safety Authorities), Engineering Competency Demonstration Report and Information on Professional Engineer Registration around the world. .

The purpose is to provide the one stop shop for the engineers who seek PE/RSE registration in Myanmar as well as ASEAN, UK, USA, Australia etc to get the information as well as refreshing the theoretical studies and practical knowledge.

Engineering Job Competencies

**IQY Technical College Professional
Engineer/Management Professional & Information
Technology Professional Skills Training**

**Engineers Australia Professional Engineer, Engineering
Technologists & Engineering Associate Competencies References**

Part 1-ENGINEERING FUNDAMENTAL

Technician+ Technologist Level Theoretical Knowledge requirement for Professional Engineer

Undergraduate Level Theoretical Knowledge requirement for Professional Engineer (Part 1-Online Lessons)

Undergraduate Level Theoretical Knowledge requirement for Professional Engineer (Part 2-Reference Resources)

Post graduate Level Theoretical Knowledge requirement for Professional Engineer

Practical Knowledge requirement for Professional Engineer

Practical Knowledge requirement for Professional Engineer

Part 2-PROFESSIONAL ENGINEER COMPETENCY

DEVELOPMENT

Electrical Electronics Civil

The resources+ handbooks can only be provided in DVD disks

Refresh your knowledge by watching lesson videos

Youtube Engineering Lessons by Program Leader Engineering-

MP4 Engineering Lessons by Program Leader Engineering-

Youtube Engineering Lessons (Advanced Diploma of Electrical Engineering/Technology courses in Australia).

by Program Leader Engineering-

Part 3-ENGINEERING RULES/REGULATION/SAFETY

Engineering Rules/Regulation/Safety Knowledge

Engineering Competency Demonstration Report

Competency Elements of Stage 1 Professional Engineer (Australia).

Electro-technology Competency Development

Electro-technology Competency Development (Electronics)

Part 4-PROFESSIONAL ENGINEER REGISTRATION

Professional Engineer Registration around the world

Undergraduate Level Theoretical Knowledge requirement for Professional Engineer

Part 5-PROFESSIONAL ENGINEER RESOURCES DOWNLOAD CENTRE

Overall

www.highlightcomputer.com/downloadcentre.htm

Electrical+ Building Services

www.iqytechnicalcollege.com/PEEE.htm

Electronics

www.iqytechnicalcollege.com/PEEC.htm

Civil

www.iqytechnicalcollege.com/PECivilCombined.htm

Bachelor of Engineering (Civil)

<http://www.highlightcomputer.com/CivilDegreeInstruction.pdf>

<http://www.highlightcomputer.com/CivilDegreeInstruction1.pdf>

Video

Click [Common Engineering Degree Video](#)

Click [BE Civil Instruction Video](#)

Bachelor of Engineering (Electrical)

<http://www.highlightcomputer.com/ElectricalDegreeInstruction.pdf>

<http://www.highlightcomputer.com/ElectricalDegreeInstruction1.pdf>

Video

Click [Common Engineering Degree Video](#)

Click [BE \(Electrical\) Instruction Video](#)

Bachelor of Engineering (Mechanical)

<http://www.highlightcomputer.com/MechanicalDegreeInstruction.pdf>

<http://www.highlightcomputer.com/MechanicalDegreeInstruction1.pdf>

Video

Click [Common Engineering Degree Video](#)

Click [BE \(Mechanical\) Instruction Video](#)

Technician+ Technologist Level Theoretical Knowledge requirement for Professional Engineer

Certificate/Diploma/Advanced Diploma (Civil Engineering)

<http://www.highlightcomputer.com/CivilDiplomaInstruction.pdf>

Video

Click [Civil Engineering Diploma Instruction Video](#)

Certificate/Diploma/Advanced Diploma (Electrical Engineering)

<http://www.highlightcomputer.com/ElectricalDiplomaInstruction.pdf>

Video

Click [Electrical Engineering Diploma Instruction Video](#)

Certificate/Diploma/Advanced Diploma (Mechanical Engineering)

<http://www.highlightcomputer.com/MechanicalDiplomaInstruction.pdf>

Video

Click [Mechanical Engineering Diploma Instruction Video](#)

Post graduate Level Theoretical +Practical+ Management Knowledge requirement for Professional Engineer

Graduate Diploma & Master of Engineering Practice (Electrical/Civil/ Mechanical) for Graduate Engineers

(72115/73315/72515/72315/72415/82115/82215/82315/82415/)

<http://www.highlightcomputer.com/GraduateDiplomaEngineeringPracticeOutline.pdf>

GRADUATE ENGINEER TRAINING PROGRAM

www.mongroupsyzdney1.com/GraduateCapstone.pdf

www.mongroupsyzdney1.com/AdditionalCapstoneTextBooks.pdf

PROFESSIONAL ENGINEER REGULATIONS

www.mongroupsyzdney1.com/PEngReg.pdf

PROPOSED PE ROUTE

www.mongroupsyzdney1.com/PERSEProposalBasedonAccreditationModel.pdf

PROPOSED PE ROUTE EXPLANATION

www.mongroupsyzdney1.com/PERSEFlowDiagramExplanation.pdf

PROPOSED PE REGISTRATION PROCESS

www.mongroupsyzdney1.com/MyanmarEngineerRegistrationRulesProvision.pdf

REVIEW OF ENGINEER LAW

www.mongroupsyzdney1.com/MEngCLawsPossibleWaystoimplementMod.pdf

MYANMAR VERSION

www.mongroupsyzdney1.com/MEngCLawAnalysisMyanmarVersionTyped.pdf

www.mongroupsyzdney1.com/RegistraionSuggestionDrKyawNaing.pdf

Engineering Rules/Regulation/Safety Knowledge

Explosion Protection

PROTECTION UNITS

Click **HERE** to access the references for explosion protection

Electrical Safety

Electrician Licensing Requirements.zip

[Stage 1 Part 3.zip](#)

http://www.filefactory.com/file/c0cb8f5/n/Stage_1_Part_3.zip

SubstationEntry.zip

[Stage 1 Part 5.zip](#)

http://www.filefactory.com/file/c0cb9b3/n/Stage_1_Part_5.zip

Construction ElectricalSafety.zip

[Stage 1 Part 1.zip](#)

http://www.filefactory.com/file/c0cb8ab/n/Stage_1_Part_1.zip

InserviceTesting.zip

[Stage 1 Part 4.zip](#)

http://www.filefactory.com/file/c0cc1cd/n/Stage_1_Part_4.zip

[NREL_Disconnect_Reconnect.zip](#)

[Stage 1 Part 5.zip](#)

http://www.filefactory.com/file/c0cb9b3/n/Stage_1_Part_5.zip

[Electrical_safe_working.zip](#)

[Stage 1 Part 3.zip](#)

http://www.filefactory.com/file/c0cb8f5/n/Stage_1_Part_3.zip

Occupational Health & Safety

[OHSWorkbook.zip](#)

[Stage 1 Part 5.zip](#)

http://www.filefactory.com/file/c0cb9b3/n/Stage_1_Part_5.zip

Electrical Risk Assessment

Project Risk Management References

Report Writing

Post graduate Level Theoretical Knowledge requirement for Professional Engineer

IOY Masters Degree (M Mgt+ ME (EE.CE.ME)+M App Sc (IT)+MSc (RE)+ Associate Degree in RE+ BE (Civil+ Mechanical) Courses Learning Support Website

Graduate Diploma of Engineering Practice (Mechanical) Course Outline

Course Notes

http://www.filefactory.com/file/21fkobz76fvj/Graduate_Diploma%20in%20Mechanical%20Engineering%20Course%20Work.pdf

Graduate Diploma of Engineering Practice (Civil) Course Outline

Course Notes

[http://www.filefactory.com/file/21ifsjw6w873/Graduate_Diploma%20in%20Civil%20Engineering%20Course%20Work.p
df](http://www.filefactory.com/file/21ifsjw6w873/Graduate_Diploma%20in%20Civil%20Engineering%20Course%20Work.pdf)

Graduate Diploma of Engineering (Electrical+Electronics) Course Outline

Course Notes

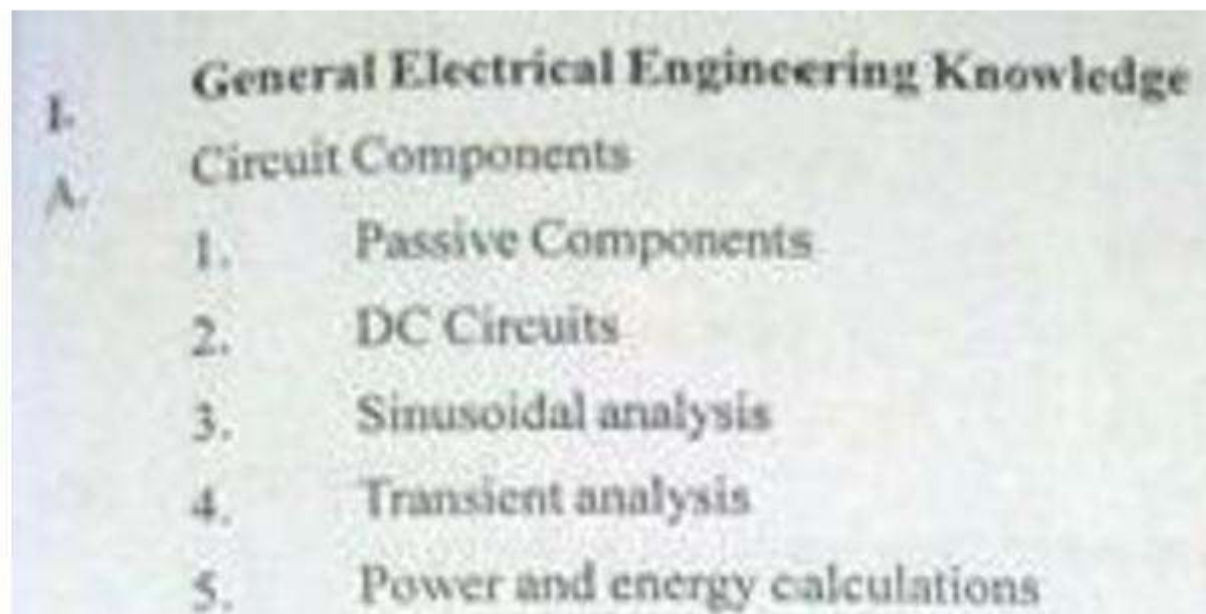
http://www.filefactory.com/file/70g9yl2t4ogt/Graduate_Diploma%20in%20Electrical%20Engineering%20Course%20Work.pdf

SCOPE- Electrical PE (Building Services)

PART (1)

YEAR 1 & 2 (Minumum 3 to 4 years is required for a graduate to become a PE)

(Total PDP Points for Informal Learning Activities-Private Study Part Time) (Total 10 points per year maximum)(MEB-PE Regulation Appendix 3). Ctrl+Click the link & then allow to download the contents.



I.	General Electrical Engineering Knowledge
A.	Circuit Components
1.	Passive Components
2.	DC Circuits
3.	Sinusoidal analysis
4.	Transient analysis
5.	Power and energy calculations

STUDY MATERIALS (DC Circuits)

[DC_Circuit_E003_E004.zip](#)

http://www.filefactory.com/file/c0cb8ab/n/Stage_1_Part_1.zip

The tests are based on your general knowledge on the subject. They are not designed to test the limited area of study that the candidate learns one paper & sits one test.

ONLINE MCQ TEST (1)

http://www.filefactory.com/file/58r3nfe1qieh/n/E003_E004_Online_Test_1_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/3ebb0fe603a748b6b2430e75fb07af4f#/InitializeTest.xml>

<http://www.classroomclipboard.com/503511/Home/Test/3ebb0fe603a748b6b2430e75fb07af4f#/QuestionPresenter.xml?id=11>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code-- G4UYTV

STUDY MATERIALS (AC Circuit 1)

[G002](#)

ONLINE MCQ TEST (2)

http://www.filefactory.com/file/7ebmnciqxf3/n/G002_Online_Test_1_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/f7fb9a22d8ba413a8d39bc6ef7be4d20#/InitializeTest.xaml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code-- 8YGTHT

STUDY MATERIALS (AC Circuit 2)

[G048_7769AC](#)

[G048_Tutorials.zip](#)

Notes for assignment/ tutorials

[G048_Full_Part_1.zip](#)

[G048Part2.zip](#)

[E025_Circuits_1](#)

[E025_Circuits_2](#)

[E025_Tutorial](#)

[Stage_2_Part_3.zip](#)

http://www.filefactory.com/file/c0ccb1f/n/Stage_2_Part_3.zip

[Stage_3_Part_2.zip](#)

http://www.filefactory.com/file/c0ccdbc/n/Stage_3_Part_2.zip

ONLINE MCQ TEST (3)

http://www.filefactory.com/file/52h82a0t0f3f/n/E025_Online_Test_1_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/0d8e41400b24465b97e60b2a555d7cff#/InitializeTest.xaml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code-- DCVK7

ONLINE MCQ TEST (4)

http://www.filefactory.com/file/713uvwk5vbel/n/G048_Online_Test_1_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/a03f83dbf40e4991800c44b484ae6a1d#/InitializeTest.xaml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code-- G9PLM

After you have done the test, the score can be printed out in PDF format The score with at least 50% or more for all tests, it will be record of 4 HR x 0.5 = 2 HR

STUDY MATERIALS (Three Phase Circuits)

[G049 7762AB 7761M Notes](#)

[G049 7762ABTutorial](#)

[E029 Motor Control 1](#)

[E029 Motor Control 2](#)

Fault Calculation

[7762AB Fault Calculation.zip](#)

[AB-Part1.zip](#) [AB-Part 2.zip](#) [AB-Part 3.zip](#) [AB-Part4.zip](#) [AB-Part5.zip](#) [AB-Part6.zip](#)

[ABFormula.zip](#)

Power System Analysis

[7761M-Part1.zip](#) [7761MPart-2.zip](#) [7761M-Part-3.zip](#) [7761M-Part-4.zip](#) [7761M-Part-5.zip](#)

[7761M-Part-6.zip](#) [7761M-Part-7.zip](#)

[Phase AC Supply Handout](#)

[Connection of balanced three phase loads handout](#)

[Star delta conversion handout](#)

[Connection of unbalanced three phase loads](#)

[Power and energy in ac circuit handout](#)

[Watt meter handout](#)

[Three Phase Power Handout](#)

[Power factor correction handout](#)

[High voltage transmission line losses handout](#)

[Symmetrical components handout](#)

[Distribution of fault currents through power system handout](#)

[Phase sequence diagrams for power systems handout](#)

[Phase sequence detectors handout.](#)

[Fault calculations on power system handout](#)

[Power Circuits \(Reference\)](#)

<u>Part 1</u>	<u>Part 2</u>	<u>Part 3</u>
<u>Part 4</u>	<u>Part 5</u>	<u>Part 6</u>
<u>Part 7</u>	<u>Part 8</u>	<u>Part 9</u>
<u>Part 10</u>	<u>Part 11</u>	<u>Part 12</u>
<u>Part 13</u>	<u>Part 14</u>	<u>Part 15</u>
<u>Part 16</u>	<u>Part 17</u>	<u>Part 18</u>

[Stage 2 Part 3.zip](#) http://www.filefactory.com/file/c0ccb1f/n/Stage_2_Part_3.zip

[E029Tutorial](#)

[ONLINE MCQ TEST \(5\)](#)

[G049 Test 1](#)

http://www.filefactory.com/file/5vhbs8sn20f3/n/G049_Online_Test_1_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/d5b2138544c74b709963660627046ffe#/InitializeTest.xaml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code-- UE6FAG

[G049 Test 2](#)

http://www.filefactory.com/file/611ftvpa3dit/n/G049_Online_Test_2_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/797cac44d12248b9b3be8507518c9bc4#/InitializeTest.xaml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code-- PS83

After you have done the test, the score can be printed out in PDF format The score with at least 50% or more for all tests, it will be record of 4 HR x 0.5 = 2 HR

B.	Measurement and Instrumentation
1.	Transducer and System Characteristics
2.	Operational Amplifier

STUDY MATERIALS (Electrical Measurement)

[EE 404 Electrical Measurement \(1 pt\)](#)

EXERCISE ASSESSMENT (30)

Based on the study you got from the above resources, write a professional experiences and competency report for engineering tasks in electrical measurement and testing in above mentioned format & submit it to the assessor.

(Weighted informal learning time for CPD including study & report= 20Hr x 0.5= 10Hr)

After you have done the test, the score can be printed out in PDF format The score with at least 50% or more for all tests, it will be record of 2 HR x 0.5 = 1 HR

C.	Signal Processing
1.	Sampling Theory
2.	Analog-to-digital (A/D) and digital-to-analog (D/A) Conversions

[Process control-I006+I008+I020.zip](#)

http://www.filefactory.com/file/c0b7d9d/n/Process_control-I006_I008_I020.zip

I006

UEENEEI006B		Solve problems in process controllers, transmitters and converters
6032A	EA904	Control concepts
7761L	EA190	Electronic signals and systems

1.Process control transducer

2.Operational amplifier

3.Pnuematic

4.Digital control

5.PLC TL31

- 6.Encoder+Decoder
- 7.Digital signal processing
- 8.DAC+Flipflop+Sensor
- 9.Analogue to Digital Conversion
- 10.Temperature control
- 11.Industrial transducer
- 12.Control system evaluation
- 13.Proportional control
- 14.Electronic signal system
- 15.Types of transducers
- 16.Speed measurement

[Stage 4 Part 18.zip](#)

http://www.filefactory.com/file/c0cc793/n/Stage_4_Part_18.zip

[Stage 4 Part 1A.zip](#)

http://www.filefactory.com/file/c0cc226/n/Stage_4_Part_1A.zip

[ONLINE MCQ TEST](#)

[I006Test 1](#)

http://www.filefactory.com/file/46zzpcvm7ugz/n/I006_H012_Online_Test_1_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/25f59f11b4584a23b3f564fe4041fb1d#/InitializeTest.xml>

SPHHMYT

[I006Test 2](#)

http://www.filefactory.com/file/78kbc9x2alx/n/I006_H012_Online_Test_2_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/7b0f9808d98a48d79e9d77ea4e2af721#/InitializeTest.xml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code-- F44J

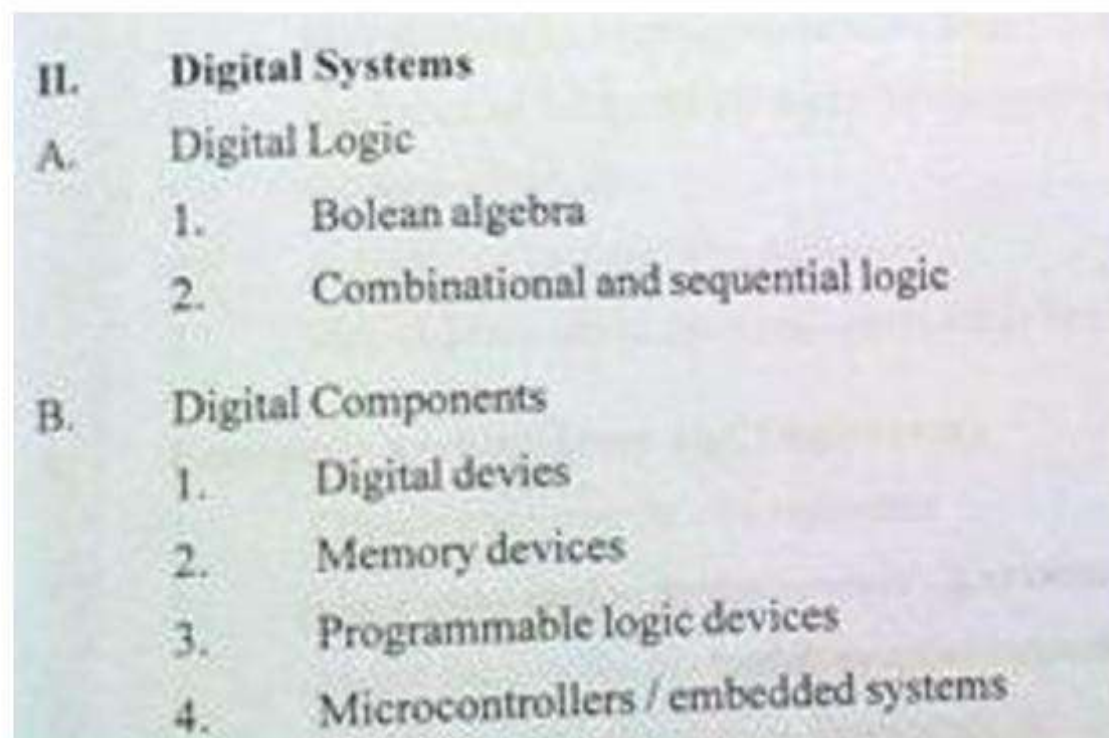
Advanced References

[EE 403 Introduction to Electronic Engineering \(1 pt\)](#)

[EE 524 Introduction to Power Electronics \(1 pt\)](#)

[EE 524 Power Electronics](#)

[EE 524 Applied Electronics](#)



II.	Digital Systems
A.	Digital Logic
1.	Boolean algebra
2.	Combinational and sequential logic
B.	Digital Components
1.	Digital devices
2.	Memory devices
3.	Programmable logic devices
4.	Microcontrollers / embedded systems

Digital Electronics Notes

UEENEEH012B		Troubleshoot digital subsystems
UEENEEH043B		Diagnose and rectify faults in digital subsystems of electronic controls

<http://kyawnaing325.zoomshare.com/files/6/DigitalElectronics.htm>

<http://kyawnaing325.zoomshare.com/files/6/7794CD-DigitalElectronics.htm>

DE 1

Binary Number [Binary Number Lesson.zip](#)

D.A.C Encoder Multiplexer [DAC-Encoder-Multiplexer.zip](#)

Introduction to Digital Logic [DE1-1.zip](#)

Boolean Algebra [DE1-2.zip](#)

De Morgan Theorem [DE1-3.zip](#)

Karnaugh's Map [DE1-5.zip](#)

DE2

Timing Diagram + Operation of Discrete Equipments [DE2-1 2 Notes.zip](#)

7 Segments Display [DE2-7 Segment Display.zip](#)

Logic Families Part 1 & Part 2 [DE2 Logic Families Part I Part II Note Exercise.zip](#)

SR Flip Flop [DE2-SR Flip Flop Notes.zip](#)

D J K Flip Flop [DE2-D J K Flip Flop.zip](#)

Data Transfer [DE2-Data Transfer Note.zip](#)

Encoder [DE2-Encoder Lesson.zip](#)

Logic Level [DE2-Logic Level Note Exercise.zip](#)

Logic Level + Totem Pole [DE2-Logic Level TotemPole Note Exercise.zip](#)

Multiplexer [DE2-Multiplexer Lesson.zip](#)

Schmitt Trigger [DE2-Schmitt Trigger Device Exercise.zip](#)

Shift Register [DE2-Shift Register.zip](#)

ESD [ESD Review Questions.zip](#)

Digital Logic Simplification [Digital Logic Simplification.zip](#)

SR & D Latches [SRandDLatches.mht](#)

Simple Sequential [SimpleSequentialCircuit.mht](#)

Demorgan [DeMorganTheorm 0.mht](#)

Sequential State Diagram [SequentialCircuitStateDiagram.mht](#)

De Morgan Theorem [DeMorganTheorm.mht](#)

D & JK Flip Flop [DandJKFlipFlops 0.mht](#)

Basic Logic Gates [BasicLogicGates.mht](#)

Digital Electronics [DE.zip](#) [DE1.zip](#) [DE2Notes.zip](#)

[Digital logic Simplification.zip](#)

IC Reference

[Digital IC Ref 1-Part 1.zip](#)

[Digital IC Ref 1-Part 2 0.zip](#)

[Digital IC Reference 2-Part 1.zip](#)

[Digital IC Reference 2-Part 2.zip](#)

Digital Electronics Exercises

DE1 Exercise

[DE1-1 Review Question.zip](#)

[DE1-2Review Questions.zip](#)

[DE1-3 Review Question.zip](#)

[DE1-4 Review Question.zip](#)

[ESD Review Questions.zip](#)

[Digital Logic Simplification.zip](#)

DE2 Exercise

[DE2-7 Segment Display Review Q.zip](#)

[DE2 Shift Register Exercise.zip](#)

[DE2-Counter Exercise.zip](#)

[DE2 SR Flip Flop Q.zip](#)

[DE2-D Flip Flop Q.zip](#)

[DE2-Data Transfer Q.zip](#)

[DE2-DecoderMultiplexer Assignment.zip](#)

Advanced References

[BAE 408 Analogue & Digital Electronics](#)

[EE 405 Digital System \(1 pt\)](#)

[EE 405 Digital System \(1 pt\)](#)

[EE 526 Digital Signal Processing \(1 pt\)](#)

[EE 527 Digital Image Processing 1 \(1 pt\)](#)

[EE 527 Digital Image Processing 2](#)

After you have done the test, the score can be printed out in PDF format The score with at least 50% or more for all tests, it will be record of 4 HR x 0.5 = 2 HR

III.	Electric and Magnetic Field Theory and Applications
A.	Electromagnetic Fields
1.	Theory
2.	EMI / EMC
B.	Transmission Lines and Guided Waves
1.	Transmission lines, balanced and unbalanced
2.	Waveguides
C.	Antennas
1.	Gain, patterns, and polarization
2.	Impedance

[G042 Part 3 Notes](#)

[G037 G038 G030Pt1 7762AG Notes](#)

[G015 G042 G037 G038 G039 Part 2 Notes](#)

[G015 G037 G038 G030Pt1 7762AG Notes](#)

[Stage 4 Part 15.zip](#)

http://www.filefactory.com/file/c0cc7cb/n/Stage_4_Part_15.zip

[BAE 607 Radio Wave Propagation & Microwave Techniques](#)

[EE 625 Radio Wave Propagation \(1 Pt\)](#)

[EE 626 Microwave Technique \(1pt\)](#)

[ONLINE MCQ TEST](#)

[G042 Test 1](#)

[http://www.filefactory.com/file/12pcsbpgbkhx/n/G042 Online Test 1 Question pdf](http://www.filefactory.com/file/12pcsbpgbkhx/n/G042_Online_Test_1_Question_pdf)

[http://www.classroomclipboard.com/503511/Home/Test/8c2511d53079456f9c5d159095ec766a#/Initialize Test.xaml](http://www.classroomclipboard.com/503511/Home/Test/8c2511d53079456f9c5d159095ec766a#/InitializeTest.xaml)

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code-- HPNYFFB

G042 Test 2

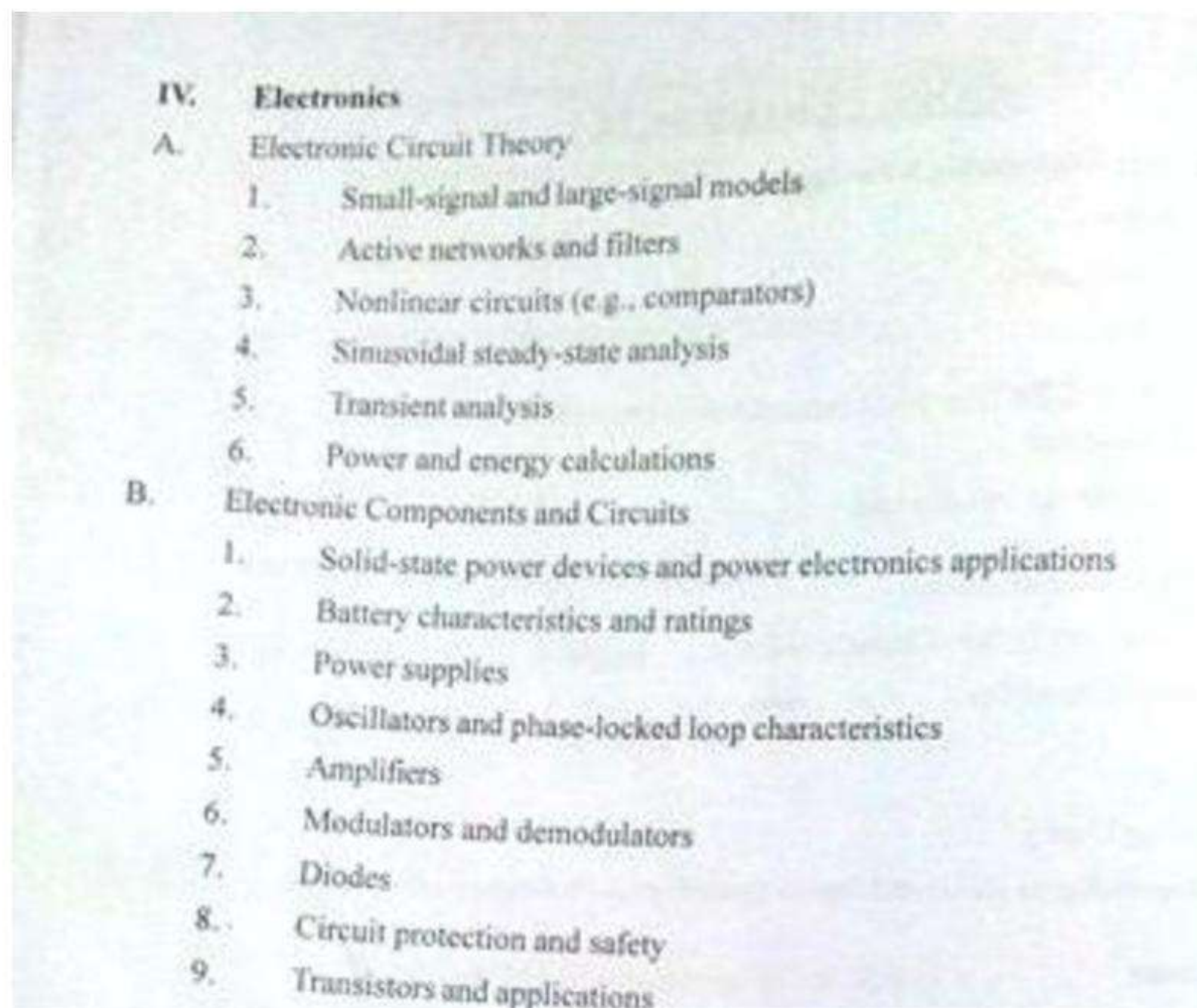
http://www.filefactory.com/file/3ol2dpyi4qm9/n/G042_Online_Test_2_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/cb5cd0dd19524431905d5519ad17ab67#/InitializeTest.xaml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code-- 35KCC

After you have done the test, the score can be printed out in PDF format The score with at least 50% or more for all tests, it will be record of 4 HR x 0.5 = 2 HR



IV.	Electronics
A.	Electronic Circuit Theory
1.	Small-signal and large-signal models
2.	Active networks and filters
3.	Nonlinear circuits (e.g., comparators)
4.	Sinusoidal steady-state analysis
5.	Transient analysis
6.	Power and energy calculations
B.	Electronic Components and Circuits
1.	Solid-state power devices and power electronics applications
2.	Battery characteristics and ratings
3.	Power supplies
4.	Oscillators and phase-locked loop characteristics
5.	Amplifiers
6.	Modulators and demodulators
7.	Diodes
8.	Circuit protection and safety
9.	Transistors and applications

H045+7761A

UEENEEH045		Develop solutions to analogue electronic problems
7761A	EA100	Analogue electronics 1

Analog1

Analog2

Assessment-Test + Assignment for flexible study students

Electronics H045 Tutorials

H025

UEENEEH025		Provide solutions to single phase electronic power control problems
8273Z	NE064	Variable speed drives

H025 Operational Amplifier

Assessment-Test + Assignment for flexible study students

Electronics H025 Tutorials

H026

UEENEEH026		Provide solutions to polyphase electronic power control problems
8273Z	NE064	Variable speed drives

H026 3 Ph Power Control Electronics 1

H026 3 Ph Power Control Electronics 2

H026 3 Ph Power Control Electronics 3

H026 3 Ph Power Control Electronics 4

Assessment-Test + Assignment for flexible study students

UEENEEH026 Tutorials.doc

Stage 3 Part 2.zip

http://www.filefactory.com/file/c0ccdbc/n/Stage_3_Part_2.zip

BAE 408 Analogue & Digital Electronics

Part 2 Competency units of the subject

Advanced References

EE 403 Introduction to Electronic Engineering (1 pt)

[EE 524 Introduction to Power Electronics \(1 pt\)](#)

[EE 524 Power Electronics](#)

[EE 524 Applied Electronics](#)

ONLINE MCQ TEST

H011Test 2

http://www.filefactory.com/file/3e54mrqli7ft/n/H011_Online_Test_2_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/367cc44c01944cb59982be0255dca5bd#/InitializeTest.xml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- 65TG

H013Test 1

http://www.filefactory.com/file/4ze60r57ea9/n/H013_Online_Test_1_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/ea8db99cb2b44c49d016f6c8eee5910#/InitializeTest.xml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- SN3T84

H013Test 2

http://www.filefactory.com/file/sutmaakz949/n/H013_Online_Test_2_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/957b751abb4641cf9ae0a79176936549#/InitializeTest.xml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- 6LYXKLE

H025Test 1

http://www.filefactory.com/file/7j320hlrk6k9/n/H025_H045_I006_Online_Test_1_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/ab5d528d1ff742f7a3d632a61c210eb0#/InitializeTest.xml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code--- 96T3TX3

H025Test 2

http://www.filefactory.com/file/20vzqp9mvm8p/n/H025_H045_I006_Online_Test_2_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/99835b7ab0c348e8a2fd0827394b60d8#/InitializeTest.xaml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code-- HHH2HNC

H026Test 1

http://www.filefactory.com/file/fch86cnsrdp/n/H026_Online_Test_1_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/ee1e8307748441aeab67110c145a7d16#/InitializeTest.xaml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code-- U585X6W

H045Test 1

http://www.filefactory.com/file/3vpq08cwj73/n/H045_Online_Test_1_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/bd50d0b35eb241518cdddc8e23c0b593#/InitializeTest.xaml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code-- 8S359V

H045Test 2

http://www.filefactory.com/file/6pxixn406w51/n/H045_Online_Test_2_Question_pdf

<http://www.classroomclipboard.com/503511/Home/Test/f059c6212cc94ca098b61d5ef8188826#/InitializeTest.xaml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code-- L9UMJM6

After you have done the test, the score can be printed out in PDF format The score with at least 50% or more for all tests, it will be record of $8 \text{ HR} \times 0.5 = 4\text{HR}$

V.	Control System Fundamentals
A.	Block diagrams
B.	Characteristic equations
C.	Frequency response
D.	Time response
E.	Control system design and implementation (e.g., compensators, steady-state error)
F.	Stability (e.g., tests, Bode plots, root locus, transport delay)

I006

UEENEEI006B		Solve problems in process controllers, transmitters and converters
6032A	EA904	Control concepts
7761L	EA190	Electronic signals and systems

[AnalogDigitalSignalConditioning](#)

[H085 66 I006 Note 1 Sensors 1](#)

[H085 66 I006 Note 2 Sensors 2](#)

[H085 66 I006 Note 3 Sensors 3](#)

[H085 66 I006 Note 4 Control Concept1](#)

[H085 66 I006 Note 5 Control Concept2](#)

[H085 66 I006 Note 6 Electronics Signal](#)

[H085 66 I006 Note 8 Process Control 1](#)

[H085 66 I006 Note 9 Process Control 2](#)

[PLC Textbook1](#)

[PLC Textbook2](#)

[PLC Textbook3](#)

[PLC](#)

[6487E.zip](#)

PLC References

[User Manuals.zip](#)

[TRILOGI5-purdue](#)

[SetupTL6Edu](#)

[Installation](#)

[Installation Instruction](#)

[F Nano-Product Sheets](#)

PID (Proportional Integral Derivative) Control

[PID.zip](#)

Assessment

[I006_Tutorials.zip](#)

UEENEEI001B		Install and set up transducers and sensing devices
UEENEEI002B		Solve problems in pressure measurement systems
UEENEEI004B		Solve problems in flow measurement systems

UEENEEI005B		Solve problems in temperature measurement systems
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I001

[H085 66 I006 Note 1 Sensors 1](#)

[H085 66 I006 Note 2 Sensors 2](#)

[H085 66 I006 Note 3 Sensors 3](#)

I002+I004

[I002I004PressureFlowPnuematicReference.zip](#)

I005

[I005TemperatureMeasurement.zip](#)

Process Control Practicals

[PLC_Application_Assignment.zip](#)

[Control_Circuit_Boards.zip](#)

[PLC_Hardware_Notes_1.zip](#)

[PLC Hardware Notes 2.zip](#)

[PLC Hardware Notes 3.zip](#)

[PLC Hardware Notes 4.zip](#)

[PLC Hardware Notes 5.zip](#)

[PLC Hardware Notes 6.zip](#)

[PLC Trilogy Advanced Programs.zip](#)

[PLC SCADA Project Example 1.zip](#)

[PLC SCADA Project Example 2.zip](#)

[PLC SCADA Project Example 3.zip](#)

[Process Control Equipment Setup 1.zip](#)

[Process Control Equipment Setup 2.zip](#)

[SCADA PLC Project 1.zip](#)

[SCADA PLC Project 2.zip](#)

[SCADA PLC Project 3.zip](#)

[SCADA PLC Project 4.zip](#)

[SCADA PLC Project 5.zip](#)

MACHINE REPAIR+PROCESS CONTROL

[MachineControlCkt1.zip](#) [MachineControlCkt2.zip](#) [MachineControlCkt3.zip](#)

[ProcessControlCkt1.zip](#) [ProcessControlCkt2.zip](#) [ProcessControlCkt3.zip](#)

[Stage 4 Part 1A.zip](#)

http://www.filefactory.com/file/c0cc226/n/Stage_4_Part_1A.zip

Advanced References

[BAE 503 Control System](#)

[BAE 503 Control System Part 1](#)

Part 2 Competency units of the subject

Linear System + Control System

[EE 601 Non Linear Control Applications \(1 pt\)](#)

[EE 601 Control Engineering \(1 pt\)](#)

[EE 601 Feedback and Control System](#)

[EE 601 PID Control](#)

[EE 601 Non Linear Control](#)

[EE 624 Process Control \(1 pt\)](#)

[http://www.filefactory.com/file/34ha7biln93z/EE 624 Process Control.pdf](http://www.filefactory.com/file/34ha7biln93z/EE_624_Process_Control.pdf)

[ME 534 Numerical Control Part 1 \(1 pt\)](#)

[ME 534 Numerical Control Part 2](#)

ONLINE MCQ TEST

I006Test 3

[http://www.filefactory.com/file/hl6qx2ks1b1/n/I006 H012 Online Test 3 Question pdf](http://www.filefactory.com/file/hl6qx2ks1b1/n/I006_H012_Online_Test_3_Question_pdf)

<http://www.classroomclipboard.com/503511/Home/Test/ef761b3fa64a4ca783baa5dd986f24ab#/InitializeTest.xml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code-- 2J3PEH

I006Test 4

[http://www.filefactory.com/file/3sbsd1yu13h/n/I006 Online Test 4 Question pdf](http://www.filefactory.com/file/3sbsd1yu13h/n/I006_Online_Test_4_Question_pdf)

<http://www.classroomclipboard.com/503511/Home/Test/ae651477d73c4f5194abd42c8487095b#/InitializeTest.xml>

First Name-Enter your full name & Surname- Enter Myanmar Engineering Society Membership Number

Enter the code-- WKMM7

After you have done the test, the score can be printed out in PDF format The score with at least 50% or more for all tests, it will be record of 4 HR x 0.5=2HR

PART (2)

YEAR 3 & 4 (Minumum 3 to 4 years is required for a graduate to become a PE)

The practice reports need to write for each topics of the study materials included in Scope Part II.

The reports should include the followings:

- Professional topics— You need to select the topic such as building electrical wiring or power distribution etc
- Fundamental of Engineering- What knowledge you got from the materials in your selected professional topic..
- Engineering Management— How will you manage the I project / workforce to implement the engineering tasks by applying those knowledge in actual workplace project or simulated work place and project?.
- Rules Regulations, Standards & Specifications- You need to refer the relevant engineering rules, regulations, standards and specifications in the tasks expressed in your report.
- Safety—How will you safeguard public safety in performing the engineering tasks?
- Ethics— How will you apply professional code of ethics in performing the engineering tasks?

The candidate should use the following format in the practice exercise reports for each topics of the Scope II that are simulated practice tasks for preparing the Professional Experience and Competency Report to be submitted to Myanmar Engineers Board for Professional Engineer (PE) Registration.

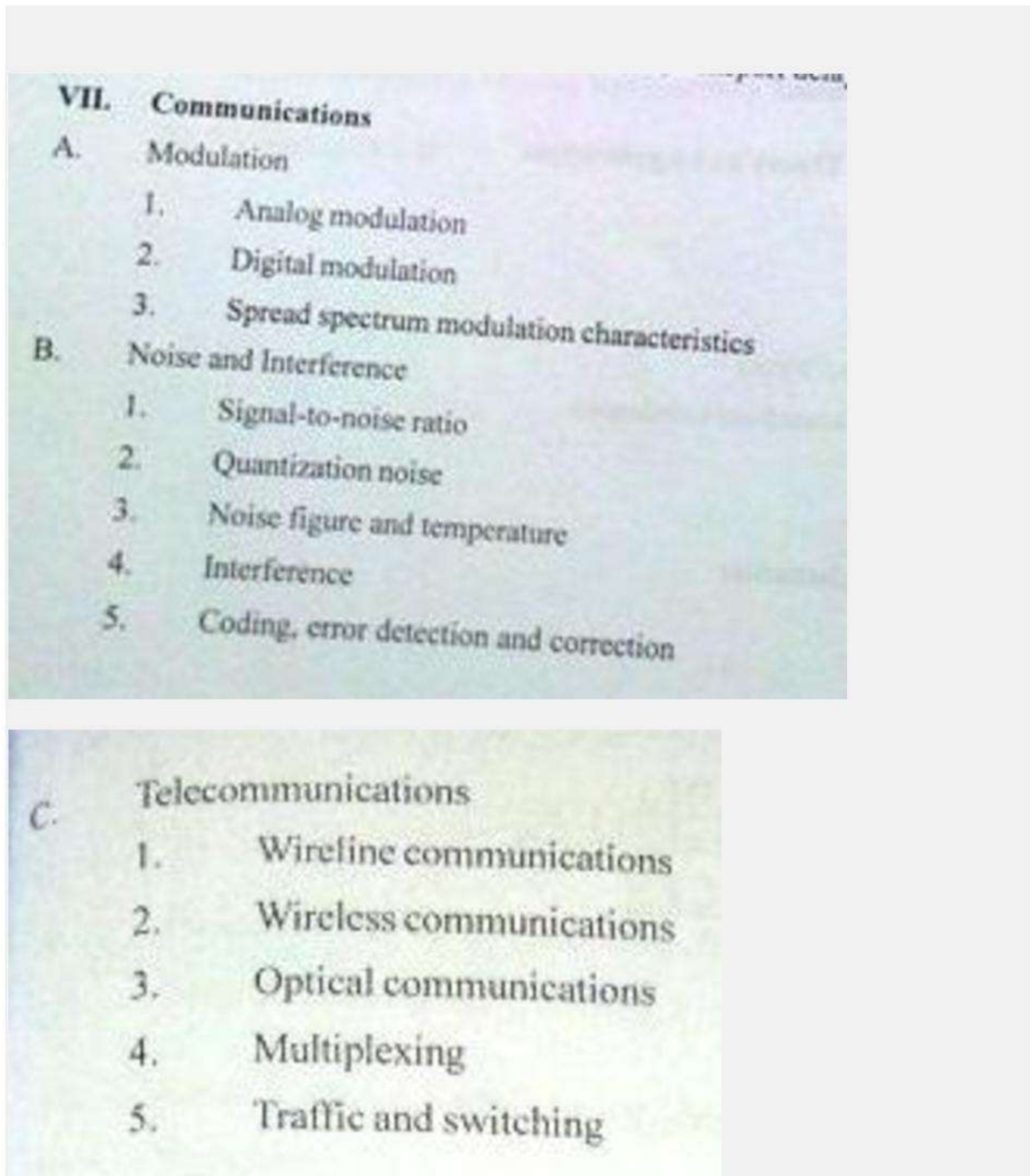
Section (1) Introduction

Section (2) Work experiences in brief and highlight the major important projects

Section 3 to 10 , the following competency should be addressed

- Apply engineering knowledge, methods and techniques
- Use of engineering technology , tools and equipments
- Safeguard public safety
- Recognition the impacts of engineering on the environment , economy and society.
- Manage engineering activities
- Communicate engineering information.

- Work collaboratively
- Main and enhance engineering skills and knowledge. (Ref-MEB PEng Reg)



H046 Telecommunication

UEENEEH046B		Solve fundamental problems in electronic communications system
7761AU	EA181	Communication fundamentals

[H046TelecomNote1.zip](#)

[H046TelecomNote2.zip](#)

[H046TelecomNote3.zip](#)

[Stage 4 Part 16.zip](#)

http://www.filefactory.com/file/c0cc703/n/Stage_4_Part_16.zip

Advanced References

[BAE 604 Telecommunication Engineering](#)

Part 2 Competency units of the subject

Electronics Communications

[EE 525 Data Communication \(1 pt\)](#)

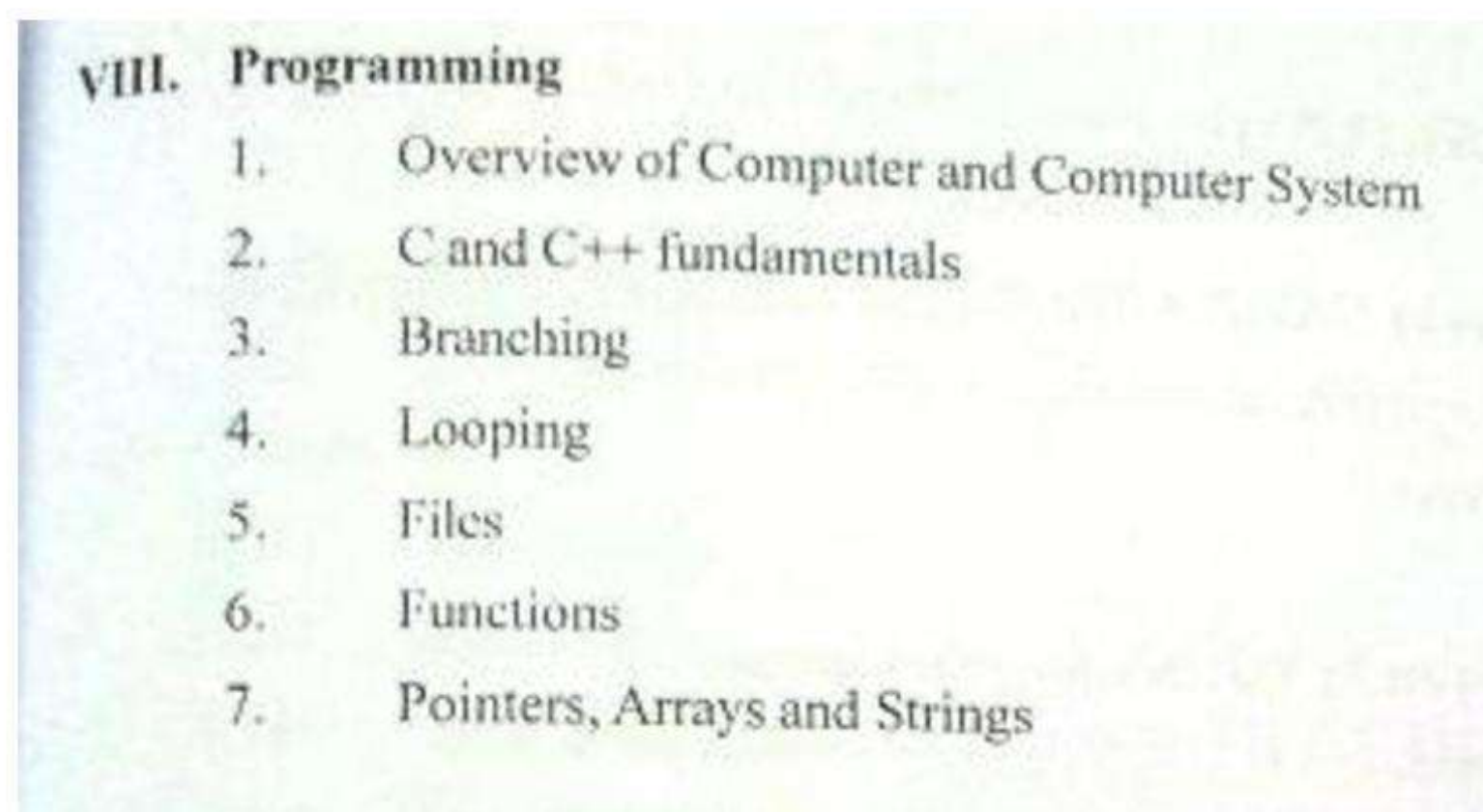
[EE 603 Electronics Telecommunication \(1 pt\)](#)

Reflect your experience in the work place , write the technical report of 10 pages & submit it.

EXERCISE ASSESSMENT

Based on the study you got from the above resources, write a professional experiences and competency report for engineering tasks in electrical power supply in above mentioned format & submit it to the assessor.

(Weighted informal learning time for CPD including study & report= 20Hr x 0.5= 10Hr)



VIII. Programming	
1.	Overview of Computer and Computer System
2.	C and C++ fundamentals
3.	Branching
4.	Looping
5.	Files
6.	Functions
7.	Pointers, Arrays and Strings

BAE 601 Computer Programming

[C++ Programming Part 1](#)

[C++ Programming Part 2](#)

[C++ Programming Part 3](#)

[C++ Programming Part 4](#)

[C++ Programming Part 5](#)

[C++ Programming Part 6](#)

C # Programming

[C # Programming](#)

C++ & Java Programming Course

[Speed C Programming.zip](#)

[Turbo C.zip](#)

[C Programming 1.zip](#)

[C Programming 2.zip](#)

[C Programming 3.zip](#)

[C Programming 4.zip](#)

[C Programming 5.zip](#)

[C Programming 6.zip](#)

[C Programming 7.zip](#)

[C Programming 8.zip](#)

Part 2 Competency units of the subject

IT + Programming 1

[IT 401 Object Oriented Programming \(1 pt\)](#)

[IT 402 Structured Programming \(1 pt\)](#)

[IT 403 Visual Basic Programming \(1 pt\)](#)

EXERCISE ASSESSMENT (20)

Based on the study you got from the above resources, write a professional experiences and competency report for engineering tasks in electrical power supply in above mentioned format & submit it to the assessor.

(Weighted informal learning time for CPD including study & report= 20Hr x 0.5= 10Hr)

IX. Microprocessor System

1. Introduction to Microprocessor System
2. Architecture of the 8088/ 8086 Microprocessor
3. Addressing Modes
4. Assembly Language Programming
5. The architecture of Intel microprocessor families

X. Computer Architecture and Engineering

1. Classic components of a computer
2. Measuring Performance
3. Major factors for performance of a computer
4. MIPS assembly Language Programming

Computer Programming

UEENEED027B	Develop structured programs for control sub systems to access external devices
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UEENEED009B	Develop, enter and verify programs for industrial control systems using high level instruction
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[Microprocessor Notes upload.zip](#)

[Microprocessor Textbook to upload.zip](#)

[Microprocessor References to upload.zip](#)

[Speed C Programming.zip](#)

[Turbo C.zip](#)

[C Programming 1.zip](#)

[C Programming 2.zip](#)

[C Programming 3.zip](#)

[C Programming 4.zip](#)

[C Programming 5.zip](#)

[C Programming 6.zip](#)

[C Programming 7.zip](#)

[C Programming 8.zip](#)

MP LAB

[33014K.pdf](#)

[DS-51317H.pdf](#)

[DS-51761B.pdf](#)

[MPLAB Integrated Development Environment.doc](#)

[MPLAB IDE 8 50 Release Notes.zip](#)

[MPLAB User Guide 51519c.pdf](#)

[Stage 4 Part 5A.zip](#)

[http://www.filefactory.com/file/c0cc4a1/n/Stage 4 Part 5A.zip](http://www.filefactory.com/file/c0cc4a1/n/Stage_4_Part_5A.zip)

[Stage 4 Part 5B.zip](#)

[http://www.filefactory.com/file/c0c3a6e/n/Stage 4 Part 5B.zip](http://www.filefactory.com/file/c0c3a6e/n/Stage_4_Part_5B.zip)

EXERCISE ASSESSMENT

Based on the study you got from the above resources, write a professional experiences and competency report for engineering tasks in electrical power supply in above mentioned format & submit it to the assessor.

(Weighted informal learning time for CPD including study & report= 20Hr x 0.5= 10Hr)

STUDY MATERIALS (Electrical Engineering Code and Standard)

Myanmar Electrical Regulations

IEE2002

Electrical Building Services IEE based

Domestic Electric Wiring BS7671 2008

IEEE colored books

Handbook of Electrical Design Details

American Electricians' Handbook, 15th Edition

Electrical Eng Portable handbook NEC (2)

Newnes Electrical Power Engineer Handbook

Newnes Electrical Engineers Handbook

Energy Management Handbook 6E

Handbook of Electrical Installation Practice UK

Power Fault Calculation & Protection Cable Selection Note

Power Data Planning India

PROFESSIONAL ENGINEER SUPPORT WEBSITE OF IQY TECHNICAL COLLEGE OF HIGHLIGHT COMPUTER GROUP

(if the direct download link is unavailable, the resources can be found & downloaded from the download centre)

www.highlightcomputer.com/pesupport.htm

www.highlightcomputer.com

A Professional Engineer needs wide knowledge of theory and practical applications of engineering. The knowledge is not limited to a particular course.

This Professional Engineer Support Website includes Engineering Job Competencies, Technician+ Technologist Level, Theoretical Knowledge requirement for Professional Engineer, Undergraduate Level Theoretical Knowledge requirement for Professional Engineer, Post graduate Level Theoretical Knowledge requirement for Professional Engineer, Practical Knowledge requirement for Professional Engineer, Professional Engineer Postgraduate Competency Development (Electrical & Civil), Knowledge refreshing by watching lesson videos, Youtube Engineering Lessons, MP4 Engineering Lessons, Engineering Rules/Regulation/Safety Knowledge (Electrical Safety, Construction site safety & OHS, Explosion Protection & safety etc are included & the reference materials are referred from relevant Australian Industrial Safety Authorities), Engineering Competency Demonstration Report and Information on Professional Engineer Registration around the world. .

The purpose is to provide the one stop shop for the engineers who seek PE/RSE registration in Myanmar as well as ASEAN, UK, USA, Australia etc to get the information as well as refreshing the theoretical studies and practical knowledge.

Engineering Job Competencies

IQY Technical College Professional
Engineer/Management Professional & Information
Technology Professional Skills Training

**Engineers Australia Professional Engineer, Engineering
Technologists & Engineering Associate Competencies References**

Part 1-ENGINEERING FUNDAMENTAL

Technician+ Technologist Level Theoretical Knowledge
requirement for Professional Engineer

Undergraduate Level Theoretical Knowledge requirement
for Professional Engineer (Part 1-Online Lessons)

Undergraduate Level Theoretical Knowledge requirement
for Professional Engineer (Part 2-Reference Resources)

Post graduate Level Theoretical Knowledge requirement for
Professional Engineer

Practical Knowledge requirement for Professional Engineer

Part 2-PROFESSIONAL ENGINEER COMPETENCY DEVELOPMENT

Electrical Electronics Civil

The resources+ handbooks can only be provided in DVD disks

Part 3-ENGINEERING RULES/REGULATION/SAFETY

[Engineering Rules/Regulation/Safety Knowledge](#)

[Engineering Competency Demonstration Report](#)

[Competency Elements of Stage 1 Professional Engineer \(Australia\)](#)

[Electro-technology Competency Development](#)

[Electro-technology Competency Development \(Electronics\)](#)

Part 4-PROFESSIONAL ENGINEER REGISTRATION

[Professional Engineer Registration around the world](#)

[Undergraduate Level Theoretical Knowledge requirement for Professional Engineer](#)

Part 5-PROFESSIONAL ENGINEER RESOURCES DOWNLOAD CENTRE

[Electrical+ Building Services](#)

<http://www.iqytechnicalcollege.com/PEEE.htm>

[Electronics](#)

www.iqytechnicalcollege.com/PEEC.htm

[Civil](#)

www.iqytechnicalcollege.com/PECivilCombined.htm

Bachelor of Engineering (Civil)

<http://www.highlightcomputer.com/CivilDegreeInstruction.pdf>

<http://www.highlightcomputer.com/CivilDegreeInstruction1.pdf>

[Video](#)

Click [Common Engineering Degree Video](#)

Click [BE Civil Instruction Video](#)

Bachelor of Engineering (Electrical)

<http://www.highlightcomputer.com/ElectricalDegreeInstruction.pdf>

<http://www.highlightcomputer.com/ElectricalDegreeInstruction1.pdf>

[Video](#)

Click [Common Engineering Degree Video](#)

Click [BE \(Electrical\) Instruction Video](#)

Bachelor of Engineering (Mechanical)

<http://www.highlightcomputer.com/MechanicalDegreeInstruction.pdf>

<http://www.highlightcomputer.com/MechanicalDegreeInstruction1.pdf>

[Video](#)

Click [Common Engineering Degree Video](#)

Click [BE \(Mechanical\) Instruction Video](#)

Technician+ Technologist Level Theoretical Knowledge
requirement for Professional Engineer

Certificate/Diploma/Advanced Diploma (Civil Engineering)

<http://www.highlightcomputer.com/CivilDiplomaInstruction.pdf>

[Video](#)

Click [Civil Engineering Diploma Instruction Video](#)

Certificate/Diploma/Advanced Diploma (Electrical Engineering)

<http://www.highlightcomputer.com/ElectricalDiplomaInstruction.pdf>

[Video](#)

Click [Electrical Engineering Diploma Instruction Video](#)

Certificate/Diploma/Advanced Diploma (Mechanical Engineering)

<http://www.highlightcomputer.com/MechanicalDiplomaInstruction.pdf>

[Video](#)

Click [Mechanical Engineering Diploma Instruction Video](#)

Post graduate Level Theoretical Knowledge requirement for Professional Engineer

IOY Masters Degree (M Mgt+ ME (EE.CE.ME)+M App Sc (IT)+MSc (RE)+ Associate Degree in RE+ BE (Civil+ Mechanical) Courses Learning Support Website

Graduate Diploma of Engineering Practice (Mechanical) Course Outline

Course Notes

http://www.filefactory.com/file/21fkobz76fvj/Graduate_Diploma%20in%20Mechanical%20Engineering%20Course%20Work.pdf

Graduate Diploma of Engineering Practice (Civil) Course Outline

Course Notes

http://www.filefactory.com/file/21ifsjw6w873/Graduate_Diploma%20in%20Civil%20Engineering%20Course%20Work.pdf

Graduate Diploma of Engineering (Electrical+Electronics) Course Outline

Course Notes

http://www.filefactory.com/file/70g9yl2t4ogt/Graduate_Diploma%20in%20Electrical%20Engineering%20Course%20Work.pdf

Engineering Rules/Regulation/Safety Knowledge

Explosion Protection

Click **HERE** to access the references for explosion protection

Electrical Safety

Electrician Licensing Requirements.zip

Stage 1 Part 3.zip

http://www.filefactory.com/file/c0cb8f5/n/Stage_1_Part_3.zip

SubstationEntry.zip

Stage 1 Part 5.zip

http://www.filefactory.com/file/c0cb9b3/n/Stage_1_Part_5.zip

Construction ElectricalSafety.zip

Stage 1 Part 1.zip

http://www.filefactory.com/file/c0cb8ab/n/Stage_1_Part_1.zip

InserviceTesting.zip

Stage 1 Part 4.zip

http://www.filefactory.com/file/c0cc1cd/n/Stage_1_Part_4.zip

NREL_Disconnect_Reconnect.zip

Stage 1 Part 5.zip

http://www.filefactory.com/file/c0cb9b3/n/Stage_1_Part_5.zip

Electrical_safe_working.zip

Stage 1 Part 3.zip

http://www.filefactory.com/file/c0cb8f5/n/Stage_1_Part_3.zip

Occupational Health & Safety

OHSWorkbook.zip

[Stage 1 Part 5.zip](#)

http://www.filefactory.com/file/c0cb9b3/n/Stage_1_Part_5.zip

RiskManagement.pdf

[Stage 4 Part 20.zip](#)

http://www.filefactory.com/file/c0cc9b4/n/Stage_4_Part_20.zip

Electrical Risk Assessment

Project Risk Management References

Civil/Mechanical/Electrical Engineering Practical Courses for AGTI/BTech/BE students of Government Technical Colleges & Technological Universities

If you find the question in Myanmar language, the lessons in Myanmar language for that question is also provided.

PC 1-Certificate in Bricklaying & Masonry

PC 2-Certificate in Plumbing

PC 3-Certificate in Building Construction

PC 4-Certificate in Gutter Construction

PC 5-Certificate in Fitting & Machining

PC 6-Certificate in Welding

PC 7-Certificate in Engine Operation & Basic Servicing

PC 8-Certificate in Air-conditioning & Refrigeration Basic Servicing

PC 9-Certificate in Electrical Wiring

PC 10-Certificate in Electrical Machine Winding

PC 11-Certificate in Electrical Power Wiring & Switch Gear Installation

(PC15/H102) Certificate in Basic Electronics & Telecommunication

PC16 Certificate in Rigging & Scaffolding

PC Practical Course (Level 2 for Engineering Technicians)

PC 12-Certificate in Surveying. Quantity Surveying & Estimating

PC 13-Certificate in Manufacturing Process Control & CNC

PC 14-Certificate in Building Energy Efficiency

Diploma in Hazardous Safety Engineering Course (based on Professional Diploma but focused on beginner aspect (30 credits)

Course Objective

This course provides the information and knowledge related to safely working in hazardous areas, safe working knowledge, safety protection equipments, systems and methods, auditing the safety requirements of hazardous area engineering works such as mining, petroleum, chemical plants ,civil ,electrical and mechanical engineering

Pre-requisite

Nil

SAFE 101 General Safety Management(Diploma version of BAE 636E Hazardous Area Inspection)

(5 Credits)

-Contents- Management+ Industrial Management + Safety Lessons

SAFE102 Electrical Safety(Diploma version of BAE 632E Electrical Wiring in Hazardous Areas) (

(5 Credits)

-Contents EE101+102+ Electrical Wiring (IQY)+ + Electrical Safety Lessons

SAFE103 –Construction Safety (Diploma version of BAE 633E Hazardous Area Safety Audits)

(5 Credits)

-Contents- CE104+CE106 Building Construction+ Brick Laying+ Plumbing+ Safety Lessons

SAFE104 –Chemical Safety (Diploma version of BAE 637E Hazardous Chemical Management)

(5 Credits)

-Contents Year 12 Chemistry + Chemical Safety Lessons

SAFE105 –Environmental Safety (Diploma version of BAE 638E Environmental Engineering in Hazardous Areas)

(5 Credits)

Contents-BAE 523A Environmental Engineering+ Safety Lessons

SAFE106-Mechanical Safety(Diploma version of BAE 631E Maintenance & Repair Works in Hazardous Areas)

Content-Fitting & Machining + Safety Lessons

Location

IQY Technical College- No 307B Thura 2 Street, 9 Ward South Okkalapa

GGO Training Group -No 76A 4 th Floor Awwbar St, Kyauk-myaung, Tarmwe

ADVANCED COURSE (ONLINE)

Professional Diploma in Hazardous Safety Engineering

Course Objective

This course provides the information and knowledge related to safely working in hazardous areas, safe working knowledge, safety protection equipments, systems and methods, auditing the safety requirements of hazardous area engineering works such as mining, petroleum, chemical plants ,civil ,electrical and mechanical engineering

Pre-requisite

Professional Diploma/ Bachelor degree in Engineering (Any discipline)

Course Outline

It consists of 8 units with each 5 credits.

- BAE 631E Maintenance & Repair Works in Hazardous Areas
- BAE 632E Electrical Wiring in Hazardous Areas
- BAE 633E Hazardous Area Safety Audits
- BAE 634E Explosion Protection
- BAE 635E Testing in Hazardous Areas
- BAE 636E Hazardous Area Inspection
- BAE 637E Hazardous Chemical Management
- BAE 638E Environmental Engineering in Hazardous Areas

Professional Diploma in Architectural Engineering

(Guided study to complete Professional Diploma in Civil Engineering & Fees will be charge for that)

Stage 1- Complete Professional Diploma in Civil Engineering Program

Stage 2-Study the textbooks in the following site.

(Self study with presentation of study progress report to complete Professional Diploma in Architectural Engineering- Assessment Fees will be charged only after the student can submit the report for first textbook)

Year 4 BE (Architectural Engineering)

AE401 Architecture Theory

AE402 Architectural Design

AE404 Building Services

AE406 Sustainable Building Design

AE407 Architectural Drafting

Year 5 BE (Architectural Engineering)

AE501 Architectural Management

AE502 Interior Design

AE503 Green Building Design

AE504 Construction Contract

AE505 Solar Architecture & Smart House Design

AE506 Architecture Commercial Design

AE507 Urban Design

AE508 Landscape Design

Year 6 BE (Architectural Engineering)

AE601 Architectural Design& Ethics

AE602 Building Survey & Reporting

AE603 Building Control Systems

AE604 Sustainable Architecture

AE605 Details Design

AE606 Outdoor Structure Design

Study Method & Assessment

The students will need to read the reference materials provided in folder of each unit & write the report on their study for each unit.

The report should contain

- Summary of knowledge acquired in the unit
- Practical methods related to assessment, safe working, protection, technical data, equipments utilized in hazardous areas
- Practical applications in work place
- Specific applications in the area of your choice
- Reference guides etc

Each report should be Arial 11 fonts with 10 to 20 pages written in own words by using English..

Insert the appropriate diagrams & tables, formula and data related to information.

Professional Diploma in Chemical Engineering

(This course can only be studied by self study mode)

Fees will only be charged after submission of the study progress report for first textbook.

EM 11001	Engineering Mathematics I
EPh 11011	Engineering Physics I
ECh11011	Engineering Chemistry I
ME 11011	Basic Engineering Drawing
ChE 11001	Organic Chemistry

ME 22021	Machine Drawing
ME 22015	Engineering Mechanics
EcE 22012	Applied Electronic Engineering
Met 21071	Engineering Material
ChE 22013	Material and Energy Balances

BE(Chemical) Year 3

ME 31014	Strength of Materials
ChE 31012	Fluid Mechanics
ChE 31013	Chemical Engineering Thermodynamics
ChE 31022	Heat Transfer

BE(Chemical) Year 4

ME 41031	Design of Machine Elements
ChE41015	Quality Control
ChE41032	Mass Transfer
ChE41042	Particle Mechanics

BE(Chemical) Year 5

ME 51028	Industrial Management
ChE51025	Instrumentation for Chemical and Automatic Process Control
ChE 51052	Chemical Reaction Kinetics and Reactor Design
ChE 51007	Pollution Control, Maintenance and Industrial Safety
ChE 51062	Biochemical Engineering
ChE 51016	Chemical Process Design

BE(Chemical) Year 6

IT 61024 Computer Application Software

ChE 61016 Plant Design and Economics for Chemical Engineers

Study Method & Assessment

The students will need to read the reference materials provided in folder of each unit & write the report on their study for each unit.

The report should contain

- Summary of knowledge acquired in the unit
- Practical methods related to assessment, safe working, protection, technical data, equipments utilized in hazardous areas
- Practical applications in work place
- Specific applications in the area of your choice
- Reference guides etc

Each report should be Arial 11 fonts with 10 to 20 pages written in own words by using English..

Insert the appropriate diagrams & tables, formula and data related to information.

Advanced Diploma in Engineering (Engineering Practice)/ Professional Diploma in Engineering (Engineering Practice)

(Course 67110/67111)

Course Objective

This course aims to provide the necessary skills and knowledge for Diploma/ AGTI /BTech /BE Graduates of Government or Non Government Technical Colleges and Technological Universities of Myanmar to achieve the educational requirement to acquire Singapore Recognized Engineer (Fellowship)/ ASEAN Engineering Technologists/ Associate Engineering Technologists/ ASEAN Engineering Technician/ Associate Technicians through Membership of Singapore Institute of Engineering Technologists & further career progress toward ASEAN Engineer.

Course Outline

ENG601- Engineering Studies (60 pt- for submission of AGTI/BTech/BE)

ENG602-Engineering Applications (10 pt for submission of Curriculum Vitae for experienced engineers and Final Year Project Report for recent graduates)

ENG603-Engineering Practicals (10 pt- Which can be exempted for minimum of 5 Years Engineering Experience)

ENG604-Occupational Health & Safety (5 pt)

ENG605-Engineers Law (2 pt)

ENG606-Engineering Ethics (3 pt)

The candidates who complete ENG 601/602/603/604/605/606 can receive Advanced Diploma in Engineering (Engineering Practice) (Credit Points 90) which is academic requirement for MSIET (Member of Singapore Institute of Engineering Technologists)

ENG607 -Leadership & Management Skills for Engineers (4 pt)

ENG608-Business Skills for Engineers (6 pt)

ENG609-Financial Management Skills for Engineers (3 pt)

ENG610-Engineering Materials (4 pt)

ENG611-Renewable Energy Engineering (10 Pt)

ENG612-Risk Assessment Skills for Engineers (3 pt)

The candidates who complete ENG 601/602/603/604/605/606/607/608/609/610/611/612 can receive Professional Diploma in Engineering (Engineering Practice) (Credit Points 120) which is academic requirement for FSIET (Fellow of Singapore Institute of Engineering Technologists)

Enrol at the following link <http://www.emailmeform.com/builder/form/p915fvwS1a00971Hx9U6u10>

STUDY GUIDE

ENG601- Engineering Studies (60 pt- for submission of AGTI/BTech/BE)

ENG602-Engineering Applications (10 pt for submission of Curriculum Vitae for experienced engineers and Final Year Project Report for recent graduates)

ENG603-Engineering Practicals

Select any two practical courses, study and submit the assignment

RESOURCES DOWNLOAD LINK

<http://www.highlightcomputer.com/PracticalCourses.htm>

ENG604-Occupational Health & Safety (5 pt)

Mgt 208 Safety Management

www.mongroupsdney1.com/Mgt208SafetyManagement.pptx

ASSIGNMENT

Do the exercises in the following link.

www.mongroupsdney1.com/AdvancedDiplomainManagementStudyGuide.pdf

VIDEOS

E011+E017 Lesson 1 Hazards of electricity

<http://youtu.be/u7hZkdSDWxl>

E011+E017 Lesson 2 Low voltage safety

<http://youtu.be/O9C0S5yzpy4>

<http://youtu.be/DILqJf5gNEQ>

<http://youtu.be/8fjcP8MEff>

E011+E017 Lesson 3 Safety procedure & methods

<http://youtu.be/DRdri7ZJUfw>

E011+E017 Lesson 4 Electrical installation safety

<http://youtu.be/2srZpukbAQw>

E011+E017 Lesson 5 Installation safety

<http://youtu.be/NVBghDWmeX0>

Power Line Accident Due to Ladder

<http://youtu.be/csV1qiMskSQ>

Electric Fire

<http://youtu.be/0DXz2Ny7w74>

<http://youtu.be/1n61ds40lt4>

-

ENG605-Engineers Law (2 pt)

Write the critical review of Myanmar Engineering Council Laws and Regulations by reflecting your own view. You can write 1 to 3 Pages.

RESOURCES DOWNLOAD LINK

<http://www.highlightcomputer.com/mengclaw.htm>

<http://www.myanmarengc.org/laws-regulation>

ENG606-Engineering Ethics (3 pt)

Study Engineers Ethics of Myanmar Engineering Council. Then do the research work on various media such as Newspaper/ Journals/ Internet to find out any engineering tasks which do not comply with public safety/ ware fare of public and wasting of public money/ breach of consumers' right etc and provide the critical review by referring the relevant clauses of Engineers Ethics.

RESOURCES DOWNLOAD LINK

www.highlightcomputer.com/MEngCEthics.pdf

ENG607 -Leadership & Management Skills for Engineers (4 pt)

VIDEOS

Mgt 101 Management

[Day 3 Part 3AMgt 101+501](#)

[Day 3 Part 3BMgt 101+501](#)

[Day 3 Part 3CMgt 101+501](#)

ICT 104 Mgt 104 Program Project +BAE 508 Project Management

Day 7 Part 2

[ICT104+Mgt104+BAE508 1](#)

[ICT104+Mgt104+BAE508 2](#)

[ICT104+Mgt104+BAE508 3](#)

[ICT104+Mgt104+BAE508 4](#)

[ICT104+Mgt104+BAE508 5](#)

[ICT104+Mgt104+BAE508 6](#)

-

Mgt 105 Quality Management

Day11 Part 2

[Mgt 5051](#)

[Mgt 5052](#)

[Mgt 5053](#)

[Mgt 5054](#)

[Mgt 5055](#)

-

LESSONS TO BE STUDIED & ASSIGNMENT

www.iqytechnicalcollege.com/MgtAdvDip.zip

studies all files JPG+MP3

Then answer Questions for MGT 104 (for MGT505+EE309 Lessons) (Page 3 to 5) and MGT105 (for MGT505 Lessons (Page 5 to 8) of www.highlightcomputer.com/DipManagementAssignment.pdf

OTHER REFERENCES

www.highlightcomputer.com/Day_3_Part2-Mgt_101_Management.zip

www.highlightcomputer.com/Day_7_Part_2-ICT_104_Mgt_104_Program_Project_BAE_508_ProjectManagement.zip

www.highlightcomputer.com/Day_11_Part_2-Mgt_105_Quality_Management.zip

ENG608-Business Skills for Engineers (6 pt)

VIDEOS

Mgt 102 Performance Management

Day 12 Part 2

[Mgt 1021](#)

[Mgt 1022](#)

[Mgt 1023](#)

Mgt 201 Customer Service Management

<https://youtu.be/3I-eSQyy9x0>

Mgt 202 Change Management

<https://youtu.be/cF8e-GrmqIo>

<https://youtu.be/i-yXY9k71uc>

Mgt 203 Inventory & Budget Management

<https://youtu.be/UsUsrFLspxc>

Mgt 204 Continuous Improvement Management

<https://youtu.be/H8X9GP9nY7Q>

Mgt 205 Office Management

<https://youtu.be/yYacivydUa4>

<https://youtu.be/J6Nwoz8nnOY>

Mgt 206 Work-based Training Management

<https://youtu.be/-t0SLtD3BY>

<https://youtu.be/wgTrTLTS9KY>

Mgt 207 Business Letter Writing

<https://youtu.be/3c4mhgmBums>

Mgt 210 Professional Development Management

<https://youtu.be/bYrknSQDERA>

<https://youtu.be/wxUI2K390GY>

Mgt 211 Leadership

<https://youtu.be/cF8e-GrmqIo>

<https://youtu.be/i-yXY9k71uc>

Mgt 212 Preparing Portfolios

Mgt 213 Conflict Management

<https://youtu.be/eaiSooLv5K0>

-

LESSONS TO BE STUDIED & ASSIGNMENT

Do any two units of the followings/ If you do all, you will get Advanced Diploma in Management as well.

Mgt 201 Customer Service Management

www.mongroupsydney1.com/Mgt201CustomerServiceManagement.zip

Mgt 202 Change Management Reader

www.mongroupsydney1.com/Mgt202ChangeManagementReader.pdf

Mgt 204 Continuous Improvement Management

www.mongroupsydney1.com/Mgt204ContinuousImprovementManagement.zip

Mgt 211 Leadership

www.mongroupsydney1.com/Mgt211Leadership.zip

Mgt 213 Conflict Management

www.mongroupsydney1.com/Mgt213ConflictManagement.zip

ASSIGNMENT

Do the exercises in the following link.

www.mongroupsydney1.com/AdvancedDiplomainManagementStudyGuide.pdf

ENG609-Financial Management Skills for Engineers (3 pt)

Certificate in Financial Management

www.highlightcomputer.com/Mgt106.zip

All lessons+ Exercises in the above link

ENG610-Engineering Materials (4 pt)

10 RE010-Engineering Materials

www.igytechnicalcollege.com/RE010.zip

ASSIGNMENT

Page 48 to 61 of

www.highlightcomputer.com/BEGeneralREAssignment.pdf

ENG611-Renewable Energy Engineering (10 Pt)

Do any two units. If you do all, you will also receive Diploma in Renewable Energy Engineering.

RE001- Foundation Studies in Renewable Energy and Sustainability

www.igytechnicalcollege.com/RE001.pdf

ASSIGNMENT

Page 5 to 16 All questions of

www.highlightcomputer.com/BEGeneralREAssignment.pdf

RE003- Solar and Thermal Energy Systems

www.iqytechnicalcollege.com/RE003.zip

ASSIGNMENT

Page 18 All questions of

www.highlightcomputer.com/BEGeneralREAssignment.pdf

RE004- Energy Storage Systems

www.iqytechnicalcollege.com/RE004.zip

ASSIGNMENT

Page 19 to 30 All questions of

www.highlightcomputer.com/BEGeneralREAssignment.pdf

RE005- Renewable Energy Resource Analysis & Wind Energy Conversion Systems

www.iqytechnicalcollege.com/RE005.zip

www.iqytechnicalcollege.com/RE006.zip

ASSIGNMENT

Page 31 to 46 All questions of

www.highlightcomputer.com/BEGeneralREAssignment.pdf

RE007- Energy System Efficiency

www.iqytechnicalcollege.com/RE007.zip

ASSIGNMENT

www.mongroupsydney1.com/RE007Exercises.pdf

VIDEOS

LECTURES (ENGLISH+MYANMAR EXPLANATIONS)

When you click the link, it will come out with Safety Mode ON
You need to sign in by using your e-mail account to lock off the Safety Mode.

RE001 Foundation Studies in Renewable Energy

Day 6 Part 1

[Foundation Studies in Renewable Energy 1\(Myanmar+English\)](#)

Topics-Climate change, solar energy, hydro energy

[Foundation Studies in Renewable Energy 2\(Myanmar+English\)](#)

Topics-Tidal Power, Design for climate

[Foundation Studies in Renewable Energy 3\(Myanmar+English\)](#)

Topics-Solar heating, Site selection, Embodied Energy

Day 6 Part 1

RE001- Foundation Studies in Renewable Energy and Sustainability /BAE 523A Environmental Engineering (Civil)

www.highlightcomputer.com/Day 6 Part 1 R001BAE523-Foundation Studies in Renewable Energy and Sustainability.zip

Day 6 Part 1

RE 001 Foundation Studies in RE

Slide

1,2,4,8,12,14,16,20,22,23,24,27,29,34,44,50,52,66,69,77,81,82,86,88,93,97,99,114,115,117,118,119,138,142,145,146,161,164,192

RE005 Renewable Energy Resources Analysis

Day 9 Part 1

[Renewable Energy Resources Analysis 1 \(Myanmar+English\)](#)

Topics-Hydro Power Plants

[Renewable Energy Resources Analysis 2 \(Myanmar+English\)](#)

Topics-Water Turbines

[Renewable Energy Resources Analysis 3 \(Myanmar+English\)](#)

Topics-Bio-Energy, Thermo Chemical

[Renewable Energy Resources Analysis 4 \(Myanmar+English\)](#)

Topics-Bio-Chemical Processing, Geo-thermal Energy, Tidal Energy

[Renewable Energy Resources Analysis 5 \(Myanmar+English\)](#)

Topics-Tidal Wave Generators, Connection to Electricity Grid

Day 9 Part 1

RE005- Renewable Energy Resource Analysis

RE005-RE Resources Analysis (6).pdf (5.42MB)

[http://www.filefactory.com/file/6ij4aag9kodh/n/RE005-RE_Resources_Analysis_\(6\).pdf](http://www.filefactory.com/file/6ij4aag9kodh/n/RE005-RE_Resources_Analysis_(6).pdf)

www.highlightcomputer.com/Day_9_Part_1_RE005-Renewable_Energy_Resource_Analysis.zip

Day 9 Part 1

RE005 Renewable Energy Resources Analysis

RE004-4

Hydro power Slide 2,3,5,6

Hydro plants 7,8

Turbine blades 11,14,15,18,22

Bio energy

29,31,32,33,34,

Bio fuel 36,37,41

Oil extraction 44,45

Thermo chemical processing 46

RE005-5

Bio chemical processing 7,9,10,11, Ethanol 13,14

Geothermal 24,28,32,36,40,42,46,50,51

RE005-6

Tidal energy Physics 1,3,5,6,7,8,9,11,14,17,20,21,23,24,25,27,28,29,30,31,34,36,37,43,44,47,50,52,53

RE005-7

Hydrogen Fuel

1,2,3

Fuel cell 13,14

RE003- Solar and Thermal Energy Systems

Day 7 Part 1

[Solar and Thermal Energy Systems 1 \(Myanmar+English\)](#)

Topics-Solar Energy & Thermal Conversion

[Solar and Thermal Energy Systems 2 \(Myanmar+English\)](#)

Topics-Heat Exchanger, District Heating, Combined Heat & Power

[Solar and Thermal Energy Systems 3 \(Myanmar+English\)](#)

Topics-Domestic Solar Heating & Cooling, Earth Heat Reservoir

Day 7Part 1

RE003 Solar & Thermal Energy System

Slide

1,2,5,6,9,11,14,15,20,21,24,25,31,33,35,37,39,42,44,46,47,53,57,58,61,63,69,71,73,77,100,117,118,122,123,126,130,137,138,148,151,15

Solar energy+ Measurement of irradiation Page 1 to 15

Solar water heating system + Collectors Page 20 to 39

Solar water heater + Heat exchanger Page 42 to 63

Combined hot water system Page 100 to 148

Day 7 Part 1

RE003- Solar and Thermal Energy Systems

www.highlightcomputer.com/Day_7_Part_1_RE003- Solar and Thermal Energy Systems.zip

RE004- Energy Storage Systems

Day 8 Part 1

[Energy Storage Systems \(Myanmar+English\)](#)

Topics-Principle, Power Grid Energy Storage Devices, Redox Battery, Hydrogen Cell Battery

Day 8 Part 1

RE004- Energy Storage Systems+ RE006- Wind Energy Conversion Systems

www.highlightcomputer.com/Day_8_Part_1A-RE004- Energy Storage Systems.zip

Day 8 Part 1A

RE004 Energy Storage System

Storage& density Page 1,4,6

Page 7-System, Page 8 Storage management Page 10

Frequency regulation Page 12 Voltage Page 16

Distribution network energy storage Page 18

Energy storage retailer Page 23, 24, 25, 29, 30, 31,32,35,37,38,41,42,43,44

www.highlightcomputer.com/Day_8_Part_1B-RE006- Wind Energy Conversion Systems.zip

RE006 Wind Energy Conversion System

[Wind Energy Conversion System 1\(Myanmar+English\)](#)

Topics-Energy& Power in Wind, World Wind Energy

[Wind Energy Conversion System 2 \(Myanmar+English\)](#)

Topics-Wind Turbine, Aero-dynamic forces, Electricity Generated by Wind Turbine

Day 8 Part 1B

RE006 Wind Energy System

Page 1 Wind of the world

Page 2 Energy & Power in the wind Page 3,4

Wind machines Page 6,7,8,9

Page 14 Aero dynamic force Page 19,20 Aerofoil

Page 23 Relative wind velocity

Page 24 Wind turbine power 26,27,28

Page 32 Wind energy calculation Page 36

RE002- Grid Connected Photovoltaic Power Systems-Electrical

Day 14Part 1

[Grid Connected Photovoltaic Power Systems 1\(Myanmar+English\)](#)

Topics-Sun Geometry, Solar Cell Connection

[Grid Connected Photovoltaic Power Systems 2\(Myanmar+English\)](#)

Topics-Solar Electrical System Installation

[Grid Connected Photovoltaic Power Systems 3\(Myanmar+English\)](#)

Topics-Power Output from solar cell, Grid Connection

[Grid Connected Photovoltaic Power Systems 4\(Myanmar+English\)](#)

Topics-Solar Installation Inspection

[Grid Connected Photovoltaic Power Systems 5\(Myanmar+English\)](#)

Topics-Lightning & Surge Protection, Metering

Day 14 Part 1

RE002- Grid Connected Photovoltaic Power Systems-Electrical

www.highlightcomputer.com/Day_14-Part_1-RE002- Grid Connected Photovoltaic Power Systems-Electrical.zip

Day 14 Part 1

RE002 Grid Connected PV system

RE 002 Part 1

Sun geometry 1

Daily irradiance 2, 9

Power output calculation 29, 31, 36

Pen circuit voltage 37,40,41,42,44

Inverter diagram 45,46,48,52,53

Grid protection 55, 56, 57, 58, 59

Lightening surge protection 62, 63

Net metering 64, 67, 68, Inspection& testing

73 PV array location 81, 82, 89, 90

PV power system 92,93,

Typical arrays 97,98,100,102,105,

Grid connected inverter 134,135,136,137,139,146

RE002 Part 2

Economy 16,20,23

RE007- Energy System Efficiency

Day 16 Part 1

[Energy System Efficiency 1 \(Myanmar+English\)](#)

Topics-Unit Energy, Energy used by day

[Energy System Efficiency 2 \(Myanmar+English\)](#)

Topics-Comparison of energy usage, Solar Farming

[Energy System Efficiency 3 \(Myanmar+English\)](#)

Topics-Regeneration, Combined Heat& Power

[Energy System Efficiency 4 \(Myanmar+English\)](#)

Topics-Heat Transfer, Energy Efficient Building Construction

[Energy System Efficiency 5\(Myanmar+English\)](#)

Topics-Energy Survey, Building Survey, Lighting Control

Day 16 Part 1

RE007- Energy System Efficiency

(Electrical)(Mechanical)

www.highlightcomputer.com/Day_16Part_1-RE007- Energy_System_Efficiency.zip

Day 16 Part 1

RE007 Energy Efficiency

Page 1,3,4,5,6 Energy Use Page 11

Water use Page 16

Comparison Page 19,20

Solar farming Page 21,25,26,27,30

Bulb efficiency Page 35,40,45,46

Regenerative braking Page 48, 49, 53

CHP Page 55, 57, 58

Efficient electricity use Page 61, 64, 66

Car Page 68,69,70,

Ventilation Page 76, 78, 86

Energy efficient office Page 92,93,94,95,110

Power system in energy efficiency Page 111

Survey Page 115,118,119,120

Building survey

Page 122, 123

ENG612-Risk Assessment Skills for Engineers (3 pt)

VIDEOS

Mgt 208 Safety Management

<https://youtu.be/rPhf8Ngkd7w>

Mgt 209 Risk Management

<https://youtu.be/QawB3xDt2dc>

LESSONS TO BE STUDIED & ASSIGNMENT

Mgt 208 Safety Management

www.mongroupsydney1.com/Mgt208SafetyManagement.pptx

Mgt 209 Risk Management

www.mongroupsydney1.com/Mgt209RiskManagement.zip

ASSIGNMENT

Do the exercises in the following link.

www.mongroupsydney1.com/AdvancedDiplomainManagementStudyGuide.pdf

Professional Diploma in Electrical Engineering (Electrical Power & Electronics) (Prof Dip EPEC Engg)

www.highlightcomputer.com/profdipepec1.htm

Enrolment Link

<http://www.emailmeform.com/builder/form/xE6omX3577z595Gcb60>

Objective

This course provides Electrical Power Knowledge to Electronics Engineers and Electronics Knowledge to Electrical Power Engineers.

Features of the course

It integrates Australian Electrical Engineering Training System Units (UEE07/UEE011)

It focuses on practical application aspects and the entire course is taught in English language by referring classroom lessons and videos that are used in Australian Electrical Engineering teaching classes.

Credit Points

It needs 120 credit points to complete this course. The credit transfer arrangements is as follows.

For Electrical Power Graduates

AGTI(EP)/BTech(EP)/BE(EP)----Credit Transfer of 60 points

Complete the following 20 subjects (Each 3 Credit points) Total= 60 Points

Total Credit Points = 120 Points

List of Subjects	Australian Electrical Units
EPEC601 Electronics Power Supply	UEENEEH011B

EPEC602 Digital Electronics	UEENEEH012B
EPEC603 Amplifiers	UEENEEH013B
EPEC604 Single Phase Electronics Power Control	UEENEEH025B
EPEC605 Three Phases Electronics Power Control	UEENEEH026B
EPEC606 Analogue Electronics	UEENEEH045B
EPEC607 Process Control Systems	UEENEEI006B
EPEC608 Sinewaves & Solar Inverters	UEENEEK035C
EPEC609 Building Services Electrical & Mechanical Systems	UEENEEK041B
EPEC610 Electrical Workshops	Electrical Workshops (UEENEEE001/002/005/007/008)
EPEC611 Electrical Wiring	UEENEEG003/004/005/007/033/063
EPEC612 Electrical Risk Assessment	UEENEEE011C+E117B
EPEC613 Control Programming	UEENEEI150/151B
EPEC614 Programmable Logic Controllers	UEENEEI150/151
EPEC615 Electronics Workshop	UEENEEH102B
EPEC626 Advanced Power System	UEENEEG037/38/39
BAE 604 Telecommunication Engineering	
BAE 602 Computer Network	
BAE 603 Software Engineering	

RE007 Energy System Efficiency	
--	--

For Electronics Graduates

AGTI(EC)BTech(Ec)/BE(EC)---Credit Transfer of 60 points

Complete the following 20 subjects (Each 3 Credit points) Total= 60 Points

Total Credit Points = 120 Points

List of Subjects	Australian Electrical Units
EPEC616 Electromagnetism & Basic Machines	UEENEEG001/002/E029B
EPEC610 Electrical Workshops	Electrical Workshops (UEENEEE001/002/005/007/008)
EPEC611 Electrical Wiring	UEENEEG003/004/005/007/033/063
EPEC612 Electrical Risk Assessment	UEENEEE011C+E117B
EPEC617 Electrical Distribution	UEENEEG015B(AA)
EPEC618 Power System Protection	UEENEEG015B(AE)
EPEC619 Power System Operation	UEENEEG015B(AG)
EPEC620 Power Panel Design &	UEENEEA010
EPEC621 Three Phase Power Circuits & Fault Calculations	UEENEEG049B
EPEC622 Power Transformer	UEENEEG040B
EPEC623 Transmission Line	UEENEEG042B

EPEC624 Electrical Machines	UEENEEG043/44/45
EPEC625 Solar Electrical System	UEENEEK025B
RE007 Energy System Efficiency	
RE003- Solar and Thermal Energy Systems	
RE004- Energy Storage Systems	
EPEC626 Advanced Power System	UEENEEG037/38/39
BAE 404 Engineering Materials & Thermodynamics	
BAE 506 Power System Stability & Protection	
RE010-Engineering Materials	

Practicals (Trade Level)

Electrical Wiring

<http://www.highlightcomputer.com/PracticalCourses.htm#j>

Electrical Machine Winding

<http://www.highlightcomputer.com/PracticalCourses.htm#k>

Power Wiring

<http://www.highlightcomputer.com/PracticalCourses.htm#l>

Basic Electronics Communication

<http://www.highlightcomputer.com/PracticalCourses.htm#m>

Practicals (Professional Level)

<http://www.filefactory.com/file/cf88135/n/Practical.zip>

Enrolment Link

<http://www.emailmeform.com/builder/form/xE6omX3577z595Gcb60>

Professional Diploma in Information Technology (Computer Networking)

Bachelor of Applied Science (Computer Networking) (63347)

Professional Diploma in ICT Engineering (Network)

Bachelor of Engineering (Computer Networking) (63348)

Professional Diploma in Information Technology (Computer Networking)

Bachelor of Applied Science (Computer Networking)

Pre-requisite- Advanced Diploma in Information Technology (Network)
(Experience based) (60 Credits)

Self study

Professional 1-Core units (Each 5 credit points)

ICTN401-Computer Systems Architecture

ICTN402-Computer Networking

ICTN403-Cisco Networking

ICTN404- Home Networking

ICTN405- System and Network Administration

ICTN406- Wireless Communications and Networking

Professional 2-Elective units (Each 5 credit points)

Any six units to complete

ICTN501-Enterprise System Administration

ICTN502- Mobile and Wireless Network Security

ICTN503- Cisco Certified Entry Networking

ICTN504- Wireless Security

ICTN505- UNIX System Administration

ICTN506- Advanced Network Programming

ICTN507- Windows Server Administration

ICTN508- Enterprise Network Testing

Total 120 Credits

Professional Diploma in ICT Engineering (Network)

Bachelor of Engineering (Computer Networking)

Completion of Professional Diploma in IT (Computer Networking) (120 credits)+completion of the following units

BAE 401 Advanced Engineering Mathematics (3 credits)

BAE 402 Calculus (3 credits)

RE012a-Electrical Engineering Part 1(3 credits)

RE014-Electronics Control (3 credits)

BAE 604 Telecommunication Engineering (3 credits)

BAE 605 Engineering Management (3 credits)

BAE 608 Professional Engineer Engineering Competency Demonstration Report (2 credits)

Total 140 Credits

www.iqytechnicalcollege.com/ProfDipICTEnggBENetwork.pdf

Professional Diploma in Mechanical Engineering and Management

www.iqytechnicalcollege.com/ProfDipMechEnggMgtOutline.pdf

This program is mixture of Mechanical Engineering and Management. The graduates can either work as Mechanical Engineer or Project Manager

Advanced Diploma in Mechanical Engineering and Management

Advanced Diploma in Mechanical Engineering

30 Credit Points in Engineering units Each 2 Points

Maths 101 Engineering Mathematics

ME101 Applied Mathematics

ME106 Electrical Circuits

ME201 Introduction to Fluid Mechanic

ME103 Engineering Mechanics

ME107+ME102 Thermodynamics and Heat Transfer

ME108 Principle of Engines (Self Study)

ME203 Control Engineering

ME205 Manufacturing Processes and Materials (Self Study)

ME634 Pnuematics (Self Study)

ME334 Air-conditioning and Refrigeration (Self Study)

ME434 Mechatronics and Robotics (Self Study)

EE102+ME105 Electrical Workshop

ME305 Corrosion Protection (Self Study)

CE111 Drawing

30 Credit Points in Management units

Advanced Diploma in Management

Mgt 101 Management (4 pt)

Mgt 102 Performance Management (4 pt)

Mgt 103 Operation Management +Mgt 107 Industrial Risk Assessment
(4 pt)

ICT 104 Mgt 104 Program Project +BAE 508 Project Management

(6 pt)

Mgt 105 Quality Management (4 pt)

ICT 107 Business Information Systems (4 pt)

Mgt 108 Computer Application in Management (4 pt)

THS graduates will need to do self study in some mechanical units .

Advanced Diploma in Mechanical Engineering and Management will be completed

Professional Diploma in Mechanical Engineering and Management

PART 1-Engineering (9 points)

Professional Diploma in Engineering (Year 3) (9 points for Engineering)

Complete BAE units by personal attendance and RE units by self study

1 BAE 401 Advanced Engineering Mathematics (2 pt)

2 BAE 402 Calculus (2 pt)

3 BAE 403 Engineering Mechanics (2 pt)

4 BAE 404 Engineering Materials & Thermodynamics (3 pt)

PART 2-Management (21 points)

Complete any 7 units at each 3 points

Complete

<http://www.iqytechnicalcollege.com/advdipmgt.htm>

Mgt 201 Customer Service Management

Mgt 202 Change Management

Mgt 203 Inventory & Budget Management

Mgt 204 Continuous Improvement Management

Mgt 205 Office Management

Mgt 206 Work-based Training Management

Mgt 207 Business Letter Writing
Mgt 208 Safety Management
Mgt 209 Risk Management
Mgt 210 Professional Development Management
Mgt 211 Leadership
Mgt 212 Preparing Portfolios
Mgt 213 Conflict Management

Professional Diploma in Mechanical Engineering & Management (Year 4)
(30 points)

Professional Diploma in Mechanical Engineering

Complete 10 units at 30 Points

RE011a Civil and Mechanical Engineering (3 pt)
BAE606 Building Services Electrical and Mechanical Engineering(3 pt)
BAE314 Power Generation (3 pt)
BAE423 Fluid Mechanics(3 pt)
BAE512 Building Services Water Supply System (3 pt)
RE014 Electronics Control (3 pt)
BAE601 Computer Programming (3 pt)
BAE605 Management (3 pt)
BAE508 Project Management (3 pt)
BAE608 Engineering Competency Report (3 pt)

Professional Diploma in Mechanical Engineering and Management will be completed

Professional Diploma in Metallurgical & Materials Engineering

Stage 1- Complete Advanced Diploma in Mechanical Engineering & Year 3 Common course of Professional Diploma in Mechanical Engineering Studies

(Guided study to complete Advanced Diploma in Mechanical Engineering PLUS up to Year 3 of Professional Diploma)

Stage 2-Study the following textbooks

Year 4 BE (Metallurgy & Materials)

(Self study with presentation of study progress report to complete Professional Diploma in Metallurgical & Materials Engineering- Assessment Fees will be charged only after the student can submit the report for first textbook)

Met 401 Mechanical Properties of Metals
Met 402 Metallurgical Engineering Alloys
Met 403 Metallurgy Principle
Met 404 Metallurgy
Met 405 Powdered Metallurgy

Year 5 BE (Metallurgy & Materials) common to BE (Minerals Extraction & Explosion Protection)

Met501 Mechanical Estimating
Met502 Mechanical Properties of Metals

Met503 Metallurgy

Met504 Engineered Metals

Met505 Metallurgical Alloys

Met507 Stress Assessment in Metallurgy

Met508 Metallic Materials

Year 6 BE (Metallurgy & Materials) common to BE (Minerals Extraction & Explosion Protection)

Met601 Metallurgical Processing

Met602 Machinery Failure Analysis

Met603 Materials Selection in Mechanical Design

Met604 Strain Testing

Met605 Applied Metallurgy

Met606 Metals Extraction

Additional units

Met608 Corrosion Prevention

Study Method & Assessment

The students will need to read the reference materials provided in folder of each unit & write the report on their study for each unit.

The report should contain

- Summary of knowledge acquired in the unit
- Practical methods related to assessment, safe working, protection, technical data, equipments utilized in hazardous areas
- Practical applications in work place
- Specific applications in the area of your choice
- Reference guides etc

Each report should be Arial 11 fonts with 10 to 20 pages written in own words by using English..

Insert the appropriate diagrams & tables, formula and data related to information.

Professional Diploma in Mineral Extraction & Explosion Protection Engineering (Combined course of Mining & Petroleum)

Stage 1- Complete Advanced Diploma in Mechanical Engineering & Year 3 Common course of Professional Diploma in Mechanical Engineering Studies

(Guided study to complete Advanced Diploma in Mechanical Engineering PLUS up to Year 3 of Professional Diploma)

Stage 2-Study the following textbooks

(Self study with presentation of study progress report to complete Professional Diploma in Metallurgical & Materials Engineering- Assessment Fees will be charged only after the student can submit the report for first textbook)

Year 3 BE (Mineral Extraction& Explosion Protection)

PE 21015	Properties of Reservoir Rocks and Fluids
PE 21002	Drilling Fluids
Geol 21002	Petroleum Geology
ChE 31013	Chemical Engg. Thermodynamics
PE 31012	Drilling Engg.
PE 31016	Formation Evaluation
PE 31013	Production Engineering

Year 4 BE (Mineral Extraction& Explosion Protection)

PE 41014	Natural Gas Engg.
PE 41022	Applied Drilling Engg.
PE 41023	Well Completion and Servicing
PE 41035	Applied Reservoir Engg.

Year 4 BE (Minerals Extraction & Explosion Protection) common to
BE (Metallurgy & Materials)

Min501 Mechanical Estimating/ Met501 Mechanical Estimating

Min502 Mechanical Properties of Metals/ Met502 Mechanical Properties of
Metals

Min503 Metallurgy/ Met503 Metallurgy

Min504 Engineered Metals/ Met504 Engineered Metals

Min505 Metallurgical Alloys/ Met505 Metallurgical Alloys

Min507 Stress Assessment in Metallurgy/ Met507 Stress Assessment in
Metallurgy

Min508 Metallic Materials/ Met508 Metallic Materials

Year 5 BE (Minerals Extraction & Explosion Protection) common to
BE (Metallurgy & Materials)

Min601 Metallurgical Processing/ Met601 Metallurgical Processing

Min602 Machineries Failure Analysis/ Met602 Machineries Failure Analysis

Min603 Materials Selection in Mechanical Design/ Met603 Materials Selection
in Mechanical Design

Min604 Strain Testing/ Met604 Strain Testing

Min605 Applied Metallurgy/ Met605 Applied Metallurgy

Min606 Metals Extraction/ Met606 Metals Extraction

Additional Unit

Met607 Explosive Engineering

ADDITIONAL STUDY

Year 6 BE (Minerals Extraction & Explosion Protection)

Explosion Protection

Lessons+ References

Professional Diploma in Hazardous Safety Engineering

www.highlightcomputer.com/profdiphazardous.htm

Professional Diploma in Hazardous Safety Engineering

Course Objective

This course provides the information and knowledge related to safely working in hazardous areas, safe working knowledge, safety protection equipments, systems and methods, auditing the safety requirements of hazardous area engineering works such as mining, petroleum, chemical plants ,civil ,electrical and mechanical engineering

Course Outline

It consists of 8 units with each 5 credits.

BAE 631E Maintenance & Repair Works in Hazardous Areas

BAE 632E Electrical Wiring in Hazardous Areas

BAE 633E Hazardous Area Safety Audits

BAE 634 Explosion Protection

BAE 635E Testing in Hazardous Areas

BAE 636 E Hazardous Area Inspection

BAE 637E Hazardous Chemical Management

BAE 638E Environmental Engineering in Hazardous Areas

Study Method & Assessment

The students will need to read the reference materials provided in folder of each unit & write the report on their study for each unit.

The report should contain

- Summary of knowledge acquired in the unit
- Practical methods related to assessment, safe working, protection, technical data, equipments utilized in hazardous areas
- Practical applications in work place
- Specific applications in the area of your choice
- Reference guides etc

Each report should be Arial 11 fonts with 10 to 20 pages written in own words by using English..

Insert the appropriate diagrams & tables, formula and data related to information.

Professional Diploma in Hazardous Safety Engineering

Course Objective

This course provides the information and knowledge related to safely working in hazardous areas, safe working knowledge, safety protection equipments, systems and methods, auditing the safety requirements of hazardous area engineering works such as mining, petroleum, chemical plants ,civil ,electrical and mechanical engineering

Pre-requisite

Professional Diploma/ Bachelor degree in Engineering (Any discipline)

Course Outline

It consists of 8 units with each 5 credits.

BAE 631E Maintenance & Repair Works in Hazardous Areas

BAE 632E Electrical Wiring in Hazardous Areas

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BAE 635E Testing in Hazardous Areas

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Detailed Topics

BAE 631 Maintenance & Repair Works in Hazardous Areas

UEENEEM019A Attend to breakdowns in hazardous areas - coal mining

KS01-EM01

9A

Explosion protection, certification and techniques

Evidence shall show an understanding of Ex certification schemes and techniques to accepted Standards to an extent indicated by the following aspects:

T1 Explosion-protection equipment — Ex certification schemes encompassing:

- ☐ Purpose and scope of certification schemes.
- ☐ Schemes accepted in Australia and New Zealand.
- ☐ Schemes commonly used in countries other than Australia and New Zealand.
- ☐ Processes for having equipment certified under the acceptable Ex schemes — scheme procedures; quality management requirements; conformance testing and assessment; and requirements for ongoing certification.

T2 Flameproof (Ex 'd') explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the flameproof (Ex 'd') technique. (Examples of characteristics and design features are flame paths, integrity under pressure, pressure piling, and enclosure entries).
- ☐ Typical situations where the flameproof explosion-protection technique is used;
- ☐ Actions or conditions that would void the protection provided the Flameproof technique;
- ☐ The use of Standards in determining the requirements to which the installation of flameproof explosion-protected apparatus shall comply.

T3 Increased safety (Ex 'e') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Increased safety (Ex 'e') technique (Examples of characteristics and design features are temperature rise, maximum power dissipation, protection devices, certified components, creepage and clearance distances, absence of sparking contacts and enclosure entries).

☐ Typical situations where the Increased safety explosion-protection technique is used;

Actions or conditions that would void the protection provided the Increased safety technique;

☐ The use of Standards in determining the requirements to which the installation of Increased safety explosion-protected apparatus shall comply.

T4 Non-sparking (Ex 'n') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Non-sparking (Ex 'n') technique (Examples of characteristics and design features are creepage and clearance distances and restricted breathing).

☐ Typical situations where the Non-sparking explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Non-sparking technique; and

☐ The use of Standards in determining the requirements to which the installation of Non-sparking explosion-protected apparatus shall comply.

T5 Intrinsic safety (Ex 'i') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Intrinsic safety (Ex 'i') technique (Examples of characteristics and design features are field devices, cables, safe area devices, earthing, entity

versus integrated system concept, simple devices and interface devices and their parameters, segregation, infallible components, current and voltage limiting, creepage and clearance distances).

☐ Typical situations where the Intrinsic safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Intrinsic safety;

☐ The use of Standards in determining the requirements to which the installation of Intrinsic safety explosion-protected apparatus shall comply.

T6 Pressurization (Ex 'p') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Pressurization (Ex 'p') technique (Examples of characteristics and design features are exclusion and dilution; purge periods, controlled shut down, monitoring and sources of internal release).

☐ Typical situations where the pressurization explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the pressurization technique;

☐ The use of Standards in determining the requirements to which the installation of pressurization explosion-protected apparatus shall comply.

T7 Enclosures for dusts (Ex 'tD') - explosion-protection technique encompassing:

The purpose and characteristics of the design features of apparatus and circuits protected by the techniques for dusts (Examples of characteristics and design features are for enclosures; pressurization; encapsulation; and intrinsic safety).

☐ Typical situations where the each dust explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the each dust technique;

☐ The use of Standards in determining the requirements to which the installation of dust explosion-protected apparatus shall comply.

T8 Common characteristics of explosion-protection techniques encompassing:

☐ The purposes of 'temperature classification' and 'gas grouping/apparatus grouping'.

☐ Compliance plate markings.

☐ Limitations of non-metallic or specific alloy enclosures.

☐ The purpose of conformity and certification/approval for equipment used in hazardous areas.

☐ Environmental conditions that may impact on explosion-protection techniques.

☐ The principles and applications of other and mixed explosion-protection techniques (Other techniques include encapsulation Ex 'm'; oil-immersion Ex 'o'; powder-filling Ex 'q', ventilation Ex 'v' and special protection Ex 's').

☐ Features and purpose of conduit seals and cable termination devices designed for use in hazardous areas (These include conduit seals and barrier and compression glands for cables with or without armouring, screening and/or drain wires)

UEENEEM020A Attend to breakdowns in hazardous areas - gas

Atmospheres

KS01-EM020

A

Explosion protection, certification and techniques

Evidence shall show an understanding of Ex certification schemes and techniques to accepted Standards to an extent indicated by the following aspects:

T1 Explosion-protection equipment — Ex certification schemes encompassing:

☐ Purpose and scope of certification schemes.

☐ Schemes accepted in Australia and New Zealand.

☐ Schemes commonly used in countries other than Australia and New Zealand.

☐ Processes for having equipment certified under the acceptable Ex schemes — scheme procedures; quality management requirements; conformance testing and assessment; and requirements for ongoing certification.

T2 Flameproof (Ex 'd') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the flameproof (Ex 'd') technique. (Examples of characteristics and design features are flame paths, integrity under pressure, pressure piling, and enclosure entries).

☐ Typical situations where the flameproof explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Flameproof technique;

☐ The use of Standards in determining the requirements to which the installation of flameproof explosion-protected apparatus shall comply.

T3 Increased safety (Ex 'e') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Increased safety (Ex 'e') technique (Examples of characteristics and design features are temperature rise, maximum power dissipation, protection devices, certified components, creepage and clearance distances, absence of sparking contacts and enclosure entries).

☐ Typical situations where the Increased safety explosion-protection technique is used;

Actions or conditions that would void the protection provided the Increased safety technique;

☐ The use of Standards in determining the requirements to which the installation of Increased safety explosion-protected apparatus shall comply.

T4 Non-sparking (Ex 'n') explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Non-sparking (Ex 'n') technique (Examples of characteristics and design features are creepage and clearance distances and restricted breathing).
- ☐ Typical situations where the Non-sparking explosion-protection technique is used;
- ☐ Actions or conditions that would void the protection provided the Non-sparking technique; and
- ☐ The use of Standards in determining the requirements to which the installation of Non-sparking explosion-protected apparatus shall comply.

T5 Intrinsic safety (Ex 'i') explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Intrinsic safety (Ex 'i') technique (Examples of characteristics and design features are field devices, cables, safe area devices, earthing, entity versus integrated system concept, simple devices and interface devices and their parameters, segregation, infallible components, current and voltage limiting, creepage and clearance distances).
- ☐ Typical situations where the Intrinsic safety explosion-protection technique is used;
- ☐ Actions or conditions that would void the protection provided the Intrinsic safety;
- ☐ The use of Standards in determining the requirements to which the installation of Intrinsic safety explosion-protected apparatus shall comply.

T6 Pressurization (Ex 'p') explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Pressurization (Ex 'p') technique (Examples of characteristics

and design features are exclusion and dilution; purge periods, controlled shut down, monitoring and sources of internal release).

☐ Typical situations where the pressurization explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the pressurization technique;

☐ The use of Standards in determining the requirements to which the installation of pressurization explosion-protected apparatus shall comply.

T7 Enclosures for dusts (Ex 'tD') - explosion-protection technique encompassing:

The purpose and characteristics of the design features of apparatus and circuits protected by the techniques for dusts (Examples of characteristics and design features are for enclosures; pressurization; encapsulation; and intrinsic safety).

☐ Typical situations where the each dust explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the each dust technique;

☐ The use of Standards in determining the requirements to which the installation of dust explosion-protected apparatus shall comply.

T8 Common characteristics of explosion-protection techniques encompassing:

☐ The purposes of 'temperature classification' and 'gas grouping/apparatus grouping'.

☐ Compliance plate markings.

☐ Limitations of non-metallic or specific alloy enclosures.

☐ The purpose of conformity and certification/approval for equipment used in hazardous areas.

☐ Environmental conditions that may impact on explosion-protection techniques.

☐ The principles and applications of other and mixed explosion-protection techniques (Other techniques include encapsulation Ex 'm'; oil-immersion Ex

‘o’; powder-filling Ex ‘q’, ventilation Ex ‘v’ and special protection Ex ‘s’).

☐ Features and purpose of conduit seals and cable termination devices designed for use in hazardous areas (These include conduit seals and barrier and compression glands for cables with or without armouring, screening and/or drain wires).

UEENEEM021A Attend to breakdowns in hazardous areas - dust

Atmospheres

KS01-EM021

A

Explosion protection, certification and techniques

Evidence shall show an understanding of Ex certification schemes and techniques to accepted Standards to an extent indicated by the following aspects:

T1 Explosion-protection equipment — Ex certification schemes encompassing:

☐ Purpose and scope of certification schemes.

☐ Schemes accepted in Australia and New Zealand.

☐ Schemes commonly used in countries other than Australia and New Zealand.

☐ Processes for having equipment certified under the acceptable Ex schemes — scheme procedures; quality management requirements; conformance testing and assessment; and requirements for ongoing certification.

T2 Flameproof (Ex ‘d’) explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the flameproof (Ex ‘d’) technique. (Examples of characteristics and design features are flame paths, integrity under pressure, pressure piling, and enclosure entries).

☐ Typical situations where the flameproof explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Flameproof

technique;

☐ The use of Standards in determining the requirements to which the installation of flameproof explosion-protected apparatus shall comply.

T3 Increased safety (Ex 'e') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Increased safety (Ex 'e') technique (Examples of characteristics and design features are temperature rise, maximum power dissipation, protection devices, certified components, creepage and clearance distances, absence of sparking contacts and enclosure entries).

☐ Typical situations where the Increased safety explosion-protection technique is used;

Actions or conditions that would void the protection provided the Increased safety technique;

☐ The use of Standards in determining the requirements to which the installation of Increased safety explosion-protected apparatus shall comply.

T4 Non-sparking (Ex 'n') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Non-sparking (Ex 'n') technique (Examples of characteristics and design features are creepage and clearance distances and restricted breathing).

☐ Typical situations where the Non-sparking explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Non-sparking technique; and

☐ The use of Standards in determining the requirements to which the installation of Non-sparking explosion-protected apparatus shall comply.

T5 Intrinsic safety (Ex 'i') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Intrinsic safety (Ex 'i') technique (Examples of characteristics and design features are field devices, cables, safe area devices, earthing, entity versus integrated system concept, simple devices and interface devices and their parameters, segregation, infallible components, current and voltage limiting, creepage and clearance distances).

☐ Typical situations where the Intrinsic safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Intrinsic safety;

☐ The use of Standards in determining the requirements to which the installation of Intrinsic safety explosion-protected apparatus shall comply.

T6 Pressurization (Ex 'p') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Pressurization (Ex 'p') technique (Examples of characteristics and design features are exclusion and dilution; purge periods, controlled shut down, monitoring and sources of internal release).

☐ Typical situations where the pressurization explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the pressurization technique;

☐ The use of Standards in determining the requirements to which the installation of pressurization explosion-protected apparatus shall comply.

T7 Enclosures for dusts (Ex 'tD') - explosion-protection technique encompassing:

The purpose and characteristics of the design features of apparatus and circuits protected by the techniques for dusts (Examples of characteristics and design features are for enclosures; pressurization; encapsulation; and intrinsic safety).

- ☐ Typical situations where the each dust explosion-protection technique is used;
- ☐ Actions or conditions that would void the protection provided the each dust technique;
- ☐ The use of Standards in determining the requirements to which the installation of dust explosion-protected apparatus shall comply.

T8 Common characteristics of explosion-protection techniques encompassing:

- ☐ The purposes of 'temperature classification' and 'gas grouping/apparatus grouping'.
- ☐ Compliance plate markings.
- ☐ Limitations of non-metallic or specific alloy enclosures.
- ☐ The purpose of conformity and certification/approval for equipment used in hazardous areas.
- ☐ Environmental conditions that may impact on explosion-protection techniques.
- ☐ The principles and applications of other and mixed explosion-protection techniques (Other techniques include encapsulation Ex 'm'; oil-immersion Ex 'o'; powder-filling Ex 'q', ventilation Ex 'v' and special protection Ex 's').
- ☐ Features and purpose of conduit seals and cable termination devices designed for use in hazardous areas (These include conduit seals and barrier and compression glands for cables with or without armouring, screening and/or drain wires).

UEENEEM022A Attend to breakdowns in hazardous areas – pressurisation

KS01-EM02

2A

Explosion protection, certification and techniques

Evidence shall show an understanding of Ex certification schemes and techniques to accepted Standards to an extent indicated by the following aspects:

T1 Explosion-protection equipment — Ex certification schemes encompassing:

☐ Purpose and scope of certification schemes.

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☐ Schemes commonly used in countries other than Australia and New Zealand.

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T2 Flameproof (Ex 'd') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the flameproof (Ex 'd') technique. (Examples of characteristics and design features are flame paths, integrity under pressure, pressure piling, and enclosure entries).

☐ Typical situations where the flameproof explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Flameproof technique;

☐ The use of Standards in determining the requirements to which the installation of flameproof explosion-protected apparatus shall comply.

T3 Increased safety (Ex 'e') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Increased safety (Ex 'e') technique (Examples of characteristics and design features are temperature rise, maximum power dissipation, protection devices, certified components, creepage and clearance distances, absence of sparking contacts and enclosure entries).

☐ Typical situations where the Increased safety explosion-protection technique is used;

Actions or conditions that would void the protection provided the Increased safety technique;

☐ The use of Standards in determining the requirements to which the installation of Increased safety explosion-protected apparatus shall comply.

T4 Non-sparking (Ex 'n') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Non-sparking (Ex 'n') technique (Examples of characteristics and design features are creepage and clearance distances and restricted breathing).

☐ Typical situations where the Non-sparking explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Non-sparking technique; and

☐ The use of Standards in determining the requirements to which the installation of Non-sparking explosion-protected apparatus shall comply.

T5 Intrinsic safety (Ex 'i') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Intrinsic safety (Ex 'i') technique (Examples of characteristics and design features are field devices, cables, safe area devices, earthing, entity versus integrated system concept, simple devices and interface devices and their parameters, segregation, infallible components, current and voltage limiting, creepage and clearance distances).

☐ Typical situations where the Intrinsic safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Intrinsic safety;

☐ The use of Standards in determining the requirements to which the installation of Intrinsic safety explosion-protected apparatus shall comply.

T6 Pressurization (Ex 'p') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Pressurization (Ex 'p') technique (Examples of characteristics and design features are exclusion and dilution; purge periods, controlled shut down, monitoring and sources of internal release).

☐ Typical situations where the pressurization explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the pressurization technique;

☐ The use of Standards in determining the requirements to which the installation of pressurization explosion-protected apparatus shall comply.

T7 Enclosures for dusts (Ex 'tD') - explosion-protection technique encompassing:

The purpose and characteristics of the design features of apparatus and circuits protected by the techniques for dusts (Examples of characteristics and design features are for enclosures; pressurization; encapsulation; and intrinsic safety).

☐ Typical situations where the each dust explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the each dust technique;

☐ The use of Standards in determining the requirements to which the installation of dust explosion-protected apparatus shall comply.

T8 Common characteristics of explosion-protection techniques encompassing:

☐ The purposes of 'temperature classification' and 'gas grouping/apparatus grouping'.

☐ Compliance plate markings.

☐ Limitations of non-metallic or specific alloy enclosures.

☐ The purpose of conformity and certification/approval for equipment used in hazardous areas.

☐ Environmental conditions that may impact on explosion-protection techniques.

☐ The principles and applications of other and mixed explosion-protection techniques (Other techniques include encapsulation Ex 'm'; oil-immersion Ex 'o'; powder-filling Ex 'q', ventilation Ex 'v' and special protection Ex 's').

☐ Features and purpose of conduit seals and cable termination devices designed for use in hazardous areas (These include conduit seals and barrier and compression glands for cables with or without armouring, screening and/or drain wires).

UEENEEM027A Maintain equipment in hazardous areas - coal mining

KS01-EM027

A

Explosion protection installation and maintenance requirements

Evidence shall show an understanding of explosion protection installation and maintenance requirements to an extent indicated by the following aspects:

T1 Explosion-protection equipment — Ex certification schemes encompassing:

☐ Purpose and scope of certification schemes.

☐ Schemes accepted in Australia and New Zealand.

☐ Schemes commonly used in countries other than Australia and New Zealand.

☐ Processes for having equipment certified under the acceptable Ex schemes — scheme procedures; quality management requirements; conformance testing and assessment; and requirements for ongoing certification.

T2 Flameproof (Ex 'd') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the flameproof (Ex 'd') technique. (Examples of characteristics and design features are flame paths, integrity under pressure, pressure piling, and enclosure entries).

☐ Typical situations where the flameproof explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Flameproof technique;

☐ The use of Standards in determining the requirements to which the installation of flameproof explosion-protected apparatus shall comply.

T3 Increased safety (Ex 'e') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Increased safety (Ex 'e') technique (Examples of characteristics and design features are temperature rise, maximum power dissipation, protection devices, certified components, creepage and clearance distances, absence of sparking contacts and enclosure entries).

☐ Typical situations where the Increased safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Increased safety technique;

☐ The use of Standards in determining the requirements to which the installation of Increased safety explosion-protected apparatus shall comply.

T4 Non-sparking (Ex 'n') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Non-sparking (Ex 'n') technique (Examples of characteristics and design features are creepage and clearance distances and restricted breathing).

☐ Typical situations where the Non-sparking explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Non-sparking technique; and

☐ The use of Standards in determining the requirements to which the installation of Non-sparking explosion-protected apparatus shall comply.

T5 Intrinsic safety (Ex 'i') explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Intrinsic safety (Ex 'i') technique (Examples of characteristics and design features are field devices, cables, safe area devices, earthing, entity versus integrated system concept, simple devices and interface devices and their parameters, segregation, infallible components, current and voltage limiting, creepage and clearance distances).
- ☐ Typical situations where the Intrinsic safety explosion-protection technique is used;
- ☐ Actions or conditions that would void the protection provided the Intrinsic safety;
- ☐ The use of Standards in determining the requirements to which the installation of Intrinsic safety explosion-protected apparatus shall comply.

T6 Pressurization (Ex 'p') explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Pressurization (Ex 'p') technique (Examples of characteristics and design features are exclusion and dilution; purge periods, controlled shut down, monitoring and sources of internal release).
- ☐ Typical situations where the pressurization explosion-protection technique is used;
- ☐ Actions or conditions that would void the protection provided the pressurization technique;
- ☐ The use of Standards in determining the requirements to which the installation of pressurization explosion-protected apparatus shall comply.

T7 Enclosures for dusts (Ex 'tD') - explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the techniques for dusts (Examples of characteristics and design

features are for enclosures; pressurization; encapsulation; and intrinsic safety).

- ☐ Typical situations where the each dust explosion-protection technique is used;

- ☐ Actions or conditions that would void the protection provided the each dust technique;

- ☐ The use of Standards in determining the requirements to which the installation of dust explosion-protected apparatus shall comply.

T8 Common characteristics of explosion-protection techniques encompassing:

- ☐ The purposes of 'temperature classification' and 'gas grouping/apparatus grouping'.

- ☐ Compliance plate markings.

- ☐ Limitations of non-metallic or specific alloy enclosures.

- ☐ The purpose of conformity and certification/approval for equipment used in hazardous areas.

- ☐ Environmental conditions that may impact on explosion-protection techniques.

- ☐ The principles and applications of other and mixed explosion-protection techniques (Other techniques include encapsulation Ex 'm'; oil-immersion Ex 'o'; powder-filling Ex 'q', ventilation Ex 'v' and special protection Ex 's').

- ☐ Features and purpose of conduit seals and cable termination devices designed for use in hazardous areas (These include conduit seals and barrier and compression glands for cables with or without armouring, screening and/or drain wires).

T9 Preparation to install and maintain explosion-protected equipment in hazardous areas encompassing:

- ☐ OHS procedures to be followed when working in a hazardous area;

the significance of information provided on the certification documentation and schedules for a given item of explosion-protected equipment;

- ☐ the typical contents of a verification dossier and their purpose; and

☐ limitations in the use of tools and testing devices in hazardous areas.

T10 The relationship between explosion-protected equipment, their certification documents and required locations given in specifications and layout drawings and/or written instructions encompassing:

☐ the purpose of markings on the compliance plate and certification documents for a given item of explosion-protected equipment;

☐ matching explosion-protected equipment with certification documents and the equipment specified for an installation; and

☐ the location the items of explosion-protected equipment for an installation from specifications and layout drawings and/or instructions.

T11 Installation Standards and requirements applicable to hazardous encompassing:

☐ the wiring systems permitted and not permitted in or above hazardous areas;

☐ equipment not permitted in or above hazardous areas;

☐ the regulations and Standards to which explosion-protected equipment and wiring must be installed in a hazardous area and how these are applied; and

☐ the documentation required as a record of the installation process, including certification documentation.

T12 Maintenance procedures in hazardous areas that will ensure the integrity of the explosion-protection technique encompassing:

☐ the purpose of a maintenance schedule;

☐ the purpose and extent of 'close', 'sample' and 'periodic' inspections;

☐ the features of each explosion-protection techniques that should be included in a maintenance schedule;

☐ the impact of environmental conditions on explosion-protected equipment, including corrosion and frequency of maintenance;

☐ the documentation requirements for recording the maintenance process and

results;

☐ the use of Standards in determining the requirements with which the design of explosion-protected apparatus shall comply.

T13 Cable termination types suitable for use in hazardous areas encompassing:

☐ explosion protection features of cable terminations devices.

☐ selecting compliant cable termination devices.

T14 Terminating cables suitable for use in hazardous areas encompassing:

☐ installing conduit systems, where applicable, including seals to meet hazardous areas requirements. (Gases only.)

☐ terminating a cable with a barrier gland. (Gases only.)

☐ terminating a multipair, SWA, overall screened, individual screened cable into an enclosure.

☐ testing termination/connections of installed cables/circuits.

UEENEEM028A Maintain equipment in hazardous areas - gas

Atmospheres

KS01-EM028

A

Explosion protection installation and maintenance requirements

Evidence shall show an understanding of explosion protection installation and maintenance requirements to an extent indicated by the following aspects:

T1 Explosion-protection equipment — Ex certification schemes encompassing:

☐ Purpose and scope of certification schemes.

☐ Schemes accepted in Australia and New Zealand.

☐ Schemes commonly used in countries other than Australia and New Zealand.

☐ Processes for having equipment certified under the acceptable Ex schemes — scheme procedures; quality management requirements; conformance testing and assessment; and requirements for ongoing certification.

T2 Flameproof (Ex 'd') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the flameproof (Ex 'd') technique. (Examples of characteristics and design features are flame paths, integrity under pressure, pressure piling, and enclosure entries).

☐ Typical situations where the flameproof explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Flameproof technique;

☐ The use of Standards in determining the requirements to which the installation of flameproof explosion-protected apparatus shall comply.

T3 Increased safety (Ex 'e') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Increased safety (Ex 'e') technique (Examples of characteristics and design features are temperature rise, maximum power dissipation, protection devices, certified components, creepage and clearance distances, absence of sparking contacts and enclosure entries).

☐ Typical situations where the Increased safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Increased safety technique;

☐ The use of Standards in determining the requirements to which the installation of Increased safety explosion-protected apparatus shall comply.

T4 Non-sparking (Ex 'n') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Non-sparking (Ex 'n') technique (Examples of characteristics and design features are creepage and clearance distances and restricted

breathing).

☐ Typical situations where the Non-sparking explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Non-sparking technique; and

☐ The use of Standards in determining the requirements to which the installation of Non-sparking explosion-protected apparatus shall comply.

T5 Intrinsic safety (Ex 'i') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Intrinsic safety (Ex 'i') technique (Examples of characteristics and design features are field devices, cables, safe area devices, earthing, entity versus integrated system concept, simple devices and interface devices and their parameters, segregation, infallible components, current and voltage limiting, creepage and clearance distances).

☐ Typical situations where the Intrinsic safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Intrinsic safety;

☐ The use of Standards in determining the requirements to which the installation of Intrinsic safety explosion-protected apparatus shall comply.

T6 Pressurization (Ex 'p') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Pressurization (Ex 'p') technique (Examples of characteristics and design features are exclusion and dilution; purge periods, controlled shut down, monitoring and sources of internal release).

☐ Typical situations where the pressurization explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the pressurization technique;

☐ The use of Standards in determining the requirements to which the installation of pressurization explosion-protected apparatus shall comply.

T7 Enclosures for dusts (Ex 'tD') - explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the techniques for dusts (Examples of characteristics and design features are for enclosures; pressurization; encapsulation; and intrinsic safety).

☐ Typical situations where the each dust explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the each dust technique;

☐ The use of Standards in determining the requirements to which the installation of dust explosion-protected apparatus shall comply.

T8 Common characteristics of explosion-protection techniques encompassing:

☐ The purposes of 'temperature classification' and 'gas grouping/apparatus grouping'.

☐ Compliance plate markings.

☐ Limitations of non-metallic or specific alloy enclosures.

☐ The purpose of conformity and certification/approval for equipment used in hazardous areas.

☐ Environmental conditions that may impact on explosion-protection techniques.

☐ The principles and applications of other and mixed explosion-protection techniques (Other techniques include encapsulation Ex 'm'; oil-immersion Ex 'o'; powder-filling Ex 'q', ventilation Ex 'v' and special protection Ex 's').

☐ Features and purpose of conduit seals and cable termination devices designed for use in hazardous areas (These include conduit seals and barrier and compression glands for cables with or without armouring, screening and/or

drain wires).

T9 Preparation to install and maintain explosion-protected equipment in hazardous areas encompassing:

- ☐ OHS procedures to be followed when working in a hazardous area;
- the significance of information provided on the certification documentation and schedules for a given item of explosion-protected equipment;
- ☐ the typical contents of a verification dossier and their purpose; and
- ☐ limitations in the use of tools and testing devices in hazardous areas.

T10 The relationship between explosion-protected equipment, their certification documents and required locations given in specifications and layout drawings and/or written instructions encompassing:

- ☐ the purpose of markings on the compliance plate and certification documents for a given item of explosion-protected equipment;
- ☐ matching explosion-protected equipment with certification documents and the equipment specified for an installation; and
- ☐ the location the items of explosion-protected equipment for an installation from specifications and layout drawings and/or instructions.

T11 Installation Standards and requirements applicable to hazardous encompassing:

- ☐ the wiring systems permitted and not permitted in or above hazardous areas;
- ☐ equipment not permitted in or above hazardous areas;
- ☐ the regulations and Standards to which explosion-protected equipment and wiring must be installed in a hazardous area and how these are applied; and
- ☐ the documentation required as a record of the installation process, including certification documentation.

T12 Maintenance procedures in hazardous areas that will ensure the integrity of the explosion-protection technique encompassing:

- ☐ the purpose of a maintenance schedule;
- ☐ the purpose and extent of 'close', 'sample' and 'periodic' inspections;
- ☐ the features of each explosion-protection techniques that should be included in a maintenance schedule;
- ☐ the impact of environmental conditions on explosion-protected equipment, including corrosion and frequency of maintenance;
- ☐ the documentation requirements for recording the maintenance process and results;
- ☐ the use of Standards in determining the requirements with which the design of explosion-protected apparatus shall comply.

T13 Cable termination types suitable for use in hazardous areas encompassing:

- ☐ explosion protection features of cable terminations devices.
- ☐ selecting compliant cable termination devices.

T14 Terminating cables suitable for use in hazardous areas encompassing:

- ☐ installing conduit systems, where applicable, including seals to meet hazardous areas requirements. (Gases only.)
- ☐ terminating a cable with a barrier gland. (Gases only.)
- ☐ terminating a multipair, SWA, overall screened, individual screened cable into an enclosure.
- ☐ testing termination/connections of installed cables/circuits.

UEENEEM029A Maintain equipment in hazardous areas - dust

Atmospheres

KS01-EM029

A

Explosion protection installation and maintenance requirements

Evidence shall show an understanding of explosion protection installation and maintenance requirements to an extent indicated by the following aspects:

T1 Explosion-protection equipment — Ex certification schemes encompassing:

- ☐ Purpose and scope of certification schemes.
- ☐ Schemes accepted in Australia and New Zealand.
- ☐ Schemes commonly used in countries other than Australia and New Zealand.
- ☐ Processes for having equipment certified under the acceptable Ex schemes — scheme procedures; quality management requirements; conformance testing and assessment; and requirements for ongoing certification.

T2 Flameproof (Ex 'd') explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the flameproof (Ex 'd') technique. (Examples of characteristics and design features are flame paths, integrity under pressure, pressure piling, and enclosure entries).

Typical situations where the flameproof explosion-protection technique is used;

- ☐ Actions or conditions that would void the protection provided the Flameproof technique;
- ☐ The use of Standards in determining the requirements to which the installation of flameproof explosion-protected apparatus shall comply.

T3 Increased safety (Ex 'e') explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Increased safety (Ex 'e') technique (Examples of characteristics and design features are temperature rise, maximum power dissipation, protection devices, certified components, creepage and clearance distances, absence of sparking contacts and enclosure entries).
- ☐ Typical situations where the Increased safety explosion-protection technique is used;
- ☐ Actions or conditions that would void the protection provided the Increased

safety technique;

☐ The use of Standards in determining the requirements to which the installation of Increased safety explosion-protected apparatus shall comply.

T4 Non-sparking (Ex 'n') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Non-sparking (Ex 'n') technique (Examples of characteristics and design features are creepage and clearance distances and restricted breathing).

☐ Typical situations where the Non-sparking explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Non-sparking technique; and

☐ The use of Standards in determining the requirements to which the installation of Non-sparking explosion-protected apparatus shall comply.

T5 Intrinsic safety (Ex 'i') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Intrinsic safety (Ex 'i') technique (Examples of characteristics and design features are field devices, cables, safe area devices, earthing, entity versus integrated system concept, simple devices and interface devices and their parameters, segregation, infallible components, current and voltage limiting, creepage and clearance distances).

☐ Typical situations where the Intrinsic safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Intrinsic safety;

☐ The use of Standards in determining the requirements to which the installation of Intrinsic safety explosion-protected apparatus shall comply.

T6 Pressurization (Ex 'p') explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Pressurization (Ex 'p') technique (Examples of characteristics and design features are exclusion and dilution; purge periods, controlled shut down, monitoring and sources of internal release).
- ☐ Typical situations where the pressurization explosion-protection technique is used;
- ☐ Actions or conditions that would void the protection provided the pressurization technique;
- ☐ The use of Standards in determining the requirements to which the installation of pressurization explosion-protected apparatus shall comply.

T7 Enclosures for dusts (Ex 'tD') - explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the techniques for dusts (Examples of characteristics and design features are for enclosures; pressurization; encapsulation; and intrinsic safety).
- ☐ Typical situations where the each dust explosion-protection technique is used;
- ☐ Actions or conditions that would void the protection provided the each dust technique;
- ☐ The use of Standards in determining the requirements to which the installation of dust explosion-protected apparatus shall comply.

T8 Common characteristics of explosion-protection techniques encompassing:

- ☐ The purposes of 'temperature classification' and 'gas grouping/apparatus grouping'.
- ☐ Compliance plate markings.
- ☐ Limitations of non-metallic or specific alloy enclosures.
- ☐ The purpose of conformity and certification/approval for equipment used in hazardous areas.

☐ Environmental conditions that may impact on explosion-protection techniques.

☐ The principles and applications of other and mixed explosion-protection techniques (Other techniques include encapsulation Ex 'm'; oil-immersion Ex 'o'; powder-filling Ex 'q', ventilation Ex 'v' and special protection Ex 's').

☐ Features and purpose of conduit seals and cable termination devices designed for use in hazardous areas (These include conduit seals and barrier and compression glands for cables with or without armouring, screening and/or drain wires).

T9 Preparation to install and maintain explosion-protected equipment in hazardous areas encompassing:

☐ OHS procedures to be followed when working in a hazardous area; the significance of information provided on the certification documentation and schedules for a given item of explosion-protected equipment;

☐ the typical contents of a verification dossier and their purpose; and

☐ limitations in the use of tools and testing devices in hazardous areas.

T10 The relationship between explosion-protected equipment, their certification documents and required locations given in specifications and layout drawings and/or written instructions encompassing:

☐ the purpose of markings on the compliance plate and certification documents for a given item of explosion-protected equipment;

☐ matching explosion-protected equipment with certification documents and the equipment specified for an installation; and

☐ the location the items of explosion-protected equipment for an installation from specifications and layout drawings and/or instructions.

T11 Installation Standards and requirements applicable to hazardous encompassing:

☐ the wiring systems permitted and not permitted in or above hazardous areas;

- ☐ equipment not permitted in or above hazardous areas;
- ☐ the regulations and Standards to which explosion-protected equipment and wiring must be installed in a hazardous area and how these are applied; and
- ☐ the documentation required as a record of the installation process, including certification documentation.

T12 Maintenance procedures in hazardous areas that will ensure the integrity of the explosion-protection technique encompassing:

- ☐ the purpose of a maintenance schedule;
- ☐ the purpose and extent of 'close', 'sample' and 'periodic' inspections;
- ☐ the features of each explosion-protection techniques that should be included in a maintenance schedule;
- ☐ the impact of environmental conditions on explosion-protected equipment, including corrosion and frequency of maintenance;
- ☐ the documentation requirements for recording the maintenance process and results;
- ☐ the use of Standards in determining the requirements with which the design of explosion-protected apparatus shall comply.

T13 Cable termination types suitable for use in hazardous areas encompassing:

- ☐ explosion protection features of cable terminations devices.
- ☐ selecting compliant cable termination devices.

T14 Terminating cables suitable for use in hazardous areas encompassing:

- ☐ installing conduit systems, where applicable, including seals to meet hazardous areas requirements. (Gases only.)
- ☐ terminating a cable with a barrier gland. (Gases only.)
- ☐ terminating a multipair, SWA, overall screened, individual screened cable into an enclosure.
- ☐ testing termination/connections of installed cables/circuits.

UEENEEM030A Maintain equipment in hazardous areas – pressurisation

KS01-EM030A Explosion protection installation and maintenance requirements

Evidence shall show an understanding of explosion protection installation and maintenance requirements to an extent indicated by the following aspects:

T1 Explosion-protection equipment — Ex certification schemes encompassing:

- ☐ Purpose and scope of certification schemes.
- ☐ Schemes accepted in Australia and New Zealand.
- ☐ Schemes commonly used in countries other than Australia and New Zealand.
- ☐ Processes for having equipment certified under the acceptable Ex schemes — scheme procedures; quality management requirements; conformance testing and assessment; and requirements for ongoing certification.

T2 Flameproof (Ex 'd') explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the flameproof (Ex 'd') technique. (Examples of characteristics and design features are flame paths, integrity under pressure, pressure piling, and enclosure entries).
- ☐ Typical situations where the flameproof explosion-protection technique is used;

Actions or conditions that would void the protection provided the Flameproof technique;

- ☐ The use of Standards in determining the requirements to which the installation of flameproof explosion-protected apparatus shall comply.

T3 Increased safety (Ex 'e') explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Increased safety (Ex 'e') technique (Examples of characteristics and design features are temperature rise, maximum power dissipation, protection devices, certified components, creepage and clearance

distances, absence of sparking contacts and enclosure entries).

☐ Typical situations where the Increased safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Increased safety technique;

☐ The use of Standards in determining the requirements to which the installation of Increased safety explosion-protected apparatus shall comply.

T4 Non-sparking (Ex 'n') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Non-sparking (Ex 'n') technique (Examples of characteristics and design features are creepage and clearance distances and restricted breathing).

☐ Typical situations where the Non-sparking explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Non-sparking technique; and

☐ The use of Standards in determining the requirements to which the installation of Non-sparking explosion-protected apparatus shall comply.

T5 Intrinsic safety (Ex 'i') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Intrinsic safety (Ex 'i') technique (Examples of characteristics and design features are field devices, cables, safe area devices, earthing, entity versus integrated system concept, simple devices and interface devices and their parameters, segregation, infallible components, current and voltage limiting, creepage and clearance distances).

☐ Typical situations where the Intrinsic safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Intrinsic safety;

☐ The use of Standards in determining the requirements to which the installation of Intrinsic safety explosion-protected apparatus shall comply.

REQUIRED SKILLS AND KNOWLEDGE

T6 Pressurization (Ex 'p') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Pressurization (Ex 'p') technique (Examples of characteristics and design features are exclusion and dilution; purge periods, controlled shut down, monitoring and sources of internal release).

☐ Typical situations where the pressurization explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the pressurization technique;

☐ The use of Standards in determining the requirements to which the installation of pressurization explosion-protected apparatus shall comply.

T7 Enclosures for dusts (Ex 'tD') - explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the techniques for dusts (Examples of characteristics and design features are for enclosures; pressurization; encapsulation; and intrinsic safety).

☐ Typical situations where the each dust explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the each dust technique;

☐ The use of Standards in determining the requirements to which the installation of dust explosion-protected apparatus shall comply.

T8 Common characteristics of explosion-protection techniques encompassing:

☐ The purposes of 'temperature classification' and 'gas grouping/apparatus

grouping’.

- ☐ Compliance plate markings.

- ☐ Limitations of non-metallic or specific alloy enclosures.

- ☐ The purpose of conformity and certification/approval for equipment used in hazardous areas.

- ☐ Environmental conditions that may impact on explosion-protection techniques.

- ☐ The principles and applications of other and mixed explosion-protection techniques (Other techniques include encapsulation Ex ‘m’; oil-immersion Ex ‘o’; powder-filling Ex ‘q’, ventilation Ex ‘v’ and special protection Ex ‘s’).

- ☐ Features and purpose of conduit seals and cable termination devices designed for use in hazardous areas (These include conduit seals and barrier and compression glands for cables with or without armouring, screening and/or drain wires).

T9 Preparation to install and maintain explosion-protected equipment in hazardous areas encompassing:

- ☐ OHS procedures to be followed when working in a hazardous area;

- ☐ the significance of information provided on the certification documentation and schedules for a given item of explosion-protected equipment;

- ☐ the typical contents of a verification dossier and their purpose; and

- ☐ limitations in the use of tools and testing devices in hazardous areas.

T10 The relationship between explosion-protected equipment, their certification documents and required locations given in specifications and layout drawings and/or written instructions encompassing:

- ☐ the purpose of markings on the compliance plate and certification documents for a given item of explosion-protected equipment;

- ☐ matching explosion-protected equipment with certification documents and the equipment specified for an installation; and

☐ the location the items of explosion-protected equipment for an installation from specifications and layout drawings and/or instructions.

T11 Installation Standards and requirements applicable to hazardous encompassing:

- ☐ the wiring systems permitted and not permitted in or above hazardous areas;
- ☐ equipment not permitted in or above hazardous areas;
- ☐ the regulations and Standards to which explosion-protected equipment and wiring must be installed in a hazardous area and how these are applied; and
- ☐ the documentation required as a record of the installation process, including certification documentation.

T12 Maintenance procedures in hazardous areas that will ensure the integrity of the explosion-protection technique encompassing:

- ☐ the purpose of a maintenance schedule;
- ☐ the purpose and extent of 'close', 'sample' and 'periodic' inspections;
- ☐ the features of each explosion-protection techniques that should be included in a maintenance schedule;
- ☐ the impact of environmental conditions on explosion-protected equipment, including corrosion and frequency of maintenance;
- ☐ the documentation requirements for recording the maintenance process and results;
- ☐ the use of Standards in determining the requirements with which the design of explosion-protected apparatus shall comply.

T13 Cable termination types suitable for use in hazardous areas encompassing:

- ☐ explosion protection features of cable terminations devices.
- ☐ selecting compliant cable termination devices.

T14 Terminating cables suitable for use in hazardous areas encompassing:

- ☐ installing conduit systems, where applicable, including seals to meet hazardous

areas requirements. (Gases only.)

terminating a cable with a barrier gland. (Gases only.)

☐ terminating a multipair, SWA, overall screened, individual screened cable into an enclosure.

☐ testing termination/connections of installed cables/circuits.

UEENEEM047A Develop and manage maintenance programs for hazardous areas electrical equipment - coal mining

KS01-EM047

A

Hazardous areas maintenance management

Evidence shall show an understanding of hazardous areas maintenance management to an extent indicated by the following aspects:

T1 Explosion-protection equipment — Ex certification schemes encompassing:

☐ Purpose and scope of certification schemes.

☐ Schemes accepted in Australia and New Zealand.

☐ Schemes commonly used in countries other than Australia and New Zealand.

☐ Processes for having equipment certified under the acceptable Ex schemes — scheme procedures; quality management requirements; conformance testing and assessment; and requirements for ongoing certification.

T2 Flameproof (Ex 'd') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the flameproof (Ex 'd') technique. (Examples of characteristics and design features are flame paths, integrity under pressure, pressure piling, and enclosure entries).

☐ Typical situations where the flameproof explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Flameproof

technique;

☐ The use of Standards in determining the requirements to which the installation of flameproof explosion-protected apparatus shall comply.

T3 Increased safety (Ex 'e') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Increased safety (Ex 'e') technique (Examples of characteristics and design features are temperature rise, maximum power dissipation, protection devices, certified components, creepage and clearance distances, absence of sparking contacts and enclosure entries).

☐ Typical situations where the Increased safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Increased safety technique;

☐ The use of Standards in determining the requirements to which the installation of Increased safety explosion-protected apparatus shall comply.

T4 Non-sparking (Ex 'n') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Non-sparking (Ex 'n') technique (Examples of characteristics and design features are creepage and clearance distances and restricted breathing).

☐ Typical situations where the Non-sparking explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Non-sparking technique; and

☐ The use of Standards in determining the requirements to which the installation of Non-sparking explosion-protected apparatus shall comply.

T5 Intrinsic safety (Ex 'i') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Intrinsic safety (Ex 'i') technique (Examples of characteristics and design features are field devices, cables, safe area devices, earthing, entity versus integrated system concept, simple devices and interface devices and their parameters, segregation, infallible components, current and voltage limiting, creepage and clearance distances).

☐ Typical situations where the Intrinsic safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Intrinsic safety;

☐ The use of Standards in determining the requirements to which the installation of Intrinsic safety explosion-protected apparatus shall comply.

T6 Pressurization (Ex 'p') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Pressurization (Ex 'p') technique (Examples of characteristics and design features are exclusion and dilution; purge periods, controlled shut down, monitoring and sources of internal release).

☐ Typical situations where the pressurization explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the pressurization technique;

☐ The use of Standards in determining the requirements to which the installation of pressurization explosion-protected apparatus shall comply.

T7 Enclosures for dusts (Ex 'tD') - explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the techniques for dusts (Examples of characteristics and design features are for enclosures; pressurization; encapsulation; and intrinsic safety).

- ☐ Typical situations where the each dust explosion-protection technique is used;
- ☐ Actions or conditions that would void the protection provided the each dust technique;
- ☐ The use of Standards in determining the requirements to which the installation of dust explosion-protected apparatus shall comply.

T8 Common characteristics of explosion-protection techniques encompassing:

- ☐ The purposes of 'temperature classification' and 'gas grouping/apparatus grouping'.
- ☐ Compliance plate markings.
- ☐ Limitations of non-metallic or specific alloy enclosures.

The purpose of conformity and certification/approval for equipment used in hazardous areas.

- ☐ Environmental conditions that may impact on explosion-protection techniques.
- ☐ The principles and applications of other and mixed explosion-protection techniques (Other techniques include encapsulation Ex 'm'; oil-immersion Ex 'o'; powder-filling Ex 'q', ventilation Ex 'v' and special protection Ex 's').
- ☐ Features and purpose of conduit seals and cable termination devices designed for use in hazardous areas (These include conduit seals and barrier and compression glands for cables with or without armouring, screening and/or drain wires).

T9 Maintenance procedures in hazardous areas that will ensure the integrity of the explosion-protection technique encompassing:

- ☐ the purpose of a maintenance schedule;
- ☐ the purpose and extent of 'close', 'sample' and 'periodic' inspections;
- ☐ the features of each explosion-protection techniques that should be included in a maintenance schedule;
- ☐ the impact of environmental conditions on explosion-protected equipment,

including corrosion and frequency of maintenance;

- ▣ the documentation requirements for recording the maintenance process and results; and

- ▣ the use of Standards in determining the requirements with which the design of explosion-protected apparatus shall comply.

T10 The responsibilities of a person managing activities or a site related to a hazardous area, encompassing:

- ▣ OHS procedures that are to be established;

- ▣ responsibilities for ensuring that a hazardous area is safe; and

- ▣ responsibilities and processes for establishing and maintaining a verification dossier.

T11 Explosion-protection strategies in relation to a hazardous area, encompassing:

- ▣ the process of classifying a hazardous area;

- ▣ various ways in which electrical systems /apparatus can be treated to prevent them from becoming an ignition source; and

- ▣ the cost of the different ways of treating electrical systems/apparatus associated with hazardous areas.

T12 Requirements for the maintenance of electrical systems associated with hazardous areas, encompassing:

- ▣ the type and grades of inspection of hazardous areas;

- ▣ maintenance programs for electrical explosion-protected systems/apparatus;

And documentation requirements associated with maintenance procedures.

BAE 632 Electrical Wiring in Hazardous Areas

UEENEEM023A Install explosion-protected equipment and wiring systems

- coal mining

KS01-EM023

A

Explosion protection installation and maintenance requirements

Evidence shall show an understanding of explosion protection installation and maintenance requirements to an extent indicated by the following aspects:

T1 Explosion-protection equipment — Ex certification schemes encompassing:

- ☐ Purpose and scope of certification schemes.
- ☐ Schemes accepted in Australia and New Zealand.
- ☐ Schemes commonly used in countries other than Australia and New Zealand.
- ☐ Processes for having equipment certified under the acceptable Ex schemes — scheme procedures; quality management requirements; conformance testing and assessment; and requirements for ongoing certification.

T2 Flameproof (Ex 'd') explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the flameproof (Ex 'd') technique. (Examples of characteristics and design features are flame paths, integrity under pressure, pressure piling, and enclosure entries).
- ☐ Typical situations where the flameproof explosion-protection technique is used;
- ☐ Actions or conditions that would void the protection provided the Flameproof technique;
- ☐ The use of Standards in determining the requirements to which the installation of flameproof explosion-protected apparatus shall comply.

T3 Increased safety (Ex 'e') explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Increased safety (Ex 'e') technique (Examples of characteristics and design features are temperature rise, maximum power dissipation, protection devices, certified components, creepage and clearance distances, absence of sparking contacts and enclosure entries).

☐ Typical situations where the Increased safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Increased safety technique;

☐ The use of Standards in determining the requirements to which the installation of Increased safety explosion-protected apparatus shall comply.

T4 Non-sparking (Ex 'n') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Non-sparking (Ex 'n') technique (Examples of characteristics and design features are creepage and clearance distances and restricted breathing).

☐ Typical situations where the Non-sparking explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Non-sparking technique; and

☐ The use of Standards in determining the requirements to which the installation of Non-sparking explosion-protected apparatus shall comply.

T5 Intrinsic safety (Ex 'i') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Intrinsic safety (Ex 'i') technique (Examples of characteristics and design features are field devices, cables, safe area devices, earthing, entity versus integrated system concept, simple devices and interface devices and their parameters, segregation, infallible components, current and voltage limiting, creepage and clearance distances).

☐ Typical situations where the Intrinsic safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Intrinsic

safety;

☐ The use of Standards in determining the requirements to which the installation of Intrinsic safety explosion-protected apparatus shall comply.

T6 Pressurization (Ex 'p') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Pressurization (Ex 'p') technique (Examples of characteristics and design features are exclusion and dilution; purge periods, controlled shut down, monitoring and sources of internal release).

☐ Typical situations where the pressurization explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the pressurization technique;

The use of Standards in determining the requirements to which the installation of pressurization explosion-protected apparatus shall comply.

T7 Enclosures for dusts (Ex 'tD') - explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the techniques for dusts (Examples of characteristics and design features are for enclosures; pressurization; encapsulation; and intrinsic safety).

☐ Typical situations where the each dust explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the each dust technique;

☐ The use of Standards in determining the requirements to which the installation of dust explosion-protected apparatus shall comply.

T8 Common characteristics of explosion-protection techniques encompassing:

☐ The purposes of 'temperature classification' and 'gas grouping/apparatus grouping'.

☐ Compliance plate markings.

- ☐ Limitations of non-metallic or specific alloy enclosures.
- ☐ The purpose of conformity and certification/approval for equipment used in hazardous areas.
- ☐ Environmental conditions that may impact on explosion-protection techniques.
- ☐ The principles and applications of other and mixed explosion-protection techniques (Other techniques include encapsulation Ex 'm'; oil-immersion Ex 'o'; powder-filling Ex 'q', ventilation Ex 'v' and special protection Ex 's').
- ☐ Features and purpose of conduit seals and cable termination devices designed for use in hazardous areas (These include conduit seals and barrier and compression glands for cables with or without armouring, screening and/or drain wires).

T9 Preparation to install and maintain explosion-protected equipment in hazardous areas encompassing:

- ☐ OHS procedures to be followed when working in a hazardous area;
- ☐ the significance of information provided on the certification documentation and schedules for a given item of explosion-protected equipment;
- ☐ the typical contents of a verification dossier and their purpose; and
- ☐ limitations in the use of tools and testing devices in hazardous areas.

T10 The relationship between explosion-protected equipment, their certification documents and required locations given in specifications and layout drawings and/or written instructions encompassing:

- ☐ the purpose of markings on the compliance plate and certification documents for a given item of explosion-protected equipment;
- ☐ matching explosion-protected equipment with certification documents and the equipment specified for an installation; and
- ☐ the location the items of explosion-protected equipment for an installation from specifications and layout drawings and/or instructions.

T11 Installation Standards and requirements applicable to hazardous

encompassing:

- ☐ the wiring systems permitted and not permitted in or above hazardous areas;
- ☐ equipment not permitted in or above hazardous areas;
- ☐ the regulations and Standards to which explosion-protected equipment and wiring must be installed in a hazardous area and how these are applied; and
- ☐ the documentation required as a record of the installation process, including certification documentation.

T12 Maintenance procedures in hazardous areas that will ensure the integrity of the explosion-protection technique encompassing:

- ☐ the purpose of a maintenance schedule;
- ☐ the purpose and extent of 'close', 'sample' and 'periodic' inspections;
- ☐ the features of each explosion-protection techniques that should be included in a maintenance schedule;
- ☐ the impact of environmental conditions on explosion-protected equipment, including corrosion and frequency of maintenance;
- ☐ the documentation requirements for recording the maintenance process and results;
- ☐ the use of Standards in determining the requirements with which the design of explosion-protected apparatus shall comply.

T13 Cable termination types suitable for use in hazardous areas encompassing:

- ☐ explosion protection features of cable terminations devices.
- ☐ selecting compliant cable termination devices.

T14 Terminating cables suitable for use in hazardous areas encompassing:

- ☐ installing conduit systems, where applicable, including seals to meet hazardous areas requirements. (Gases only.)
- ☐ terminating a cable with a barrier gland. (Gases only.)

☐ terminating a multipair, SWA, overall screened, individual screened cable into an enclosure.

☐ testing termination/connections of installed cables/circuits.

UEENEEM025A Install explosion-protected equipment and wiring systems

- dust atmospheres

KS01-EM02

5A

Explosion protection installation and maintenance requirements

Evidence shall show an understanding of explosion protection installation and maintenance requirements to an extent indicated by the following aspects:

T1 Explosion-protection equipment — Ex certification schemes encompassing:

☐ Purpose and scope of certification schemes.

☐ Schemes accepted in Australia and New Zealand.

☐ Schemes commonly used in countries other than Australia and New Zealand.

☐ Processes for having equipment certified under the acceptable Ex schemes — scheme procedures; quality management requirements; conformance testing and assessment; and requirements for ongoing certification.

T2 Flameproof (Ex 'd') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the flameproof (Ex 'd') technique. (Examples of characteristics and design features are flame paths, integrity under pressure, pressure piling, and enclosure entries).

☐ Typical situations where the flameproof explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Flameproof technique;

☐ The use of Standards in determining the requirements to which the installation

of flameproof explosion-protected apparatus shall comply.

T3 Increased safety (Ex 'e') explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Increased safety (Ex 'e') technique (Examples of characteristics and design features are temperature rise, maximum power dissipation, protection devices, certified components, creepage and clearance distances, absence of sparking contacts and enclosure entries).
- ☐ Typical situations where the Increased safety explosion-protection technique is used;
- ☐ Actions or conditions that would void the protection provided the Increased safety technique;
- ☐ The use of Standards in determining the requirements to which the installation of Increased safety explosion-protected apparatus shall comply.

T4 Non-sparking (Ex 'n') explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Non-sparking (Ex 'n') technique (Examples of characteristics and design features are creepage and clearance distances and restricted breathing).
- ☐ Typical situations where the Non-sparking explosion-protection technique is used;
- ☐ Actions or conditions that would void the protection provided the Non-sparking technique; and
- ☐ The use of Standards in determining the requirements to which the installation of Non-sparking explosion-protected apparatus shall comply.

T5 Intrinsic safety (Ex 'i') explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Intrinsic safety (Ex 'i') technique (Examples of characteristics

and design features are field devices, cables, safe area devices, earthing, entity versus integrated system concept, simple devices and interface devices and their parameters, segregation, infallible components, current and voltage limiting, creepage and clearance distances).

☐ Typical situations where the Intrinsic safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Intrinsic safety;

☐ The use of Standards in determining the requirements to which the installation of Intrinsic safety explosion-protected apparatus shall comply.

T6 Pressurization (Ex 'p') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Pressurization (Ex 'p') technique (Examples of characteristics and design features are exclusion and dilution; purge periods, controlled shut down, monitoring and sources of internal release).

☐ Typical situations where the pressurization explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the pressurization technique;

The use of Standards in determining the requirements to which the installation of pressurization explosion-protected apparatus shall comply.

T7 Enclosures for dusts (Ex 'tD') - explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the techniques for dusts (Examples of characteristics and design features are for enclosures; pressurization; encapsulation; and intrinsic safety).

☐ Typical situations where the each dust explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the each dust

technique;

☐ The use of Standards in determining the requirements to which the installation of dust explosion-protected apparatus shall comply.

T8 Common characteristics of explosion-protection techniques encompassing:

☐ The purposes of 'temperature classification' and 'gas grouping/apparatus grouping'.

☐ Compliance plate markings.

☐ Limitations of non-metallic or specific alloy enclosures.

☐ The purpose of conformity and certification/approval for equipment used in hazardous areas.

☐ Environmental conditions that may impact on explosion-protection techniques.

☐ The principles and applications of other and mixed explosion-protection techniques (Other techniques include encapsulation Ex 'm'; oil-immersion Ex 'o'; powder-filling Ex 'q', ventilation Ex 'v' and special protection Ex 's').

☐ Features and purpose of conduit seals and cable termination devices designed for use in hazardous areas (These include conduit seals and barrier and compression glands for cables with or without armouring, screening and/or drain wires).

T9 Preparation to install and maintain explosion-protected equipment in hazardous areas encompassing:

☐ OHS procedures to be followed when working in a hazardous area;

☐ the significance of information provided on the certification documentation and schedules for a given item of explosion-protected equipment;

☐ the typical contents of a verification dossier and their purpose; and

☐ limitations in the use of tools and testing devices in hazardous areas.

T10 The relationship between explosion-protected equipment, their certification documents and required locations given in specifications and layout drawings and/or

written instructions encompassing:

- ☐ the purpose of markings on the compliance plate and certification documents for a given item of explosion-protected equipment;
- ☐ matching explosion-protected equipment with certification documents and the equipment specified for an installation; and
- ☐ the location the items of explosion-protected equipment for an installation from specifications and layout drawings and/or instructions.

T11 Installation Standards and requirements applicable to hazardous encompassing:

- ☐ the wiring systems permitted and not permitted in or above hazardous areas;
- ☐ equipment not permitted in or above hazardous areas;
- ☐ the regulations and Standards to which explosion-protected equipment and wiring must be installed in a hazardous area and how these are applied; and
- ☐ the documentation required as a record of the installation process, including certification documentation.

T12 Maintenance procedures in hazardous areas that will ensure the integrity of the explosion-protection technique encompassing:

- ☐ the purpose of a maintenance schedule;
- ☐ the purpose and extent of 'close', 'sample' and 'periodic' inspections;
- ☐ the features of each explosion-protection techniques that should be included in a maintenance schedule;
- ☐ the impact of environmental conditions on explosion-protected equipment, including corrosion and frequency of maintenance;
- ☐ the documentation requirements for recording the maintenance process and results;
- ☐ the use of Standards in determining the requirements with which the design of explosion-protected apparatus shall comply.

T13 Cable termination types suitable for use in hazardous areas encompassing:

- ☐ explosion protection features of cable terminations devices.
- ☐ selecting compliant cable termination devices.

T14 Terminating cables suitable for use in hazardous areas encompassing:

- ☐ installing conduit systems, where applicable, including seals to meet hazardous areas requirements. (Gases only.)
- ☐ terminating a cable with a barrier gland. (Gases only.)
- ☐ terminating a multipair, SWA, overall screened, individual screened cable into an enclosure.
- ☐ testing termination/connections of installed cables/circuits.

UEENEEM026A Install explosion-protected equipment and wiring systems
- pressurisation

KS01-EM02

6A

Explosion protection installation and maintenance requirements

Evidence shall show an understanding of explosion protection installation and maintenance requirements to an extent indicated by the following aspects:

T1 Explosion-protection equipment — Ex certification schemes encompassing:

- ☐ Purpose and scope of certification schemes.
- ☐ Schemes accepted in Australia and New Zealand.
- ☐ Schemes commonly used in countries other than Australia and New Zealand.
- ☐ Processes for having equipment certified under the acceptable Ex schemes — scheme procedures; quality management requirements; conformance testing and assessment; and requirements for ongoing certification.

T2 Flameproof (Ex 'd') explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the flameproof (Ex 'd') technique. (Examples of characteristics

and design features are flame paths, integrity under pressure, pressure piling, and enclosure entries).

☐ Typical situations where the flameproof explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Flameproof technique;

☐ The use of Standards in determining the requirements to which the installation of flameproof explosion-protected apparatus shall comply.

T3 Increased safety (Ex 'e') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Increased safety (Ex 'e') technique (Examples of characteristics and design features are temperature rise, maximum power dissipation, protection devices, certified components, creepage and clearance distances, absence of sparking contacts and enclosure entries).

Typical situations where the Increased safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Increased safety technique;

☐ The use of Standards in determining the requirements to which the installation of Increased safety explosion-protected apparatus shall comply.

T4 Non-sparking (Ex 'n') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Non-sparking (Ex 'n') technique (Examples of characteristics and design features are creepage and clearance distances and restricted breathing).

☐ Typical situations where the Non-sparking explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the

Non-sparking technique; and

☐ The use of Standards in determining the requirements to which the installation of Non-sparking explosion-protected apparatus shall comply.

T5 Intrinsic safety (Ex 'i') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Intrinsic safety (Ex 'i') technique (Examples of characteristics and design features are field devices, cables, safe area devices, earthing, entity versus integrated system concept, simple devices and interface devices and their parameters, segregation, infallible components, current and voltage limiting, creepage and clearance distances).

☐ Typical situations where the Intrinsic safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Intrinsic safety;

☐ The use of Standards in determining the requirements to which the installation of Intrinsic safety explosion-protected apparatus shall comply.

T6 Pressurization (Ex 'p') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Pressurization (Ex 'p') technique (Examples of characteristics and design features are exclusion and dilution; purge periods, controlled shut down, monitoring and sources of internal release).

☐ Typical situations where the pressurization explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the pressurization technique;

☐ The use of Standards in determining the requirements to which the installation

of pressurization explosion-protected apparatus shall comply.

T7 Enclosures for dusts (Ex 'tD') - explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the techniques for dusts (Examples of characteristics and design features are for enclosures; pressurization; encapsulation; and intrinsic safety).
- ☐ Typical situations where the each dust explosion-protection technique is used;
- ☐ Actions or conditions that would void the protection provided the each dust technique;
- ☐ The use of Standards in determining the requirements to which the installation of dust explosion-protected apparatus shall comply.

T8 Common characteristics of explosion-protection techniques encompassing:

- ☐ The purposes of 'temperature classification' and 'gas grouping/apparatus grouping'.
- ☐ Compliance plate markings.
- ☐ Limitations of non-metallic or specific alloy enclosures.
- ☐ The purpose of conformity and certification/approval for equipment used in hazardous areas.
- ☐ Environmental conditions that may impact on explosion-protection techniques.
- ☐ The principles and applications of other and mixed explosion-protection techniques (Other techniques include encapsulation Ex 'm'; oil-immersion Ex 'o'; powder-filling Ex 'q', ventilation Ex 'v' and special protection Ex 's').
- ☐ Features and purpose of conduit seals and cable termination devices designed for use in hazardous areas (These include conduit seals and barrier and compression glands for cables with or without armouring, screening and/or drain wires).

T9 Preparation to install and maintain explosion-protected equipment in hazardous areas encompassing:

- ☐ OHS procedures to be followed when working in a hazardous area;
- ☐ the significance of information provided on the certification documentation and schedules for a given item of explosion-protected equipment;
- ☐ the typical contents of a verification dossier and their purpose; and
- ☐ limitations in the use of tools and testing devices in hazardous areas.

T10 The relationship between explosion-protected equipment, their certification documents and required locations given in specifications and layout drawings and/or written instructions encompassing:

- ☐ the purpose of markings on the compliance plate and certification documents for a given item of explosion-protected equipment;
- ☐ matching explosion-protected equipment with certification documents and the equipment specified for an installation; and
- the location the items of explosion-protected equipment for an installation from specifications and layout drawings and/or instructions.

T11 Installation Standards and requirements applicable to hazardous encompassing:

- ☐ the wiring systems permitted and not permitted in or above hazardous areas;
- ☐ equipment not permitted in or above hazardous areas;
- ☐ the regulations and Standards to which explosion-protected equipment and wiring must be installed in a hazardous area and how these are applied; and
- ☐ the documentation required as a record of the installation process, including certification documentation.

T12 Maintenance procedures in hazardous areas that will ensure the integrity of the explosion-protection technique encompassing:

- ☐ the purpose of a maintenance schedule;
- ☐ the purpose and extent of 'close', 'sample' and 'periodic' inspections;
- ☐ the features of each explosion-protection techniques that should be included in

a maintenance schedule;

- ☐ the impact of environmental conditions on explosion-protected equipment, including corrosion and frequency of maintenance;
- ☐ the documentation requirements for recording the maintenance process and results;
- ☐ the use of Standards in determining the requirements with which the design of explosion-protected apparatus shall comply.

T13 Cable termination types suitable for use in hazardous areas encompassing:

- ☐ explosion protection features of cable terminations devices.
- ☐ selecting compliant cable termination devices.

T14 Terminating cables suitable for use in hazardous areas encompassing:

- ☐ installing conduit systems, where applicable, including seals to meet hazardous areas requirements. (Gases only.)
- ☐ terminating a cable with a barrier gland. (Gases only.)
- ☐ terminating a multipair, SWA, overall screened, individual screened cable into an enclosure.
- ☐ testing termination/connections of installed cables/circuits.

BAE633 Safety Audit in Hazardous Areas

UEENEEM036A Conduct a conformity assessment of explosion-protected equipment - gas atmospheres

KS01-EM036

A

Explosion-protected equipment conformity assessment

Evidence shall show an understanding of explosion-protected equipment conformity assessment to an extent indicated by the following aspects:

T1 Occupational Health and Safety responsibilities related to hazardous areas encompassing:

- ☐ the main features and purpose of a 'clearance to work' system (includes hot work permit systems).
- ☐ typical safety procedures that should be followed before entering a hazardous area;
- ☐ the purpose of gas detectors and their limitations;
- ☐ effects of temperature on gas and vapour detection;
- ☐ frequency of monitoring for presence of gas or vapours, i.e. effects of temperature rise;
- ☐ factors affecting the accuracy of gas detectors, for example, contamination, condensation, temperature;
- ☐ safety in use of gas detectors, for example, 'read and run concept'
- ☐ the safety precautions to be taken when working in a hazardous area.

T2 The roles of the parties involved in the safety of hazardous areas encompassing:

- ☐ common Acts and Regulations related to the safety of hazardous areas and the Authorities responsible for their implementation;
- ☐ where assistance and further information can be obtained to assist persons with hazardous area responsibilities, for example, Standard bodies, experienced consultants; and
- ☐ the hazardous area responsibilities of the owner of premises in which a hazardous area exists; the occupier of premises in which a hazardous area exists; enterprises and personnel engaged in installation and/or maintenance of explosion-protection systems; enterprises and personnel engaged in the classification of hazardous areas and/or design of explosion-protection systems; enterprises and personnel engaged in the overhaul, modification and/or assessment of explosion-protected equipment; enterprises and personnel engaged in the inspection of explosion-protection installations; manufacturers

of explosion-protected equipment; designated authorities; insurers.

T3 Properties of combustible substances and their potential to create an explosive hazard encompassing:

- ☐ condition in the workplace that will lead to an explosion;
- ☐ the terms 'combustion', 'ignition' and 'propagation';
- ☐ explosive range of substances encountered in the workplace i.e. LEL/UEL;
- ☐ explosive parameters of substances as given in tables of substance properties
- ☐ Note: Combustible materials are gases, vapours (from liquids), and dusts; flash point.
- ☐ the difference between gases and vapours; and
- ☐ the toxic nature of gases and vapours and potential harmful consequences.

T4 The nature of hazardous areas encompassing:

- ☐ the Standards definition of a 'hazardous area';
- ☐ the recommended methods for classifying the type and degree of explosion hazard in an area;
- ☐ hazardous area classifications as defined by Standards; and
- ☐ factors that are considered when a hazardous area is classified.
- ☐ the basics of how explosion-protection is achieved by the methods of exclusion, containment, energy limitation, dilution, avoidance of ignition source.

T5 Explosive-protected equipment encompassing:

- ☐ The principles of each explosion-protection technique, the methods used and how each technique works (Flameproof (Ex 'd'); Increased safety (Ex 'e'); Non-sparking (Ex 'n'); Intrinsic safety (Ex 'i') and Pressurization (Ex 'p') for gas atmospheres and Dust-exclusion enclosures (Ex 'tD'); Pressurization (Ex 'pD'); Encapsulation (Ex 'mD'); and Intrinsic safety (Ex 'iD') for dusts)
- ☐ How explosion-protected equipment is identified by the 'Ex' symbol marked

on the equipment, including old equipment and equipment certified in another country.

☐ Visible conditions or actions that would void the explosion-protection provided by a particular technique.

T6 Explosion-protection equipment — Ex certification schemes encompassing:

☐ Purpose and scope of certification schemes.

☐ Schemes accepted in Australia and New Zealand.

☐ Schemes commonly used in countries other than Australia and New Zealand.

☐ Processes for having equipment certified under the acceptable Ex schemes — scheme procedures; quality management requirements; conformance testing and assessment; and requirements for ongoing certification.

T7 Flameproof (Ex 'd') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the flameproof (Ex 'd') technique. (Examples of characteristics and design features are flame paths, integrity under pressure, pressure piling, and enclosure entries).

☐ Typical situations where the flameproof explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Flameproof technique;

☐ The use of Standards in determining the requirements to which the installation of flameproof explosion-protected apparatus shall comply.

T8 Increased safety (Ex 'e') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Increased safety (Ex 'e') technique (Examples of characteristics and design features are temperature rise, maximum power dissipation, protection devices, certified components, creepage and clearance

distances, absence of sparking contacts and enclosure entries).

☐ Typical situations where the Increased safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Increased safety technique;

☐ The use of Standards in determining the requirements to which the installation of Increased safety explosion-protected apparatus shall comply.

T9 Non-sparking (Ex 'n') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Non-sparking (Ex 'n') technique (Examples of characteristics and design features are creepage and clearance distances and restricted breathing).

☐ Typical situations where the Non-sparking explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Non-sparking technique; and

☐ The use of Standards in determining the requirements to which the installation of Non-sparking explosion-protected apparatus shall comply.

T10 Intrinsic safety (Ex 'i') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Intrinsic safety (Ex 'i') technique (Examples of characteristics and design features are field devices, cables, safe area devices, earthing, entity versus integrated system concept, simple devices and interface devices and their parameters, segregation, infallible components, current and voltage limiting, creepage and clearance distances).

☐ Typical situations where the Intrinsic safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Intrinsic safety;

☐ The use of Standards in determining the requirements to which the installation of Intrinsic safety explosion-protected apparatus shall comply.

T11 Pressurization (Ex 'p') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Pressurization (Ex 'p') technique (Examples of characteristics and design features are exclusion and dilution; purge periods, controlled shut down, monitoring and sources of internal release).

☐ Typical situations where the pressurization explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the pressurization technique;

☐ The use of Standards in determining the requirements to which the installation of pressurization explosion-protected apparatus shall comply.

T12 Enclosures for dusts (Ex 'tD') - explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the techniques for dusts (Examples of characteristics and design features are for enclosures; pressurization; encapsulation; and intrinsic safety).

☐ Typical situations where the each dust explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the each dust technique;

☐ The use of Standards in determining the requirements to which the installation of dust explosion-protected apparatus shall comply.

T13 Common characteristics of explosion-protection techniques encompassing:

☐ The purposes of 'temperature classification' and 'gas grouping/apparatus grouping'.

- ☐ Compliance plate markings.
- ☐ Limitations of non-metallic or specific alloy enclosures.
- ☐ The purpose of conformity and certification/approval for equipment used in hazardous areas.
- ☐ Environmental conditions that may impact on explosion-protection techniques.
- ☐ The principles and applications of other and mixed explosion-protection techniques (Other techniques include encapsulation Ex 'm'; oil-immersion Ex 'o'; powder-filling Ex 'q', ventilation Ex 'v' and special protection Ex 's').
- ☐ Features and purpose of conduit seals and cable termination devices designed for use in hazardous areas (These include conduit seals and barrier and compression glands for cables with or without armouring, screening and/or drain wires).

T14 The compliance certification and the 'Ex' scheme for recognition of certification encompassing:

- ☐ the purposes of certification of explosion-protected equipment;
- ☐ the parties involved in the assessment/testing and certification of explosion-protected equipment and their responsibilities; and
- ☐ the process for recognition of assessment/testing and certification of explosion-protected equipment from other countries.

T15 The preparation required to assess explosion-protected equipment for compliance with Standards encompassing:

- ☐ the special safety measures that should be taken when assessing/testing explosion-protected equipment;
- ☐ documentation required prior to conducting conformity assessment;
- ☐ tests necessary to establish that an item of explosion-protected equipment conforms with relevant Standards; and
- ☐ situations where testing is not applicable or required.

T16 Assessing and testing explosion-protected equipment encompassing:

- ☐ assessment and test requirements; and
- ☐ procedures for conducting a conformity assessment.

T17 Documentation used in assessing explosion-protected equipment for conformance to accepted Standards encompassing:

- ☐ The documentation and Standard(s) required to begin an assessment.
- ☐ The differences between the test requirements of Standards from other countries and the compliant/acceptable Standards against which the equipment is being assessed.
- ☐ Results given in equipment test reports.
- ☐ Conformity assessment processes and procedures.

T18 Assessing to a current acceptable Standard existing equipment that has been certified to previously acceptable Standards encompassing:

- ☐ processes and procedures used; and
- ☐ possible outcomes.

T19 A clause by clause assessment between the equipment manufacturing Standard(s) and the current acceptable Ex Standards encompassing:

- ☐ processes and procedures used; and
- ☐ differences between the Standards that may be detected.

UEENEEM057A Design explosion-protected electrical systems and installations - gas atmospheres

KS01-EM05

7A

Hazardous area electrical systems design

Evidence shall show an understanding of hazardous area electrical systems design to an extent indicated by the following aspects:

T1 Occupational Health and Safety responsibilities related to hazardous areas

encompassing:

- ☐ the main features and purpose of a 'clearance to work' system (includes hot work permit systems).
- ☐ typical safety procedures that should be followed before entering a hazardous area;
- ☐ the purpose of gas detectors and their limitations;
- ☐ effects of temperature on gas and vapour detection;
- ☐ frequency of monitoring for presence of gas or vapours, i.e. effects of temperature rise;
- ☐ factors affecting the accuracy of gas detectors, for example, contamination, condensation, temperature;
- ☐ safety in use of gas detectors, for example, 'read and run concept'
- ☐ the safety precautions to be taken when working in a hazardous area.

T2 The roles of the parties involved in the safety of hazardous areas

encompassing:

- ☐ common Acts and Regulations related to the safety of hazardous areas and the Authorities responsible for their implementation;
- ☐ where assistance and further information can be obtained to assist persons with hazardous area responsibilities, for example, Standard bodies, experienced

UEENEEM068A Assess the fitness-for-purpose of hazardous areas

explosion-protected equipment - gas atmospheres

KS01-EM068

A

Explosion-protected equipment fitness-for-purpose

Evidence shall show an understanding of explosion-protected equipment

fitness-for-purpose to an extent indicated by the following aspects:

T1 Preparation to install and maintain explosion-protected equipment in

hazardous areas encompassing:

- ☐ OHS procedures to be followed when working in a hazardous area;
- ☐ the significance of information provided on the certification documentation and schedules for a given item of explosion-protected equipment;
- ☐ the typical contents of a verification dossier and their purpose; and
- ☐ limitations in the use of tools and testing devices in hazardous areas.

T2 The relationship between explosion-protected equipment, their certification documents and required locations given in specifications and layout drawings and/or written instructions encompassing:

the purpose of markings on the compliance plate and certification documents for a given item of explosion-protected equipment;

- ☐ matching explosion-protected equipment with certification documents and the equipment specified for an installation; and
- ☐ the location the items of explosion-protected equipment for an installation from specifications and layout drawings and/or instructions.

T3 Installation Standards and requirements applicable to hazardous encompassing:

- ☐ the wiring systems permitted and not permitted in or above hazardous areas;
- ☐ equipment not permitted in or above hazardous areas;
- ☐ the regulations and Standards to which explosion-protected equipment and wiring must be installed in a hazardous area and how these are applied; and
- ☐ the documentation required as a record of the installation process, including certification documentation.

T4 Maintenance procedures in hazardous areas that will ensure the integrity of the explosion-protection technique encompassing:

- ☐ the purpose of a maintenance schedule;
- ☐ the purpose and extent of 'close', 'sample' and 'periodic' inspections;

- ☐ the features of each explosion-protection techniques that should be included in a maintenance schedule;
- ☐ the impact of environmental conditions on explosion-protected equipment, including corrosion and frequency of maintenance;
- ☐ the documentation requirements for recording the maintenance process and results;
- ☐ the use of Standards in determining the requirements with which the design of explosion-protected apparatus shall comply.

T5 Cable termination types suitable for use in hazardous areas encompassing:

- ☐ explosion protection features of cable terminations devices.
- ☐ selecting compliant cable termination devices.

T6 The relationship between the documentation held in a verification dossier and the installed equipment encompassing:

- ☐ consistency between the location and type of equipment with the area classification details in the verification dossier; and
- ☐ equipment certification and any attached conditions that relate to the equipment as it is installed.

T7 Inspecting a hazardous area installation encompassing:

- ☐ typical processes for undertaking the inspection of a hazardous area installation;
- ☐ requirements applicable to a given installation; and
- ☐ reporting of an inspection of a hazardous area installation.

T8 Documentation used in assessing explosion-protected equipment for conformance to accepted Standards encompassing:

- ☐ The documentation and Standard(s) required to begin an assessment.
- ☐ The differences between the test requirements of Standards from other countries and the compliant/acceptable Standards against which the equipment

is being assessed.

- ▣ Results given in equipment test reports.

- ▣ Conformity assessment processes and procedures.

T9 Assessing to a current acceptable Standard existing equipment that has been certified to previously acceptable Standards encompassing:

- ▣ processes and procedures used; and

- ▣ possible outcomes.

T10 A clause by clause assessment between the equipment manufacturing Standard(s) and the current acceptable Ex Standards encompassing:

- ▣ processes and procedures used; and

- ▣ differences between the Standards that may be detected.

T11 Techniques used in fitness-for purpose assessment of equipment for use in hazardous areas encompassing:

- ▣ Processes for verifying that a design specification meets the integrity of the equipment, showing the equipment is fit-for-purpose and is safe to use:

- ▣ Standards against which fitness-for-purpose assessment is made;

- ▣ the need to maintain the accuracy/calibration of measuring/test devices/tools;

- ▣ assessment and measurements/tests requirements for determining that an item of explosion-protected equipment complies with the relevant Standards and meets the certification requirements;

- ▣ testing that is/is not required to determine compliance of the equipment being assessed; and

- ▣ development of different tests to those given in Standards and justification as to how they achieve the same result.

- ▣ Typical specification for the equipment to be assessed as fit-for-purpose.

T12 Processes used in auditing hazardous areas encompassing:

☐ Requirements to retain hazardous areas documentation on site.

☐ Components of an audit:

☐ authenticity of documentation;

hazardous areas delineations shown in site diagrams;

☐ location and operating parameters of equipment shown in certification documents;

☐ compliance of equipment location;

☐ compliance of wiring systems; and

☐ alignment of hazardous areas documentation to as- built installation.

☐ Reporting non-conformance of an installation.

BAE 634 Explosion Protection Equipments & Methods

UEENEEM080A Report on the integrity of explosion-protected equipment in a hazardous area

KS01-EM080A Hazardous areas and explosion-protection principles

Evidence shall show an understanding of hazardous areas and explosion-protection principles (including working safely in hazardous areas), principles of the following explosion-protection techniques and visible conditions of explosion-protection equipment that indicate the protection is void and changes in the nature of the explosion hazard that may render the explosion-protection unsafe. to an extent indicated by the following aspects:

T1 Occupational Health and Safety responsibilities related to hazardous areas encompassing:

the main features and purpose of a 'clearance to work' system (includes hot work permit systems).

☐ typical safety procedures that should be followed before entering a hazardous area;

☐ the purpose of gas detectors and their limitations;

- ☐ effects of temperature on gas and vapour detection;
- ☐ frequency of monitoring for presence of gas or vapours, i.e. effects of temperature rise;
- ☐ factors affecting the accuracy of gas detectors, for example, contamination, condensation, temperature;
- ☐ safety in use of gas detectors, for example, 'read and run concept'
- ☐ the safety precautions to be taken when working in a hazardous area.

T2 The roles of the parties involved in the safety of hazardous areas encompassing:

- ☐ common Acts and Regulations related to the safety of hazardous areas and the Authorities responsible for their implementation;
- ☐ where assistance and further information can be obtained to assist persons with hazardous area responsibilities, for example, Standard bodies, experienced consultants; and
- ☐ the hazardous area responsibilities of the owner of premises in which a hazardous area exists; the occupier of premises in which a hazardous area exists; enterprises and personnel engaged in installation and/or maintenance of explosion-protection systems; enterprises and personnel engaged in the classification of hazardous areas and/or design of explosion-protection systems; enterprises and personnel engaged in the overhaul, modification and/or assessment of explosion-protected equipment; enterprises and personnel engaged in the inspection of explosion-protection installations; manufacturers of explosion-protected equipment; designated authorities; insurers.

T3 Properties of combustible substances and their potential to create an explosive hazard encompassing:

- ☐ condition in the workplace that will lead to an explosion;
- ☐ the terms 'combustion', 'ignition' and 'propagation';

☐ explosive range of substances encountered in the workplace i.e. LEL/UEL;

☐ explosive parameters of substances as given in tables of substance properties

Note: Combustible materials are gases, vapours (from liquids), and dusts; flash point.

☐ the difference between gases and vapours; and

☐ the toxic nature of gases and vapours and potential harmful consequences.

T4 The nature of hazardous areas encompassing:

☐ the Standards definition of a 'hazardous area';

☐ the recommended methods for classifying the type and degree of explosion hazard in an area;

☐ hazardous area classifications as defined by Standards; and

factors that are considered when a hazardous area is classified.

☐ the basics of how explosion-protection is achieved by the methods of exclusion, containment, energy limitation, dilution, avoidance of ignition source.

T5 Explosive-protected equipment encompassing:

☐ The principles of each explosion-protection technique, the methods used and how each technique works (Flameproof (Ex 'd'); Increased safety (Ex 'e');

Non-sparking (Ex 'n'); Intrinsic safety (Ex 'i') and Pressurization (Ex 'p') for gas atmospheres and Dust-exclusion enclosures (Ex 'tD'); Pressurization (Ex 'pD');

Encapsulation (Ex 'mD'); and Intrinsic safety (Ex 'iD') for dusts)

☐ How explosion-protected equipment is identified by the 'Ex' symbol marked on the equipment, including old equipment and equipment certified in another country.

☐ Visible conditions or actions that would void the explosion-protection provided by a particular technique.

T6 Explosion-protection visual checks encompassing:

☐ occupational, health and safety procedures to be followed before entering hazardous areas; and while conducting visual inspection.

- ☐ Visible defects in explosion-protected equipment and wiring.
- ☐ Conditions that may indicate a change in a given explosion hazard.
- ☐ Reporting defects in explosion-protected equipment and wiring - the purpose of a verification dossier; and various ways for reporting defects in explosion-protected equipment and wiring.
- ☐ procedures to be followed in the event of a change in the explosion hazard.

UEENEEM065A Conduct audit of hazardous areas installations - gas

Atmospheres

KS01-EM065

A

Hazardous areas installation auditing

Evidence shall show an understanding of hazardous areas installation auditing to an extent indicated by the following aspects:

T1 Occupational Health and Safety responsibilities related to hazardous areas encompassing:

- ☐ the main features and purpose of a 'clearance to work' system (includes hot work permit systems).
- ☐ typical safety procedures that should be followed before entering a hazardous area;
- ☐ the purpose of gas detectors and their limitations;
- ☐ effects of temperature on gas and vapour detection;
- ☐ frequency of monitoring for presence of gas or vapours, i.e. effects of temperature rise;
- ☐ factors affecting the accuracy of gas detectors, for example, contamination, condensation, temperature;
- ☐ safety in use of gas detectors, for example, 'read and run concept'

☐ the safety precautions to be taken when working in a hazardous area.

T2 The roles of the parties involved in the safety of hazardous areas

encompassing:

☐ common Acts and Regulations related to the safety of hazardous areas and the Authorities responsible for their implementation;

☐ where assistance and further information can be obtained to assist persons with hazardous area responsibilities, for example, Standard bodies, experienced consultants; and

☐ the hazardous area responsibilities of the owner of premises in which a hazardous area exists; the occupier of premises in which a hazardous area exists; enterprises and personnel engaged in installation and/or maintenance of explosion-protection systems; enterprises and personnel engaged in the classification of hazardous areas and/or design of explosion-protection systems; enterprises and personnel engaged in the overhaul, modification and/or assessment of explosion-protected equipment; enterprises and personnel engaged in the inspection of explosion-protection installations; manufacturers of explosion-protected equipment; designated authorities; insurers.

T3 Properties of combustible substances and their potential to create an explosive hazard encompassing:

☐ condition in the workplace that will lead to an explosion;

☐ the terms 'combustion', 'ignition' and 'propagation';

☐ explosive range of substances encountered in the workplace i.e. LEL/UEL;

☐ explosive parameters of substances as given in tables of substance properties

☐ Note: Combustible materials are gases, vapours (from liquids), and dusts; flash point.

☐ the difference between gases and vapours; and

☐ the toxic nature of gases and vapours and potential harmful consequences.

T4 The nature of hazardous areas encompassing:

- ☐ the Standards definition of a 'hazardous area';
- ☐ the recommended methods for classifying the type and degree of explosion hazard in an area;
- ☐ hazardous area classifications as defined by Standards; and
- ☐ factors that are considered when a hazardous area is classified.
- ☐ the basics of how explosion-protection is achieved by the methods of exclusion, containment, energy limitation, dilution, avoidance of ignition source.

T5 Explosive-protected equipment encompassing:

- ☐ The principles of each explosion-protection technique, the methods used and how each technique works (Flameproof (Ex 'd'); Increased safety (Ex 'e'); Non-sparking (Ex 'n'); Intrinsic safety (Ex 'i') and Pressurization (Ex 'p') for gas atmospheres and Dust-exclusion enclosures (Ex 'tD'); Pressurization (Ex 'pD'); Encapsulation (Ex 'mD'); and Intrinsic safety (Ex 'iD') for dusts)
- ☐ How explosion-protected equipment is identified by the 'Ex' symbol marked on the equipment, including old equipment and equipment certified in another country.
- ☐ Visible conditions or actions that would void the explosion-protection provided by a particular technique.

T6 Explosion-protection equipment — Ex certification schemes encompassing:

- ☐ Purpose and scope of certification schemes.
- ☐ Schemes accepted in Australia and New Zealand.
- ☐ Schemes commonly used in countries other than Australia and New Zealand.
- ☐ Processes for having equipment certified under the acceptable Ex schemes — scheme procedures; quality management requirements; conformance testing and assessment; and requirements for ongoing certification.

T7 Flameproof (Ex 'd') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the flameproof (Ex 'd') technique. (Examples of characteristics and design features are flame paths, integrity under pressure, pressure piling, and enclosure entries).

☐ Typical situations where the flameproof explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Flameproof technique;

☐ The use of Standards in determining the requirements to which the installation of flameproof explosion-protected apparatus shall comply.

T8 Increased safety (Ex 'e') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Increased safety (Ex 'e') technique (Examples of characteristics and design features are temperature rise, maximum power dissipation, protection devices, certified components, creepage and clearance distances, absence of sparking contacts and enclosure entries).

☐ Typical situations where the Increased safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Increased safety technique;

☐ The use of Standards in determining the requirements to which the installation of Increased safety explosion-protected apparatus shall comply.

T9 Non-sparking (Ex 'n') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Non-sparking (Ex 'n') technique (Examples of characteristics and design features are creepage and clearance distances and restricted

breathing).

☐ Typical situations where the Non-sparking explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Non-sparking technique; and

☐ The use of Standards in determining the requirements to which the installation of Non-sparking explosion-protected apparatus shall comply.

T10 Intrinsic safety (Ex 'i') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Intrinsic safety (Ex 'i') technique (Examples of characteristics and design features are field devices, cables, safe area devices, earthing, entity versus integrated system concept, simple devices and interface devices and their parameters, segregation, infallible components, current and voltage limiting, creepage and clearance distances).

☐ Typical situations where the Intrinsic safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Intrinsic safety;

☐ The use of Standards in determining the requirements to which the installation of Intrinsic safety explosion-protected apparatus shall comply.

T11 Pressurization (Ex 'p') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Pressurization (Ex 'p') technique (Examples of characteristics and design features are exclusion and dilution; purge periods, controlled shut down, monitoring and sources of internal release).

☐ Typical situations where the pressurization explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the pressurization technique;

☐ The use of Standards in determining the requirements to which the installation of pressurization explosion-protected apparatus shall comply.

T12 Enclosures for dusts (Ex 'tD') - explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the techniques for dusts (Examples of characteristics and design features are for enclosures; pressurization; encapsulation; and intrinsic safety).

☐ Typical situations where the each dust explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the each dust technique;

☐ The use of Standards in determining the requirements to which the installation of dust explosion-protected apparatus shall comply.

T13 Common characteristics of explosion-protection techniques encompassing:

☐ The purposes of 'temperature classification' and 'gas grouping/apparatus grouping'.

☐ Compliance plate markings.

☐ Limitations of non-metallic or specific alloy enclosures.

☐ The purpose of conformity and certification/approval for equipment used in hazardous areas.

☐ Environmental conditions that may impact on explosion-protection techniques.

☐ The principles and applications of other and mixed explosion-protection techniques (Other techniques include encapsulation Ex 'm'; oil-immersion Ex 'o'; powder-filling Ex 'q', ventilation Ex 'v' and special protection Ex 's').

☐ Features and purpose of conduit seals and cable termination devices designed or use in hazardous areas (These include conduit seals and barrier and compression glands for cables with or without armouring, screening and/or

drain wires).

T14 Preparation to install and maintain explosion-protected equipment in hazardous areas encompassing:

- ☐ OHS procedures to be followed when working in a hazardous area;
- ☐ the significance of information provided on the certification documentation and schedules for a given item of explosion-protected equipment;
- ☐ the typical contents of a verification dossier and their purpose; and
- ☐ limitations in the use of tools and testing devices in hazardous areas.

T15 The relationship between explosion-protected equipment, their certification documents and required locations given in specifications and layout drawings and/or written instructions encompassing:

- ☐ the purpose of markings on the compliance plate and certification documents for a given item of explosion-protected equipment;
- ☐ matching explosion-protected equipment with certification documents and the equipment specified for an installation; and
- ☐ the location the items of explosion-protected equipment for an installation from specifications and layout drawings and/or instructions.

T16 Installation Standards and requirements applicable to hazardous encompassing:

- ☐ the wiring systems permitted and not permitted in or above hazardous areas;
- ☐ equipment not permitted in or above hazardous areas;
- ☐ the regulations and Standards to which explosion-protected equipment and wiring must be installed in a hazardous area and how these are applied; and
- ☐ the documentation required as a record of the installation process, including certification documentation.

T17 Processes used in auditing hazardous areas encompassing:

- ☐ Requirements to retain hazardous areas documentation on site.

☐ Components of an audit:

☐ authenticity of documentation;

☐ hazardous areas delineations shown in site diagrams;

☐ location and operating parameters of equipment shown in certification documents;

☐ compliance of equipment location;

☐ compliance of wiring systems; and

☐ alignment of hazardous areas documentation to as-built installation.

☐ Reporting non-conformance of an installation.

BAE 635 Testing in Hazardous Areas

UEENEEM039A Conduct testing of hazardous areas installations - gas

Atmospheres

KS01-EM03

9A

Hazardous area installations testing

Evidence shall show an understanding of hazardous area installations testing to an extent indicated by the following aspects:

T1 Explosion-protection equipment — Ex certification schemes encompassing:

☐ Purpose and scope of certification schemes.

☐ Schemes accepted in Australia and New Zealand.

☐ Schemes commonly used in countries other than Australia and New Zealand.

☐ Processes for having equipment certified under the acceptable Ex schemes — scheme procedures; quality management requirements; conformance testing and assessment; and requirements for ongoing certification.

T2 Flameproof (Ex 'd') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits

protected by the flameproof (Ex 'd') technique. (Examples of characteristics and design features are flame paths, integrity under pressure, pressure piling, and enclosure entries).

☐ Typical situations where the flameproof explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Flameproof technique;

☐ The use of Standards in determining the requirements to which the installation of flameproof explosion-protected apparatus shall comply.

T3 Increased safety (Ex 'e') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Increased safety (Ex 'e') technique (Examples of characteristics and design features are temperature rise, maximum power dissipation, protection devices, certified components, creepage and clearance distances, absence of sparking contacts and enclosure entries).

Typical situations where the Increased safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Increased safety technique;

☐ The use of Standards in determining the requirements to which the installation of Increased safety explosion-protected apparatus shall comply.

T4 Non-sparking (Ex 'n') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Non-sparking (Ex 'n') technique (Examples of characteristics and design features are creepage and clearance distances and restricted breathing).

☐ Typical situations where the Non-sparking explosion-protection technique is

used;

☐ Actions or conditions that would void the protection provided the

Non-sparking technique; and

☐ The use of Standards in determining the requirements to which the installation of Non-sparking explosion-protected apparatus shall comply.

T5 Intrinsic safety (Ex 'i') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Intrinsic safety (Ex 'i') technique (Examples of characteristics and design features are field devices, cables, safe area devices, earthing, entity versus integrated system concept, simple devices and interface devices and their parameters, segregation, infallible components, current and voltage limiting, creepage and clearance distances).

☐ Typical situations where the Intrinsic safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Intrinsic safety;

☐ The use of Standards in determining the requirements to which the installation of Intrinsic safety explosion-protected apparatus shall comply.

T6 Pressurization (Ex 'p') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Pressurization (Ex 'p') technique (Examples of characteristics and design features are exclusion and dilution; purge periods, controlled shut down, monitoring and sources of internal release).

☐ Typical situations where the pressurization explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the pressurization technique;

☐ The use of Standards in determining the requirements to which the installation of pressurization explosion-protected apparatus shall comply.

T7 Enclosures for dusts (Ex 'tD') - explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the techniques for dusts (Examples of characteristics and design features are for enclosures; pressurization; encapsulation; and intrinsic safety).

☐ Typical situations where the each dust explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the each dust technique;

☐ The use of Standards in determining the requirements to which the installation of dust explosion-protected apparatus shall comply.

T8 Common characteristics of explosion-protection techniques encompassing:

☐ The purposes of 'temperature classification' and 'gas grouping/apparatus grouping'.

☐ Compliance plate markings.

☐ Limitations of non-metallic or specific alloy enclosures.

☐ The purpose of conformity and certification/approval for equipment used in hazardous areas.

☐ Environmental conditions that may impact on explosion-protection techniques.

☐ The principles and applications of other and mixed explosion-protection techniques (Other techniques include encapsulation Ex 'm'; oil-immersion Ex 'o'; powder-filling Ex 'q', ventilation Ex 'v' and special protection Ex 's').

☐ Features and purpose of conduit seals and cable termination devices designed for use in hazardous areas (These include conduit seals and barrier and compression glands for cables with or without armouring, screening and/or drain wires).

T9 Preparation to install and maintain explosion-protected equipment in

hazardous areas encompassing:

- ☐ OHS procedures to be followed when working in a hazardous area;
- ☐ the significance of information provided on the certification documentation and schedules for a given item of explosion-protected equipment;
- ☐ the typical contents of a verification dossier and their purpose; and
- ☐ limitations in the use of tools and testing devices in hazardous areas.

T10 The relationship between explosion-protected equipment, their certification documents and required locations given in specifications and layout drawings and/or written instructions encompassing:

- ☐ the purpose of markings on the compliance plate and certification documents for a given item of explosion-protected equipment;
- ☐ matching explosion-protected equipment with certification documents and the equipment specified for an installation; and
- the location the items of explosion-protected equipment for an installation from specifications and layout drawings and/or instructions.

T11 Installation Standards and requirements applicable to hazardous encompassing:

- ☐ the wiring systems permitted and not permitted in or above hazardous areas;
- ☐ equipment not permitted in or above hazardous areas;
- ☐ the regulations and Standards to which explosion-protected equipment and wiring must be installed in a hazardous area and how these are applied; and
- ☐ the documentation required as a record of the installation process, including certification documentation.

T12 Cable termination types suitable for use in hazardous areas encompassing:

- ☐ explosion protection features of cable terminations devices.
- ☐ selecting compliant cable termination devices.

T13 Terminating cables suitable for use in hazardous areas encompassing:

☐ installing conduit systems, where applicable, including seals to meet hazardous areas requirements. (Gases only.)

☐ terminating a cable with a barrier gland. (Gases only.)

☐ terminating a multipair, SWA, overall screened, individual screened cable into an enclosure.

☐ testing termination/connections of installed cables/circuits.

T14 Preparation for conducting installation testing in a hazardous area encompassing:

☐ OHS procedures to be followed for working in a hazardous area; and

☐ procedures for determining whether a given hazardous area is safe to conduct electrical testing.

T15 Characteristics and limitations of testing equipment used to test installation in hazardous areas encompassing:

☐ testing devices required to test an installation in a hazardous area; and

☐ the suitability of testing device for use in a hazardous area.

T16 Documentation of results of hazardous area installation tests encompassing:

☐ test results that should be recorded in a verification dossier; and

☐ procedures and options for dealing with test results that show non-conformance.

UEENEEM052A Classify hazardous areas - gas atmospheres

KS01-EM052A Hazardous areas classification

Evidence shall show an understanding of processes involved in gathering and analysing technical data to classify non-specific hazardous areas. The following aspects indicate the extent of understanding required.

T1 Occupational Health and Safety responsibilities related to hazardous areas encompassing:

- ☐ the main features and purpose of a 'clearance to work' system (includes hot work permit systems).
- ☐ typical safety procedures that should be followed before entering a hazardous area;
- ☐ the purpose of gas detectors and their limitations;
- ☐ effects of temperature on gas and vapour detection;
- ☐ frequency of monitoring for presence of gas or vapours, i.e. effects of temperature rise;
- ☐ factors affecting the accuracy of gas detectors, for example, contamination, condensation, temperature;
- ☐ safety in use of gas detectors, for example, 'read and run concept'
- ☐ the safety precautions to be taken when working in a hazardous area.

T2 The roles of the parties involved in the safety of hazardous areas encompassing:

- ☐ common Acts and Regulations related to the safety of hazardous areas and the Authorities responsible for their implementation;
- ☐ where assistance and further information can be obtained to assist persons with hazardous area responsibilities, for example, Standard bodies, experienced consultants; and
- ☐ the hazardous area responsibilities of the owner of premises in which a hazardous area exists; the occupier of premises in which a hazardous area exists; enterprises and personnel engaged in installation and/or maintenance of explosion-protection systems; enterprises and personnel engaged in the classification of hazardous areas and/or design of explosion-protection systems; enterprises and personnel engaged in the overhaul, modification and/or assessment of explosion-protected equipment; enterprises and personnel engaged in the inspection of explosion-protection installations; manufacturers of explosion-protected equipment; designated authorities; insurers.

T3 Properties of combustible substances and their potential to create an explosive hazard encompassing:

- ☐ condition in the workplace that will lead to an explosion;
- ☐ the terms 'combustion', 'ignition' and 'propagation';
- ☐ explosive range of substances encountered in the workplace i.e. LEL/UEL;
- ☐ explosive parameters of substances as given in tables of substance properties

Note: Combustible materials are gases, vapours (from liquids), and dusts; flash point.

- ☐ the difference between gases and vapours; and
- ☐ the toxic nature of gases and vapours and potential harmful consequences.

T4 The nature of hazardous areas encompassing:

- ☐ the Standards definition of a 'hazardous area';
- ☐ the recommended methods for classifying the type and degree of explosion hazard in an area;
- ☐ hazardous area classifications as defined by Standards; and
- ☐ factors that are considered when a hazardous area is classified.
- ☐ the basics of how explosion-protection is achieved by the methods of exclusion, containment, energy limitation, dilution, avoidance of ignition source.

T5 The process of classifying hazardous areas encompassing:

- ☐ methods by which an area can be classified;
- ☐ the characteristics/attributes of an area that should be considered in the classification process, for example, type of process, nature of plant, source and nature of release;
- ☐ the requirements and Standards for classifying a hazardous area; and
- ☐ the responsibilities of the owner/occupiers for classification of a hazardous area.

T6 The likelihood (zoning) or risk assessment method of an explosive hazard encompassing:

- ☐ ignition properties of materials relevant to determining the likelihood and extent of

an explosive hazard;

☐ sources for obtaining data on ignition properties of materials under the conditions in which they could be present in a given process;

☐ methods for assessment and calculation of factors such as release rate , ventilation and dispersion characteristics; and and

☐ means for reducing hazard risk.

T7 The extent of an explosive hazard and classifying an area accordingly encompassing:

☐ the extent of zones for an area given data on the likelihood of the explosive hazard for that area;

☐ requirements for documenting the classification of a hazardous area; and

☐ the extent of the zones, temperature classes and gas groups on site drawings in a hazardous area.

BAE 636 Inspection in Hazardous Area

UEENEEM078A Manage compliance of hazardous areas

KS01-EM078A Hazardous areas compliance requirements

Evidence shall show an understanding of hazardous areas compliance requirements to an extent indicated by the following aspects:

T1 Occupational Health and Safety responsibilities related to hazardous areas encompassing:

☐ the main features and purpose of a 'clearance to work' system (includes hot work permit systems).

☐ typical safety procedures that should be followed before entering a hazardous area;

☐ the purpose of gas detectors and their limitations;

☐ effects of temperature on gas and vapour detection;

☐ frequency of monitoring for presence of gas or vapours, i.e. effects of temperature

rise;

- ▣ factors affecting the accuracy of gas detectors, for example, contamination, condensation, temperature;

- ▣ safety in use of gas detectors, for example, 'read and run concept' the safety precautions to be taken when working in a hazardous area.

T2 The roles of the parties involved in the safety of hazardous areas encompassing:

- ▣ common Acts and Regulations related to the safety of hazardous areas and the Authorities responsible for their implementation;

- ▣ where assistance and further information can be obtained to assist persons with hazardous area responsibilities, for example, Standard bodies, experienced consultants; and

- ▣ the hazardous area responsibilities of the owner of premises in which a hazardous area exists; the occupier of premises in which a hazardous area exists; enterprises and personnel engaged in installation and/or maintenance of explosion-protection systems; enterprises and personnel engaged in the classification of hazardous areas and/or design of explosion-protection systems; enterprises and personnel engaged in the overhaul, modification and/or assessment of explosion-protected equipment; enterprises and personnel engaged in the inspection of explosion-protection installations; manufacturers of explosion-protected equipment; designated authorities; insurers.

T3 Properties of combustible substances and their potential to create an explosive hazard encompassing:

- ▣ condition in the workplace that will lead to an explosion;

- ▣ the terms 'combustion', 'ignition' and 'propagation';

- ▣ explosive range of substances encountered in the workplace i.e. LEL/UEL;

- ▣ explosive parameters of substances as given in tables of substance properties

Note: Combustible materials are gases, vapours (from liquids), and dusts; flash point.

- ☐ the difference between gases and vapours; and

- ☐ the toxic nature of gases and vapours and potential harmful consequences.

T4 The nature of hazardous areas encompassing:

- ☐ the Standards definition of a 'hazardous area';

- ☐ the recommended methods for classifying the type and degree of explosion hazard in an area;

- ☐ hazardous area classifications as defined by Standards; and

- ☐ factors that are considered when a hazardous area is classified.

- ☐ the basics of how explosion-protection is achieved by the methods of exclusion, containment, energy limitation, dilution, avoidance of ignition source.

T5 The responsibilities of a person managing activities or a site related to a hazardous area, encompassing:

- ☐ OHS procedures that are to be established;

- ☐ responsibilities for ensuring that a hazardous area is safe; and

- ☐ responsibilities and processes for establishing and maintaining a verification dossier.

T6 Explosion-protection strategies in relation to a hazardous area, encompassing:

- ☐ the process of classifying a hazardous area;

- ☐ various ways in which electrical systems /apparatus can be treated to prevent them from becoming an ignition source; and

- ☐ the cost of the different ways of treating electrical systems/apparatus associated with hazardous areas.

T7 Requirements for the maintenance of electrical systems associated with hazardous areas, encompassing:

- ☐ the type and grades of inspection of hazardous areas;

- ☐ maintenance programs for electrical explosion-protected systems/apparatus; and

documentation requirements associated with maintenance procedures.

UEENEEM042A Conduct visual inspection of hazardous areas installations

KS01-EM04

2A

Hazardous areas visual inspection

Evidence shall show an understanding of the purpose and process of hazardous areas visual inspections to an extent indicated by the following aspects:

T1 Occupational, health and safety procedures encompassing:

□ occupational, health and safety procedures to be followed before entering hazardous areas; and
occupational, health and safety procedures to be followed while conducting visual inspection.

T2 Requirements for a verification dossier and relationship to as-built electrical installation.

T3 Purpose, scope and limitations of visual inspections.

T4 Documentation requirements resulting from a visual inspection.

UEENEEM044A Conduct detailed inspection of hazardous areas installations - gas atmospheres

KS01-EM044

A

Hazardous areas detailed inspection techniques

Evidence shall show an understanding of hazardous areas detailed inspection techniques to an extent indicated by the following aspects:

T1 Explosion-protection equipment — Ex certification schemes encompassing:

□ Purpose and scope of certification schemes.

☐ Schemes accepted in Australia and New Zealand.

☐ Schemes commonly used in countries other than Australia and New Zealand.

☐ Processes for having equipment certified under the acceptable Ex schemes — scheme procedures; quality management requirements; conformance testing and assessment; and requirements for ongoing certification.

T2 Flameproof (Ex 'd') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the flameproof (Ex 'd') technique. (Examples of characteristics and design features are flame paths, integrity under pressure, pressure piling, and enclosure entries).

☐ Typical situations where the flameproof explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Flameproof technique;

☐ The use of Standards in determining the requirements to which the installation of flameproof explosion-protected apparatus shall comply.

T3 Increased safety (Ex 'e') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Increased safety (Ex 'e') technique (Examples of characteristics and design features are temperature rise, maximum power dissipation, protection devices, certified components, creepage and clearance distances, absence of sparking contacts and enclosure entries).

☐ Typical situations where the Increased safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Increased safety technique;

☐ The use of Standards in determining the requirements to which the installation

of Increased safety explosion-protected apparatus shall comply.

T4 Non-sparking (Ex 'n') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Non-sparking (Ex 'n') technique (Examples of characteristics and design features are creepage and clearance distances and restricted breathing).

☐ Typical situations where the Non-sparking explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Non-sparking technique; and

☐ The use of Standards in determining the requirements to which the installation of Non-sparking explosion-protected apparatus shall comply.

T5 Intrinsic safety (Ex 'i') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits protected by the Intrinsic safety (Ex 'i') technique (Examples of characteristics and design features are field devices, cables, safe area devices, earthing, entity versus integrated system concept, simple devices and interface devices and their parameters, segregation, infallible components, current and voltage limiting, creepage and clearance distances).

☐ Typical situations where the Intrinsic safety explosion-protection technique is used;

☐ Actions or conditions that would void the protection provided the Intrinsic safety;

☐ The use of Standards in determining the requirements to which the installation of Intrinsic safety explosion-protected apparatus shall comply.

T6 Pressurization (Ex 'p') explosion-protection technique encompassing:

☐ The purpose and characteristics of the design features of apparatus and circuits

protected by the Pressurization (Ex 'p') technique (Examples of characteristics and design features are exclusion and dilution; purge periods, controlled shut down, monitoring and sources of internal release).

- ☐ Typical situations where the pressurization explosion-protection technique is used;

- ☐ Actions or conditions that would void the protection provided the pressurization technique;

- ☐ The use of Standards in determining the requirements to which the installation of pressurization explosion-protected apparatus shall comply.

T7 Enclosures for dusts (Ex 'tD') - explosion-protection technique encompassing:

- ☐ The purpose and characteristics of the design features of apparatus and circuits protected by the techniques for dusts (Examples of characteristics and design features are for enclosures; pressurization; encapsulation; and intrinsic safety).

- ☐ Typical situations where the each dust explosion-protection technique is used;

- ☐ Actions or conditions that would void the protection provided the each dust technique;

- ☐ The use of Standards in determining the requirements to which the installation of dust explosion-protected apparatus shall comply.

REQUIRED SKILLS AND KNOWLEDGE

T8 Common characteristics of explosion-protection techniques encompassing:

- ☐ The purposes of 'temperature classification' and 'gas grouping/apparatus grouping'.

- ☐ Compliance plate markings.

- ☐ Limitations of non-metallic or specific alloy enclosures.

- ☐ The purpose of conformity and certification/approval for equipment used in hazardous areas.

- ☐ Environmental conditions that may impact on explosion-protection techniques.

☐ The principles and applications of other and mixed explosion-protection techniques (Other techniques include encapsulation Ex 'm'; oil-immersion Ex 'o'; powder-filling Ex 'q', ventilation Ex 'v' and special protection Ex 's').

☐ Features and purpose of conduit seals and cable termination devices designed for use in hazardous areas (These include conduit seals and barrier and compression glands for cables with or without armouring, screening and/or drain wires).

T9 Preparation to install and maintain explosion-protected equipment in hazardous areas encompassing:

- ☐ OHS procedures to be followed when working in a hazardous area;
- ☐ the significance of information provided on the certification documentation and schedules for a given item of explosion-protected equipment;
- ☐ the typical contents of a verification dossier and their purpose; and
- ☐ limitations in the use of tools and testing devices in hazardous areas.

T10 The relationship between explosion-protected equipment, their certification documents and required locations given in specifications and layout drawings and/or written instructions encompassing:

- ☐ the purpose of markings on the compliance plate and certification documents for a given item of explosion-protected equipment;
- ☐ matching explosion-protected equipment with certification documents and the equipment specified for an installation; and
- ☐ the location the items of explosion-protected equipment for an installation from specifications and layout drawings and/or instructions.

T11 Installation Standards and requirements applicable to hazardous encompassing:

- ☐ the wiring systems permitted and not permitted in or above hazardous areas;
- ☐ equipment not permitted in or above hazardous areas;

- ☐ the regulations and Standards to which explosion-protected equipment and wiring must be installed in a hazardous area and how these are applied; and
- ☐ the documentation required as a record of the installation process, including certification documentation.

T12 Maintenance procedures in hazardous areas that will ensure the integrity of the explosion-protection technique encompassing:

- ☐ the purpose of a maintenance schedule;
- ☐ the purpose and extent of 'close', 'sample' and 'periodic' inspections;
- ☐ the features of each explosion-protection techniques that should be included in a maintenance schedule;
- ☐ the impact of environmental conditions on explosion-protected equipment, including corrosion and frequency of maintenance;
- ☐ the documentation requirements for recording the maintenance process and results;
- ☐ the use of Standards in determining the requirements with which the design of explosion-protected apparatus shall comply.

T13 Cable termination types suitable for use in hazardous areas encompassing:

- ☐ explosion protection features of cable terminations devices.
- ☐ selecting compliant cable termination devices.

T14 Terminating cables suitable for use in hazardous areas encompassing:

- ☐ installing conduit systems, where applicable, including seals to meet hazardous areas requirements. (Gases only.)
- ☐ terminating a cable with a barrier gland. (Gases only.)
- ☐ terminating a multipair, SWA, overall screened, individual screened cable into an enclosure.
- ☐ testing termination/connections of installed cables/circuits.

T15 The relationship between the documentation held in a verification dossier and

the installed equipment encompassing:

☐ consistency between the location and type of equipment with the area

classification details in the verification dossier; and

☐ equipment certification and any attached conditions that relate to the equipment as it is installed.

T16 Inspecting a hazardous area installation encompassing:

☐ typical processes for undertaking the inspection of a hazardous area installation;

☐ requirements applicable to a given installation; and

☐ reporting of an inspection of a hazardous area installation.

BAE 637 Chemical Hazardous Management

1. INTRODUCTION.....	
1.1 What are hazardous chemicals?	
1.2 Who has health and safety duties in relation to hazardous chemicals?	
1.3 What is required to manage the risks associated with hazardous chemicals?	
1.4 Prohibited and restricted hazardous chemicals	
1.5 Exposure standards	
1.6 Preparing a register and manifest of hazardous chemicals.....	
2. IDENTIFYING HAZARDS.....	
2.1 How to identify which chemicals are hazardous.....	
2.2 Safety Data Sheets (SDS)	
2.3 Labels	
2.4 Other sources of information	
3. ASSESSING RISKS	
3.1 Decide who should do the assessment	
3.2 Decide what sort of risk assessment is appropriate	
3.3 Things to consider in assessing health risks.....	
3.4 How to assess physicochemical risks.....	
4. CONTROLLING RISKS.....	
4.1 The hierarchy of control.....	
4.2 <i>Specific control</i> measures	
4.3 Maintaining control measures.....	
4.4 Providing information, training, instruction and supervision	
5. MONITORING AND REVIEW	
5.1 Health monitoring	
5.2 Reviewing control measures.....	
6. EMERGENCY PREPAREDNESS	
6.1 Emergency plan	
6.2 Emergency equipment and safety equipment.....	

6.3	Fire protection systems
6.4	Monitors and alarms
6.5	Automatic sprinkler systems
6.6	Water supply

BAE 638 Environmental Engineering in Hazardous Areas

HAZARDOUS MATERIALS AND HAZARDOUS WASTE MANAGEMENT

NOISE

SOCIOECONOMICS

TRANSPORTATION

UTILITIES

ENVIRONMENTAL JUSTICE

SUBSISTENCE

Mercury in the Environment

Health Hazards

MINE HEALTH AND SAFETY ACT

PIPELINE SAFETY REGULATIONS

[Renewable Energy Engineering Public Seminar + Diploma& Bachelor of Engineering \(Renewable Energy\).](#)

Master of Science (Renewable Energy Engineering).

Professional Diploma in Structural Engineering (120 Credits)

Master of Science (Structural Engineering) (240 Credits)

Pre requisite

Advanced Diploma in Civil Engineering or Equivalent with 60 credits advanced standing

Subjects (Totalling 60 Credits)

- CE113 Structure 1 (3 credits)
- CE114 Structure 2 (2 Credits)
- BAE404S Engineering Materials & Strength of Materials (10 credits)
- BAE 403S Engineering Mechanics (10 credits)
- RE010 Engineering Materials (5 credits)
- BAE621S Structural Engineering (Civil) (10 credits)
- BAE424S Reinforced Concrete (Civil) (10 credits)
- BAE 701 Engineering Fundamental (10 credits)

(BAE403S, BAE404S, BAE621S and BAE424S are more intensive version of BAE403, BAE404, BAE621 and BAE424)

Master Course (120 Credits transfer + 120 Credits of study = 240 credits)

- BAE 708 Engineering Knowledge (10 Credits)
- BAE 705 Engineering Competency Development (10 Credits)
- BAE 706 Engineering Report Writing Development (10 Credits)
- BAE 707 Engineering Ethics (10 Credits)
- BAE 709 Design Project (40 Credits)
- BAE 709S Structural Design Project (20 Credits)

(BAE706, BAE709 and BAE709S can be concurrently presented)

Advanced Diploma of Construction Studies

RIGGING

Scaffolding

<http://www.highlightcomputer.com/CivilDegreeInstruction.pdf>

<http://www.highlightcomputer.com/CivilDegreeInstruction1.pdf>

<http://www.highlightcomputer.com/CivilDiplomaInstruction.pdf>

Written Lessons References+ Text Books

<http://www.filefactory.com/file/6wu38l73pdhv/B%20App%20Eng%20%28Building%20Service%29%2CDip%20Civil%20Engg%20Study%20>

Advanced Diploma of Construction Studies

	GE+IE UNITS	TRAINING PACKAGE UNITS	
GE1	Electrical Wiring (EE).	MEM18049C MEM18050C MEM18051B	Disconnect/reconnect fixed wired equipment up to 1000 volts a.c./1500 volts d.c. Disconnect/reconnect fixed wired equipment over 1000 volts a.c./1500 volts d.c. Fault find and repair/rectify complex electrical circuits
		MEM18070C	Modify complex electrical circuits and systems
		MEM18073A	Perform advanced equipment testing and diagnostics on mobile plant and equipment
GE2	Electrical Machine (EE).		
GE3	Electrical Distribution (EE)		
GE4	Power System Operation (EE).		
GE5	Power System Protection		
GE6	Occupational Health & Safety.	MEM30008A BSBWHS506A MEM13002B MSS403032A MEM13010A	Apply basic economic and ergonomic concepts to evaluate engineering applications Contribute to developing, implementing and maintaining WHS management systems Undertake occupational health and safety activities in the workplace Analyse manual handling processes Supervise occupational health and safety in an industrial work environment.
		BSBOHS504B	* Apply principles of OHS risk management
		BSBPMG505A	Manage project quality
		BSBPMG508A	Manage project risk
		CPCCB5014A	Conduct asbestos assessment associated with removal
		CPCCOHS1001A	Work safely in the construction industry
GE7	Project Management (EE/CE/ME).	MEM22012A MEM22013A	Coordinate resources for an engineering project or operation Coordinate engineering projects
		CPCCB5005A	Select and manage building and construction contractors
		CPCCB5007B	Administer the legal obligations of a building or construction contractor

		CPCBC5013A	Develop professional technical and legal reports on building and construction projects
		CPCBC4009B	Apply legal requirements to building and construction projects
GE8	Electronics (EE)		
GE9	Process Control (EE/ME)	MEM23112A MEM10007C	Investigate electrical and electronic controllers in engineering applications Modify control systems
GE10	Industrial Electronics (EE)	MEM30026A	Select and test components for simple electronic switching and timing circuits
GE11	Programmable Logic Controller (EE/ME)	MEM23003A MEM30027A MEM23116A MSS402061A MSS404061A	Operate and program computers and/or controllers in engineering situations Prepare basic programs for programmable logic controllers Evaluate programmable logic controller and related control system component applications Use SCADA systems in operations Facilitate the use of SCADA systems in a team or work area
GE12	Photovoltaic Solar Electrical System		
GE13	Principle of Engine (ME)		
GE14	Fitting & Machining (ME)	MEM14005A MEM15004B MEM15005B MEM16010A MEM18002B MEM18003C MEM18006C MEM18010C MEM18055B MEM12003B MEM12023A MEM12005B MEM12022B MEM12003B MEM12004B MEM12005B	Plan a complete activity Perform inspection Select and control inspection processes and procedures Write reports Use power tools/hand held operations Use tools for precision work Repair and fit engineering components Perform equipment condition monitoring and recording Dismantle, replace and assemble engineering components Perform precision mechanical measurement Perform engineering measurements Calibrate measuring equipment Program coordinate measuring machines (advanced) Perform precision mechanical measurement Perform precision electrical/electronic measurement Calibrate measuring equipment
GE15	Building Construction (CE)	CPCBC4001A	* Apply building codes and standards to the construction process for low rise building projects
		CPCBC5004A	Supervise and apply quality standards to the selection of building and construction materials
		CPCBC4005A	Produce labour and material schedules for ordering
		CPCBC4006B	Select, procure and store construction materials for low rise projects
GE16	Engineering Drawing I (EE/CE/ME)	MEM30031A MEM30032A MEM30033A	Operate computer-aided design (CAD) system to produce basic drawing elements Produce basic engineering drawings Use computer-aided design (CAD) to create and display 3-D models

		MEM09153A MEM09155A MEM09156A MEM09157A MEM09158A MEM09204A MEM09205A MEM09002B MEM09004B MEM09006B MEM09007B MEM09008B MEM09009C MEM09010C MEM09023A	Apply CAD modelling and data management techniques to aeronautical engineering designs Prepare mechanical models for computer-aided engineering (CAE) Prepare mechatronic models for computer-aided engineering (CAE) Perform mechanical engineering design drafting Perform mechatronics engineering design drafting Produce basic engineering detail drawings Produce electrical schematic drawings Interpret technical drawing Perform electrical/electronic detail drafting Perform advanced engineering detail drafting Perform advanced mechanical detail drafting Perform advanced structural detail drafting Create 2D drawings using computer aided design system Create 3D models using computer aided design system Create 3D code files using computer aided manufacturing system
		CPCCB4014A	Prepare simple building sketches and drawings
GE17	Pipe Fitting (CE/ME)		
GE18	Air-conditioning & Refrigeration (ME)	MEM23144A MEM23146A MEM23147A MEM23149A MEM23150A MEM23153A MEM23140A MEM23142A MEM23129A MEM23130A MEM18091B MEM18092B MEM18093B	Contribute to the design of a commercial refrigeration system Contribute to the design of industrial refrigeration systems Contribute to the design of hydronic systems Contribute to the design of commercial and industrial exhaust systems Contribute to the design of heating systems Contribute to the design of heat exchanger systems Determine operational parameters for building HVAC hydronic systems Determine psychrometric processes and system performance Evaluate thermal loads for heating, ventilation, air conditioning and refrigeration Coordinate servicing and fault-finding of HVACR control systems Maintain and repair multi stage, cascade and/or ultra-cold industrial refrigeration systems Maintain and repair commercial and/or industrial refrigeration and/or air conditioning controls Maintain and repair integrated industrial refrigeration and/or large air handling system controls
GE19	Computer Programming (EE/CE/ME)		
GE20	Computer Networking (EE)		

GE21	<u>Welding (ME)</u>	MEM05024B MEM05025C MEM05026C MEM05042B MEM05043B MEM05044B MEM05045B MEM05046B	Perform welding supervision Perform welding/fabrication inspection Apply welding principles Perform welds to code standards using flux core arc welding process Perform welds to code standards using gas metal arc welding process Perform welds to code standards using gas tungsten arc welding process Perform pipe welds to code standards using manual metal arc welding process Perform welds to code standards using manual metal arc welding process
GE22	<u>Painting & Decoration (CE)</u>		
GE23	<u>Pneumatics (CE/ME)</u>	MEM30011A	Set up basic pneumatic circuits
GE24	<u>Manufacturing Management (ME)</u>	MEM14002B MSS405075A MEM14003B MEM14087A MEM15007B MEM15008B MEM14091A MEM15011B MEM15012B MEM22014A MEM22015A MEM22017A MEM22018A MEM30013A MEM30014A MEM30015A MEM30016A MEM30017A MEM30018A MEM30019A MEM30020A MEM30021A MEM30022A MEM30023A MEM30024A	Undertake basic process planning Facilitate the development of a new product Undertake basic production scheduling Apply manufactured product design techniques Conduct product and/or process capability studies Perform advanced statistical quality control Integrate manufacturing fundamentals into an engineering task Exercise external quality assurance Maintain/supervise the application of quality procedures Coordinate engineering-related manufacturing operations Source and estimate engineering materials requirements Coordinate continuous improvement and technical development Coordinate sales and promotion of engineering-related products or services Assist in the preparation of a basic workplace layout Apply basic just in time systems to the reduction of waste Develop recommendations for basic set up time improvements Assist in the analysis of a supply chain Use basic preventative maintenance techniques and tools Undertake basic process planning Use resource planning software systems in manufacturing Develop and manage a plan for a simple manufacturing related project Prepare a simple production schedule Undertake supervised procurement activities Prepare a simple cost estimate for a manufactured product Participate in quality assurance techniques
ME 205	Manufacturing Processes-and-Materials		
Mgt 503	<u>Production & Operation Management</u>		
Mgt 505	<u>Quality Management and Manufacturing Engineering</u>		

		MEM15001B MEM23123A MEM23131A MEM23132A MEM14001B MEM14002B MEM14003B	Perform basic statistical quality control Evaluate manufacturing processes Evaluate rapid prototyping applications Evaluate rapid manufacturing processes Schedule material deliveries Undertake basic process planning Undertake basic production scheduling
ME 303	Computer Aided Design and Manufacturing	MEM30009A	Contribute to the design of basic mechanical systems
ME 534	Numerical Control	MEM23122A MEM05053A MEM05054A MEM07016C MEM07018C MEM07019C MEM07020C MEM07022C MEM07023C MEM07039A	Evaluate computer integrated manufacturing systems Set and edit computer controlled thermal cutting machines Write basic NC/CNC programs for thermal cutting machines Set and edit computer controlled machines/processes Write basic NC/CNC programs Program NC/CNC machining centre Program multiple spindle and/or multiple axis NC/CNC machining centre Program CNC wire cut machines Program and set up CNC manufacturing cell Write programs for industrial robots
ME 434	Mechtronics-Robotics	MEM23126A MEM23064A	Evaluate industrial robotic applications Select and test mechatronic engineering materials
GE25	Surveying (CE)	CPCCB5006B	Apply site surveys and set-out procedures to medium rise building projects
		CPCCB4018A	Apply site surveys and set-out procedures to building and construction projects
GE26	Energy Efficient Building Design	MEM23141A	Complete a building thermal performance survey
		CPCCB5009A	Identify services layout and connection methods to medium rise construction projects
		CPCCB5011A	Manage environmental management practices and processes in building and construction
		CPCSUS5002A	Develop action plans to retrofit existing buildings for energy efficiency
		CPCSUS5003A	Manage energy efficient building methods and strategies
		CPCCB4020A	Build thermally efficient and sustainable structures
GE28	Hydraulic (CE/ME)	MEM30010A	Set up basic hydraulic circuits

GE29	Materials & Corrosion Prevention (CE/ME)	MEM30007A	Select common engineering materials
GE32	Electronic Security Installation		
GE33	Explosion Protection		
GE34	Engineering Business Management	MSAENV672B MSS402030A MSS403001A MSS403002A MSS403010A MSS403021A MSS403023A MSS403030A MSS403040A MSS403051A MSS404050A MSS404052A MSS404060A MSS405001A MSS405002A MSS405003A MSS405004A MSS405005A MSS405010A MSS405011A MSS405012A MSS405020A MSS405021A MSS405022A MSS405023A MSS405030A MSS405031A MSS405040A MSS405050A MSS405052A MSS405060A MSS405061A MEM23119A MEM30028A	Develop workplace policy and procedures for sustainability Apply cost factors to work practices Implement competitive systems and practices Ensure process improvements are sustained Facilitate change in an organisation implementing competitive systems and practices Facilitate a Just in Time system Monitor a levelled pull system of operations Improve cost factors in work practices Facilitate and improve implementation of 5S Mistake proof an operational process Undertake process capability improvements Apply statistics to operational processes Facilitate the use of planning software systems in a work area or team Develop competitive systems and practices for an organisation Analyse and map a value stream Manage a value stream Develop business plans in an organisation implementing competitive systems and practices Manage competitive systems and practices responding to individual and unique customer orders Manage relationships with non-customer external organisations Manage people relationships Manage workplace learning Develop quick changeover procedures Develop a Just in Time system Design a process layout Develop a levelled pull system for operations and processes Optimise cost of a product or service Undertake value analysis of product or process costs in terms of customer requirements Manage 5S system in an organisation Determine and improve process capability Design an experiment Develop the application of enterprise control systems in an organisation Determine and establish information collection requirements and processes Evaluate continuous improvement processes Assist in sales of technical products/systems

		MEM14005A MEM15002A MEM16006A MEM17003A	Plan a complete activity Apply quality systems Organise and communicate information Assist in the provision of on the job training
		BSBCUS501C	* Manage quality customer service
		BSBFIM501A	* Manage budgets and financial plans
		BSBHRM509A	* Manage rehabilitation or return to work programs
		BSBINN502A	Build and sustain an innovative work environment
		BSBITA401A	Design databases
		BSBITU402A	Develop and use complex spreadsheets
		BSBITU404A	Produce complex desktop published documents
		BSBLED502A	* Manage programs that promote personal effectiveness
		BSBMGT502B	* Manage people performance
		BSBMGT515A	* Manage operational plan
		BSBRSK501B	* Manage risk
		BSBSLS502A	* Lead and manage a sales team
		BSBWOR501B	* Manage personal work priorities and professional development
		BSBWOR502B	* Ensure team effectiveness
		CPCBCB4024A	Resolve business disputes
		CPPDSM5022A	Implement asset management plan
IE1	Engineering Mathematics	MEM23007A MEM23008A MEM23004A MEM23005A MEM12025A MEM12024A MEM12025A	Apply calculus to engineering tasks Apply advanced algebra and numerical methods to engineering tasks Apply technical mathematics Apply statistics and probability techniques to engineering tasks Use graphical techniques and perform simple statistical computations Perform computations Use graphical techniques and perform simple statistical computations
IE2	Engineering Physics		
IE3	Material Science	MEM24001B MEM24003B MEM24005B MEM24007B MEM24009B	Perform basic penetrant testing Perform basic magnetic particle testing Perform basic eddy current testing Perform ultrasonic thickness testing Perform basic radiographic testing
GE30 GE31 IE5	Bricklaying.(CE). Sprouting & Guttering.(CE). Mechanical Science	MEM14001B MEM23063A MEM23138A	Schedule material deliveries Select and test mechanical engineering materials Evaluate suitability of materials for engineering-related applications
IE4	Advanced Engineering Mathematics		

IE6	Principle of Electricity	MEM23111A	Select electrical equipment and components for engineering applications
IE7	Electrical Circuit I (EE)	MEM30025A	Analyse a simple electrical system circuit
IE8	Electrical Circuit II (EE)		
IE9	Advanced Building Construction (CE)		
IE10	Transmission Line (EE)		
IE11	Electrical & Mechanical Engineering Work Experience		
IE12	Civil Engineering Work Experience		
IE13	Workshop	MEM18001C MEM23133A MEM23134A MEM23135A MEM23136A MEM23137A MEM30029A	Use hand tools Evaluate rapid tooling applications Evaluate jigs and fixtures Evaluate moulding tools and processes Evaluate stamping and forging tools Evaluate rolling tools and processes Use workshop equipment and processes to complete an engineering project
IE15	Advanced Engineering Design & Project Work	CPCBC4003A	* Select and prepare a construction contract
		CPCBC5010B	* Manage construction work
CE115	Estimating & Specification	CPCBC4004A	* Identify and produce estimated costs for building and construction projects
		CPCBC4013A	* Prepare and evaluate tender documentation
		CPCBC4013A	* Prepare and evaluate tender documentation
		CPCBC5002A	* Monitor costing systems on medium rise building and construction projects
		CPCBC5003A	* Supervise the planning of on-site medium rise building or construction work
		CPCBC4012B	Read and interpret plans and specifications
IE16	Power System Analysis-Fault Calculation		
IE17	Power Line Design		
IE18	Building services		
IE19	PCB Design		
IE20	Maths References		
IE21	Electrical Principle		
IE22	Co-generation		
IE23	Industrial Computer System	MSS402060A	Use planning software systems in operations
		MEM16008A	Interact with computing technology
IE24	Microprocessor	MEM23117A MEM23118A	Evaluate microcontroller applications Apply production and service control techniques
IE25	Power System Fundamental		

IE26	Electrical Communication Fundamental		
IE27	Control Concept		
IE28	Electronic Signal & System		
IE29	Electrical Estimating		
IE30	Electronic Workbench		
IE31	Introduction to Renewable Energy Technology.	MSS405070A MSAENV472B	Develop and manage sustainable energy practices Implement and monitor environmentally sustainable work practices
		MSAENV272B	Participate in environmentally sustainable work practices
		CPCSUS5001A	Develop workplace policies and procedures for sustainability
IE32	Telecommunication Cabling & Installation		
IE33	Hybrid Energy System		
IE34	Electricity Supply Industrial Skills		
ME 101 ME 103	Applied Mathematics Engineering Mechanics	MEM30005A MEM30006A MEM23109A	Calculate force systems within simple beam structures Calculate stresses in simple structures Apply engineering mechanics principles
ME 102 ME 107	Engineering Thermodynamics Heat Transfer	MEM23006A	Apply fluid and thermodynamics principles in engineering
ME201 ME 204 ME 301	Introduction to Fluid Mechanics Engineering Fluid Mechanics Fluid Dynamics	MEM23113A MEM23114A MEM23115A MEM18053B	Evaluate hydrodynamic systems and system components Evaluate thermodynamic systems and components Evaluate fluid power systems Modify fluid power control systems
BAE312	Design Engineering (2.pt)	MEM14085A MEM14086A MEM14089A MEM14090A	Apply mechanical engineering analysis techniques Apply mechatronic engineering analysis techniques Integrate mechanical fundamentals into an engineering task Integrate mechatronic fundamentals into an engineering task
BAE612	Engineering Metallurgy	MEM15010B MEM24002B MEM24004B MEM24006B MEM24008B MEM24010B	Perform laboratory procedures Perform penetrant testing Perform magnetic particle testing Perform eddy current testing Perform ultrasonic testing Perform radiographic testing

		MEM24011B MEM24012C MSATCM304A MSATCM406A MSATCM501A MSATCM504A MSATCM511A MEM04020A MEM04021A MEM04022A MEM04023A	Establish non-destructive tests Apply metallurgy principles Interpret basic binary phase diagrams Apply basic chemical principles to metallurgy Calculate and predict chemical outcomes in metallurgical situations Select metal forming process Apply metallurgy principles and practice to determine metal forming and shaping processes Supervise individual ferrous melting and casting operation Supervise individual non ferrous melting and casting operation Examine appropriateness of methoding for mould design Undertake prescribed tests on foundry related materials
ME 305	Corrosion Prevention	MSATCM517A	Determine corrosion prevention strategies for metal and alloys
BAE611	Maintenance Engineering	MEM14088A MEM14092A MEM23125A MSS404081A MSS404082A MSS405081A MSS405083A	Apply maintenance engineering techniques to equipment and component repairs and modifications Integrate maintenance fundamentals into an engineering task Evaluate maintenance systems Undertake proactive maintenance analyses Assist in implementing a proactive maintenance strategy Develop a proactive maintenance strategy Adapt a proactive maintenance strategy for a seasonal or cyclical business
BAE311	Plant Engineering.(2_pt)	MEM18016B MEM22007A	Analyse plant and equipment condition monitoring results Manage environmental effects of engineering activities
BAE614	Machine Design	MEM23120A	Select mechanical machine and equipment components
GE27	Machine Principle(ME)	MEM23121A MEM23124A MEM10008B	Analyse loads on frames and mechanisms Measure and analyse noise and vibration Undertake commissioning procedures for plant and/or equipment
CE113	Structure 1	CPCBC5018A	* Apply structural principles to the construction of medium rise buildings
CE114	Structure 2	CPCBC4011B	Apply structural principles to commercial low rise constructions

GE36 RIGGING

Reference Notes Click [HERE](#)

Modules/Units	Name	Hrs	National Module(s)
CPCCCM1012A	Work effectively and sustainably in the construction industry	12	CPCCCM1012A
CPCCCM1013A	Plan and organise work	12	CPCCCM1013A
CPCCCM1014A	Conduct workplace communication	8	CPCCCM1014A
CPCCCM1015A	Carry out measurements and calculations	36	CPCCCM1015A
CPCCCM2001A	Read and interpret plans and specifications	16	CPCCCM2001A
CPCCCM2010B	Work safely at heights	16	CPCCCM2010B
CPCCCM3001C	Operate elevated work platforms	32	CPCCCM3001C
CPCCCM3003A	Work safely around power sources, services and assets	24	CPCCCM3003A
CPCCLRG3001A	Licence to perform rigging basic level	96	CPCCLRG3001A
CPCCLRG3002A	Licence to perform rigging intermediate level	24	CPCCLRG3002A
CPCCOHS2001A	Apply OHS requirements, policies and procedures in the construction industry	16	CPCCOHS2001A

Group CPC30711-01V03G02 GROUP 2 ELECTIVE UNITS LISTED IN CPC30711

Modules/Units	Name	Hrs	National Module(s)
BSBSMB301A	Investigate micro business opportunities	30	BSBSMB301A
BSBSMB406A	Manage small business finances	40	BSBSMB406A
CPCCCM2007B	Use explosive power tools	8	CPCCCM2007B
CPCCCM3002A	Operate a truck mounted loading crane	32	CPCCCM3002A
CPCCLDG3001A	Licence to perform dogging	80	CPCCLDG3001A
CPCCLHS3001A	Licence to operate a personnel and materials hoist	32	CPCCLHS3001A
CPCCLHS3002A	Licence to operate a materials hoist	24	CPCCLHS3002A
CPCCRI3001A	Operate personnel and materials hoists	16	CPCCRI3001A
CPCCRI3012A	Perform basic rigging	48	CPCCRI3012A
CPCCRI3013A	Perform intermediate rigging	60	CPCCRI3013A
CPCCRI3014A	Perform advanced structural steel erection	60	CPCCRI3014A
CPCCRI3015A	Perform advanced tilt-up slab erection	60	CPCCRI3015A
CPCCRI3016A	Perform advanced tower crane erection	60	CPCCRI3016A

CPCCSC2002A	Erect and dismantle basic scaffolding	32	CPCCSC2002A
CPCCSF2003A	Cut and bend materials using oxy-LPG equipment	18	CPCCSF2003A
RIIOHS302A	Implement traffic management plan	25	RIIOHS302A
TLILIC2001A	Licence to operate a forklift truck	40	TLILIC2001A

Group CPC30711-01V03G03 GROUP 3 UNITS FROM ANY CERT III OR CERT IV IN CPC08 OR ANY OTHER TP

Modules/Units	Name	Hrs	National Module(s)
CPCCDO3011A	Perform dogging	40	CPCCDO3011A
CPCCLRG4001A	Licence to perform rigging advanced level	24	CPCCLRG4001A
CPCCLSF2001A	Licence to erect, alter and dismantle scaffolding basic level	40	CPCCLSF2001A
TLILIC2005A	Licence to operate a boom-type elevating work platform (boom length 11 metres or more)	30	TLILIC2005A

Scaffolding

Reference Notes Click [HERE](#)

GE35	SCAFFOLDING	MEM11001C	Erect/dismantle scaffolding and equipment
		MEM11002C	Erect/dismantle complex scaffolding and equipment
		MEM11003B	Coordinate erection/dismantling of complex scaffolding/equipment
		MEM11004B	Undertake dogging

Modules/Units	Name	Hrs	National Module(s)
CPCCCM1012A	Work effectively and sustainably in the construction industry	12	CPCCCM1012A
CPCCCM1013A	Plan and organise work	12	CPCCCM1013A
CPCCCM1014A	Conduct workplace communication	8	CPCCCM1014A
CPCCCM1015A	Carry out measurements and calculations	36	CPCCCM1015A
CPCCCM2001A	Read and interpret plans and specifications	16	CPCCCM2001A
CPCCLSF2001A	Licence to erect, alter and dismantle scaffolding basic level	40	CPCCLSF2001A
CPCCLSF3001A	Licence to erect, alter and dismantle scaffolding intermediate level	40	CPCCLSF3001A
CPCCOHS2001A	Apply OHS requirements, policies and procedures in the construction industry	16	CPCCOHS2001A
CPCCSC2001A	Safely handle and use scaffolding tools and equipment	40	CPCCSC2001A

Group CPC30911-01V02G02 GROUP 2 ELECTIVE UNITS LISTED IN CPC30911

Modules/Units	Name	Hrs	National Module(s)
BSBSMB301A	Investigate micro business opportunities	30	BSBSMB301A
BSBSMB406A	Manage small business finances	40	BSBSMB406A
CPCCCM2007B	Use explosive power tools	8	CPCCCM2007B
CPCCCM2010B	Work safely at heights	16	CPCCCM2010B
CPCCCM3001C	Operate elevated work platforms	32	CPCCCM3001C
CPCCCM3002A	Operate a truck mounted loading crane	32	CPCCCM3002A
CPCCLDG3001A	Licence to perform dogging	80	CPCCLDG3001A
CPCCRI3001A	Operate personnel and materials hoists	16	CPCCRI3001A
CPCCSC2002A	Erect and dismantle basic scaffolding	32	CPCCSC2002A
CPCCSC3001A	Erect and dismantle intermediate scaffolding	48	CPCCSC3001A
CPCCSF2003A	Cut and bend materials using oxy-LPG equipment	18	CPCCSF2003A
RIIOHS302A	Implement traffic management plan	25	RIIOHS302A
TLILIC2001A	Licence to operate a forklift truck	40	TLILIC2001A

Group CPC30911-01V02G03 GROUP 3 UNITS FROM ANY CERT III OR CERT IV IN CPC08 OR ANY OTHER TP

Modules/Units	Name	Hrs	National Module(s)
BSBADM307B	Organise schedules	15	BSBADM307B
CPCCLRG3001A	Licence to perform rigging basic level	96	CPCCLRG3001A
CPCCLSF4001A	Licence to erect, alter and dismantle scaffolding advanced level	40	CPCCLSF4001A
FSKNUM14	Calculate with whole numbers and familiar fractions, decimals and percentages for work	30	FSKNUM14
FSKNUM15	Estimate, measure and calculate with routine metric measurements for work	30	FSKNUM15
TLILIC2005A	Licence to operate a boom-type elevating work platform (boom length 11 metres or more)	30	TLILIC2005A

Advanced Diploma of Engineering –Mechanical

JEWELLERY MAKING

WATCH MAKING

MARINE

Welding

FITTING & MACHINING

HYDRAULICS

METAL FORMING

<http://www.highlightcomputer.com/MechanicalDegreeInstruction.pdf>

<http://www.highlightcomputer.com/MechanicalDiplomaInstruction.pdf>

Written Lessons References+ Text Books

<http://www.filefactory.com/file/720e13y9btpb/B%20App%20Eng%20%28Mechtronics%29%2CDip%20%26amp%3B%20Adv%20Dip%20M>

Advanced Diploma of Engineering –Mechanical

	GE+IE UNITS	TRAINING PACKAGE UNITS	
GE1	Electrical Wiring.(EE).	MEM18049C MEM18050C MEM18051B MEM18070C MEM18073A MEM30025A MEM03004B MEM03005B MEM10001C MEM10011B MEM18045B MEM18046B	Disconnect/reconnect fixed wired equipment up to 1000 volts a.c./1500 volts d.c. Disconnect/reconnect fixed wired equipment over 1000 volts a.c./1500 volts d.c. Fault find and repair/rectify complex electrical circuits Modify complex electrical circuits and systems Perform advanced equipment testing and diagnostics on mobile plant and equipment Analyse a simple electrical system circuit Perform electronic/electrical assembly (production) Rework and repair (electrical/electronic production) Erect structures Terminate and connect specialist cables Fault find/repair electrical equipment/components up to 250 volts single phase supply Fault find/repair electrical equipment/components up to 1000 volts a.c./1500 volts d.c.
GE2	Electrical Machine.(EE).		
GE3	Electrical Distribution.(EE).		
GE4	Power System Operation.(EE).		
GE5	Power System Protection		
GE6	Occupational Health & Safety.	MEM30008A BSBWHS506A MEM13002B	Apply basic economic and ergonomic concepts to evaluate engineering applications Contribute to developing, implementing and maintaining WHS management systems Undertake occupational health and safety activities in the workplace

		MSS403032A MEM13010A	Analyse manual handling processes Supervise occupational health and safety in an industrial work environment.
GE7	Project Management (EE/CE/ME).	MEM22012A MEM22013A	Coordinate resources for an engineering project or operation Coordinate engineering projects
GE8	Electronics (EE).	MEM18056B MEM18058C MEM18059B MSATCM304A	Diagnose and repair analog equipment and components Modify electronic equipment Modify electronic systems Interpret basic binary phase diagrams
GE9	Process Control (EE/ME).	MEM18054B MEM23112A MEM18060B MEM18061B MEM18062B	Fault find, test and calibrate instrumentation systems and equipment Investigate electrical and electronic controllers in engineering applications Maintain, repair control instrumentation - single and multiple loop control systems Maintain/calibrate complex control systems Install, maintain and calibrate instrumentation sensors, transmitters and final control elements
		MEM18057B	Maintain/service analog/digital electronic equipment
		MEM18063B	Terminate signal and data cables
GE10	Industrial Electronics (EE).	MEM30026A MEM18047B MEM18048B	Select and test components for simple electronic switching and timing circuits Diagnose and maintain electronic controlling systems on mobile plant Fault find and repair/rectify basic electrical circuits
GE11	Programmable Logic Controller (EE/ME).	MEM23003A MEM30027A MEM23116A MSS402061A MSS404061A MEM10004B MEM10005B	Operate and program computers and/or controllers in engineering situations Prepare basic programs for programmable logic controllers Evaluate programmable logic controller and related control system component applications Use SCADA systems in operations Facilitate the use of SCADA systems in a team or work area Enter and change programmable controller operational parameters Commission programmable controller programs
GE12	Photovoltaic Solar Electrical System		
GE13	Principle of Engine(ME).	MEM18001C MEM18002B MEM18003C MEM18004B MEM18005B	Use hand tools Use power tools/hand held operations Use tools for precision work Maintain and overhaul mechanical equipment Perform fault diagnosis, installation and removal of bearings

	MEM18006C	Repair and fit engineering components
	MEM18007B	Maintain and repair mechanical drives and mechanical transmission assemblies
	MEM18008B	Balance equipment
	MEM18009B	Perform levelling and alignment of machines and engineering components
	MEM18012B	Perform installation and removal of mechanical seals
	MEM18013B	Perform gland packing
	MEM18014B	Manufacture press tools and gauges
	MEM18015B	Maintain tools and dies
	MEM18018C	Maintain pneumatic system components
	MEM18020B	Maintain hydraulic system components
	MEM18024B	Maintain engine cooling systems
	MEM18025B	Service combustion engines
	MEM18026C	Test compression ignition fuel systems
	MEM18027C	Overhaul engine fuel system components
	MEM18028B	Maintain engine lubrication systems
	MEM18029B	Tune diesel engines
	MEM18030B	Diagnose and rectify low voltage electrical systems
	MEM18031B	Diagnose and rectify low voltage starting systems
	MEM18032B	Maintain induction/exhaust systems
	MEM18033B	Perform engine bottom-end overhaul
	MEM18034B	Perform engine top-end overhaul
	MEM18035B	Diagnose and rectify braking systems
	MEM18037B	Diagnose and rectify low voltage charging systems
	MEM18038B	Maintain wheels and tyres
	MEM18039B	Diagnose and rectify track type undercarriage
	MEM18040B	Maintain suspension systems
	MEM18041B	Maintain steering systems
	MEM18042C	Diagnose and rectify manual transmissions
	MEM18043C	Diagnose and rectify automatic transmissions
	MEM18044C	Diagnose and rectify drive line and final drives
	MEM18001C	Use hand tools
	MEM18002B	Use power tools/hand held operations
	MEM18003C	Use tools for precision work
	MEM18004B	Maintain and overhaul mechanical equipment

		MEM18005B	Perform fault diagnosis, installation and removal of bearings
		MEM18006C	Repair and fit engineering components
GE14	Fitting & Machining (ME)	MEM14005A MEM15004B MEM15005B MEM16010A MEM18002B MEM18003C MEM18006C MEM18010C MEM18055B MEM12003B MEM12023A MEM12005B MEM12022B MEM03001B MEM03002B MEM03003B MEM03006B MEM12001B MEM12002B MEM12006C MEM12007D MEM12019B MEM12020B MEM12021B MEM12022B MEM12001B MEM18055B	Plan a complete activity Perform inspection Select and control inspection processes and procedures Write reports Use power tools/hand held operations Use tools for precision work Repair and fit engineering components Perform equipment condition monitoring and recording Dismantle, replace and assemble engineering components Perform precision mechanical measurement Perform engineering measurements Calibrate measuring equipment Program coordinate measuring machines (advanced) Perform manual production assembly Perform precision assembly Perform sheet and plate assembly Set assembly stations Use comparison and basic measuring devices Perform electrical/electronic measurement Mark off/out (general engineering) Mark off/out structural fabrications and shapes Measure components using coordinate measuring machines Set and operate coordinate measuring machines Program coordinate measuring machines Program coordinate measuring machines (advanced) Use comparison and basic measuring devices Dismantle, replace and assemble engineering components
GE15	Building Construction (CE)	CPCCB4007A CPCCB4012B CPCCB4014A CPCCB4018A CPCPDR4011B CPCPDR4012B CPCPFS4024A	Plan building or construction work Read and interpret plans and specifications Prepare simple building sketches and drawings Apply site surveys and set-out procedures to building and construction projects Design and size sanitary drainage systems Design and size stormwater drainage systems Design residential and domestic fire sprinkler systems

		ICTCBL2136A PMBFIN203C PMBPROD247C PMBTECH405B	Install, maintain and modify customer premises communications cabling: ACMA Restricted Rule Repair product imperfections Hand lay up composites Repair damaged fibre-composites structures
GE16	Engineering Drawing I (EE/CE/ME)	MEM30031A MEM30032A MEM30033A MEM09153A MEM09155A MEM09156A MEM09157A MEM09158A MEM09204A MEM09205A MEM09002B MEM09002B MEM09003B MEM09005B MEM09011B MEM09021B MEM09022A	Operate computer-aided design (CAD) system to produce basic drawing elements Produce basic engineering drawings Use computer-aided design (CAD) to create and display 3-D models Apply CAD modelling and data management techniques to aeronautical engineering designs Prepare mechanical models for computer-aided engineering (CAE) Prepare mechatronic models for computer-aided engineering (CAE) Perform mechanical engineering design drafting Perform mechatronics engineering design drafting Produce basic engineering detail drawings Produce electrical schematic drawings Interpret technical drawing Interpret technical drawing Prepare basic engineering drawing Perform basic engineering detail drafting Apply basic engineering design concepts Interpret and produce curved 3-dimensional shapes Create 2D code files using computer aided manufacturing system
GE17	Pipe Fitting (CE/ME)	MEM10010B	Install pipework and pipework assemblies
GE18	Air-conditioning & Refrigeration (ME)	MEM23144A MEM23146A MEM23147A MEM23149A MEM23150A MEM23153A MEM23140A MEM23142A MEM23129A MEM23130A MEM18091B	Contribute to the design of a commercial refrigeration system Contribute to the design of industrial refrigeration systems Contribute to the design of hydronic systems Contribute to the design of commercial and industrial exhaust systems Contribute to the design of heating systems Contribute to the design of heat exchanger systems Determine operational parameters for building HVAC hydronic systems Determine psychrometric processes and system performance Evaluate thermal loads for heating, ventilation, air conditioning and refrigeration Coordinate servicing and fault-finding of HVACR control systems Maintain and repair multi stage, cascade and/or ultra-cold industrial refrigeration systems

		MEM18092B	Maintain and repair commercial and/or industrial refrigeration and/or air conditioning controls
		MEM18093B	Maintain and repair integrated industrial refrigeration and/or large air handling system controls
		MEM10009B	Install refrigeration and air conditioning plant and equipment
		MEM10013A	Install split air conditioning systems and associated pipework
		MEM18084A	Commission and decommission split air conditioning systems
		MEM18085A	Install, service and repair domestic air conditioning and refrigeration appliances
		MEM18086B	Test, recover, evacuate and charge refrigeration systems
		MEM18087B	Service and repair domestic and light commercial refrigeration and air conditioning equipment
		MEM18088B	Maintain and repair commercial air conditioning systems and components
		MEM18089B	Maintain and repair central air handling systems
		MEM18090B	Maintain and repair industrial refrigeration systems and components
		MEM18094B	Service and repair commercial refrigeration
		MEM18095A	Maintain and repair cooling towers/evaporative condensers and associated equipment
		MEM18096A	Maintain, repair/replace and adjust refrigerant flow controls and associated equipment
		MEM18084A	Commission and decommission split air conditioning systems
GE19	Computer Programming.(EE/CE/ME).		
GE20	Computer Networking.(EE).		
GE21	Welding.(ME).	MEM05024B	Perform welding supervision
		MEM05025C	Perform welding/fabrication inspection
		MEM05026C	Apply welding principles
		MEM05042B	Perform welds to code standards using flux core arc welding process
		MEM05043B	Perform welds to code standards using gas metal arc welding process
		MEM05044B	Perform welds to code standards using gas tungsten arc welding process
		MEM05045B	Perform pipe welds to code standards using manual metal arc welding process
		MEM05046B	Perform welds to code standards using manual metal arc welding process
		MEM05024B	Perform welding supervision
		MEM05001B	Perform manual soldering/desoldering - electrical/electronic components

		MEM05002B MEM05003B MEM05004C MEM05005B MEM05006C MEM05007C MEM05008C MEM05009C MEM05010C MEM05011D MEM05012C MEM05013C MEM05014C MEM05015D MEM05016C MEM05017D MEM05018C MEM05019D MEM05020C MEM05022C MEM05023C MEM05036C MEM05037C MEM05001B MEM05002B	Perform high reliability soldering and desoldering Perform soft soldering Perform routine oxy acetylene welding Carry out mechanical cutting Perform brazing and or silver soldering Perform manual heating and thermal cutting Perform advanced manual thermal cutting, gouging and shaping Perform automated thermal cutting Apply fabrication, forming and shaping techniques Assemble fabricated components Perform routine manual metal arc welding Perform manual production welding Monitor quality of production welding/fabrications Weld using manual metal arc welding process Perform advanced welding using manual metal arc welding process Weld using gas metal arc welding process Perform advanced welding using gas metal arc welding process Weld using gas tungsten arc welding process Perform advanced welding using gas tungsten arc welding process Perform advanced welding using oxy acetylene welding process Weld using submerged arc welding process Repair/replace/modify fabrications Perform geometric development Perform manual soldering/desoldering - electrical/electronic components Perform high reliability soldering and desoldering
		MEM05038B MEM05039B MEM05040B MEM05041B MEM05047B MEM05048B MEM05049B	Perform advanced geometric development - cylindrical/rectangular Perform advanced geometric development - conical Perform advanced geometric development - transitions Weld using powder flame spraying Weld using flux core arc welding process Perform advanced welding using flux core arc welding process Perform routine gas tungsten arc welding

		MEM05050B	Perform routine gas metal arc welding
		MEM05051A	Select welding processes
GE22	Painting & Decoration (CE)		
GE23	Pneumatics (CE/ME)	MEM30011A	Set up basic pneumatic circuits
		MEM18019B	Maintain pneumatic systems
GE24	Manufacturing Management (ME)	MEM14002B	Undertake basic process planning
		MSS405075A	Facilitate the development of a new product
ME 205	Manufacturing Processes-and-Materials	MEM14003B	Undertake basic production scheduling
Mgt 503	Production & Operation Management	MEM14087A	Apply manufactured product design techniques
Mgt 505	Quality Management and Manufacturing Engineering	MEM15007B	Conduct product and/or process capability studies
		MEM15008B	Perform advanced statistical quality control
		MEM14091A	Integrate manufacturing fundamentals into an engineering task
		MEM15011B	Exercise external quality assurance
		MEM15012B	Maintain/supervise the application of quality procedures
		MEM22014A	Coordinate engineering-related manufacturing operations
		MEM22015A	Source and estimate engineering materials requirements
		MEM22017A	Coordinate continuous improvement and technical development
		MEM22018A	Coordinate sales and promotion of engineering-related products or services
		MEM30013A	Assist in the preparation of a basic workplace layout
		MEM30014A	Apply basic just in time systems to the reduction of waste
		MEM30015A	Develop recommendations for basic set up time improvements
		MEM30016A	Assist in the analysis of a supply chain
		MEM30017A	Use basic preventative maintenance techniques and tools
		MEM30018A	Undertake basic process planning
		MEM30019A	Use resource planning software systems in manufacturing
		MEM30020A	Develop and manage a plan for a simple manufacturing related project
		MEM30021A	Prepare a simple production schedule
		MEM30022A	Undertake supervised procurement activities
		MEM30023A	Prepare a simple cost estimate for a manufactured product
		MEM30024A	Participate in quality assurance techniques
		MEM15001B	Perform basic statistical quality control
		MEM23123A	Evaluate manufacturing processes
		MEM23131A	Evaluate rapid prototyping applications
		MEM23132A	Evaluate rapid manufacturing processes
		MEM14001B	Schedule material deliveries
		MEM14002B	Undertake basic process planning
		MEM14003B	Undertake basic production scheduling
		MEM15001B	Perform basic statistical quality control

		MEM15003B MEM15004B MEM15005B	Use improvement processes in team activities Perform inspection Select and control inspection processes and procedures
ME 303	Computer Aided Design and Manufacturing	MEM30009A	Contribute to the design of basic mechanical systems
ME 534	Numerical Control	MEM23122A MEM05053A MEM05054A	Evaluate computer integrated manufacturing systems Set and edit computer controlled thermal cutting machines Write basic NC/CNC programs for thermal cutting machines
		MEM07016C MEM07018C MEM07019C MEM07020C MEM07022C MEM07023C MEM07039A	Set and edit computer controlled machines/processes Write basic NC/CNC programs Program NC/CNC machining centre Program multiple spindle and/or multiple axis NC/CNC machining centre Program CNC wire cut machines Program and set up CNC manufacturing cell Write programs for industrial robots
ME 434	Mechtronics-Robotics	MEM23126A MEM23064A	Evaluate industrial robotic applications Select and test mechatronic engineering materials
GE25	Surveying (CE)		
GE26	Energy Efficient Building Design	MEM23141A	Complete a building thermal performance survey
GE28	Hydraulic (CE/ME)	MEM30010A MEM18021B MEM18022B MEM18023B MEM18052B MEM18071B MEM18072B	Set up basic hydraulic circuits Maintain hydraulic systems Maintain fluid power controls Modify fluid power system operation Maintain fluid power systems for mobile plant Connect/disconnect fluid conveying system components Manufacture fluid conveying conductor assemblies
GE29	Materials & Corrosion Prevention (CE/ME)	MEM30007A	Select common engineering materials
GE30	Bricklaying (CE)		
GE31	Sprouting & Guttering (CE)		
GE32	Electronic Security Installation	MEM20008A MEM20011A MEM20012A MEM20013A	Develop and implement a masterkey system Service and repair fire and security containers Service and repair mechanical automotive locking systems Service automotive transponder systems
		PRST5202A PRST5302A	Install security equipment/system Program security equipment/system

		PRSTS303A PRSTS304A PRSTS305A PRSTS307A	Test installed security equipment/system Commission/decommission security equipment/system Identify and diagnose electronic security equipment/system fault Maintain and service security equipment/system
GE33	Explosion Protection	MEM13001B MEM13002B MEM13003B MEM13004B MEM13006B MEM13007B MEM13010A MEM13013B	Perform emergency first aid Undertake occupational health and safety activities in the workplace Work safely with industrial chemicals and materials Work safely with molten metals/glass Collect and evaluate occupational health and safety data for an enterprise or section of an enterprise Maintain water treatment systems for cooling towers Supervise occupational health and safety in an industrial work environment. Work safely with ionizing radiation
GE34	Engineering Business Management	MSAENV672B MSS402030A MSS403001A MSS403002A MSS403010A MSS403021A MSS403023A MSS403030A MSS403040A MSS403051A MSS404050A MSS404052A MSS404060A MSS405001A MSS405002A MSS405003A MSS405004A MSS405005A MSS405010A MSS405011A	Develop workplace policy and procedures for sustainability Apply cost factors to work practices Implement competitive systems and practices Ensure process improvements are sustained Facilitate change in an organisation implementing competitive systems and practices Facilitate a Just in Time system Monitor a levelled pull system of operations Improve cost factors in work practices Facilitate and improve implementation of 5S Mistake proof an operational process Undertake process capability improvements Apply statistics to operational processes Facilitate the use of planning software systems in a work area or team Develop competitive systems and practices for an organisation Analyse and map a value stream Manage a value stream Develop business plans in an organisation implementing competitive systems and practices Manage competitive systems and practices responding to individual and unique customer orders Manage relationships with non-customer external organisations Manage people relationships

	<u>MSS405012A</u>	Manage workplace learning
	<u>MSS405020A</u>	Develop quick changeover procedures
	<u>MSS405021A</u>	Develop a Just in Time system
	<u>MSS405022A</u>	Design a process layout
	<u>MSS405023A</u>	Develop a levelled pull system for operations and processes
	<u>MSS405030A</u>	Optimise cost of a product or service
	<u>MSS405031A</u>	Undertake value analysis of product or process costs in terms of customer requirements
	<u>MSS405040A</u>	Manage 5S system in an organisation
	<u>MSS405050A</u>	Determine and improve process capability
	<u>MSS405052A</u>	Design an experiment
	<u>MSS405060A</u>	Develop the application of enterprise control systems in an organisation
	<u>MSS405061A</u>	Determine and establish information collection requirements and processes
	<u>MEM23119A</u>	Evaluate continuous improvement processes
	<u>MEM30028A</u>	Assist in sales of technical products/systems
	<u>MEM14001B</u>	Schedule material deliveries
	<u>MEM14002B</u>	Undertake basic process planning
	<u>MEM14003B</u>	Undertake basic production scheduling
	<u>MEM14001B</u>	Schedule material deliveries
	<u>MEM14002B</u>	Undertake basic process planning
	<u>MEM14003B</u>	Undertake basic production scheduling
	<u>MEM14001B</u>	Schedule material deliveries
	<u>MEM14002B</u>	Undertake basic process planning
	<u>MEM14003B</u>	Undertake basic production scheduling
	<u>MEM14001B</u>	Schedule material deliveries
	<u>MEM14002B</u>	Undertake basic process planning
	<u>MEM14003B</u>	Undertake basic production scheduling
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	<u>MEM14001B</u>	Schedule material deliveries
	<u>MEM14002B</u>	Undertake basic process planning
	<u>MEM14003B</u>	Undertake basic production scheduling
	<u>MEM14001B</u>	Schedule material deliveries
	<u>MEM14002B</u>	Undertake basic process planning
	<u>MEM17001B</u>	Assist in development and deliver training in the workplace
	<u>MEM17002B</u>	Conduct workplace assessment
	<u>MEM14005A</u>	Plan a complete activity
	<u>MEM15002A</u>	Apply quality systems

		MEM16006A MEM16002C MEM16004B MEM16005A MEM17003A BSBSMB404A BSBSMB406A	Organise and communicate information Conduct formal interviews and negotiations Perform internal/external customer service Operate as a team member to conduct manufacturing, engineering or related activities Assist in the provision of on the job training * Undertake small business planning Manage small business finances
		MSS403001A	Implement competitive systems and practices
		MSS403002A	Ensure process improvements are sustained
		MSS403010A	Facilitate change in an organisation implementing competitive systems and practices
		MSS403021A	Facilitate a Just in Time system
		MSS403030A	Improve cost factors in work practices
IE1	Engineering Mathematics	MEM23007A MEM23008A MEM23004A MEM23005A MEM12025A MEM12024A MEM12024A MEM12025A MEM30012A	Apply calculus to engineering tasks Apply advanced algebra and numerical methods to engineering tasks Apply technical mathematics Apply statistics and probability techniques to engineering tasks Use graphical techniques and perform simple statistical computations Perform computations Perform computations Use graphical techniques and perform simple statistical computations Apply mathematical techniques in a manufacturing engineering or related environment
IE2	Engineering Physics		
IE3	Material Science	MEM24001B MEM24003B MEM24005B MEM24007B MEM24009B MEM14001B MEM23063A MEM23138A	Perform basic penetrant testing Perform basic magnetic particle testing Perform basic eddy current testing Perform ultrasonic thickness testing Perform basic radiographic testing Schedule material deliveries Select and test mechanical engineering materials Evaluate suitability of materials for engineering-related applications
IE4	Advanced Engineering Mathematics		
IE5	Mechanical Science		
IE6	Principle of Electricity	MEM23111A	Select electrical equipment and components for engineering applications
IE7	Electrical Circuit I (EE)	MEM30025A	Analyse a simple electrical system circuit

IE8	Electrical Circuit II (EE)		
IE9	Advanced Building Construction (CE)		
IE10	Transmission Line (EE)		
IE11	Electrical & Mechanical Engineering Work Experience		
IE12	Civil Engineering Work Experience		
IE13	Workshop	MEM18001C MEM23133A MEM23134A MEM23135A MEM23136A MEM23137A MEM30029A	Use hand tools Evaluate rapid tooling applications Evaluate jigs and fixtures Evaluate moulding tools and processes Evaluate stamping and forging tools Evaluate rolling tools and processes Use workshop equipment and processes to complete an engineering project
IE15	Advanced Engineering Design & Project Work		
IE16	Power System Analysis-Fault Calculation		
IE17	Power Line Design		
IE18	Building services		
IE19	PCB Design		
IE20	Maths References		
IE21	Electrical Principle		
IE22	Co-generation		
IE23	Industrial Computer System	MSS402060A MEM16008A	Use planning software systems in operations Interact with computing technology
IE24	Microprocessor	MEM23117A MEM23118A MEM18065B MEM18066B MEM18067B	Evaluate microcontroller applications Apply production and service control techniques Diagnose and repair digital equipment and components Diagnose and repair microprocessor-based equipment Tune control loops - multi controller or multi element systems
IE25	Power System Fundamental		
IE26	Electrical Communication Fundamental		
IE27	Control Concept	MEM18069B	Maintain, repair instrumentation process control analysers
IE28	Electronic Signal & System		
IE29	Electrical Estimating		
IE30	Electronic Workbench		
IE31	Introduction to Renewable Energy Technology	MSS405070A MSAENV472B	Develop and manage sustainable energy practices Implement and monitor environmentally sustainable work practices

		MSAENV272B	Participate in environmentally sustainable work practices
IE32	Telecommunication Cabling & Installation	ICTCBL2136A	Install, maintain and modify customer premises communications cabling: ACMA Restricted Rule
IE33	Hybrid Energy System		
IE34	Electricity Supply Industrial Skills		
ME 101 ME 103	Applied Mathematics Engineering Mechanics	MEM30005A MEM30006A MEM23109A	Calculate force systems within simple beam structures Calculate stresses in simple structures Apply engineering mechanics principles
ME 102 ME 107	Engineering Thermodynamics Heat Transfer	MEM23006A	Apply fluid and thermodynamics principles in engineering
ME201 ME 204 ME 301	Introduction to Fluid Mechanics Engineering Fluid Mechanics Fluid Dynamics	MEM23113A MEM23114A MEM23115A MEM18053B	Evaluate hydrodynamic systems and system components Evaluate thermodynamic systems and components Evaluate fluid power systems Modify fluid power control systems
BAE312	Design Engineering (2.pt)	MEM14085A MEM14086A MEM14089A MEM14090A	Apply mechanical engineering analysis techniques Apply mechatronic engineering analysis techniques Integrate mechanical fundamentals into an engineering task Integrate mechatronic fundamentals into an engineering task
BAE612	Engineering Metallurgy	MEM15010B MEM24002B MEM24004B MEM24006B MEM24008B MEM24010B MEM24011B MEM24012C MSATCM304A MSATCM406A MSATCM501A MSATCM504A MSATCM511A MEM04020A	Perform laboratory procedures Perform penetrant testing Perform magnetic particle testing Perform eddy current testing Perform ultrasonic testing Perform radiographic testing Establish non-destructive tests Apply metallurgy principles Interpret basic binary phase diagrams Apply basic chemical principles to metallurgy Calculate and predict chemical outcomes in metallurgical situations Select metal forming process Apply metallurgy principles and practice to determine metal forming and shaping processes Supervise individual ferrous melting and casting operation

		MEM04021A MEM04022A MEM04023A MEM21018A MEM21019A MEM21020A MEM21021A MEM21022A MEM21023A MEM21018A	Supervise individual non ferrous melting and casting operation Examine appropriateness of methoding for mould design Undertake prescribed tests on foundry related materials Service clock escapements and oscillating systems Service and repair clock striking mechanisms Service and repair clock chiming mechanisms Restore clockwork mechanisms Manufacture watch and clock components Plan, set up and operate horological workshop or service centre Service clock escapements and oscillating systems
ME 305	Corrosion Prevention	MSATCM517A	Determine corrosion prevention strategies for metal and alloys
BAE611	Maintenance Engineering	MEM14088A MEM14092A MEM23125A MSS404081A MSS404082A MSS405081A MSS405083A MEM18010C MEM18011C MEM18016B MEM18017C	Apply maintenance engineering techniques to equipment and component repairs and modifications Integrate maintenance fundamentals into an engineering task Evaluate maintenance systems Undertake proactive maintenance analyses Assist in implementing a proactive maintenance strategy Develop a proactive maintenance strategy Adapt a proactive maintenance strategy for a seasonal or cyclical business Perform equipment condition monitoring and recording Shut down and isolate machines/equipment Analyse plant and equipment condition monitoring results Modify mechanical systems and equipment
BAE311	Plant Engineering.(2 pt)	MEM18016B	Analyse plant and equipment condition monitoring results
BAE614	Machine Design	MEM22007A MEM23120A	Manage environmental effects of engineering activities Select mechanical machine and equipment components
GE27	Machine Principle(ME)	MEM23121A MEM23124A MEM10008B MEM10006B	Analyse loads on frames and mechanisms Measure and analyse noise and vibration Undertake commissioning procedures for plant and/or equipment Install machine/plant
ME 208	Hydrocarbons	MEM18098A	Prepare to perform work associated with fuel system installation and

			servicing
	CLOCK	MEM21018A MEM21019A MEM21020A MEM21021A MEM21022A MEM21023A	Service clock escapements and oscillating systems Service and repair clock striking mechanisms Service and repair clock chiming mechanisms Restore clockwork mechanisms Manufacture watch and clock components Plan, set up and operate horological workshop or service centre
BAE513	Production Technology	MEM04001B	Operate melting furnaces
BAE614	Machine Design	MEM04002B	Perform gravity die casting
GE14	Fitting & Machining (ME)(II)	MEM04003B	Operate pressure die casting machine
ME 104	Machine Principle	MEM04004B	Prepare and mix sand for metal moulding
ME 209	Introduction-to-polymer-science-and-technology.	MEM04005C	Produce moulds and cores by hand (jobbing)
ME 205	Manufacturing Processes-and-Materials	MEM04006B	Operate sand moulding and core making machines
BAE612	Engineering Metallurgy	MEM04007B	Pour molten metal
		MEM04008B	Fettle and trim metal castings/forgings
		MEM04010B	Develop and manufacture wood patterns
		MEM04011B	Produce polymer patterns
		MEM04012B	Assemble plated patterns
		MEM04013B	Develop and manufacture polystyrene patterns
		MEM04014B	Develop and manufacture production patterns
		MEM04015B	Develop and manufacture vacuum forming moulds and associated equipment
		MEM04016C	Develop and manufacture precision models
		MEM04017B	Develop and manufacture gear, conveyor screw and propeller patterns
		MEM04018B	Perform general woodworking machine operations
		MEM04019B	Perform refractory installation and repair
		MEM06001B	Perform hand forging
		MEM06002B	Perform hammer forging
		MEM06003C	Carry out heat treatment
		MEM06004B	Select heat treatment processes and test finished product
		MEM06005B	Perform drop and upset forging
		MEM06006C	Repair springs
		MEM06007B	Perform basic incidental heat/quenching, tempering and annealing

	MEM06008A	Hammer forge complex shapes
	MEM06009A	Hand forge complex shapes
	MEM07001B	Perform operational maintenance of machines/equipment
	MEM07002B	Perform precision shaping/planing/slotting operations
	MEM07003B	Perform machine setting (routine)
	MEM07004B	Perform machine setting (complex)
	MEM07005C	Perform general machining
	MEM07006C	Perform lathe operations
	MEM07007C	Perform milling operations
	MEM07008D	Perform grinding operations
	MEM07009B	Perform precision jig boring operations
	MEM07010B	Perform tool and cutter grinding operations
	MEM07011B	Perform complex milling operations
	MEM07012B	Perform complex grinding operations
	MEM07013B	Perform machining operations using horizontal and/or vertical boring machines
	MEM07014B	Perform electro-discharge (EDM) machining operations
	MEM07015B	Set computer controlled machines/processes
	MEM07021B	Perform complex lathe operations
	MEM07024B	Operate and monitor machine/process
	MEM07025B	Perform advanced machine/process operation
	MEM07026B	Perform advanced plastic processing
	MEM07027B	Perform advanced press operations
	MEM07028B	Operate computer controlled machines/processes
	MEM07029B	Perform routine sharpening/maintenance of production tools and cutters
	MEM07030C	Perform metal spinning lathe operations (basic)
	MEM07031C	Perform metal spinning lathe operations (complex)
	MEM07032B	Use workshop machines for basic operations
	MEM07033B	Operate and monitor basic boiler
	MEM07034A	Operate and monitor intermediate class boiler
	MEM07040A	Set multistage integrated processes
	MEM18097A	Manufacture cavity dies
	MEM24001B	Perform basic penetrant testing
	MEM24003B	Perform basic magnetic particle testing
	MEM24005B	Perform basic eddy current testing

		MEM24007B MEM24009B PMBPROD291B PMBPROD294B PMBPROD298B PMBPROD391B PMBPROD394B	Perform ultrasonic thickness testing Perform basic radiographic testing Operate resin infusion moulding equipment Operate resin transfer moulding equipment Operate equipment using pre-preg material Produce composites using resin infusion Produce composites using resin transfer moulding
GE35	SCAFFOLDING	MEM11001C MEM11002C MEM11003B MEM11004B	Erect/dismantle scaffolding and equipment Erect/dismantle complex scaffolding and equipment Coordinate erection/dismantling of complex scaffolding/equipment Undertake dogging
GE36	INVENTORY MANAGEMENT/ STORE OPERATION & STOCK CONTROL MATERIALS HANDLING	MEM11005B MEM11006B MEM11007B MEM11008B MEM11009B MEM11010B MEM11011B MEM11012B MEM11013B MEM11014B MEM11015B MEM11016B MEM11017B MEM11018B MEM11019B MEM11020B MEM11021B MEM11022B MEM11008B	Pick and process order Perform production packaging Administer inventory procedures Package materials (stores and warehouse) Handle/move bulk fluids/gases Operate mobile load shifting equipment Undertake manual handling Purchase materials Undertake warehouse receival process Undertake warehouse dispatch process Manage warehouse inventory system Order materials Organise and lead stocktakes Organise and maintain warehouse stock receival and/or dispatch system Undertake tool store procedures Perform advanced warehouse computer operations Perform advanced operation of load shifting equipment Operate fixed/moveable load shifting equipment Package materials (stores and warehouse)

JEWELLERY MAKING

MEM19001B	Perform jewellery metal casting
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MEM19002B	Prepare jewellery illustrations
MEM19003B	Handle gem materials
MEM19004B	Handle and examine gemstone materials
MEM19005B	* Produce three-dimensional precision items
MEM19006B	Replace watch batteries
MEM19007B	Perform gemstone setting
MEM19009B	Perform investment procedures for lost wax casting process
MEM19010B	Produce rubber moulds for lost wax casting process
MEM19011B	Perform wax injection of moulds for lost wax casting process
MEM19012B	Produce jewellery wax model
MEM19014B	Perform hand engraving
MEM19015B	Perform jewellery enamelling
MEM19016B	Construct jewellery components
MEM19017B	Fabricate jewellery items
MEM19020B	Fault-find and maintain micro-mechanisms
MEM19021B	Diagnose and service micro-mechanisms

Group MEM40105-01V08G03S16

WATCH MAKING

Modules/Units	Name
MEM20001A	Produce keys
MEM20002A	Assemble and test lock mechanisms
MEM20003A	Install and upgrade locks and hardware
MEM20004A	Gain entry
MEM20005A	Install and maintain door control devices/systems
MEM20006A	Maintain and service mechanical locking devices
MEM20007A	Plan and prepare a masterkey system
MEM20009A	Gain entry and reinstate fire and security containers
MEM20010A	Gain entry and reinstate automotive locking systems
MEM20014A	Perform a site security survey

Group MEM40105-01V08G03S17

Modules/Units	Name
MEM21001A	Replace watch batteries, capacitors and bands
MEM21002A	Perform watch movement exchange
MEM21003A	Perform watch case servicing, repair and refurbishment
MEM21004A	Clean watch and clock components
MEM21005A	Diagnose faults in quartz watches
MEM21006A	Service quartz watches
MEM21007A	Service complex quartz watches
MEM21008A	Service mechanical watches
MEM21009A	Inspect, diagnose, adjust and repair mechanical watches
MEM21010A	Service watch power generating systems
MEM21011A	Service calendar and other dial indication mechanisms for watches
MEM21012A	Service and repair mechanical watch oscillating systems
MEM21013A	Service, test and adjust watch escapements
MEM21014A	Service mechanical chronograph watches
MEM21015A	Perform precision watch timing and adjustment
MEM21016A	Install and set up clocks
MEM21017A	Service and repair clock timepieces

MARINE

Modules/Units	Name
MEM25001B	Apply fibre-reinforced materials
MEM25002B	Form and integrate fibre-reinforced structures
MEM25003B	Set up marine vessel structures
MEM25004B	Fair and shape surfaces
MEM25005B	Construct and assemble marine vessel timber components
MEM25006B	Undertake marine sheathing operations
MEM25007B	Maintain marine vessel surfaces
MEM25009B	Form timber shapes using hot processes
MEM25010B	Perform fitout procedures
MEM25011B	Install marine systems
MEM25012B	Install and test operations of marine auxiliary systems
MEM25014B	Perform marine slipping operations
MEM25015A	Assemble and install equipment and accessories/ancillaries

MEM50002B	Work safely on marine craft
MEM50003B	Follow work procedures to maintain the marine environment
MEM50004B	Maintain quality of environment by following marina codes
MEM50009B	Safely operate a mechanically powered recreational boat
GE21	Welding <u>Welding (ME)</u>

MEM05003B	Perform soft soldering	18	MEM05003B
MEM05004C	Perform routine oxy acetylene welding	18	MEM05004C
MEM05005B	Carry out mechanical cutting	18	MEM05005B
MEM05006C	Perform brazing and or silver soldering	18	MEM05006C
MEM05007C	Perform manual heating and thermal cutting	18	MEM05007C
MEM05008C	Perform advanced manual thermal cutting, gouging and shaping	18	MEM05008C
MEM05009C	Perform automated thermal cutting	18	MEM05009C
MEM05011D	Assemble fabricated components	72	MEM05011D
MEM05012C	Perform routine manual metal arc welding	18	MEM05012C
MEM05015D	Weld using manual metal arc welding process	36	MEM05015D
MEM05017D	Weld using gas metal arc welding process	36	MEM05017D
MEM05019D	Weld using gas tungsten arc welding process	36	MEM05019D
MEM05049B	Perform routine gas tungsten arc welding	18	MEM05049B
MEM05050B	Perform routine gas metal arc welding	18	MEM05050B
MEM05051A	Select welding processes	18	MEM05051A
MEM05052A	Apply safe welding practices	36	MEM05052A

Group MEM40105-02V05G03S02

Modules/Units	Name	Hrs	National Module(s)
MEM13014A	Apply principles of occupational health and safety in the work environment	10	MEM13014A
MEM14004A	Plan to undertake a routine task	9	MEM14004A
MEM15024A	Apply quality procedures	9	MEM15024A
MEM16007A	Work with others in a manufacturing, engineering or related environment	9	MEM16007A

Group MEM40105-04V05G01S02

Modules/Units	Name	Hrs	National Module(s)
MEM12023A	Perform engineering measurements	45	MEM12023A
MEM12024A	Perform computations	27	MEM12024A
MEM14005A	Plan a complete activity	36	MEM14005A
MEM15002A	Apply quality systems	18	MEM15002A
MEM16006A	Organise and communicate information	18	MEM16006A
MEM16008A	Interact with computing technology	18	MEM16008A
MEM17003A	Assist in the provision of on the job training	18	MEM17003A
MSAENV272B	Participate in environmentally sustainable work practices	20	MSAENV272B

Group MEM40105-04V05G02 GROUP 2 GROUP A SPECIALISATION UNITS LISTED IN MEM40105

Group MEM40105-04V05G02S01

Modules/Units	Name	Hrs	National Module(s)
MEM05024B	Perform welding supervision	108	MEM05024B
MEM05025C	Perform welding/fabrication inspection	108	MEM05025C
MEM05026C	Apply welding principles	36	MEM05026C
MEM05042B	Perform welds to code standards using flux core arc welding process	54	MEM05042B
MEM05043B	Perform welds to code standards using gas metal arc welding process	54	MEM05043B
MEM05044B	Perform welds to code standards using gas tungsten arc welding process	54	MEM05044B
MEM05045B	Perform pipe welds to code standards using manual metal arc welding process	54	MEM05045B
MEM05046B	Perform welds to code standards using manual metal arc welding process	54	MEM05046B
MEM05053A	Set and edit computer controlled thermal cutting machines	36	MEM05053A
MEM05054A	Write basic NC/CNC programs for thermal cutting machines	36	MEM05054A

Group MEM40105-04V05G02S02

Modules/Units	Name	Hrs	National Module(s)
MEM07016C	Set and edit computer controlled machines/processes	36	MEM07016C
MEM07018C	Write basic NC/CNC programs	36	MEM07018C

Group MEM40105-04V05G02S03

Modules/Units	Name	Hrs	National Module(s)
MEM09006B	Perform advanced engineering detail drafting	36	MEM09006B
MEM09007B	Perform advanced mechanical detail drafting	36	MEM09007B
MEM09008B	Perform advanced structural detail drafting	36	MEM09008B
MEM09009C	Create 2D drawings using computer aided design system	80	MEM09009C
MEM09010C	Create 3D models using computer aided design system	36	MEM09010C
MEM09023A	Create 3D code files using computer aided manufacturing system	54	MEM09023A

Group MEM40105-04V05G02S04

Modules/Units	Name	Hrs	National Module(s)
MEM14001B	Schedule material deliveries	72	MEM14001B
MEM14002B	Undertake basic process planning	72	MEM14002B
MEM14003B	Undertake basic production scheduling	72	MEM14003B

Group MEM40105-04V05G02S05

Modules/Units	Name	Hrs	National Module(s)
MEM16001B	Give formal presentations and take part in meetings	18	MEM16001B
MEM16003B	Provide advanced customer service	18	MEM16003B
MEM16009A	Research and analyse engineering information	18	MEM16009A
MEM16010A	Write reports	18	MEM16010A
MEM16011A	Communicate with individuals and small groups	18	MEM16011A
MEM16012A	Interpret technical specifications and manuals	36	MEM16012A
MEM16013A	Operate in a self-directed team	18	MEM16013A
MEM16014A	Report technical information	18	MEM16014A

Group MEM40105-04V05G02S06

Modules/Units	Name	Hrs	National Module(s)
MEM17001B	Assist in development and deliver training in the workplace	18	MEM17001B
MEM17002B	Conduct workplace assessment	18	MEM17002B

Group MEM40105-04V05G02S07

Modules/Units	Name	Hrs	National Module(s)
MEM18049C	Disconnect/reconnect fixed wired equipment up to 1000 volts a.c./1500 volts d.c.	27	MEM18049C

Group MEM40105-04V05G02S08

Modules/Units	Name	Hrs	National Module(s)
MEM24002B	Perform penetrant testing	36	MEM24002B
MEM24004B	Perform magnetic particle testing	36	MEM24004B
MEM24006B	Perform eddy current testing	54	MEM24006B
MEM24008B	Perform ultrasonic testing	54	MEM24008B
MEM24010B	Perform radiographic testing	108	MEM24010B
MEM24011B	Establish non-destructive tests	108	MEM24011B
MEM24012C	Apply metallurgy principles	54	MEM24012C

Group MEM40105-04V05G02S09

Modules/Units	Name	Hrs	National Module(s)
MEM30012A	Apply mathematical techniques in a manufacturing engineering or related environment	36	MEM30012A

Group MEM40105-04V05G03 GROUP 3 GROUP B ELECTIVE UNITS LISTED IN MEM40105

Group MEM40105-04V05G03S01

Modules/Units	Name	Hrs	National Module(s)
MEM05001B	Perform manual soldering/desoldering - electrical/electronic components	36	MEM05001B
MEM05002B	Perform high reliability soldering and desoldering	36	MEM05002B
MEM05003B	Perform soft soldering	18	MEM05003B
MEM05004C	Perform routine oxy acetylene welding	18	MEM05004C
MEM05005B	Carry out mechanical cutting	18	MEM05005B
MEM05006C	Perform brazing and or silver soldering	18	MEM05006C
MEM05007C	Perform manual heating and thermal cutting	18	MEM05007C

MEM05008C	Perform advanced manual thermal cutting, gouging and shaping	18	MEM05008C
MEM05009C	Perform automated thermal cutting	18	MEM05009C
MEM05010C	Apply fabrication, forming and shaping techniques	72	MEM05010C
MEM05011D	Assemble fabricated components	72	MEM05011D
MEM05012C	Perform routine manual metal arc welding	18	MEM05012C
MEM05013C	Perform manual production welding	18	MEM05013C
MEM05014C	Monitor quality of production welding/fabrications	18	MEM05014C
MEM05015D	Weld using manual metal arc welding process	36	MEM05015D
MEM05016C	Perform advanced welding using manual metal arc welding process	36	MEM05016C
MEM05017D	Weld using gas metal arc welding process	36	MEM05017D
MEM05018C	Perform advanced welding using gas metal arc welding process	36	MEM05018C
MEM05019D	Weld using gas tungsten arc welding process	36	MEM05019D
MEM05020C	Perform advanced welding using gas tungsten arc welding process	36	MEM05020C
MEM05022C	Perform advanced welding using oxy acetylene welding process	54	MEM05022C
MEM05023C	Weld using submerged arc welding process	36	MEM05023C
MEM05036C	Repair/replace/modify fabrications	36	MEM05036C
MEM05037C	Perform geometric development	54	MEM05037C
MEM05038B	Perform advanced geometric development - cylindrical/rectangular	18	MEM05038B
MEM05039B	Perform advanced geometric development - conical	18	MEM05039B
MEM05040B	Perform advanced geometric development - transitions	36	MEM05040B
MEM05041B	Weld using powder flame spraying	36	MEM05041B
MEM05047B	Weld using flux core arc welding process	36	MEM05047B
MEM05048B	Perform advanced welding using flux core arc welding process	36	MEM05048B
MEM05049B	Perform routine gas tungsten arc welding	18	MEM05049B
MEM05050B	Perform routine gas metal arc welding	18	MEM05050B
MEM05051A	Select welding processes	18	MEM05051A
MEM05052A	Apply safe welding practices	36	MEM05052A

Group MEM40105-04V05G03S02

Modules/Units	Name	Hrs	National Module(s)
MEM06001B	Perform hand forging	36	MEM06001B
MEM06002B	Perform hammer forging	36	MEM06002B

MEM06003C	Carry out heat treatment	54	MEM06003C
MEM06004B	Select heat treatment processes and test finished product	54	MEM06004B
MEM06005B	Perform drop and upset forging	36	MEM06005B
MEM06006C	Repair springs	36	MEM06006C
MEM06007B	Perform basic incidental heat/quenching, tempering and annealing	18	MEM06007B
MEM06008A	Hammer forge complex shapes	36	MEM06008A
MEM06009A	Hand forge complex shapes	36	MEM06009A

Modules/Units	Name	Hrs	National Module(s)
MEM03001B	Perform manual production assembly	36	MEM03001B
MEM03003B	Perform sheet and plate assembly	36	MEM03003B
MEM05001B	Perform manual soldering/desoldering - electrical/electronic components	36	MEM05001B
MEM05003B	Perform soft soldering	18	MEM05003B
MEM05004C	Perform routine oxy acetylene welding	18	MEM05004C
MEM05005B	Carry out mechanical cutting	18	MEM05005B
MEM05006C	Perform brazing and or silver soldering	18	MEM05006C
MEM05007C	Perform manual heating and thermal cutting	18	MEM05007C
MEM05008C	Perform advanced manual thermal cutting, gouging and shaping	18	MEM05008C
MEM05009C	Perform automated thermal cutting	18	MEM05009C
MEM05010C	Apply fabrication, forming and shaping techniques	72	MEM05010C
MEM05011D	Assemble fabricated components	72	MEM05011D
MEM05012C	Perform routine manual metal arc welding	18	MEM05012C
MEM05013C	Perform manual production welding	18	MEM05013C
MEM05015D	Weld using manual metal arc welding process	36	MEM05015D
MEM05016C	Perform advanced welding using manual metal arc welding process	36	MEM05016C
MEM05017D	Weld using gas metal arc welding process	36	MEM05017D
MEM05018C	Perform advanced welding using gas metal arc welding process	36	MEM05018C
MEM05019D	Weld using gas tungsten arc welding process	36	MEM05019D
MEM05020C	Perform advanced welding using gas tungsten arc welding process	36	MEM05020C
MEM05036C	Repair/replace/modify fabrications	36	MEM05036C
MEM05037C	Perform geometric development	54	MEM05037C
MEM05049B	Perform routine gas tungsten arc welding	18	MEM05049B
MEM05050B	Perform routine gas metal arc welding	18	MEM05050B

MEM05051A	Select welding processes	18	MEM05051A
MEM05052A	Apply safe welding practices	36	MEM05052A

Group MEM40105-04V05G03S03

Modules/Units	Name	Hrs	National Module(s)
MEM07005C	Perform general machining	72	MEM07005C
MEM07015B	Set computer controlled machines/processes	18	MEM07015B
MEM07032B	Use workshop machines for basic operations	18	MEM07032B

Group MEM40105-04V05G03S04

Modules/Units	Name	Hrs	National Module(s)
MEM08002C	Pre-treat work for subsequent surface coating	36	MEM08002C
MEM08004B	Finish work using wet, dry and vapour deposition methods	36	MEM08004B
MEM08010B	Manually finish/polish materials	54	MEM08010B

Group MEM40105-04V05G03S05

Modules/Units	Name	Hrs	National Module(s)
MEM09002B	Interpret technical drawing	36	MEM09002B
MEM09003B	Prepare basic engineering drawing	72	MEM09003B
MEM09005B	Perform basic engineering detail drafting	72	MEM09005B
MEM09022A	Create 2D code files using computer aided manufacturing system	36	MEM09022A

Group MEM40105-04V05G03S06

Modules/Units	Name	Hrs	National Module(s)
MEM10001C	Erect structures	36	MEM10001C
MEM10002B	Terminate and connect electrical wiring	27	MEM10002B
MEM10010B	Install pipework and pipework assemblies	36	MEM10010B

Group MEM40105-04V05G03S07

Modules/Units	Name	Hrs	National Module(s)
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MEM11001C	Erect/dismantle scaffolding and equipment	36	MEM11001C
MEM11002C	Erect/dismantle complex scaffolding and equipment	36	MEM11002C
MEM11003B	Coordinate erection/dismantling of complex scaffolding/equipment	36	MEM11003B
MEM11010B	Operate mobile load shifting equipment	36	MEM11010B
MEM11011B	Undertake manual handling	18	MEM11011B
MEM11012B	Purchase materials	54	MEM11012B
MEM11021B	Perform advanced operation of load shifting equipment	18	MEM11021B
MEM11022B	Operate fixed/moveable load shifting equipment	36	MEM11022B

Group MEM40105-04V05G03S08

Modules/Units	Name	Hrs	National Module(s)
MEM12002B	Perform electrical/electronic measurement	18	MEM12002B
MEM12007D	Mark off/out structural fabrications and shapes	36	MEM12007D

Group MEM40105-04V05G03S09

Modules/Units	Name	Hrs	National Module(s)
MEM13001B	Perform emergency first aid	9	MEM13001B
MEM13002B	Undertake occupational health and safety activities in the workplace	27	MEM13002B
MEM13003B	Work safely with industrial chemicals and materials	18	MEM13003B
MEM13013B	Work safely with ionizing radiation	36	MEM13013B

Group MEM40105-04V05G03S10

Modules/Units	Name	Hrs	National Module(s)
MEM15003B	Use improvement processes in team activities	36	MEM15003B
MEM15004B	Perform inspection	18	MEM15004B
MEM15005B	Select and control inspection processes and procedures	36	MEM15005B

Group MEM40105-04V05G03S11

Modules/Units	Name	Hrs	National Module(s)
MEM16002C	Conduct formal interviews and negotiations	36	MEM16002C
MEM16004B	Perform internal/external customer service	18	MEM16004B

MEM16005A	Operate as a team member to conduct manufacturing, engineering or related activities	18	MEM16005A
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Group MEM40105-04V05G03S12

Modules/Units	Name	Hrs	National Module(s)
MEM18001C	Use hand tools	18	MEM18001C
MEM18002B	Use power tools/hand held operations	18	MEM18002B

Group MEM40105-04V05G03S13

Modules/Units	Name	Hrs	National Module(s)
AURVTN2002	Carry out panel repairs	32	AURVTN2002

Group MEM40105-04V05G04 GROUP 4 UNITS FROM OTHER TP/ACC COURSES AVAILABLE AT CERTIFICATE IV

Modules/Units	Name	Hrs	National Module(s)
BSBSMB404A	* Undertake small business planning	50	BSBSMB404A
BSBSMB406A	Manage small business finances	40	BSBSMB406A
MSS403001A	Implement competitive systems and practices	50	MSS403001A
MSS403002A	Ensure process improvements are sustained	50	MSS403002A
MSS403010A	Facilitate change in an organisation implementing competitive systems and practices	50	MSS403010A
MSS403021A	Facilitate a Just in Time system	50	MSS403021A
MSS403030A	Improve cost factors in work practices	50	MSS403030A

FITTING & MACHINING

GE14	Fitting & Machining (ME)
IE13	Workshop

Modules/Units	Name	Hrs	National Module(s)
MEM06007B	Perform basic incidental heat/quenching, tempering and annealing	18	MEM06007B

Modules/Units	Name	Hrs	National Module(s)
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MEM07002B	Perform precision shaping/planing/slotting operations	36	MEM07002B
MEM07003B	Perform machine setting (routine)	36	MEM07003B
MEM07004B	Perform machine setting (complex)	72	MEM07004B
MEM07005C	Perform general machining	72	MEM07005C
MEM07006C	Perform lathe operations	38	MEM07006C
MEM07007C	Perform milling operations	38	MEM07007C
MEM07008D	Perform grinding operations	40	MEM07008D
MEM07009B	Perform precision jig boring operations	36	MEM07009B
MEM07010B	Perform tool and cutter grinding operations	36	MEM07010B
MEM07011B	Perform complex milling operations	36	MEM07011B
MEM07012B	Perform complex grinding operations	36	MEM07012B
MEM07013B	Perform machining operations using horizontal and/or vertical boring machines	36	MEM07013B
MEM07014B	Perform electro-discharge (EDM) machining operations	36	MEM07014B
MEM07015B	Set computer controlled machines/processes	18	MEM07015B
MEM07021B	Perform complex lathe operations	36	MEM07021B
MEM07024B	Operate and monitor machine/process	36	MEM07024B
MEM07028B	Operate computer controlled machines/processes	18	MEM07028B

Group MEM40105-02V05G03S04

Modules/Units	Name	Hrs	National Module(s)
MEM09002B	Interpret technical drawing	36	MEM09002B
MEM09003B	Prepare basic engineering drawing	72	MEM09003B
MEM09005B	Perform basic engineering detail drafting	72	MEM09005B
MEM09021B	Interpret and produce curved 3-dimensional shapes	36	MEM09021B
MEM09022A	Create 2D code files using computer aided manufacturing system	36	MEM09022A

Group MEM40105-02V05G03S05

Modules/Units	Name	Hrs	National Module(s)
MEM10002B	Terminate and connect electrical wiring	27	MEM10002B
MEM10004B	Enter and change programmable controller operational parameters	18	MEM10004B

Group MEM40105-02V05G03S06

Modules/Units	Name	Hrs	National Module(s)
MEM11010B	Operate mobile load shifting equipment	36	MEM11010B
MEM11011B	Undertake manual handling	18	MEM11011B
MEM11022B	Operate fixed/moveable load shifting equipment	36	MEM11022B

Group MEM40105-02V05G03S07

Modules/Units	Name	Hrs	National Module(s)
MEM12002B	Perform electrical/electronic measurement	18	MEM12002B
MEM12006C	Mark off/out (general engineering)	38	MEM12006C
MEM12019B	Measure components using coordinate measuring machines	36	MEM12019B
MEM12020B	Set and operate coordinate measuring machines	18	MEM12020B
MEM12021B	Program coordinate measuring machines	36	MEM12021B
MEM12022B	Program coordinate measuring machines (advanced)	18	MEM12022B

Group MEM40105-02V05G03S08

Modules/Units	Name	Hrs	National Module(s)
MEM13001B	Perform emergency first aid	9	MEM13001B
MEM13002B	Undertake occupational health and safety activities in the workplace	27	MEM13002B
MEM13003B	Work safely with industrial chemicals and materials	18	MEM13003B
MEM13006B	Collect and evaluate occupational health and safety data for an enterprise or section of an enterpri	36	MEM13006B
MEM13010A	Supervise occupational health and safety in an industrial work environment.	36	MEM13010A

Group MEM40105-02V05G03S09

Modules/Units	Name	Hrs	National Module(s)
MEM15003B	Use improvement processes in team activities	36	MEM15003B

Group MEM40105-02V05G03S10

Modules/Units	Name	Hrs	National Module(s)
MEM10006B	Install machine/plant	36	MEM10006B

MEM16002C	Conduct formal interviews and negotiations	36	MEM16002C
MEM16004B	Perform internal/external customer service	18	MEM16004B
MEM16005A	Operate as a team member to conduct manufacturing, engineering or related activities	18	MEM16005A
Modules/Units	Name		
MEM18001C	Use hand tools		
MEM18002B	Use power tools/hand held operations		
MEM18003C	Use tools for precision work		
MEM18004B	Maintain and overhaul mechanical equipment		
MEM18005B	Perform fault diagnosis, installation and removal of bearings		
MEM18006C	Repair and fit engineering components		
MEM18007B	Maintain and repair mechanical drives and mechanical transmission assemblies		
MEM18008B	Balance equipment		
MEM18009B	Perform levelling and alignment of machines and engineering components		
MEM18012B	Perform installation and removal of mechanical seals		
MEM18013B	Perform gland packing		
MEM18014B	Manufacture press tools and gauges		
MEM18015B	Maintain tools and dies		
MEM18018C	Maintain pneumatic system components		
MEM18020B	Maintain hydraulic system components		
MEM18055B	Dismantle, replace and assemble engineering components		
MEM18071B	Connect/disconnect fluid conveying system components		
MEM18072B	Manufacture fluid conveying conductor assemblies		
MEM18097A	Manufacture cavity dies		

Modules/Units	Name	Hrs	National Module(s)
MEM13014A	Apply principles of occupational health and safety in the work environment	10	MEM13014A
MEM14004A	Plan to undertake a routine task	9	MEM14004A
MEM15024A	Apply quality procedures	9	MEM15024A
MEM16007A	Work with others in a manufacturing, engineering or related environment	9	MEM16007A

Group MEM40105-03V05G01S02

Modules/Units	Name	Hrs	National Module(s)
MEM12023A	Perform engineering measurements	45	MEM12023A
MEM12024A	Perform computations	27	MEM12024A
MEM14005A	Plan a complete activity	36	MEM14005A
MEM15002A	Apply quality systems	18	MEM15002A
MEM16006A	Organise and communicate information	18	MEM16006A
MEM16008A	Interact with computing technology	18	MEM16008A
MEM17003A	Assist in the provision of on the job training	18	MEM17003A
MSAENV272B	Participate in environmentally sustainable work practices	20	MSAENV272B

Group MEM40105-03V05G02 GROUP 2 GROUP A SPECIALISATION UNITS LISTED IN MEM40105

Group MEM40105-03V05G02S01

HYDRAULICS

GE28	Hydraulic (CE/ME)
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Modules/Units	Name	Hrs	National Module(s)
MEM18019B	Maintain pneumatic systems	36	MEM18019B
MEM18021B	Maintain hydraulic systems	36	MEM18021B
MEM18022B	Maintain fluid power controls	54	MEM18022B
MEM18023B	Modify fluid power system operation	72	MEM18023B
MEM18053B	Modify fluid power control systems	60	MEM18053B

Group MEM40105-03V05G02S02

Modules/Units	Name	Hrs	National Module(s)
MEM05026C	Apply welding principles	36	MEM05026C
MEM05043B	Perform welds to code standards using gas metal arc welding process	54	MEM05043B
MEM05044B	Perform welds to code standards using gas tungsten arc welding process	54	MEM05044B
MEM05045B	Perform pipe welds to code standards using manual metal arc welding process	54	MEM05045B
MEM05046B	Perform welds to code standards using manual metal arc welding process	54	MEM05046B

MEM09004B	Perform electrical/electronic detail drafting	72	MEM09004B
MEM09006B	Perform advanced engineering detail drafting	36	MEM09006B
MEM09009C	Create 2D drawings using computer aided design system	80	MEM09009C
MEM09010C	Create 3D models using computer aided design system	36	MEM09010C
MEM10007C	Modify control systems	54	MEM10007C
MEM10008B	Undertake commissioning procedures for plant and/or equipment	36	MEM10008B
MEM12003B	Perform precision mechanical measurement	18	MEM12003B
MEM12004B	Perform precision electrical/electronic measurement	36	MEM12004B
MEM12005B	Calibrate measuring equipment	54	MEM12005B
MEM12025A	Use graphical techniques and perform simple statistical computations	18	MEM12025A
MEM14002B	Undertake basic process planning	72	MEM14002B
MEM16001B	Give formal presentations and take part in meetings	18	MEM16001B
MEM16003B	Provide advanced customer service	18	MEM16003B
MEM16009A	Research and analyse engineering information	18	MEM16009A
MEM16010A	Write reports	18	MEM16010A
MEM16011A	Communicate with individuals and small groups	18	MEM16011A
MEM16012A	Interpret technical specifications and manuals	36	MEM16012A
MEM16013A	Operate in a self-directed team	18	MEM16013A
MEM16014A	Report technical information	18	MEM16014A
MEM17001B	Assist in development and deliver training in the workplace	18	MEM17001B
MEM17002B	Conduct workplace assessment	18	MEM17002B
MEM18010C	Perform equipment condition monitoring and recording	36	MEM18010C
MEM18011C	Shut down and isolate machines/equipment	18	MEM18011C
MEM18016B	Analyse plant and equipment condition monitoring results	36	MEM18016B
MEM18017C	Modify mechanical systems and equipment	72	MEM18017C
MEM18049C	Disconnect/reconnect fixed wired equipment up to 1000 volts a.c./1500 volts d.c.	27	MEM18049C
MEM18051B	Fault find and repair/rectify complex electrical circuits	54	MEM18051B
MEM18054B	Fault find, test and calibrate instrumentation systems and equipment	72	MEM18054B
MEM30012A	Apply mathematical techniques in a manufacturing engineering or related environment	36	MEM30012A

Modules/Units	Name	Hrs	National Module(s)
MEM06007B	Perform basic incidental heat/quenching, tempering and annealing	18	MEM06007B

METAL FORMING

BAE513	Production Technology
BAE614	Machine Design
GE14	Fitting & Machining (ME)(II)
ME 104	Machine Principle
ME 209	Introduction-to-polymer-science-and-technology
ME 205	Manufacturing Processes-and-Materials

Modules/Units	Name	Hrs	National Module(s)
MEM07002B	Perform precision shaping/planing/slotting operations	36	MEM07002B
MEM07005C	Perform general machining	72	MEM07005C
MEM07006C	Perform lathe operations	38	MEM07006C
MEM07007C	Perform milling operations	38	MEM07007C
MEM07008D	Perform grinding operations	40	MEM07008D
MEM07009B	Perform precision jig boring operations	36	MEM07009B
MEM07010B	Perform tool and cutter grinding operations	36	MEM07010B
MEM07011B	Perform complex milling operations	36	MEM07011B
MEM07012B	Perform complex grinding operations	36	MEM07012B
MEM07013B	Perform machining operations using horizontal and/or vertical boring machines	36	MEM07013B
MEM07014B	Perform electro-discharge (EDM) machining operations	36	MEM07014B
MEM07015B	Set computer controlled machines/processes	18	MEM07015B
MEM07021B	Perform complex lathe operations	36	MEM07021B
MEM07024B	Operate and monitor machine/process	36	MEM07024B
MEM07028B	Operate computer controlled machines/processes	18	MEM07028B
MEM07032B	Use workshop machines for basic operations	18	MEM07032B
MEM12001B	Use comparison and basic measuring devices	18	MEM12001B

Modules/Units	Name	Hrs	National Module(s)
MEM09002B	Interpret technical drawing	36	MEM09002B
MEM09003B	Prepare basic engineering drawing	72	MEM09003B
MEM09005B	Perform basic engineering detail drafting	72	MEM09005B

Group MEM40105-03V05G03S05

Modules/Units	Name	Hrs	National Module(s)
MEM03004B	Perform electronic/electrical assembly (production)	72	MEM03004B
MEM03005B	Rework and repair (electrical/electronic production)	72	MEM03005B
MEM10002B	Terminate and connect electrical wiring	27	MEM10002B
MEM10003B	Install and test electrical wiring and circuits up to 1000 volts a.c. and 1500 volts d.c.	108	MEM10003B
MEM10004B	Enter and change programmable controller operational parameters	18	MEM10004B
MEM10005B	Commission programmable controller programs	36	MEM10005B
MEM10006B	Install machine/plant	36	MEM10006B
MEM10010B	Install pipework and pipework assemblies	36	MEM10010B
MEM11004B	Undertake dogging	36	MEM11004B
MEM11021B	Perform advanced operation of load shifting equipment	18	MEM11021B

Group MEM40105-03V05G03S06

Modules/Units	Name	Hrs	National Module(s)
MEM11010B	Operate mobile load shifting equipment	36	MEM11010B
MEM11011B	Undertake manual handling	18	MEM11011B
MEM11016B	Order materials	18	MEM11016B
MEM11022B	Operate fixed/moveable load shifting equipment	36	MEM11022B

Group MEM40105-03V05G03S07

Modules/Units	Name	Hrs	National Module(s)
MEM12002B	Perform electrical/electronic measurement	18	MEM12002B
MEM12006C	Mark off/out (general engineering)	38	MEM12006C
MEM12007D	Mark off/out structural fabrications and shapes	36	MEM12007D

Group MEM40105-03V05G03S08

Modules/Units	Name	Hrs	National Module(s)
MEM13001B	Perform emergency first aid	9	MEM13001B
MEM13002B	Undertake occupational health and safety activities in the workplace	27	MEM13002B

MEM13003B	Work safely with industrial chemicals and materials	18	MEM13003B
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Group MEM40105-03V05G03S09

Modules/Units	Name	Hrs	National Module(s)
MEM15003B	Use improvement processes in team activities	36	MEM15003B

Group MEM40105-03V05G03S10

Modules/Units	Name	Hrs	National Module(s)
MEM16002C	Conduct formal interviews and negotiations	36	MEM16002C
MEM16004B	Perform internal/external customer service	18	MEM16004B
MEM16005A	Operate as a team member to conduct manufacturing, engineering or related activities	18	MEM16005A

Group MEM40105-03V05G03S11

Modules/Units	Name	Hrs	National Module(s)
MEM18001C	Use hand tools	18	MEM18001C
MEM18002B	Use power tools/hand held operations	18	MEM18002B
MEM18003C	Use tools for precision work	36	MEM18003C
MEM18004B	Maintain and overhaul mechanical equipment	36	MEM18004B
MEM18005B	Perform fault diagnosis, installation and removal of bearings	36	MEM18005B
MEM18006C	Repair and fit engineering components	54	MEM18006C
MEM18007B	Maintain and repair mechanical drives and mechanical transmission assemblies	36	MEM18007B
MEM18008B	Balance equipment	18	MEM18008B
MEM18009B	Perform levelling and alignment of machines and engineering components	36	MEM18009B
MEM18012B	Perform installation and removal of mechanical seals	18	MEM18012B
MEM18013B	Perform gland packing	18	MEM18013B
MEM18018C	Maintain pneumatic system components	36	MEM18018C
MEM18020B	Maintain hydraulic system components	36	MEM18020B
MEM18025B	Service combustion engines	18	MEM18025B
MEM18027C	Overhaul engine fuel system components	72	MEM18027C
MEM18033B	Perform engine bottom-end overhaul	36	MEM18033B

MEM18035B	Diagnose and rectify braking systems	54	MEM18035B
MEM18037B	Diagnose and rectify low voltage charging systems	18	MEM18037B
MEM18038B	Maintain wheels and tyres	18	MEM18038B
MEM18039B	Diagnose and rectify track type undercarriage	36	MEM18039B
MEM18040B	Maintain suspension systems	36	MEM18040B
MEM18041B	Maintain steering systems	36	MEM18041B
MEM18042C	Diagnose and rectify manual transmissions	36	MEM18042C
MEM18043C	Diagnose and rectify automatic transmissions	72	MEM18043C
MEM18044C	Diagnose and rectify drive line and final drives	36	MEM18044C
MEM18046B	Fault find/repair electrical equipment/components up to 1000 volts a.c./1500 volts d.c.	90	MEM18046B
MEM18048B	Fault find and repair/rectify basic electrical circuits	108	MEM18048B
MEM18052B	Maintain fluid power systems for mobile plant	36	MEM18052B
MEM18055B	Dismantle, replace and assemble engineering components	27	MEM18055B
MEM18057B	Maintain/service analog/digital electronic equipment	54	MEM18057B
MEM18063B	Terminate signal and data cables	36	MEM18063B
MEM18072B	Manufacture fluid conveying conductor assemblies	36	MEM18072B

Group MEM40105-03V05G03S12

Modules/Units	Name	Hrs	National Module(s)
AURVTN2002	Carry out panel repairs	32	AURVTN2002

Group MEM40105-03V05G04 GROUP 4 UNITS FROM OTHER TP/ACC COURSES AVAILABLE AT CERTIFICATE IV

Modules/Units	Name	Hrs	National Module(s)
BSBINN201A	Contribute to workplace innovation	35	BSBINN201A
MSS403001A	Implement competitive systems and practices	50	MSS403001A
MSS403002A	Ensure process improvements are sustained	50	MSS403002A
MSS403010A	Facilitate change in an organisation implementing competitive systems and practices	50	MSS403010A
MSS403021A	Facilitate a Just in Time system	50	MSS403021A
MSS403030A	Improve cost factors in work practices	50	MSS403030A

IQY Technical College THS to Advanced Diploma and BE Degree

THS Certificate	IQY Basic Training	Qualification to be awarded	IQY Advanced Training	Qualification to be awarded	IQY Degree Level Training	Qualification to be awarded
Building Technology	6 months	Diploma in General Engineering +Certificate in Tertiary Preparation	6 months to 1 Year	Advanced Diploma in Civil Engineering	2 to 3 Years	Professional Diploma in Civil Engineering + BTech/BE (Civil)
Electronics Technology	6 months	Diploma in General Engineering +Certificate in Tertiary Preparation	6 months to 1 Year	Advanced Diploma in Electrical Engineering (Combined EP/EC)	2 to 3 Years	Professional Diploma in Electrical Engineering + BTech/BE (Electrical) (Combined EP/EC)
Electrical Technology	6 months	Diploma in General Engineering +Certificate in Tertiary Preparation	6 months to 1 Year	Advanced Diploma in Electrical Engineering (Combined EP/EC)	2 to 3 Years	Professional Diploma in Electrical Engineering + BTech/BE (Electrical) (Combined EP/EC)
Auto Mechanic Technology	6 months	Diploma in General Engineering +Certificate in Tertiary Preparation	6 months to 1 Year	Advanced Diploma in Mechanical Engineering OR Online Advanced Diploma in Automotive Engineering	2 to 3 Years	Professional Diploma in Mechanical Engineering + BTech/BE (Mechanical)
Machining Technology	6 months	Diploma in General Engineering +Certificate in Tertiary Preparation	6 months to 1 Year	Advanced Diploma in Mechanical Engineering	2 to 3 Years	Professional Diploma in Mechanical Engineering + BTech/BE (Mechanical)

THS Certificate	IQY Basic Training	Qualification to be awarded	IQY Advanced Training	Qualification to be awarded	IQY Degree Level Training	Qualification to be awarded
Refrigeration Air-conditioning Technology	6 months	Diploma in General Engineering +Certificate in Tertiary Preparation	6 months to 1 Year	Advanced Diploma in Mechanical Engineering OR Online Advanced Diploma in Aircon-Refrigeration Engineering	2 to 3 Years	Professional Diploma in Mechanical Engineering + BTech/BE (Mechanical)
Metal Process Technology	6 months	Diploma in General Engineering +Certificate in Tertiary Preparation	6 months to 1 Year	Advanced Diploma in Mechanical Engineering	2 to 3 Years	Professional Diploma in Mechanical Engineering + BTech/BE (Mechanical) OR Online BE (Metallurgy)
Information Technology	6 months	Diploma in General Engineering +Certificate in Tertiary Preparation	6 months to 1 Year	Advanced Diploma in Electrical Engineering (Combined EP/EC) OR Online Advanced Diploma in Information Technology OR Online Advanced Diploma in Network Engineering	2 to 3 Years	Professional Diploma in Electrical Engineering + BTech/BE (Electrical) (Combined EP/EC) OR Professional Diploma in Information Technology +BAppSc(ICT) OR BE(ICT Engineering)

IQY Classrooms

www.iqytechnicalcollege.com/iqyclassrooms.htm

Advanced Diploma in Electro-mechanical and Construction Engineering Course +Live Lectures

(Wednesday 9AM Myanmar Time+ Saturday 9AM Myanmar Time)

Form 108 Form108ADMECLearningSupport

www.iqytechnicalcollege.com/Form108ADMECLearningSupport.htm

Form 107 IQY+IPEM Course Information

www.iqytechnicalcollege.com/IQYIPEMCourseInformation.htm

Live Lessons (Facebook +Youtube Links can be found on the page in the above links)

**Professional Diploma in Engineering+BE (RE+EE/RE+CE/RE+ME)
(Special Course for experienced engineers+**

Year 3 BE/Professional Diploma in Engineering+

BTech Courses Live Lectures

(Sunday 9AM Myanmar Time) (1:30PM Australian Time)

Form 109 BE Special Program Learning Support

www.iqytechnicalcollege.com/Form109BESpecialProgramLearningSupport.htm

Form 107 IQY+IPEM Course Information

www.iqytechnicalcollege.com/IQYIPEMCourseInformation.htm

Live Lessons (Facebook +Youtube Links can be found on the page in the above links)

Myanmar Engineering Courses Online Reference

Adobe Photoshop Online References

www.highlightcomputer.com/photoshop.htm

PROGRAMMABLE LOGIC CONTROLLER ONLINE COURSE

www.highlightcomputer.com/PLCOnlineCourse.htm

Quantity Survey Training

www.highlightcomputer.com/QSONlineTraining.htm

Project Management

www.highlightcomputer.com/projectmanagement.htm

Construction Quality Control Health & Safety References

<http://www.highlightcomputer.com/ConstructionQualityControlHealthSafetyReferences.htm>

Renewable Energy Resources Analysis

Renewable Energy Resources Analysis 2 (Myanmar+English)

Topics-Water Turbines

<http://youtu.be/YxQg290N0FU>

Renewable Energy Resources Analysis 3 (Myanmar+English)

Topics-Bio-Energy, Thermo Chemical

<http://youtu.be/7F0ypYacN58>

Renewable Energy Resources Analysis 4 (Myanmar+English)

Topics-Bio-Chemical Processing, Geo-thermal Energy, Tidal Energy

<http://youtu.be/NkYhbVz84el>

Renewable Energy Resources Analysis 5 (Myanmar+English)

Topics-Tidal Wave Generators, Connection to Electricity Grid

<http://youtu.be/8l9ewZA7J68>

Maung Oo Engineers who have watched five on-line CPD course RE005 videos can send the name & e-mail address to iqytechnicalcollege@gmail.com to receive free 2 hours CPD certificate issued by Australian IQY Technical College electronically

IQY Technical College of Highlight Computer Group

Chemical Engineers Reference

www.highlightcomputer.com

www.highlightcomputer.com/ChemEngineerReference.htm

Explosion Protection Reference

<http://www.highlightcomputer.com/profdiphazardous.htm>

Design of Electrical Services in Building <https://youtu.be/BycpS3sto00>

Building Service Electrical-Load Calculation +Cable selection AS3000/2007

<https://youtu.be/fiJVkr2Opoc>

Electrical Fitting <https://youtu.be/lDCTi92A2WY>

Building Airconditioning& Refrigeration System Part 2 . Engineers who have viewed those videos can send e-mail to iqytechnicalcollege@gmail.com to receive free 3 hours PDP Certificate issued by IQY Technical College (Australia branch) https://youtu.be/U_i7p_Li-Wk

Building Plumbing & Gas fitting <https://youtu.be/XuU4hAAI2ZA>

Building Airconditioning& Ventilation System Part 1 <https://youtu.be/EAxQHWduNKY>

Building Electrical Wiring Australian Wiring Standard AS3000:2007 <https://youtu.be/C1YAdJh6DXo>

Building Service Electrical-Load Calculation +Cable selection AS3000/2007 <https://youtu.be/fiJVkr2Opoc>

Building Service Electrical-Load Calculation +Cable selection
AS3000/2007 <https://youtu.be/fiJVkr2Opoc>

Electrical Safety references according to Australian Wiring Standard AS3000/2007 can be downloaded from the following link.

www.highlightcomputer.com/electricalsafety.htm

Geotechnical Engineering

Reference Textbook

<http://www.filefactory.com/file/9xlkqno6kx1/Soil%20%26amp%3B%20Rock%20Mechanic.pdf>

[BAE5221](#)

<http://youtu.be/Y2gl3c0nMU0>

[BAE5222](#)

<http://youtu.be/Y2gl3c0nMU0>

[BAE5223](#)

<http://youtu.be/Ey8Gxzs3KtM>

[BAE5224](#)

http://youtu.be/U9m_8JHFHYw

[BAE5225](#)

<http://youtu.be/1PC8BgFhYRs>

Traffic Engineering

Road Design Online Lesson <https://youtu.be/Tisydl4zs6Q>

[Day 22 Part 2 BAE623B1](#)

https://youtu.be/URD8_P1Kqr4

[Day 22 Part 2 BAE623B3](#)

Traffic Engineering References

www.highlightcomputer.com/Day_22Part_2-BAE623_Surveying_Traffic_Engineering_Civil.zip

<https://youtu.be/8UNUeG1UYe0>

[Day 22 Part 2 BAE623B2](#)

<https://youtu.be/9pQ6HHbMpWs>

Grid Connect Solar Electrical System

<https://youtu.be/duhbG1IgiuE>

<https://youtu.be/iFNa8yVQeRk>

Building Construction Engineering(Civil)

<http://youtu.be/jVP04hgpt20>

<http://youtu.be/xqXr8-z85S4>

<http://youtu.be/7R6h4M7fo9Y>

Design & Analysis of Shell Structures(Civil+Mechanical)

www.highlightcomputer.com/shellstructure.htm

English for Politicians

www.highlightcomputer.com/EnglishForPoliticians.htm

Maximum Demand Calculation & Cable Selection—Thanlyin TU- 5 Jan 2016 Lecture

www.mongroupsdney1.com/CableselectionPPT.pdf

AS3000

AS3008

Circuit Breakers

<http://www.filefactory.com/file/3rm973czdehj/compact-ns-brochure-en.pdf>

HOSPITAL ELECTRICAL SYSTEM

www.highlightcomputer.com/hospitalelectrical.htm

NON DESTRUCTIVE TESTING

www.highlightcomputer.com/NDT.htm

St Clements University Certificate/ Diploma / Advanced Diploma /Associate Degree in General Engineering Practice

This is a mixed discipline engineering practice study program.

Course + Credit Outlines

Entry--- Year 9		
YEAR 10	Certificate II in Work Place English & Pre-vocational Engineering (6 Credits)	
		Credits
WENG 1	Workplace English 1	1
CGVE 401A	Year 10 Maths	1
CGVE 402A	Year 10 Physics	1
CGVE 403A	Year 10 Information Processing	1
CGVE 404A	Year 10 Science	1
CGVE 406A	Year 10 Chemistry	1
		6 credits
Year 11	Certificate III in Work Place English & Basic Engineering (9 Credits)	
		Credits
WENG 2	Workplace English 2	1
CGVE 401B	Year 11/12 Maths	1
CGVE 402B	Year 11/12 Physics	1
CGVE 403B	Year 11/12 Software Design	1
CGVE 404B	Year 11/12 Science	1
CGVE 405B	Year 11+12 Design & Technology	1
CGVE 406B	Year 10+11+12 Chemistry	1
CGVE 410	Industrial Technology (One unit from Certificate IV in Electrical/Civil/Mechanical Engineering)	2
		15 credits

Year 12 **Certificate IV in Work Place English & General Engineering Practice(15 Credits)**

		Credits
WENG 3	Workplace English 3	1
GE6	Occupational Health & Safety	2
IE6	Principle of Electricity	2
	PLUS any 4 units or more from the following group	
GE1	Electrical Wiring (EE)	2
GE8	Electronics (EE)	2
GE13	Principle of Engine(ME)	2
GE14	Fitting & Machining (ME)	2
GE16	Engineering Drawing I (EE/CE/ME)	2
GE19	Computer Programming (EE/CE/ME)	2
GE22	Painting & Decoration (CE)	2
GE27	Machine Principle(ME)	2
GE30	Bricklaying (CE)	2
GE31	Sprouting & Guttering (CE)	2
IE9	Basic Building Construction (CE)	2
	Credit Transfer from Certificate III in Work Place English & Basic Engineering	2
		15 Credits

Award Rule-

- If all elective are selected from EE units CIV in Work place English & Electrical Engineering Practice will be award. As for CE & ME.
- If the electives are selected from mixed discipline, CIV in Workplace English & General Engineering Practice will be awarded

Year 1 After Year 12	Diploma in General Engineering Practice 30 credits	<u>Credits</u>
IE1	Engineering Mathematics	2
IE2	Engineering Physics	2
IE3	Material Science	2
IE13	Workshop	2
IE15	Advanced Engineering Design & Project Work	2
	PLUS any 4 units or more from the following group	
GE2	Electrical Machine (EE)	5
GE3	Electrical Distribution (EE)	5
GE4	Power System Operation (EE)	5
GE9	Process Control (EE/ME)	5
GE15	Building Construction (CE)	5
GE18	Air-conditioning & Refrigeration (ME)	5
GE20	Computer Networking (EE)	5
GE21	Welding (ME)	5
GE25	Surveying (CE)	5
GE28	Hydraulic (CE/ME)	5
GE29	Materials & Corrosion Prevention (CE/ME)	5
	Workplace Assessment Units (Only based on previous work experiences)	
IE11	Electrical & Mechanical Engineering Work Experience	5
IE12	Civil Engineering Work Experience	5
		30 Credits

Award Rule-

- If 4 electives are selected from EE units Dip in Electrical Engineering Practice will be award. As for CE & ME.
- If the electives are selected from mixed discipline, Dip in General Engineering Practice will be awarded

Year 2 After Year 12	Advanced Diploma in Engineering Practice 60 credits	<u>Credits</u>
EE307	Energy Efficient Building Design	2
EE308	Sustainability	2
EE309	Project Management	2
EE310	Engineering Officer Competency Report	2
	PLUS any 4 units from the following group	
IE7	Electrical Circuit I (EE)	5
IE8	Electrical Circuit II (EE)	5
IE9	Advanced Building Construction (CE)	5
IE10	Transmission Line (EE)	5
GE7	Project Management (EE/CE/ME)	5
GE10	Industrial Electronics (EE)	5
GE11	Programmable Logic Controller (EE/ME)	5
GE17	Pipe Fitting (CE/ME)	5
GE23	Pneumatics (CE/ME)	5
GE24	Manufacturing Management (ME)	5
		30 Credits

Award Rule-

- If 4 electives are selected from EE units Adv Dip in Electrical Engineering Practice will be award. As for CE & ME.
- If the electives are selected from mixed discipline, Adv Dip in General Engineering Practice will be awarded

Year 3 After Year 12	Associate Degree in Engineering Practice (General/EE/CE/ME) 90 credits	<u>Credits</u>
BAE 401	Advanced Engineering Mathematics	9
BAE 402	Calculus	3
BAE 403	Engineering Mechanics	1
BAE 404	Engineering Materials & Thermodynamics	3
BAE 508	Industrial Engineering & Management	1
BAE 601	Computer Programming	3
BAE 608A	Final Graduation Project/ Research Report	10

Based on Advanced Diploma, Associate Degree will be awarded in relevant discipline.

UPDATED COURSES

Click the following link to view the updated courses

<http://iqycoursesupdate.blogspot.com.au/>

VIDEO (MYANMAR) FOR THE OFFERED COURSES

www.iqytechnicalcollege.com/IQYIPEMCourseInformation.htm

[IQY Technical College Programs and Career](#)

Offered Courses

Bachelor of Humanities Studies/ Diploma in Humanities Studies / Advanced Diploma in Humanities Studies/ Professional Diploma in Humanities Studies / Masters Diploma & Master of Humanities Studies Courses

Bachelor of Humanities Studies/ Diploma in Humanities Studies /
Advanced Diploma in Humanities Studies/ Professional Diploma in
Humanities Studies / Masters Diploma & Master of Humanities
Studies Courses

**Bachelor Degree Programs (St Clements University
Higher Education School &**

STC Technological University of British West Indies)

The following courses highlighted in this area are combined with Certificate
in Tertiary Preparation (Year 11+12) General Education

IQY Technical College/ St Clements University Humanities

Study Programs

(37001/47001/57001/67001)

Language

www.iqytechnicalcollege.com/Language1.pdf

HAND BOOKS

IQY Milestones and recognitions

[IQY Technical College/ St Clements University Humanities Study Programs](#)

www.highlightcomputer.com/HumanitiesCoursesOutline.pdf

The objective of Humanities Studies program is to provide formal academic study and recognition for community workers, social service workers and volunteers who are performing the humanitarian works.

Entry Requirement

No formal requirement but working in humanitarian service is needed. But those without university entrance qualifications may need to attend our basic education studies.

Course Structure

- Diploma in Humanities Studies (Dip HS) (30 Credit Points) (IQY Course 37001)
- Advanced Diploma in Humanities Studies (Adv Dip HS) (60 Credit Points) (IQY Course 47001)
- Professional Diploma in Humanities Studies (Prof Dip HS) (120 Credit Points) (IQY Course 67001) which can be convertible to St Clements University's Bachelor of Humanities Studies (BHS)
- Master of Humanities Studies (MHS) (St Clements University) (240 Credits)
- Professional Doctorate of Humanities Studies (DHS) (St Clements University) (360 Credits)

[Diploma in Humanities Studies \(Dip HS\) \(30 Credit Points\)](#)

Outcome-

On completion of this course, the candidates will be able to effectively provide humanities services needed by the community.

Course Structure

It consists of compulsory work-based unit and elective units

Compulsory

HS101- Humanitarian Work Record (15Points)

Presenting own diary of humanities work for minimum of three months or work reference

ELECTIVES

The following streams can be selected to complete Diploma in Humanities Studies

[STREAM \(1\) -PEOPLE SERVICE STREAM \(Select any one\)](#)

[CERTIFICATE IN COMMUNITY SERVICE \(MVTC205\)](#)

[\(FOODS SERVICE/HEALTH SERVICES/LIBRARY SERVICES/AGE CARE/CHILD CARE\)](#)
(15 points)

CERTIFICATE IN PUBLIC SAFETY (MVTC208) (15 points)

CERTIFICATE IN AGRICULTURE FOOD PRODUCTION (MVTC201) (15 points)

STREAM (2)-COMMUNITY CONSTRUCTION STREAM

Select any one (15 points)

PC 1-Certificate in Bricklaying & Masonry

PC 2-Certificate in Plumbing

PC 3-Certificate in Building Construction

PC 4-Certificate in Gutter Construction

PC 5-Certificate in Fitting & Machining

PC 6-Certificate in Welding

PC 7-Certificate in Engine Operation & Basic Servicing

PC 8-Certificate in Air-conditioning & Refrigeration Basic Servicing

PC 9-Certificate in Electrical Wiring

PC 10-Certificate in Electrical Machine Winding

STREAM (3)- VOLUNTARY TEACHING STREAM

ED107 Theory of Education, Educational Technology & Teaching Practice

(15 Credits)

Advanced Diploma in Humanities Studies (Dip HS) (60 Credit Points)

Outcome

On completion of this course, the candidates will be able to effectively organize and manage the humanities services needed by the community.

Course Structure

It consists of credit transfer from Diploma in Humanities Studies, compulsory work-based unit and compulsory theory studies units.

Credit Transfer

Completion of Diploma in Humanities Studies (30 Credit Points)

Compulsory Work-based Unit

HS201-Humanitarian Organizing Work Record (5 points)

Presenting own diary of organizing humanities work or work reference in additional to minimum of 3 months humanitarian work experience.

Compulsory theory studies units.

The following management units need to be studied

Mgt 101 Management (5 points)

Mgt 201 Customer Service Management (Humanitarian Customer Service) (5 points)

Mgt 203 Inventory & Budget Management (Humanitarian Service Organization Budget Control) (5 points)

Mgt 208 Safety Management in Humanitarian Works-(5 Points)

Mgt 211 Leadership in Humanitarian Works (5 Points)

Professional Diploma in Humanities Studies (Dip HS) (120 Credit Points)

Outcome

On completion of this course, the candidates will be able to effectively set up the strategic tasks and judge the nature of humanities services needed by the community.

Course Structure

It consists of credit transfer from Advanced Diploma in Humanities Studies, compulsory self study unit compulsory theory studies units and a humanities project

Credit transfer

Completion of Diploma in Humanities Studies (60 Credit Points)

Compulsory self study unit

HS301-Professional Studies of Humanities (20 Credits)

It is an open unit. The student will need to study the literatures in Human Right, Democracy. History, Political Science, Philosophy, . They can read the books, online publications , attend the public talk, take part in online discussions etc and prepare a report on what they read, believe, accept on humanitarian issues.

They can freely present their views , comments and judgement.

The assessment will not be based on same or different views between student and assessor. It will only be based on how the student can do the study, what is accepted and believed and how well the arguments can be presented.

The report needs to include references sources as well and it can be written in any language. (For Myanmar, it can be written in Myanmar or English)

Compulsory theory studies

ED431-Critical Thinking (10 Credits)

Mgt 305 Quantitative Methods for Managers (10 Credits)

Mgt 306 Human Resources Management (10 Credits)

HS302- Humanities Work Project (10 Credits)

Humanities Project is to be written

The candidate needs to investigate the needs of the community and prepare the work plan to do the humanities project work such as building a school, digging the water well, disaster relief work.

They need to answer the questions regarding

- Why this task is important for the community
- Who will get the benefit
- What kinds of tasks need to be provided
- Who will do the job
- What materials , resources will be required
- How to provide the safety
- Time plan to complete the task
- Materials requirement and budgetary issues and how to raise the funding
- How to collaborate with local and other people / organizations
- How to assess the project completion
- How to determine the effectiveness and quality of the project outcome
- What lesson that you learnt from the project and conclusion

The project report needs to answer the above questions, record of project works, data, photos and references will need to be attached.

It should be 5 to 10 pages . Without community project but presentation of intensive portfolio 57001 Professional Diploma in Humanities Studies can be issued but to proceed to Masters , such project must be submitted for qualifying.

Bachelor of Humanities Studies (BHS) (St Clements University)

(Credit Transfer)

The graduates of Professional Diploma in Humanities Studies can pay degree registration fees and present the Professional Diploma in Humanities Studies to St Clements University's academic board to issue Bachelor of Humanities Studies (BHS)

Master of Humanities Studies (MHS) (St Clements University) (240 Credits)

Professional Doctorate of Humanities Studies (DHS) (St Clements University)
(360 Credits)

The graduates of Bachelor of Humanities Studies (BHS) can continue the studies on research method and prepare a thesis to complete Master of Humanities Studies (MHS)

St Clements University will also guide the additional studies as required.

They can contribute the literatures in St Clements University's Academic Journal, present the seminars, write the dissertation, defend the dissertation to complete Professional Doctorate of Humanities Studies

Final Thesis for Master and Dissertation for Doctorate

HUM 601 Research Method

HUM 602 Thesis

HUM 601 Research Method

This course guides the student, step by step, through the research process, from problem selection through writing up results. It provides all of the basics necessary to complete a research project in any discipline.

Outline. The following aspects are reflected in this course:

What is research?

Tools of research

The problem: the heart of the research process

Review of the related literature

Planning your research design

Writing the research proposal

Qualitative research

Historical research

Descriptive research

Experimental and causal - comparative designs

Statistical techniques for analyzing quantitative data

Technical details: style, format, and organization of the research report

Masters Research Proposal

Synopsis: Research students are expected to present a written research proposal within three months after commencement. The proposal is handed in to the study leader.

Assessors of this proposal are selected by the faculty for their understanding of the field and the research involved. The purpose of a research is to set out a plan for conducting the research and writing the dissertation within the available time. It should take account of the availability and guidance of the study leader.

The starting point for a research proposal is the topic, which is the field of interest in which the research is to be carried out. In introducing the topic, the proposal should clarify the field that it falls into and the specific part of that field which the research will explore.

It should clarify why the topic is of interest and importance, and how the proposed research will contribute to the field of knowledge or profession. The proposal should clarify the research questions, ensuring that these are specific and answerable.

It is important to show how these questions relate to the topic, and how they will advance the student's contribution. The proposal should detail the research to be carried out, and clarify the research methods, the timeframe and the reasons for selecting particular methods.

Where a period of literature review or research should precede any empirical research, this should be factored in as part of the research. It is important to estimate any periods of field research and to flag their duration and cost in your research proposal.

HUM 602 Thesis

Humanities Studies Thesis for Masters and Dissertation for Doctorate

Candidates need to complete a 60000-words dissertation (in Myanmar or English) and a 3000-words executive portfolio (in English).

This program requires the candidates to complete a thesis as part of the assessment for the Master of Humanities Studies degree and a dissertation for Doctor of Humanities Studies.

Doing a thesis / dissertation means that instead of knowledge and information being presented and following a prescribed route for answering questions, candidates are thrust into an active role of managing an investigation into a topic area. This means researching and discovering things for themselves.

They will have to set their own targets and parameters, pose their own central research questions and decide on the appropriate sources of information to support the research. It therefore requires the use of the higher-level cognitive skills of analysis, synthesis and evaluation. Candidates may choose an area of particular interest to them within the scope of course title.

Doctoral dissertation

A dissertation is an individual effort and the candidate, academic tutor and the course professor will work together on constructing an approved topic (research question) and methodologies.

Humanities Dissertation Defence for doctorate

It is expected of Doctoral candidates to defend their thesis by means of a colloquium (academic discussion). The purpose of the meeting is for the candidates to convince a panel of experts in the

field of the dissertation how well they have done in the conducting of their research study and the preparation of their dissertation

Candidates need to complete all course assessments with the results of Grade B+ or above.

IQY Technical College Languages

www.iqytechnicalcollege.com/language.htm

MYANMAR ETHNICS LANGUAGES

Myanmar

Karen

Kachin

Chin

Shan

Mon

Kayah

Rakhine

Wa

Palaung

INTERNATIONAL LANGUAGES

English

French

Spanish

Chinese

Bengali

Danish

Finnish

Irish
Norwegian
Polish
Turkish
Urdu
Japanese
Korean
Hindi
Arabic
Greek
Italian
Russian
Hebrew
Thai
Khamer
Malay
Portuguese
Dutch
German
Farsi (Persian)
Vietnamese
Laotian
Indonesian
Mongolian

Filipino (Tagalog)

Icelandic

Serbian+Croatian

Tamil

Sinhala

Bhutanese(Dzongkha)

Nepali

Swedish

Finnish

Tibetan

Austrian

Albanian

Hungarian

Romanian

Fijian

Bulgarian

UPDATED COURSES

Click the following link to view the updated courses

<http://iqycoursesupdate.blogspot.com.au/>

VIDEO (MYANMAR) FOR THE OFFERED COURSES

www.iqytechnicalcollege.com/IQYIPEMCourseInformation.htm

[IQY Technical College Programs and Career](#)

Offered Courses

<u>Bachelor of Applied Science Information Technology / Professional Diploma in Information Technology Courses</u>
<u>Advanced Diploma/ Diploma/Certificate in Information Technology Courses</u>
<u>Graduate Diploma/ Master Diploma/ Master of Applied Science (Information Technology) Courses</u>
<u>Diploma in Doctorate Studies/ Doctor of Philosophy Programs</u>

[Graduate Diploma of Engineering Practice \(Computer Control Engineering\)
Course Outline\(70714\)](#)

[Diploma in Computer Aided Engineering \(3556678\)](#)

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[Diploma in Telecommunication Engineering \(30116\)](#)

**Bachelor of Applied Science Information Technology /
Professional Diploma in Information Technology Courses**

[Bachelor Degree Programs \(St Clements University
Higher Education School &](#)

[STC Technological University of British West Indies\)](#)

[Bachelor of Applied Science \(Computer Science & Computer Technology\).
BAppSc\(IT\) \(63112/63212\)](#)

Advanced Courses after BAppSc(IT)

Bachelor of Computer Programming (63113)

Bachelor of Game Design and Development (63114)

Bachelor of Science (Computer Networking) (63115)

Bachelor of Computer Programming and Software (6654321)

Bachelor of Computer Networking and Hardware (6654322)

Advanced Diploma/ Diploma/Certificate in Information Technology Courses

The following courses highlighted in this area are combined with Certificate in Tertiary Preparation (Year 11+12) General Education

[Information Technology Course Outline](#) (23112/33112/43113)

[Certificate in Information Technology Course Outline](#) (23112)

[Diploma in Information Technology Course Outline](#) (33112)

[Advanced Diploma in Information Technology Course Outline](#) (43113)

[Diploma in Telecommunication Engineering](#) (30116)

[Professional Certificate in Medical Data System + Graduate Certificate in Information Technology \(Medical data system\)](#) (4889008)

[Certificate of Attendance in Diploma/ Professional Diploma in Engineering, Management and Information Technology Programs](#)
(A66223) Form-Click [HERE](#)

Double Degrees Program

[Double Degrees \(BE+BMgt/ BE+BAppSc\(IT\)/ BMgt+BAppSc\(IT\)](#)

[Graduate Diploma of Engineering Practice \(Computer Control Engineering\)](#) [Course Outline](#) (70714)

Graduate Diploma/ Master Diploma/ Master of Applied Science (Information Technology) Courses

[Master Degree Programs \(St Clements University and](#)

[STC Technological University of British West Indies\)](#)

[Master of Science \(Information Technology\)/Master of Information Technology](#)

(73114/73214/83215)

[\(Master Diploma in Applied Science-Information Technology\)](#)

[Master of Applied Science \(Computer Networking\) \(70883\)+](#)
[Master of Engineering \(Computer Networking\) \(70884\)](#)

[Graduate Diploma in Geographic Information Systems](#) (6886650)

[Diploma in Doctorate Studies/ Doctor of Philosophy Programs](#)

[Doctor of Philosophy Degree Programs \(St Clements University and](#)
[STC Technological University of British West Indies\)](#)

[IQY Diploma in Doctorate Studies](#) (90110)

[HAND BOOKS](#)

[IQY Milestones and recognitions](#)

Advanced Diploma in Information Technology (Course Outline)

	St Clements+ Highlight Course	Pt				Australian IT Diploma Course
THEORETICAL TRAINING						
ICT 201	Organisational Behaviour	5			BSBWOR502B BSBMGT516A BSBSUS501A	Ensure team effectiveness Facilitate continuous improvement Develop workplace policy and procedures for sustainability
ICT 202	Information Systems Principles and Networking	5	BAE602		ICANWK516A ICANWK532A ICANWK614A	Determine best-fit topology for a local network Identify and resolve network problems Manage IT security
ICT 203	Information Systems, Analysis and Design	5	BAE602	2	ICAPRG602A ICAICT509A ICAICT603A ICAICT608A ICAPMG606A ICAICT713A	Manage the development of technical solutions from business specifications Gather data to identify business requirements Manage the use of appropriate development methodologies Interact with clients on a business level Manage IT project quality Manage IT services
ICT 204	Advanced Programming	5	BAE601		ICAPRG527A ICAPRG501A ICAPRG505A	Apply intermediate object-oriented language skills Apply advanced object-oriented language skills Build advanced user interface
ICT 205	Project Work	5	BAE602	Core	ICAPRG506A	Manage copyright, ethics and privacy in an IT environment
ICT 206	WORK PERFORMANCE ASSESSMENT			Core	ICAPMG601A	Establish IT project governance
				Core	ICAPMG602A	*Manage IT project initiation
				Core	ICAPMG603A	*Manage IT project planning
				Core	ICAPMG604A	*Manage IT project delivery
	Total	30		Core	ICAPMG605A	*Manage IT project closure

BMgt+BAppSC (IT)

Year 1+2

Advanced Diploma in Management (60 cp)+
Diploma in Information Technology(30 cp)

Year 3+4

Bachelor of Applied Science (Computer Science & Computer Technology)

Year (3)

Unit	Topics	Reference	Points
ICT 301	General Electrical Knowledge	EE101	3
ICT 302	Digital Electronics	EE209/H012	3
ICT 303	Amplifier	EE208/H013	3
ICT 304	Material Science	E081	3
EE204	Physics	E046	3
EE201	Mathematics 1	E050	3
EE202	Mathematics 2	E026	3
EE306	Basic Control	I008	3
BAE605	Management		3
BAE408	Analog & Digital Electronics		3
	Mgt 301 Electronics Business		3
	Mgt 302 Information Security		3
	Mgt 303 Management Information System		4
		TOTAL	40

Year (4)

Unit	Topics	Reference	Points
ICT 401	Advanced Mathematics 1	BAE401	3
ICT 402	Advanced Mathematics 2	BAE402	3
BAE604	Telecommunication System		3
BAE508	Project Management		3
ICT 305	Professional Programming (1) C++		3
ICT 403	Professional Programming (2) Object Oriented		3
ICT 404	Professional Programming (3) Java		3
ICT 405	Professional Practice (1) Network		3
ICT 406	Professional Practice (2) Website		3
ICT 407	Artificial Intelligence		3
	Mgt 304 Electronics Commerce		3
	Mgt 305 Quantitative Methods for Management		3
	Mgt 306 Human Resources Management		3
	Mgt 307 Marketing Management		3
		TOTAL	42

Total credit points Year 1+2= 90+ Yr3+4=82 = 172

Bachelor of Applied Science (Computer Science & Computer Technology)

Year (3)

Year 3 program focuses on hardware aspects of computer technology. Computer electronics circuit boards operation principles are emphasized. Basic electrical principle, analogue and digital electronics principle together with academic subjects of mathematics, physics, material science and management are contained in the program.

Unit	Topics	Reference	Points
ICT 301	General Electrical Knowledge	EE101	3
ICT 302	Digital Electronics	EE209/H012	3
ICT 303	Amplifier	EE208/H013	3
ICT 304	Material Science	E081	3
EE204	Physics	E046	3
EE201	Mathematics 1	E050	3
EE202	Mathematics 2	E026	3
EE306	Basic Control	I008	3
BAE605	Management		3
BAE408	Analog & Digital Electronics		3
		TOTAL	30

Year (4)

Year 4 program focuses on advanced programming, website development and computer network subjects. Computerised communication technology is included as Telecommunication System., As this stage is a final year of 4 years programs in Computer Science, Computer Technology & information Technology, students' self study subjects in programming, website and computer networking subjects are arranged for the students to prepare their final stage projects.

Unit	Topics	Reference	Points
ICT 401	Advanced Mathematics 1	BAE401	3
ICT 402	Advanced Mathematics 2	BAE402	3
BAE604	Telecommunication System		3
BAE508	Project Management		3
ICT 305	Professional Programming (1) C#		3
ICT 403	Professional Programming (2) Object Oriented		3
ICT 404	Professional Programming (3) Java		3
ICT 405	Professional Practice (1) Network		3
ICT 406	Professional Practice (2) Website		3
ICT 407	Artificial Intelligence		3
		TOTAL	30

BE+BAppSCIT

Year 1+2

Adv Dip in Engineering (60cp)+Dip IT (30 cp)

Year 3+4

Bachelor of Engineering (Electrical)

YEAR 3 +4

Subjects

BAE 401 Advanced Engineering Mathematics

BAE 402 Calculus

BAE 403 Engineering Mechanics

BAE 404 Engineering Materials & Thermodynamics

BAE 405 Advanced Circuit Analysis

BAE 406 Electro-mechanics

BAE 407 Advanced Electro-magnetics Field & Materials

BAE 408 Analogue & Digital Electronics

<u>ICT 302</u>	<u>Digital Electronics</u>	3
<u>ICT 303</u>	<u>Amplifier</u>	3
<u>ICT 304</u>	<u>Material Science</u>	3

BAE 501 Advanced Power Systems & Power Transmission Networks

BAE 502 Linear System

BAE 503 Control System

BAE 504 Power System Analysis

BAE 505 Power System Optimization

<u>BAE 506 Power System Stability & Protection</u>
<u>BAE 507 Electro-mechanical Energy Conversion</u>
<u>BAE 508 Industrial Engineering & Industrial Management</u>
<u>BAE 601 Computer Programming</u>
<u>BAE 602 Computer Network</u>
<u>BAE 603 Software Engineering</u>
<u>BAE 604 Telecommunication Engineering</u>
<u>BAE 605 Engineering Management</u>
<u>BAE 606 Building Service Electrical & Mechanical Engineering</u>
<u>BAE 607 Radio Wave Propagation & Microwave Techniques</u>
<u>BAE 608 Professional Engineer Competency Demonstration Report</u>
<u>ICT 401 Advanced Mathematics 1</u>
<u>ICT 402 Advanced Mathematics 2</u>
<u>ICT 305 Professional Programming (1) C++</u>

Engineering 72 CP+ ICT =12 CP= 84 CP

Year 5

<u>ICT 403</u>	<u>Professional Programming (2) Object Oriented</u>	3
<u>ICT 404</u>	<u>Professional Programming (3) Java</u>	3
<u>ICT 405</u>	<u>Professional Practice (1) Network</u>	3
<u>ICT 406</u>	<u>Professional Practice (2) Website</u>	3
<u>ICT 407</u>	<u>Artificial Intelligence</u>	3

Year 5= Engineering =24 CP+ICT 15 CP= 39 CP\

Total= Yr 1+2 90CP+ Yr 3+4=84CP+ Yr 5= 39 CP=Total 213 CP

Bachelor of Engineering (Civil)

Year (3) Part 1 ADVANCED GENERAL CIVIL ENGINEERING DEGREE LEVEL

Subjects
<u>BAE 401 Advanced Engineering Mathematics</u>

<u>BAE 402 Calculus</u>		
<u>BAE 403 Engineering Mechanics</u>		
<u>BAE 404 Engineering Materials & Thermodynamics</u>		
	<u>General Electrical Knowledge</u>	3
<u>ICT 302</u>	<u>Digital Electronics</u>	3
<u>ICT 303</u>	<u>Amplifier</u>	3
<u>ICT 304</u>	<u>Material Science</u>	
<u>BAE 508 Industrial Engineering & Industrial Management</u>		

Year (3) Part 2 ADVANCED GENERAL CIVIL ENGINEERING DEGREE LEVEL (18 Pt)

BAE421 Building Construction Engineering (4 pt)

BAE422 Estimating (2 pt)

BAE423 Fluid Mechanics (2 pt)

BAE424 Reinforced Concrete (2 pt)

BAE425 Timber Engineering (2 pt)

BAE521 Road & Bridge (2 pt)

BAE522 Rock Mechanics (2 pt)

BAE523 Soil Mechanics (2 pt)

BAE 523A Environmental Engineering

TOTAL 35 Pt

Year (4) Part 1

<u>BAE 601 Computer Programming</u>
<u>BAE 605 Engineering Management</u>
<u>BAE 606 Building Service Electrical & Mechanical Engineering</u>
<u>ICT 401Advanced Mathematics 1</u>

[ICT 402Advanced Mathematics 2](#)

[ICT 305Professional Programming \(1\) C++](#)

Year (4) Part 1

(12 Pt)

[BAE621 Structural Engineering \(3 pt \)](#)

[BAE623 Surveying& Traffic Engineering \(2 pt\)](#)

[BAE624 Water Supply , Sanitation & Finishing \(2 pt \)](#)

[BAE 608 Engineering Competency Demonstration Report Writing \(2pt\)](#)

SELF STUDY

[BAE622 Architecture \(3 pt \)](#)

Engineering 72 CP+ ICT =12 CP= 84 CP

Year 5

ICT 403	Professional Programming (2) Object Oriented	3
ICT 404	Professional Programming (3) Java	3
ICT 405	Professional Practice (1) Network	3
ICT 406	Professional Practice (2) Website	3
ICT 407	Artificial Intelligence	3

Year 5= Engineering =24 CP+ICT 15 CP= 39 CP\

Total= Yr 1+2 90CP+ Yr 3+4=84CP+ Yr 5= 39 CP=Total 213 CP

Bachelor of Engineering (Mechanical)

Year (3)

GENERAL APPLIED ENGINEERING (MECHANICAL) DEGREE

Subjects		
<u>BAE 401 Advanced Engineering Mathematics</u>		
<u>BAE 402 Calculus</u>		
<u>BAE 403 Engineering Mechanics</u>		
<u>BAE 404 Engineering Materials & Thermodynamics</u>		
	<u>General Electrical Knowledge</u>	3
<u>ICT 302</u>	<u>Digital Electronics</u>	3
<u>ICT 303</u>	<u>Amplifier</u>	3
<u>ICT 304</u>	<u>Material Science</u>	
<u>BAE 507 Electro-mechanical Energy Conversion</u>		
<u>BAE 508 Industrial Engineering & Industrial Management</u>		
<u>BAE511 Air-conditioning & Refrigeration Part 1</u>		
<u>BAE613 Mechanical Instrumentation Process</u>		
<u>BAE614 Machine Design</u>		
<u>BAE512 Building Service Water Supply System</u>		
<u>BAE511 Air-conditioning & Refrigeration Part 2</u>		
<u>BAE613 Mechanical Instrumentation Process</u>		
<u>ICT 401Advanced Mathematics 1</u>		
<u>ICT 402Advanced Mathematics 2</u>		
<u>ICT 305Professional Programming (1) C++</u>		

Year (4) Part 1 BE (Mechanical + General Related Subjects)

<u>BAE 601 Computer Programming</u>
<u>BAE 602 Computer Network</u>
<u>BAE 603 Software Engineering</u>
<u>BAE 605 Engineering Management</u>
<u>BAE 606 Building Service Electrical & Mechanical Engineering</u>

Year (4) Part 2

Bachelor of Engineering (Mechanical) Specialization (13 pt)

[BAE311 Plant Engineering \(2 pt\)](#)

[BAE312 Design Engineering \(2 pt\)](#)

[BAE313 Environmental Control \(2 pt\)](#)

[BAE314 Mechanical Power Generation \(2 pt\)](#)

[BAE315 Materials Engineering \(2 pt\) Part 1 Part 2](#)

[BAE 608 Engineering Competency Demonstration Report Writing \(3 pt\)](#)

Elective (2 pt)

Subjects	
<u>BAE513 Production Technology</u>	
<u>BAE611 Maintenance Engineering</u>	
<u>BAE612 Engineering Metallurgy</u>	

Engineering 72 CP+ ICT =12 CP= 84 CP

Year 5

<u>ICT 403</u>	<u>Professional Programming (2) Object Oriented</u>	3
<u>ICT 404</u>	<u>Professional Programming (3) Java</u>	3
<u>ICT 405</u>	<u>Professional Practice (1) Network</u>	3
<u>ICT 406</u>	<u>Professional Practice (2) Website</u>	3
<u>ICT 407</u>	<u>Artificial Intelligence</u>	3

Year 5= Engineering =24 CP+ICT 15 CP= 39 CP\

Total= Yr 1+2 90CP+ Yr 3+4=84CP+ Yr 5= 39 CP=Total 213 CP

BE+BMgt

Year 1+2

Advanced Diploma in Engineering 60 credit+
Diploma in Management 30 credits concurrent study

Year 3+4

Bachelor of Engineering (Electrical)

YEAR 3 +4

Subjects
<u>BAE 401 Advanced Engineering Mathematics</u>
<u>BAE 402 Calculus</u>
<u>BAE 403 Engineering Mechanics</u>
<u>BAE 404 Engineering Materials & Thermodynamics</u>
<u>BAE 405 Advanced Circuit Analysis</u>
<u>BAE 406 Electro-mechanics</u>
<u>BAE 407 Advanced Electro-magnetics Field & Materials</u>
<u>BAE 408 Analogue & Digital Electronics</u>
MANAGEMENT
<u>Mgt 301 Electronics Business</u>
<u>Mgt 302 Information Security</u>

<u>BAE 501 Advanced Power Systems & Power Transmission Networks</u>
<u>BAE 502 Linear System</u>
<u>BAE 503 Control System</u>
<u>BAE 504 Power System Analysis</u>
<u>BAE 505 Power System Optimization</u>
<u>BAE 506 Power System Stability & Protection</u>
<u>BAE 507 Electro-mechanical Energy Conversion</u>
<u>BAE 508 Industrial Engineering & Industrial Management</u>
<p>MANAGEMENT</p> <p><u>Mgt 303 Management Information System</u></p> <p><u>Mgt 304 Electronics Commerce</u></p> <p><u>Mgt 305 Quantitative Methods for Management</u></p>
<u>BAE 601 Computer Programming</u>
<u>BAE 602 Computer Network</u>
<u>BAE 603 Software Engineering</u>
<u>BAE 604 Telecommunication Engineering</u>
<u>BAE 605 Engineering Management</u>
<u>BAE 606 Building Service Electrical & Mechanical Engineering</u>
<u>BAE 607 Radio Wave Propagation & Microwave Techniques</u>
<u>BAE 608 Professional Engineer Competency Demonstration Report</u>

MANAGEMENT

Mgt 306 Human Resources Management

Mgt 307 Marketing Management

Mgt 308 Artificial Intelligence

Yr 3+4 Total Engineering = 72 CP+ Management=24 cp= 96 cp

Total Credit points= 90cp (Yr 1+2)+ 96 cp (Yr 3+4+5)= 186 cp

Bachelor of Engineering (Civil)

**Year (3) Part 1 ADVANCED GENERAL CIVIL ENGINEERING
DEGREE LEVEL**

Subjects
<u>BAE 401 Advanced Engineering Mathematics</u>
<u>BAE 402 Calculus</u>
<u>BAE 403 Engineering Mechanics</u>
<u>BAE 404 Engineering Materials & Thermodynamics</u>
<u>BAE 508 Industrial Engineering & Industrial Management</u>
MANAGEMENT
<u>Mgt 301 Electronics Business</u>
<u>Mgt 302 Information Security</u>

Year (3) Part 2 ADVANCED GENERAL CIVIL ENGINEERING DEGREE LEVEL (18 Pt)

[BAE421 Building Construction Engineering \(4 pt\)](#)

[BAE422 Estimating \(2 pt\)](#)

[BAE423 Fluid Mechanics \(2 pt\)](#)

[BAE424 Reinforced Concrete \(2 pt\)](#)

[BAE425 Timber Engineering \(2 pt \)](#)

[BAE521 Road & Bridge \(2 pt \)](#)

[BAE522 Rock Mechanics \(2 pt \)](#)

[BAE523 Soil Mechanics \(2 pt \)](#)

[BAE 523A Environmental Engineering](#)

MANAGEMENT

[Mgt 303 Management Information System](#)

[Mgt 304 Electronics Commerce](#)

[Mgt 305 Quantitative Methods for Management](#)

TOTAL 35 Pt

Year (4) Part 1

<u>BAE 601 Computer Programming</u>
<u>BAE 605 Engineering Management</u>
<u>BAE 606 Building Service Electrical & Mechanical Engineering</u>
<u>BAE 609 Design Project</u>
Total Credit points in this group

Year (4) Part 1

(12 Pt)

[BAE621 Structural Engineering \(3 pt \)](#)

[BAE623 Surveying& Traffic Engineering \(2 pt\)](#)

[BAE624 Water Supply , Sanitation & Finishing \(2 pt \)](#)

[BAE 608 Engineering Competency Demonstration Report Writing \(2pt\)](#)

SELF STUDY

[BAE622 Architecture \(3 pt \)](#)

MANAGEMENT

[Mgt 306 Human Resources Management](#)

[Mgt 307 Marketing Management](#)

[Mgt 308 Artificial Intelligence](#)

Yr 3+4Total Engineering = 72 CP+ Management=24 cp= 96 cp

Total Credit points= 90cp (Yr 1+2)+ 96 cp (Yr 3+4+5)= 186 cp

Bachelor of Engineering (Mechanical)

Year (3)

GENERAL APPLIED ENGINEERING (MECHANICAL) DEGREE

Subjects
<u>BAE 401 Advanced Engineering Mathematics</u>
<u>BAE 402 Calculus</u>
<u>BAE 403 Engineering Mechanics</u>
<u>BAE 404 Engineering Materials & Thermodynamics</u>
<u>BAE 507 Electro-mechanical Energy Conversion</u>
<u>BAE 508 Industrial Engineering & Industrial Management</u>
<u>BAE511 Air-conditioning & Refrigeration Part 1</u>
<u>BAE613 Mechanical Instrumentation Process</u>
<u>BAE614 Machine Design</u>
<u>BAE512 Building Service Water Supply System</u>
<u>BAE511 Air-conditioning & Refrigeration Part 2</u>
<u>BAE613 Mechanical Instrumentation Process</u>
 MANAGEMENT <u>Mgt 301 Electronics Business</u> <u>Mgt 302 Information Security</u>

Year (4) Part 1 BE (Mechanical + General Related Subjects)

<u>BAE 601 Computer Programming</u>

<u>BAE 602 Computer Network</u>
<u>BAE 603 Software Engineering</u>
<u>BAE 605 Engineering Management</u>
<u>BAE 606 Building Service Electrical & Mechanical Engineering</u>

MANAGEMENT

[Mgt 303 Management Information System](#)

[Mgt 304 Electronics Commerce](#)

[Mgt 305 Quantitative Methods for Management](#)

Year (4) Part 2

Bachelor of Engineering (Mechanical) Specialization (13 pt)

[BAE311 Plant Engineering \(2 pt\)](#)

[BAE312 Design Engineering \(2 pt\)](#)

[BAE313 Environmental Control \(2 pt\)](#)

[BAE314 Mechanical Power Generation \(2 pt\)](#)

[BAE315 Materials Engineering \(2 pt\) Part 1 Part 2](#)

[BAE 608 Engineering Competency Demonstration Report Writing \(3 pt\)](#)

Elective (2 pt)

Subjects
<u>BAE513 Production Technology</u>
<u>BAE611 Maintenance Engineering</u>
<u>BAE612 Engineering Metallurgy</u>

MANAGEMENT

[Mgt 306 Human Resources Management](#)

[Mgt 307 Marketing Management](#)

[Mgt 308 Artificial Intelligence](#)

Yr 3+4Total Engineering = 72 CP+ Management=24 cp= 96 cp

Total Credit points= 90cp (Yr 1+2)+ 96 cp (Yr 3+4+5)= 186 cp

Certificate in Information Technology (Introductory Course)

	St Clements+Highlight IT Course	Australian ICA20105_R1 Training Package Certificate 2 in IT
	COMPULSORY UNITS	CORE UNITS
ICT 101	Information Technology Fundamentals + Workplace Evidences	ICAU2005B Operate computer hardware ICAU2231B Use computer operating system ICAW2001B Work effectively in an IT environment
ICT 102	Computer Applications and Operations + workplace evidences	BSBCMN106A Follow workplace safety procedures ICAD2012B Design organisational documents using computing packages ICAU2006B Operate computing packages ICAU2013B Integrate commercial computing packages ICAW2002B Communicate in the workplace
	<u>Technical Report Presentation</u> The candidate to provide customer interaction record at the workplace. It may include log book, work record etc The candidate will need to provide the report on which programs he or she installed at workplace & clients & highlight the significant things The candidate communicate with teacher via e-mail & browse the reference sites as directed by the teacher & retrieve the information	<u>Elective Units</u> ICAS2009B Interact with clients ICAS2016B Record client support requirements ICAI2015B Install software applications ICAS2008B Maintain inventories for equipment, software and documentation ICPMM263B Access and use the internet ICPMM32B Capture a digital image

Certificate/ Diploma in Computer Aided Engineering

Dip CAE

Topics

- ETAB
- REVIT
- Auto CAD
- Smart Plant
- Staad
- CAD WROX
- ELECTRICAL CAD
- TEKLA
- CNC
- Master CAM
- CAM

Online Training

Diploma in Information Technology Course outline

ICT101	Information Technology Fundamentals	3	GC	ICAICT501A	Research and review hardware technology options for organisations	
ICT 102	Computer Applications and Operations	2	GC GC	ICASAS509A ICASAS503A	Provide client IT support services Perform systems tests	
ICT 103	Applied Programming	5	BAE601	GB	ICAPRG523A	Apply advanced programming skills in another language
ICT 104	Program Project	5	BAE601	GB GC GD GG	ICAPRG502A ICAICT510A ICAWEB507A CAPMG501A	Manage a project using software management tools Determine appropriate IT strategies and solutions Customise a complex IT content management system Manage IT projects
ICT 105	Systems Analysis and Programs	5	BAE603	Core GC	ICAICT509A ICAICT502A	Gather data to identify business requirements Develop detailed component specifications from project specifications
Core		ICAICT511A		Match IT needs with the strategic direction of the enterprise		
ICT 106	Software Engineering	5	BAE603	GB	ICAPRG502A	Manage a project using software management tools
GB		ICAPRG510A		Maintain custom software		
GB		ICAPRG512A		Prepare for the build phase of an IT system		
ICT 107	Business Information Systems	5	GA	ICANWK501A	Plan, implement and test enterprise communication solutions	

WORK PERFORMANCE

Task 1	Provide the OHS Procedure in workplace	Core	BSBOHS509A	Ensure a safe workplace
Task 2	Provide the procedure to maintain the IT equipments in	Core	BSBSUS501A	Develop workplace policy and procedures for sustainability

	workplace			
Task 3	Take the record of sound & picture from an event	GE	ICAGAM504A	Manage interactive media production
Task 4	Take the digital video by using digital camera & edit/ convert to other formats by provided software	GF	CADMT501A	Incorporate and edit digital video

Diploma in Telecommunication Engineering

Theory to be assessed	Self study advanced practical
BAE607 Radio Wave Propagation & Micro Wave Technique	DTE306 Wireless Communication DTE307 Satellite Communication
EE625 Advanced Radio Wave Propagation	DTE302 Photonics DTE306 Wireless Communication
EE626 Advanced Microwave Technique	DTE305 Optical Communication
BAE604 Telecommunication Engineering	DTE303 Telecommunication Engineering DTE310 Customer Premise Installations
EE525 Data Communication	DTE301 Network Management DTE304 TCP/IP
EE603 Electronic Communication Principle	DTE308 Mobile Communication DTE309 VOIP DTE311 OFDM/CDMA DET312 SDH/SONET

Graduate Diploma of Engineering Practice (Computer Control Engineering)

This one year course with 30 credit points trains the BSc & BCTech graduates and final year students to work as computer control system technicians and engineers in various industries. It consists of electrical engineering units, electronic engineering units, analogue and digital principles, process control system, programmable control, computer aided control and instrumentation, linear system and modern control system units.

Pre-requisites

BSc or BC Tech , Final years

Contents

Group (1)	Group (2)
EE101 DC Circuit Problems EE103 Basic Electrical Drafting EE107 Electrical Equipments EE109 Electrical Control Circuits EE112 Alternating Current Principle EE113 Electrical Fundamental EE206 AC Machines EE207 DC Machines EE202 Electrical Circuits	EE115 Basic Analogue and Digital Electronics EE121 Electronic Power Control Devices EE208 Operational Amplifier EE209 Analogue Electronics EE301 Advanced Electrical Drafting EE117 Solar Electrical System
The students study the power points containing the explanations in English + Myanmar Languages, do & submit theoretical & simulated practicals. Tutoring support by electronics teachers.	The students study the power points containing the explanations in English + Myanmar Languages, do & submit theoretical & simulated practicals. Tutoring support by electronics teachers.

The students who successfully complete Group 1 & 2 will receive Graduate Certificate in Engineering Practice (Electrical & Electronic)

Group (3)	Group (4) University post graduate level
ME203 Control Engineering ME534 Numerical Control ME434 Mechatronics and Robotics EE624 Process Control ME302 Automation & Robotics	BAE408 Analogue and Digital Electronics BAE502 Linear System BAE503 Control System
The students study the power points containing the explanations in English + Myanmar Languages, Study the text books in Myanmar language & enrich the knowledge by reading the references in English Do & submit theoretical & simulated practicals. Tutoring support by electronics teachers.	The students study the power points containing the explanations in English + Myanmar Languages, do & submit theoretical & simulated practicals. Tutoring support by electronics teachers.

The students who successfully complete Group 3 & 4 will receive Graduate Diploma of Engineering Practice (Computer Control Engineering)

Diploma in Doctorate Studies (DDS)

IQY Diploma in Doctorate Studies is an academic award consisting of Research Studies and Writing Thesis Dissertation at 360 Credit points in which 240 Credit points are allocated for Masters Degree level academic qualifications and / or comparable professional experiences.

The candidates who have completed MAE 601 Research Method (30 Points) and their thesis proposal are accepted will be awarded IQY Master Diploma in Research Studies (270 Credit Points).

The candidates who have completed MAE602 Thesis (30 Points) but have not submitted it to St Clements University will be awarded IQY Diploma in Doctorate Studies (300 Credit Points)

Only St Clements University will confer the Doctoral Degree while IQY Technical College will provide the facilitation and successful candidates will be issued with BAE801 Thesis Dissertation Assessment and Defence (60 Points) when the success is notified by St Clements University. In the case of failure to meet the quality of dissertation, St Clements University's Diploma in Doctorate Studies or other relevant award can be issued and Doctorate degree award fees will not be charged.

IQY Technical College will issue Letter of Congratulation for having been successful in PhD.

Doctoral Research Studies

IQY Master Diploma in Research Studies

<http://www.highlightcomputer.com/iQYDDS.pdf>

Dissertation for Doctorate

MAE 601 Research Method (30 Points)

MAE602 Thesis (30 Points)

[http://www.filefactory.com/file/111r1k0ftawt/n/11.Research+Thesis_\(ICT_605\).zip](http://www.filefactory.com/file/111r1k0ftawt/n/11.Research+Thesis_(ICT_605).zip)

BAE801 Thesis Dissertation Assessment and Defence (60 Points)

MAE601 Research Method

This course guides the student, step by step, through the research process, from problem selection through writing up results. It provides all of the basics necessary to complete a research project in any discipline.

Outline. The following aspects are reflected in this course:

What is research?

Tools of research

The problem: the heart of the research process

Review of the related literature

Planning your research design

Writing the research proposal

Qualitative research

Historical research

Descriptive research

Experimental and causal - comparative designs

Statistical techniques for analyzing quantitative data

Technical details: style, format, and organization of the research report

Doctoral Research Proposal

Synopsis: Research students are expected to present a written research proposal within three months after commencement. The proposal is handed in to the study leader.

Assessors of this proposal are selected by the faculty for their understanding of the field and the research involved. The purpose of a research is to set out a plan for conducting the research and writing the dissertation within the available time. It should take account of the availability and guidance of the study leader.

The starting point for a research proposal is the topic, which is the field of interest in which the research is to be carried out. In introducing the topic, the proposal should clarify the field that it falls into and the specific part that field which the research will explore.

It should clarify why the topic is of interest and importance, and how the proposed research will contribute to the field of knowledge or profession. The proposal should clarify the research questions, ensuring that these are specific and answerable.

It is important to show how these questions relate to the topic are, and how they will advance the student's contribution. The proposal should detail the research to be carried out, and clarify the research methods, the timeframe and the reasons for selecting particular methods.

Where a period of literature review or research should precede any empirical research, this should be factored in as part of the research. It is important to estimate any periods of field research and to flag their duration and cost in your research proposal.

MAE 602 Thesis

Thesis Dissertation for Doctorate

Candidates need to complete a 60000-words dissertation (in Myanmar or English) and a 3000-words executive portfolio (in English).

This program requires the candidates to complete a thesis as part of the assessment for the Doctorate

Doing a thesis / dissertation means that instead of knowledge and information being presented and following a prescribed route for answering questions, candidates are thrust into an active role of managing an investigation into a topic area. This means researching and

discovering things for themselves.

They will have to set their own targets and parameters, pose their own central research questions and decide on the appropriate sources of information to support the research. It therefore requires the use of the higher-level cognitive skills of analysis, synthesis and evaluation. Candidates may choose an area of particular interest to them within the scope of course title.

BAE801 Thesis Dissertation Assessment and Defence (60 Points)

Doctoral dissertation

A dissertation is an individual effort and the candidate, academic tutor and the course professor will work together on constructing an approved topic (research question) and methodologies.

Dissertation Defence for doctorate

It is expected of Doctoral candidates to defend their thesis by means of a colloquium (academic discussion). The purpose of the meeting is for the candidates to convince a panel of experts in the field of the dissertation how well they have done in the conducting of their research study and the preparation of their dissertation

Candidates need to complete all course assessments with the results of Grade B+ or above.

Master of Information Technology

This degree is designed for the experienced professionals who wish to develop their skills and knowledge as Information Technology professionals.

Graduate Diploma in Information Technology

Compulsory Modules

ICT 501 Programming in Visual C++ PLUS ICT 507 Visual Computing

ICT 502 Database Systems

ICT 503 Business System Development

ICT 504 Business Data Communications

ICT 505 Applied Computing I

ICT 506 Applied Computing II PLUS ICT 508 Object-Oriented Analysis & Design

Master of Science (Information Technology)

Electives

ICT 601 Programming in Java

ICT 602 E-Commerce

ICT 603 Software Engineering

ICT 604 Multimedia Systems

ICT 605 IT Management **Project/Thesis**

A written report between 10,000 – 12,000 words that covers both theory & practical knowledges of the above units.

To qualify for a MSc.IT degree, a student must take and pass 10 modules from the above list of modules, 6 modules are compulsory and the rest are electives.

Additionally, the student must undertake and pass a research-based or work-related project.

Professional Certificate in Medical Data System (Course Number-4889008)

Objective- To effectively manage data system in medical records

Pre-requisite- MBBS/ BDS/ B Pharm

Contents ICT409 Hospital Data System

- Hospital Data System (Reader)
- Database Management System for Hospital (Reader)

Videos

- Hospital Database Analysis Design
- Hospital Management System Data Entry
- Hospital website and appointment system
- Hospital Management System Doctor Log in
- Hospital Management System with PHP
- Hospital Management System in PHP

Part 1 - Practical Application Tutorials- Hospital Data System

Award- Professional Certificate in Medical Data System

An introduction about hospital Database

SQL [39 exercises with solution]

[An editor is available at the bottom of the page to write and execute the scripts.]

Sample Database: hospital

1. Write a query in SQL to find all the information of the nurses who are yet to be registered.

- 2.** Write a query in SQL to find the name of the nurse who are the head of their department.
- 3.** Write a query in SQL to obtain the name of the physicians who are the head of each department.
- 4.** Write a query in SQL to count the number of patients who taken appointment with at least one physician
- 5.** Write a query in SQL to find the floor and block where the room number 212 belongs to
- 6.** Write a query in SQL to count the number available rooms
- 7.** Write a query in SQL to count the number of unavailable rooms.
- 8.** Write a query in SQL to obtain the name of the physician and the departments they are affiliated with
- 9.** Write a query in SQL to obtain the name of the physicians who are trained for a special treatment
- 10.** Write a query in SQL to obtain the name of the physicians with department who are yet to be affiliated
- 11.** Write a query in SQL to obtain the name of the physicians who are not a specialized physician
- 12.** Write a query in SQL to obtain the name of the patients with their physicians by whom they got their preliminary treatment
- 13.** Write a query in SQL to find the name of the patients and the number of physicians they have taken appointment
- 14.** Write a query in SQL to count number of unique patients who got an appointment for examination room C
- 15.** Write a query in SQL to find the name of the patients and the number of the room where they have to go for their treatment
- 16.** Write a query in SQL to find the name of the nurses and the room scheduled, where they will assist the physicians.

- 17.** Write a query in SQL to find the name of the patients who taken the appointment on the 25th of April at 10 am, and also display their physician, assisting nurses and room no.
- 18.** Write a query in SQL to find the name of patients and their physicians who does not require any assistance of a nurse
- 19.** Write a query in SQL to find the name of the patients, their treating physicians and medication.
- 20.** Write a query in SQL to find the name of the patients who taken an advanced appointment, and also display their physicians and medication
- 21.** Write a query in SQL to find the name and medication for those patients who did not take any appointment
- 22.** Write a query in SQL to count the number of available rooms in each block
- 23.** Write a query in SQL to count the number of available rooms in each floor
- 24.** Write a query in SQL to count the number of available rooms for each block in each floor.
- 25.** Write a query in SQL to count the number of unavailable rooms for each block in each floor.
- 28.** Write a query in SQL to obtain the name of the patients, their block, floor, and room number where they are admitted.
- 29.** Write a query in SQL to obtain the nurses and the block where they are booked for attending the patients on call.
- 30.** Write a query in SQL to make a report which will show -
- a) name of the patient,
 - b) name of the physician who is treating him or her,
 - c) name of the nurse who is attending him or her,
 - d) which treatment is going on to the patient,
 - e) the date of release,
 - f) in which room the patient has admitted and which floor and block the room belongs to respectively.

- 31.** Write a SQL query to obtain the names of all the physicians performed a medical procedure but they are not certified to perform
- 32.** Write a query in SQL to obtain the names of all the physicians, their procedure, date when the procedure was carried out and name of the patient on which procedure have been carried out but those physicians are not certified for that procedure.
- 33.** Write a query in SQL to obtain the name and position of all physicians who completed a medical procedure with certification after the date of expiration of their certificate
- 34.** Write a query in SQL to obtain the name of all those physicians who completed a medical procedure with certification after the date of expiration of their certificate, their position, procedure they have done, date of procedure, name of the patient on which the procedure had been applied and the date when the certification expired
- 35.** Write a query in SQL to obtain the names of all the nurses who have ever been on call for room 122.
- 36.** Write a query in SQL to Obtain the names of all patients who has been prescribed some medication by his/her physician who has carried out primary care and the name of that physician
- 37.** Write a query in SQL to obtain the names of all patients who has been undergone a procedure costing more than \$5,000 and the name of that physician who has carried out primary care
- 38.** Write a query in SQL to Obtain the names of all patients who had at least two appointment where the nurse who prepped the appointment was a registered nurse and the physician who has carried out primary care
- 39.** Write a query in SQL to Obtain the names of all patients whose primary care is taken by a physician who is not the head of any department and name of that physician along with their primary care physician

Part (2) – My SQL General Studies (ICT410)

Award- Professional Certificate in Information Technology (MYSQL)

Lesson Videos

Introduction to My SQL

How to install My SQL in Windows 10

Full Course for beginner

Creating application by using MY SQL

My SQL Tutorial 1

My SQL Tutorials 2

My SQL Workbench Tutorial

Create Search System by using PHP

Textbooks

MySQLNotesForProfessionals

My SQL Tutorial

Software

My SQL Installer Web Community

My SQL Installer Community

Medical Data System

**Part (3) – Graduate Certificate in Information Technology (Hospital Data System)
(30 Credits)**

- ICT409 Medical Data System (10 Credits)
- ICT410 MYSQL (10 Credits)
- ICT502 Data Base System (10 Credits)

Application

- Access
- STATA

Master of Science (Computer Network) (Each 10 credits) (70883)

Bachelor of Applied Science (Network)- 120 Credits

Master of Applied Science (Network)- 120 Credits

Total 240 credits

PART (1) Course Work in Graduate Diploma in Computer Network Level

(60 credits) (Each 10 credits)

ICTN701 APNET Content Management System

ICTN702 CISCO Certified Design Associate

ICTN703 CISCO Certified Network Associate

ICTN704 CISCO Firewall

ICTN705 CISCO LAN Switching Configuration

ICTN706 Computer Architecture and Security

PART (2) Course Work in Masters Level

(40 credits) (Each 10 credits)

Select 4 units

ICTN707 Computer Systems

ICTN708 Python Network Programming

ICTN709 Microsoft.NET Framework

ICTN710 Enterprise Network Monitoring

ICTN711 Parallel Computer Architecture

ICTN712 Cloud Computing

The students will have to write 20 pages study report for each of the subjects outlined below.

The report needs to include

- Book review- Review on each chapter of the book highlighting the key concepts, key points, key theory & practical application concepts in IT.
- Own idea on how to apply those concepts in real practical applications.

- Examples of IT system designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book

Master of Applied Science Work Example

[http://www.iqytechnicalcollege.com/Master Diploma in Information Technology-Worked Sample Report on IT Topics.pdf](http://www.iqytechnicalcollege.com/Master%20Diploma%20in%20Information%20Technology-Worked%20Sample%20Report%20on%20IT%20Topics.pdf)

PART (3) Master Project in Computer Network

(20 credits)

The candidate needs to write the project report for one topic mutually selected by the candidate and supervisor

REPORT GUIDE

<http://www.mongroupsydney1.com/Report.pdf>

Part (4) Master of Engineering (Computer Network) (70884)

Complete the following units after completion of Master of Applied Science (Computer Network) Each 10 credits

BAE 702 Engineering Management

BAE 703 Leadership & Human Resources Management

BAE 704 Risk Management & Industrial Safety

BAE 705 Engineering Competency Development

BAE 706 Engineering Report Writing

BAE 707 Engineering Ethics

Total Credits 320 Credits

The Institution of Professional Executives Myanmar Employment Qualifications Board
IPEM Employment Qualifications Board (IPEMEQB)

www.ipemyanmar.org/ipemeqb.htm

Academic Credential Certification Service

www.ipemyanmar.org/certification.htm

Engineering Task and Competency

www.ipemyanmar.org/competency.htm

Global Engineering Dean Council (GEDC) recognizes IPEM Employment Qualifications Board (IPEMEQB)
and

Effort by The Institution of Professional Engineers Myanmar (IPEM) to preserve the higher education in
Myanmar.

www.ipemyanmar.org/IPEMGEDC.pdf

IPEM Employment Qualifications Board (IPEMEQB) is established to provide the qualification
information references for the jobs advertised in the following employment groups managed by
The Institution of Professional Engineers Myanmar and Myanmar Vocational Training
Collaboration.

Institution of Professional Engineers Myanmar နှင့် Myanmar Vocational Training Cooperation မှစီမံခန့်ခွဲသည့်

အောက်ဖော်ပြပါအလုပ်အကိုင်အုပ်စုများတွင်ကြော်ငြာထားသောအလုပ်အကိုင်များအတွက်အရည်အချင်းအချက်အလက်များကိုရည်ညွှန်းကိုးကားရန်

IPEM Employment Qualifications Board (IPEMEQB) ကိုထူထောင်သည်။

Recognition Policy of The Institution of Professional Engineers Myanmar and its network group of employers regarding Myanmar and International Qualifications

The qualification authorities and professional associations of the different countries in the world have set up their own policies to align with the governmental regulations, to provide the professional qualifications needs of the country and to safeguard the professionalism in the country etc.

The recognition policies related to overseas qualifications of the qualification authorities and professional associations of the different countries depend on the policies set up by the executive governors of those institutions.

The Institution of Professional Engineers Myanmar, The Institution of Professional Executives Myanmar and it's networked group of employers in Myanmar have also set up the following policy to recognize the international qualifications for awarding the advanced standing in the courses of studies and employment purposes.

Those policies are applied in the following employments groups administered by the Institution of Professional Engineers Myanmar.

IQY THS Students Group

<https://www.facebook.com/groups/986926511518594/>

IQY BEHS Group

<https://www.facebook.com/groups/165225491449120/>

IQY Engineering Jobs Group

<https://www.facebook.com/groups/2128693697196512>

Myanmar Civil Defence Engineers and People's Welfare Supporters Group

<https://www.facebook.com/groups/303771553436602>

Myanmar Professional Engineers Group

<https://www.facebook.com/groups/1726726080906514>

Engineers Contractors Group

<https://www.facebook.com/groups/1608455489446488>

Engineers Employment Group

<https://www.facebook.com/groups/2128693697196512>

Myanmar Vocational Training Collaboration and Alternative Education Group

<https://www.facebook.com/groups/214431939023668>

Apprentice and Trainee Jobs Group

<https://www.facebook.com/groups/688318018325369>

Myanmar BEHS students and Teachers Network Group

<https://www.facebook.com/groups/165225491449120>

IQY Teaching Class & Alumni Group

<https://www.facebook.com/groups/637757666926395>

- **Recognition of the qualifications awarded in the Republic of the Union of Myanmar.**
- **Recognition of the international qualifications held by the citizen of Myanmar and foreign citizens of Myanmar origin at the same level of the qualifications status.**
- **Recognition of the qualifications awarded in any countries where the professionals and tradespersons including Myanmar citizens and foreign citizens of Myanmar origin do not face the restrictions to utilize their qualifications obtained in Myanmar including the qualifications awarded by IQY Technical College of Highlight Computer Group & it's affiliated educational institutions at the same level of the qualifications status.**
- **No recognition of the qualifications awarded in any countries where their qualification authorities and professional associations' policies of overseas skills recognition do not include**

the qualifications awarded in Myanmar at the same level of the qualifications status or reciprocal recognition of their qualifications at the same level of the qualifications status which is regarded by them on Myanmar Qualifications including those awarded by IQY Technical College of Highlight Computer Group & it's affiliated educational institutions (IPEM Technological University).

1. For example, if a qualification authority of an overseas country assesses Myanmar Bachelors degree at the standard equivalent to the bachelors degree awarded by their educational institution, we will also recognize their bachelors degree at the standard equivalent to the bachelors degree awarded in Myanmar.
2. If a qualification authority of an overseas country assesses Myanmar trade qualification at the standard equivalent to the trade qualification issued by their educational institution, we will also recognize their trade qualification at the standard equivalent to the trade qualification issued in Myanmar.
3. If a qualification authority of an overseas country assesses Myanmar Bachelors degree at the standard equivalent to the diploma awarded by their educational institution, we will also recognize their bachelors degree at the standard equivalent to the diploma awarded in Myanmar.
4. If a qualification authority of an overseas country does not recognize Myanmar trade qualification at the standard equivalent to their trade qualification issued by their educational

institution, we will also not recognize their trade qualification at the standard equivalent to the trade qualification issued in Myanmar and the employers of the networked group of employers in Myanmar should not consider such qualifications to be utilized in their workplaces.

- Recognition of the international qualifications not only needs maintaining the qualifications at international standard but also needs to safeguard the professionalism in Myanmar & to promote the reciprocal recognition and harmony among Myanmar nationals & the nationals of the foreign countries to enhance the work rights at the appropriate types of jobs where Myanmar nationals can utilize their skills & qualifications. It is one method of self protection strategy to protect the work rights of the citizens and nationals.

မြန်မာနိုင်ငံ၏ကျွမ်းကျင်သောအင်ဂျင်နီယာများအဖွဲ့အစည်းနှင့် ၄ ငါး၏အလုပ်ရှင်ကွန်ယက် အဖွဲ့တို့၏မြန်မာနိုင်ငံနှင့်နိုင်ငံတကာအရည်အချင်းများ နှင့်ပတ်သက်သောအသိအမှတ်ပြုမှုမူဝါဒ

ကမ္ဘာပေါ်ရှိအမျိုးမျိုးသောနိုင်ငံများ၏အရည်အချင်းအာဏာပိုင်များနှင့်ပရော်ဖက်ရှင်နယ်အသင်းအဖွဲ့များသည်အစိုးရ၏စည်းမျဉ်းများနှင့်ကိုက်ညီရန်၊
တိုင်းပြည်၏ကျွမ်းကျင်မှုဆိုင်ရာလိုအပ်ချက်များကိုဖြည့်ဆည်းပေးရန်နှင့်တိုင်းပြည်အတွင်းရှိကျွမ်းကျင်မှုကိုကာကွယ်ရန်အတွက်၎င်းတို့၏ကိုယ်ပိုင်
မူဝါဒများချမှတ်ခဲ့ကြသည်။

နိုင်ငံရပ်ခြားရှိအရည်အချင်းအာဏာပိုင်များနှင့်ပရော်ဖက်ရှင်နယ်အသင်းအဖွဲ့များမှနိုင်ငံရပ်ခြားအရည်အချင်းများနှင့်ဆက်စပ်သောအသိအမှတ်ပြုမှု ပေါ်လစီသည်ထိုအဖွဲ့အစည်းများ၏အုပ်ချုပ်ရေးမှူးများချမှတ်သောမူဝါဒများပေါ်တွင်မူတည်သည်။

မြန်မာနိုင်ငံ၏ကျွမ်းကျင်သောအင်ဂျင်နီယာများအဖွဲ့အစည်းမြန်မာနိုင်ငံရှိကျွမ်းကျင်သောအမှုဆောင်အရာရှိများအဖွဲ့အစည်း နှင့် မြန်မာနိုင်ငံ ရှိ၎င်း၏အလုပ်ရှင်ကွန်ယက်အဖွဲ့သည် လေ့လာမှုနှင့်အလုပ်အကိုင်ဆိုင်ရာ သင်တန်းများရပ်တည်မှုအား အားပေးကာကွယ် ရန်အတွက်မြန်မာနိုင်ငံနှင့် နိုင်ငံတကာအရည်အချင်းများကိုအသိအမှတ်ပြုရန်အောက်ပါမူဝါဒချမှတ်ထားသည်။

ထိုပေါ်လစီများကို The Institution of Professional Engineers Myanmar ကကြီးကြပ် သော အောက်ဖော်ပြပါအလုပ်အဖွဲ့များတွင်ကျင့်သုံး ပါသည်။

IQY THS Students Group

<https://www.facebook.com/groups/986926511518594/>

IQY BEHS Group

<https://www.facebook.com/groups/165225491449120/>

IQY Engineering Jobs Group

<https://www.facebook.com/groups/2128693697196512>

Myanmar Civil Defence Engineers and People's Welfare Supporters Group

<https://www.facebook.com/groups/303771553436602>

Myanmar Professional Engineers Group

<https://www.facebook.com/groups/1726726080906514>

Engineers Contractors Group

<https://www.facebook.com/groups/1608455489446488>

Engineers Employment Group

<https://www.facebook.com/groups/2128693697196512>

Myanmar Vocational Training Collaboration and Alternative Education Group

<https://www.facebook.com/groups/214431939023668>

Apprentice and Trainee Jobs Group

<https://www.facebook.com/groups/688318018325369>

Myanmar BEHS students and Teachers Network Group

<https://www.facebook.com/groups/165225491449120>

IQY Teaching Class & Alumni Group

<https://www.facebook.com/groups/637757666926395>

ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်တွင်ချီးမြှင့်သောအရည်အချင်းများကိုအသိအမှတ်ပြုခြင်း။

•မြန်မာနိုင်ငံသားနှင့်မြန်မာနိုင်ငံသားဟောင်းနိုင်ငံခြားသားတို့ရရှိထားသောနိုင်ငံတကာအရည်အချင်းများကိုအသိအမှတ်ပြုခြင်းနှင့်တူညီသောအဆင့်တွင်အသိအမှတ်ပြုခြင်း။

•**IQY** နည်းပညာကောလိပ်+ **IPEM Technological University** မှချီးမြှင့်သောအရည်အချင်းများအပါအဝင်မြန်မာနိုင်ငံ၏ ဘွဲ့ဒီပလိုမာ နှင့်ကျွမ်းကျင်မှုလက်မှတ်များအရည်အချင်းများကိုအသုံးပြုရန်ကန့်သတ်ချက်မရှိဘဲသူတို့နိုင်ငံဘွဲ့ဒီပလိုမာနှင့်ကျွမ်းကျင်မှုလက်မှတ်များအရည်အချင်း

များနှင့်တန်းတူအသုံးပြုခွင့်ပေး သောမည်သည့် နိုင်ငံများတွင်မဆိုအရည်အချင်းများကိုအသိအမှတ်ပြုခြင်း။

•IQY နည်းပညာကောလိပ်+ **IPEM Technological University** မှချီးမြှင့်သောအရည်အချင်းများအပါအဝင် မြန်မာနိုင်ငံ၏ ဘွဲ့ဒီပလိုမာ နှင့် ကျွမ်းကျင်မှုလက်မှတ်များအရည်အချင်းများကိုအသုံးပြုခွင့်မပေးသူတို့နိုင်ငံဘွဲ့ဒီပလိုမာနှင့်ကျွမ်းကျင်မှုလက်မှတ်များအရည်အချင်းများနှင့်တန်းတူအသုံးပြုခွင့်မပေး သောမည်သည့် နိုင်ငံများတွင်မဆိုအရည်အချင်းများကိုအသိအမှတ်မပြုခြင်း။

ဥပမာအားဖြင့်၊ နိုင်ငံရပ်ခြားရှိအရည်အချင်းစိစစ်ရေးအဖွဲ့အစည်းတစ်ခုက မြန်မာနိုင်ငံ၏ဘွဲ့ကိုသူတို့၏ပညာရေး အဖွဲ့အစည်းမှ ချီးမြှင့်သောဘွဲ့နှင့် ညီမျှသောစံသတ်မှတ်ချက်ဖြင့်အကဲဖြတ်လျှင်ကျွန်ုပ်တို့သည်သူတို့၏ဘွဲ့ကိုမြန်မာနိုင်ငံရှိချီးမြှင့်သောဘွဲ့နှင့်ညီမျှသောစံနှုန်းဖြင့်လည်းအသိအမှတ်ပြုလိမ့်မည်။

နိုင်ငံရပ်ခြားမှအခွင့်အာဏာတစ်ခုသည်မြန်မာနိုင်ငံ၏ဘွဲ့ကို၎င်းတို့၏ပညာရေးအဖွဲ့အစည်းမှချီးမြှင့်သည့်ဒီပလိုမာနှင့်ညီမျှသည်ကိုအကဲဖြတ်ပါကသူတို့၏ဘွဲ့ဒီဂရီကိုမြန်မာနိုင်ငံတွင်ချီးမြှင့်သောဒီပလိုမာနှင့်ညီမျှသောအဆင့်တွင်သာသတ်မှတ်လိမ့်မည်။

အကယ်၍ နိုင်ငံရပ်ခြားမှအခွင့်အာဏာတစ်ခုသည်မြန်မာနိုင်ငံ၏ ကျွမ်းကျင်လုပ်သားအရည် အချင်းကို၎င်း တို့၏ပညာရေးအဖွဲ့အစည်းမှထုတ်ပြန်သော ကျွမ်းကျင်လုပ်သားအရည်အချင်းနှင့်ညီသည်ဟုအသိအမှတ်မပြုပါကသူတို့၏ကျွမ်းကျင်လုပ်သားအရည်အချင်းကိုမြန်မာနိုင်ငံနှင့်ညီမျှသောစံသတ်မှတ်

ချက်ဖြင့်လည်းအသိအမှတ်မပြုပါ။

မြန်မာပြည်ရှိအလုပ်ရှင်အုပ်စုသည်ထိုကဲ့သို့သောအရည်အချင်းများကိုသူတို့၏အလုပ်ခွင်များတွင်အသုံးပြုရန်မစဉ်းစားသင့်ပါ။

အပြည်ပြည်ဆိုင်ရာအရည်အချင်းများကိုအသိအမှတ်ပြုခြင်းသည်နိုင်ငံတကာအဆင့်မှီရန်လိုအပ်သည်သာမကမြန်မာနိုင်ငံရှိကျွမ်းကျင်မှုကို ကာကွယ် ရန်နှင့် မြန်မာနိုင်ငံသားများ ၏ ပြည်တွင်းပြည်ပအလုပ် အခွင့် ရေး များကိုမြှင့်တင်ရန်၊မြန်မာနိုင်ငံနှင့်နိုင်ငံ ခြားတိုင်းပြည်များအကြား အပြန်အလှန် အသိ အမှတ်ပြုမှုနှင့်သဟဇာတဖြစ်မှုကိုမြှင့်တင်ရန်လိုအပ်သည်။

အပြည်ပြည်ဆိုင်ရာအရည်အချင်းများကိုအသိအမှတ်ပြုခြင်းသည်နိုင်ငံတကာအဆင့်တင်အရည်အချင်းများကိုထိန်းသိမ်းရန်လိုအပ်ရုံသာမက သင့်လျော်သောအမျိုးအစားမကုန်အလုပ်အခွင်အရေးများကိုမြှင့်တင်ရန်အတွက်မြန်မာနိုင်ငံသားများနှင့်နိုင်ငံခြားတိုင်းပြည်များအကြား အပြန်အလှန်အသိအမှတ်ပြုမှုနှင့်သဟဇာတဖြစ်မှုကိုမြှင့်တင်ရန်လိုအပ်သည်။

မြန်မာနိုင်ငံသားများသည်သူတို့၏ကျွမ်းကျင်မှုနှင့်အရည်အချင်းများကို သင့်လျော်သော အလုပ် အမျိုးအစား များတွင်အသုံးပြုနိုင်ရန် ကိုယ်ကျိုး စီးပွား ကာကွယ် ခြင်း၏နည်းပရိယာယ် တစ်ရပ် လည်းဖြစ်သည်။

Black Listed Educational Assessment Organizations and List of Foreign Educational Institutions

www.ipemyanmar.org/blacklist.htm

The Society of Professional Engineers International (Alliance Organization)

<https://blacklistedbyspeinternational.blogspot.com/>

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Applied Industrial and Business Training

www.iqytechnicalcollege.com/aibt.htm

Business and Technology

Accounting

- [FNS40217 - Certificate IV in Accounting and Bookkeeping](#)
- [FNS50217 - Diploma of Accounting](#)
- [FNS60217 - Advanced Diploma of Accounting](#)

Relevant IQY Course

Diploma/ Bachelor of Accounting ([Form 98 Accounting](#))

Information Technology

- [ICT40120 - Certificate IV of Information Technology.](#)
- [ICT50220 - Diploma of Information Technology.](#)
- [ICT60220 - Advanced Diploma of Information Technology.](#)

Relevant IQY Course

Diploma/ Bachelor of Applied Science (Information Technology) (Form 70)

Logistics

- [TLI50221 - Diploma of Logistics](#)
- [TLI60119 - Advanced Diploma of Deployment Logistics](#)

Management

- [BSB40920 - Certificate IV in Project Management Practice](#)
- [BSB50820 - Diploma of Project Management](#)
- [BSB60720 - Advanced Diploma of Program Management](#)
- [BSB50420 - Diploma of Leadership and Management](#)
- [BSB60420 - Advanced Diploma of Leadership and Management](#)

Relevant IQY Course

Diploma/ Bachelor of Management/ Business Administration (Form 70)

Graduate Studies

- [BSB80320 - Graduate Diploma of Strategic Leadership](#)
- [BSB80120 - Graduate Diploma of Management \(Learning\).](#)

Relevant IQY Course

Master of Management (Form 116)

Packages

- [BSB50820 - Diploma of Project Management + BSB60720 - Advanced Diploma of Program Management](#)
- [TLI50221 - Diploma of Logistics + TLI60119 - Advanced Diploma of Deployment Logistics](#)
- [BSB50420 - Diploma of Leadership and Management + BSB60420 - Advanced Diploma of Leadership and Management](#)
- [ICT50220 - Diploma of Information Technology + ICT60220 - Advanced Diploma of Information Technology](#)

Community Services

Ageing Support

- [CHC33015 - Certificate III in Individual Support \(Ageing\)](#)
- [CHC33015 - Certificate III in Individual Support \(Disability\)](#)
- [CHC33015 - Certificate III in Individual Support \(Home and Community\)](#)
- [CHC33015 - Certificate III in Individual Support \(Ageing, Disability\)](#)
- [CHC33015 - Certificate III in Individual Support \(Ageing, Home and Community\)](#)
- [CHC43015 - Certificate IV in Ageing Support](#)

Relevant IQY Course

International Vocational Training Courses Form 255/255A

Community Services

- [CHC52015 - Diploma of Community Services](#)

Packages

- [CHC33015 - Certificate III in Individual Support \(Ageing\) + CHC43015 - Certificate IV in Ageing Support](#)
- [CHC33015 - Certificate III in Individual Support \(Ageing\) + CHC52015 - Diploma of Community Services](#)
- [CHC33015 - Certificate III in Individual Support \(Disability\) + CHC52015 - Diploma of Community Services](#)

- [CHC33015 - Certificate III in Individual Support \(Ageing, Disability\) + CHC52015 - Diploma of Community Services](#)
- [CHC33015 - Certificate III in Individual Support \(Ageing, Home and Community\) + CHC52015 - Diploma of Community Services](#)
- [CHC33015 - Certificate III in Individual Support \(Ageing\) + CHC43015 - Certificate IV in Ageing Support + CHC52015 - Diploma of Community Services](#)

International Vocational Training Courses Form 255/255A

Techonological Sciences

Air-Conditioning

- [UEE42720 - Certificate IV in Air Conditioning and Refrigeration Servicing](#)
- [UEE62520 - Advanced Diploma of Air Conditioning and Refrigeration Engineering](#)

Relevant IQY Course

Form 121 Diploma/ Advanced Diploma in Air-conditioning and Refrigeration Engineering

Automotive

- [AUR30620 - Certificate III in Light Vehicle Mechanical Technology](#)
- [AUR40216 - Certificate IV in Automotive Mechanical Diagnosis](#)
- [AUR50116 - Diploma of Automotive Management](#)
- [AUR40620 - Certificate IV in Automotive Electrical Technology](#)

Relevant IQY Course

Diploma in Automotive Engineering (Form 70)

Packages

- [AUR30620 - Certificate III in Light Vehicle Mechanical Technology + AUR40216 - Certificate IV in Automotive Mechanical Diagnosis](#)
- [AUR30620 - Certificate III in Light Vehicle Mechanical Technology + AUR40216 - Certificate IV in Automotive Mechanical Diagnosis + AUR50116 - Diploma of Automotive Management](#)

Hospitality

Hospitality

- [SIT30616 - Certificate III in Hospitality](#)

- [SIT40416 - Certificate IV in Hospitality](#)
- [SIT50416 - Diploma of Hospitality Management](#)
- [SIT60316 - Advanced Diploma of Hospitality Management](#)

Relevant IQY Course

International Vocational Training Courses Form 255/255A

Cookery

- [SIT30816 - Certificate III in Commercial Cookery](#)
- [SIT40516 - Certificate IV in Commercial Cookery](#)
- [SIT31116 - Certificate III in Asian Cookery](#)
- [SIT40816 - Certificate IV in Asian Cookery](#)

Relevant IQY Course

International Vocational Training Courses Form 255/255A

Patisserie and Baking

- [SIT31016 - Certificate III in Patisserie \(NSW/QLD\)](#)
- [SIT31016 - Certificate III in Patisserie \(TAS\)](#)
- [SIT40716 - Certificate IV in Patisserie \(NSW/QLD\)](#)
- [SIT40716 - Certificate IV in Patisserie \(TAS\)](#)
- [FBP30321 - Certificate III in Cake and Pastry](#)
- [FBP40221 - Certificate IV in Baking](#)

Relevant IQY Course

International Vocational Training Courses Form 255/255A

Event Management

- [SIT50316 - Diploma of Event Management](#)
- [SIT60216 - Advanced Diploma of Event Management](#)

Relevant IQY Course

International Vocational Training Courses Form 255/255A

Travel & Tourism

- [SIT50116 - Diploma of Travel and Tourism Management \(NSW/QLD\)](#)
- [SIT50116 - Diploma of Travel and Tourism Management \(TAS\)](#)
- [SIT60116 - Advanced Diploma of Travel and Tourism Management \(QLD\)](#)
- [SIT60116 - Advanced Diploma of Travel and Tourism Management \(TAS\)](#)

Relevant IQY Course

International Vocational Training Courses Form 255/255A

Packages

- [SIT31116 - Certificate III in Asian Cookery + SIT40816 - Certificate IV in Asian Cookery](#)
- [SIT30816 - Certificate III in Commercial Cookery + SIT40516 - Certificate IV in Commercial Cookery](#)
- [SIT31016 - Certificate III in Patisserie + SIT40716 - Certificate IV in Patisserie](#)
- [SIT30816 - Certificate III in Commercial Cookery + SIT50416 - Diploma of Hospitality Management](#)
- [SIT30816 - Certificate III in Commercial Cookery + SIT60316 - Advanced Diploma of Hospitality Management](#)
- [SIT31016 - Certificate III in Patisserie + SIT60316 - Advanced Diploma of Hospitality Management](#)
- [SIT40516 - Certificate IV in Commercial Cookery + SIT60316 - Advanced Diploma of Hospitality Management](#)
- [SIT40716 - Certificate IV in Patisserie + SIT60316 - Advanced Diploma of Hospitality Management](#)
- [SIT40816 - Certificate IV in Asian Cookery + SIT60316 - Advanced Diploma of Hospitality Management](#)
- [SIT50416 - Diploma of Hospitality Management + SIT60316 Advanced Diploma of Hospitality Management](#)
- [SIT50116 - Diploma of Travel and Tourism Management + SIT60116 - Advanced Diploma of Travel and Tourism Management](#)
- [SIT50316 - Diploma of Event Management + SIT60216 - Advanced Diploma of Event Management](#)

Engineering Industrial Training
www.iqytechnicalcollege.com/eit.htm

EIT301 Advanced Diploma of Robotics and Mechatronics Engineering

EIT302 Advanced Diploma of Industrial Automation Engineering

EIT303 Advanced Diploma of Electrical and
Instrumentation (E&I) Engineering for Oil and Gas
Facilities

EIT304 Advanced Diploma of Plant Engineering

EIT 305 Professional Certificate of Competency in Instrumentation,

Automation & Process Control

EIT306 Professional Certificate of Competency in
Hazardous Areas & Intrinsic Safety For Engineers &
Technicians

EIT401 Bachelor of Science (Industrial Automation
Engineering)

EIT402 Undergraduate Certificate in Industrial Automation Engineering

EIT404 Professional Certificate of Competency in IEC 61850 Based

Substation Automation

EIT404 Professional Certificate of Competency in Gas Turbine
Engineering

EIT406 Professional Certificate of Competency in
Machine Learning & Artificial Intelligence

EIT407 Professional Certificate of Competency in Industrial
Data Communication

EIT408 Professional Certificate of Competency in Onshore &
Offshore Pipeline Systems

EIT409 Professional Certificate of Competency in
Practical Mechanical Sealing

EIT410 Professional Certificate of Competency in Practical
Machine Learning Using Python for Engineers &
Technicians

EIT411 Professional Certificate of Competency in Sewage & Effluent
Treatment Technologies

EIT412 Professional Certificate of Competency in
Advanced TCP/IP-Based Industrial Networking

EIT413 Professional Certificate of Competency in Allen
Bradley ControlLogix / Logix5000 PLC Platforms

EIT414 Professional Certificate of Competency in Big
Data and Analytics in Electricity Grids

EIT415 Professional Certificate of Competency in
Chemical Engineering & Plant Design

EIT416 Professional Certificate of Competency in
Fundamentals of Road Construction

EIT417 Professional Certificate of Competency in Arc Flash Protection

EIT418 Professional Certificate of Competency in Hydraulics and
Pneumatics

EIT419 Graduate Certificate in Renewable Energy Technologies

EIT501 Graduate Certificate in Civil - Railways Infrastructure
Engineering

EIT502 Graduate Certificate in Electrical and
Instrumentation in Oil and Gas Engineering

EIT503 Graduate Certificate in CAD and Computational Techniques

EIT504 Graduate Certificate in Civil Transportation Engineering

EIT505 Graduate Certificate in Fluid Power Engineering

EIT506 Graduate Certificate in Industrial Instrumentation and Process Control

EIT507 Graduate Certificate in Industrial Instrumentation and Safety Systems

EIT508 Graduate Certificate in Process and Thermal Engineering

EIT509 Graduate Certificate in Programmable Logic Controllers and SCADA

EIT510 Graduate Certificate in Industrial Automation Engineering

EIT601 Master of Engineering (Electrical & Instrumentation in Oil & Gas)

EIT602 Master Of Engineering (Industrial Automation)

EIT603 Master of Engineering (Safety, Risk & Reliability)

EIT604 Master of Engineering (Civil: Railway Infrastructure)

International Conversion Courses

www.iqytechnicalcollege.com/eitaibt.htm

IPEM Employment Qualifications Board (IPEMEQB)

www.ipemyanmar.org/ipemeqb.htm

does not recognize any overseas qualifications for employment purpose in Myanmar. All international qualifications holders need to attend the bridging courses relevant to their overseas qualifications at the education service of IPEM Employment Qualifications Board.

IQY Technical College and IPEM Technological University provide the appropriate bridging courses.

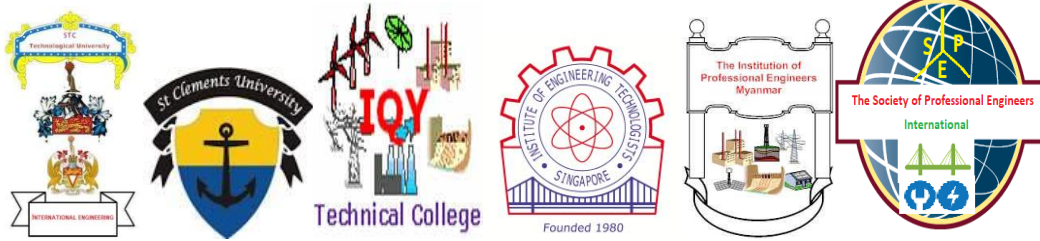
For the qualifications completed in the study areas of Engineering and Business and Technology, IQY Technical College provides the bridging courses as follows

Engineering Industrial Training

www.iqytechnicalcollege.com/eit.htm

Applied Industrial and Business Training

www.iqytechnicalcollege.com/aibt.htm



PROSPECTUS OF THE INTERNATIONAL EDUCATION AND PROFESSIONAL ALLIANCES

OF

IQY Technical College

Singapore Institute of Engineering Technologists (SIET)

The Institution of Professional Engineers Myanmar (IPEM)

The Institution of Professional Engineers Myanmar NSW Australia Chapter

The Society of Professional Engineers International (Former SPE-UK)

Institute of Computer Engineers of the Philippines (Singapore Chapter)

St Clements Education Group, St Clements University, SCPU ,

Türkiye Direktörlüğü, Uzaktan Eğitim

SCPU Turkey & IQY Technical University Turkey

Erdal Fırat Engineering High Technology Ltd (Turkey)

STC Technological University

Pyay Technical Institute,

IQY Technical College Fiji

IQY Technical University Oman.

www.iqytechnicalcollege.com , www.ipemyanmar.org, www.stclements.edu,
www.thespeukinternational.org, www.stclementstu.com, www.sietinternational.com,
www.scpuengineeringedu.com, www.icpepsingapore.com

IQY TECHNICAL COLLEGE

Registered in Australia -Australian Securities and Investments Commission
(ASIC)



Business Name

IQY TECHNICAL COLLEGE

Extracted from ASIC's database at AEST 17:01:36 on 16/02/2020

Business Name Summary	
Name:	IQY TECHNICAL COLLEGE
Registration Number:	
Registered State:	
Registration Date:	16/02/2020
Status:	Registered
Type:	Business Names
Regulator:	Australian Securities & Investments Commission



ASIC

Australian Securities & Investments Commission

Record of Registration for Business Name

Business name information for:

IQY TECHNICAL COLLEGE

This Record of Registration contains information recorded on the Australian Securities and Investments Commission's (ASIC) register under section 33(8) of the Business Names Registration Act 2011.

Date: 16 February 2020

Next renewal date: 16 February 2023

Record of registration issued by the Australian Securities and Investments Commission on 16 February 2020

Rosanne Bell
Senior Executive Leader
Registry

RECORD OF REGISTRATION

IQY Technical College is also an authorised education college of The Institution of Professional Engineers Myanmar New South Wales Australia Chapter registered with New South Wales State Government of Australia (INC1901087)

IQY Technical College of IQY St Clements Education Group and Highlight Computer Group (Myanmar) is an authorized training centre of Singapore Institute of Engineering Technologists for ASEAN Engineering Technologist and ASEAN Engineering Technician Registration.

One of top universities in Myanmar rated by Universities in the World

IQY - ST CLEMENTS EDUCATION GROUP MISSION AND VISION

IQY Technical College teaches Singapore Recognized Engineering , ICT Engineering , Engineering Management and Engineering Education Diplomas and Professional Diplomas at Bachelors degree levels to enable the graduates to receive the Bachelors Degree in Engineering, Information Technology and Management from our two affiliated universities by credit transfer scheme.

IQY Technical College educates the students of Myanmar at the price affordable to average working class people of Myanmar by applying e-Learning with study support education groups at various physical locations.

Affiliation

IQY Technical College is Education and Training Unit of The institution of Professional Engineers Myanmar which is Member of International Federation of Engineering Education Societies USA (IFEES-USA) and Education and Training Branch of The Institution of Professional Engineers Myanmar NSW Australia Chapter which is incorporated in NSW Australia. IQY Technical College is Authorized Training Centre of Singapore Institute of Engineering Technologists (SIET).

IQY Technical College delivers the following programs

- Diploma, Advanced Diploma, Professional Diploma (equivalent to Bachelors degree) Master Diploma (equivalent to Masters degree) in various Engineering, Management, Information Technology
- Various Engineering and Non Engineering Vocational Training Certificates
- Skilled Development Short Courses
- Internship and Apprenticeship Courses

IQY Technical College Courses can be viewed at

<http://www.iqytechnicalcollege.com/offeredcourses.htm>

Location IQY Yangon

IQY Technical College No. 307 (2) (b) he ,9 Ward,

Yankin Township , Yangon . MAP: www.highlightcomputer.com/iqymap.pdf

Inquiry Course Information

CONTACT

Main Administration Office

IQY Technical College Academic Management System

**Dr Hla Myat Mon (General Manager)-Phone: Australia 61-424533344
Myanmar 09893974117 (Viber)+ 09893974117**

PO BOX 227 Marrickville, NSW 1475
Sydney, Australia

E mail

iqytechnicalcollege@gmail.com

IQY –St Clements Education Group

(Yangon)

E–Learning / Tutoring / Trade Training Centre Addresses

South Okkalapa

Address 1 (Yangon Head Quarter of IQY Technical College and IPEM Technological University)

အမှတ် ၃၀၇ (ခ) သူရ(၂)လမ်း၊ အမှတ် ၉ ရပ်ကွက်တောင်ဥက္ကလာပ၊

(သစ္စာလမ်း၊ ပုဏ္ဏမိမှတ်တိုင်အနီး)

No 307 (B) Thura 2 Street, 9 Ward, South Okkalapa Township, Yangon

Website

www.iqytechnicalcollege.com/thurastcampus.htm

Please See MAP-

www.iqytechnicalcollege.com/IQYIPEMTUHQ.pdf

www.highlightcomputer.com/iqymap.pdf

Address 2 (Operation Address of IQY Technical College and IPEM Technological University)

No 704 Myitta Road, 12 Ward , South Okkalapa Township, Yangon

Website

www.iqytechnicalcollege.com/myittastcampus.htm

E mail

iqytechnicalcollege@gmail.com

IQY –St Clements Education Group

Special Training & Resources Centre / E Library

Yazana Garden City, Dagon Seik-Kan Township

Building 28, Room 404 , 5th Floor, 8th Street, Group (B), 94 Ward,
Yuzana Garden City, Dagon Seik-Kan Township

Website

www.iqytechnicalcollege.com/yuzanacampus.htm

COMPUTER TRAINING + COMPUTER UNIVERSITIES COURSES STUDY SUPPORT

IT Training Kyauk-Myaung Centre Address

No 33 , Third Floor Left, Dagon Thiri Street, Kyauk-myaung, Tarmwe Township,
Yangon

AND

No 307 (B) Thura 2 Street, 9 Ward, South Okkalapa Township, Yangon

IQY –St Clements Education Group

(Mandalay)

Address

သိပ္ပံလမ်းနှင့်လေလမ်းထောင့်၊ မန္တလေးသီရိဘောလုံးကွင်းမြောက်ဘက်၊
မန္တလေးမြို့။

Corner of Teikpan Street and 68th Street, Mandalay Thiri Football Field North
Mandalay

Location contact- Daw Yamin Thu—Mobile: 09670759700

Website

www.iqytechnicalcollege.com/mandalay.htm

Contact

Manager--Daw Yamin Thu—Mobile: 09670759700

yaminthu.5813@gmail.com,

Daw Thandar Win—Mobile: 0943063431

E mail- thandarwin16384@gmail.com

Overseas Contact

iqytechnicalcollege@gmail.com

Phone: 61-424533344

PO BOX 227, Marrickville, NSW 1475, Sydney, Australia

Affiliated Training Centres / Colleges/ SchoolsAddresses

Engineering Software Applications + English Language Training

IQY Online

Daw Yamin Thu—Mobile: 09670759700

yaminthu.5813@gmail.com,

Contact

iqytechnicalcollege@gmail.com

IQY 's affiliated education group

Pyay Technical Institute Campuses & Contacts

(IQY Technical College Pyay)

(အမှတ်၁၆/၁၉၃) ဘလမ်း၊ နှင်းကွက်သစ်၊ ပြည်မြို့

No.(16/193), 11st Street, Nawin New Qtr, Pyay

U Htin Aung Shine

Phone : 09250306242, 09779945508, 05325756

iqytechnicalcollege@gmail.com

IQY Technical College Professional Diploma in Business Management disciplines

St Clements University / St Clements Institute- Cambodia 's Bachelor of Applied Management degree or Institute of Management Specialists (UK) Membership Diploma of the work is based on the experience can apply for UK Level 6 Pre-Master qualifications .

IQY Technical College Professional Diploma in Information Technology, received their

St Clements University / St Clements Institute- Cambodia 's Degree Bachelor of Applied Science (IT) or of the Faculty of Professional Technical Management (UK) Membership Diploma work is based on the experience can apply for UK Level 6 Pre-Master qualifications.

Institute of Management Specialists (UK) and the Faculty of Professional Technical Management (UK) UK and global recognition for Professional Qualification well as the title of St Clements Institute Cambodia ASEAN includes qualifications.

See IQY Technical College 's courses below:

<http://www.iqytechnicalcollege.com/offeredcourses.htm>

IQY Technical College engineer; Diploma (Diploma) , Advanced Diploma (Advanced Diploma) , Bachelor 's Degree (Professional Diploma in Engineering

Diploma (Diploma) - Industry experts (Engineering Technician) to be able to work.

Duration - 6 months to 1 year (Saturdays / Sundays / Off line E -Learning)

<http://www.highlightcomputer.com/PracticalCourses.htm>

Advanced Diploma (Advanced Diploma) , Bachelor 's degree level scheduled Technical Diploma (Professional Diploma in Engineering) - Engineering Technician Engineering Technologist will be able to work.

Duration - Advanced Diploma (Advanced Diploma) 1 year 2 years (Saturdays / Sundays)

OFF line E-Learning)

Bachelor 's degree level scheduled Technical Diploma (Professional Diploma in Engineering) 2 years of the 4 -year (Saturdays / Sundays / Off -line E-Learning)

Training Time

Credit Points- Certificate- 15 Credits, Diploma-30 Credits. Advanced Diploma-60 Credits

Professional Diploma: 90 to 120 Credits

Electrical Engineering (Diploma to Professional Diploma) (Power & Elec . Combined tronics).

Mathematics, Physics, Material Science, Electrical principle, Electrical Workshop, Wiring, Control, AC / DC Machine, Power Control, Electrical Contracting, Project, Management, Solar Electrical System, Electrical Drafting, Analogue / Digital Electronics, Programmable Logic Controller, Microprocessor, Process Control, Power Generation / Transmission / Distribution / Power Protection System, Computer Programming, Computer Network, Renewable Energy, Energy Storage, Solar Thermal System, Engineering Materials, Telecommunication, Radio Wave, Microwave.

Civil Engineering (Diploma to Professional Diploma).

Mathematics, Physics, Material Science, Electrical principle, Electrical Workshop, Building Construction, Bricklaying. Plumbing, Building Drawing, Fluid Dynamics, Hydraulics, Hydrology. Surveying, Sanitation & Water Supply, Surveying, Road & Bridge Construction,

Structural Design, Estimating, Quantity Surveying, Reinforced Concrete, Timber Engineering, Rock Mechanics, Soil Mechanics, Environmental Engineering, Traffic Engineering, Architecture, Building Services Engineering, Engineering Management. Computer Studies

Mechanical Engineering (Diploma to Professional Diploma)

Mathematics, Physics, Material Science, Electrical principle, Electrical Workshop, Engineering Mechanics, Applied Thermodynamics, Machine Principle, Heat Transfer, Principle of Engines,

Fluid Mechanics, Hydraulics, Aerodynamics, Control Engineering, Manufacturing Process, Turbo Machineries, Chemical Thermodynamics. Hydrocarbons, Corrosion Protection, Computer Aided Manufacturing, Robotics, Mechatronics, Numerical Control, Pneumatics,.

Air conditioning & Refrigeration, Electrical Building & Mechanical System, Process Control, Production & Operation Management, Machine Design, Water Supply Building, Mechanical Instrumentation and Process, Computer Programming & Network, Engineering Management, Plant Engineering, Engineering Design, Mechanical Power Generation. , Material Engineering

Mechatronics - Common subjects up to Advanced Diploma. Combined with Electronics in Professional Diploma **Other Engineering Courses** Telecommunication, Automotive, Marine, Renewable Energy, Architecture . Computer Network, Metallurgy, Materials, Explosion Protection, Naval Architecture, Architecture, Chemical

<http://www.iqytechnicalcollege.com/offeredcourses.htm>

Information Technology (Diploma to Professional Diploma)

IT Principle, Computer Application, Computer Programming, Program Projects, Analysis System, Business Information System, Software Engineering, Organizational Behavior,

System Analysis, Computer Networking, Mathematics. Analogue / Digital Electronics, Microprocessor, Telecommunication, Java. C ++. C #, Object Oriented Programming, Website Development, Artificial Intelligence.

Business Management (Diploma to Professional Diploma)

Management, Performance Management, Operation Management, Computer Applications in Management, Quality Management, Risk Assessment, Project Management, Customer Service Management, Change Management, Inventory & Budget Management, Continuous Improvement Management, Safety Management, Risk Management, Professional Development Management, Leadership, Business Letter Writing, Office Management, Preparing Portfolios, Conflict Management, Work-based Training Management. Electronics Business & Commerce, Information Security, Information Management System, Quantitative Methods, Human Resources Management, Marketing Management,, Artificial Intelligence, Project Management.

Diploma / Advanced Diploma Curriculum -
<http://www.highlightcomputer.com/detailedcontent.htm>

Professional Diploma Curriculum -
<http://www.highlightcomputer.com/BECurriculum.pdf>

Engineering Practical Courses

<http://www.highlightcomputer.com/PracticalCourses.htm> (engineering practices)

<http://www.mongroupsdney1.com/mvtlessons.htm> (other professions)

PC 1-Certificate in Bricklaying & Masonry

PC 2-Certificate in Plumbing

PC 3-Certificate in Building Construction

PC 4-Certificate in Gutter Construction

PC 5-Certificate in Fitting & Machining

PC 6-Certificate in Welding

PC 7-Certificate in Engine Operation & Basic Servicing

PC 8-Certificate in Air-conditioning & Refrigeration Basic Servicing

PC 9-Certificate in Electrical Wiring

PC 10-Certificate in Electrical Machine Winding

PC 11-Certificate in Electrical Power Wiring & Switch Gear Installation

(PC15 / H102) Certificate in Basic Electronics & Telecommunication

PC Practical Course (Level 2 for Engineering Technicians).

PC 12-Certificate in Surveying. Quantity Surveying & Estimating

PC 13-Certificate in Manufacturing Process Control & CNC

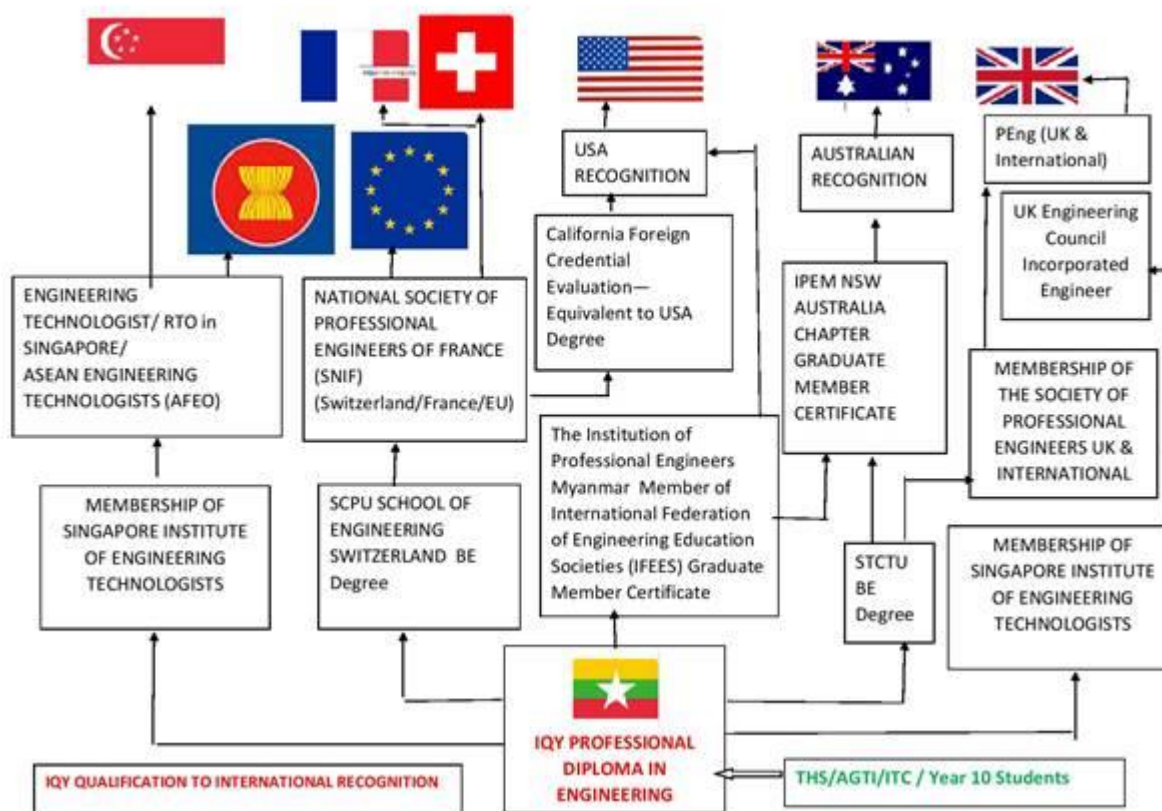
PC 14-Certificate in Building Energy Efficiency

Basic following diploma and must be taught. <http://www.highlightcomputer.com/y712lessons.htm>

Engineering & Information Technology Mathematics, Physics, Chemistry, Science, Design & Technology (Optional), Information Processing (Optional), Software Design (Optional).

Business Management

Design & Technology, Information Processing, Mathematics (Optional).



IQY Qualification Framework

www.highlightcomputer.com/iqyqualificationsframework.pdf

IQY Qualification Framework (IQYQF) is largely based on Australian Qualifications Framework (AQF) but modified it to meet the customised needs of our teaching and training system.

AQF Level	IQY Level	Australian Qualifications Framework (AQF)	IQY Qualifications Framework (IQYQF)
School		Secondary School Certificate	Year 9 to 12 Bridging Education Certificate
1	1	Certificate I	Myanmar Vocational Training Certificate Level 1 (MVTC 1)
2		Certificate II	Myanmar Vocational Training Certificate Level 2 (MVTC 2)
3		Certificate III	Myanmar Vocational Training Certificate Level 3 (MVTC 3)
4		Certificate IV	Diploma Part 1 (Advanced Certificate)/ Diploma in General Engineering & Certificate in Tertiary Preparation (Year 12 Level)
5	2	Diploma	Diploma Part 2 (30 credits)
6		Advanced Diploma	Advanced Diploma (60 credits) (Diploma in Engineering Education Level 1-Diploma in Vocational Education and Training)
6	3	Associate Degree	Professional Diploma Part 1 (Year 3) (90 to 120 Credits) (Diploma in Engineering Education Level 2-Diploma in Technical Teaching)
7		Bachelors Degree	Professional Diploma Part 2 (Year 4) (120 credits and more) (Diploma in Engineering Education Level 3-Diploma in Engineering Education)
8	4	Graduate Certificate/ Graduate Diploma	Master Diploma Part A (Diploma in Engineering Education Level 4-Diploma in Engineering Education-Specialist Studies)
9		Masters Degree	Master Diploma Part B/ Master Diploma in Research Studies
10	5	Doctoral Degree	Diploma in Doctoral Studies

<http://www.highlightcomputer.com/iqyqualificationsframework.pdf>

W List of universities in Switzerland: x +

en.wikipedia.org/wiki/List_of_universities_in_Switzerland#Higher_Education_Institutions

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Article Talk

Read Edit View history Search Wikipedia

List of universities in Switzerland

From Wikipedia, the free encyclopedia


This **list of universities in Switzerland** lists all 12 Swiss universities (10 cantonal universities and 2 federal institutes of technology) and a number of public Swiss Universities of Applied Sciences and other education institutions, as higher education institutions. The Swiss law on publicly financed universities, the Swiss University Conference and its accreditation body the CRUS-OAQ is responsible for their recognition according to the Federal Higher Education Act, HEAd.^[1]

Contents [hide]

- Universities
- Universities of Applied Sciences
- Higher education institutions of art and music
- Higher Education Institutions
- Universities of teacher education
- Federal institute
- International rankings for the public universities
 - THE-QS^[2]
 - ARWU
 - Switzerland Top Universities in 2015
- See also
- Notes and references
- External links

Universities [edit]

Institution	Abbreviation	Location	Founded	Language	Type	Enrollment
University of Basel	UNIBAS	Basel	1460	German / English	Public (cantonal)	12,852
University of Bern	UNIBE	Bern	1834	German / English	Public (cantonal)	17,862



10:56 AM 24/01/2020

IQY Graduation

19 July 2018 Gandamar Grand Ballroom





IQY Teaching Classes



IQY Mandalay Teaching Session



Reception+ Individual Consultation Place+ Discussion Room



IQY Dagonthiri St Kyauk-myaung, Tarmwe



IQY TECHNICAL COLLEGE PRACTICAL + SITE VISIT





IQY Technical College
Yuzana Garden City
Future Expansion for
Yuzana & South
Dagon Students

IQY Yuzana Garden City

IQY Technical College No 307B Thura 2 Street, 9 Ward, South Okkalapa

Venue+Facilities





Sitting place

Classroom (1) Downstair

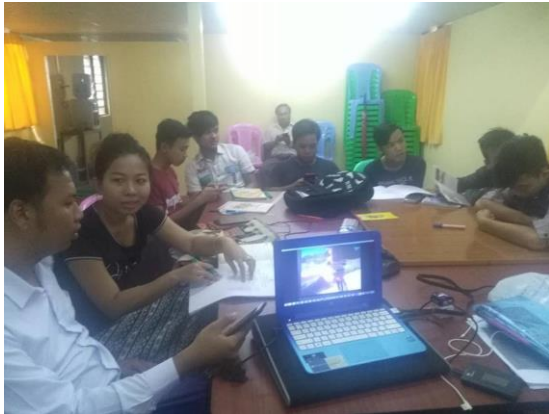
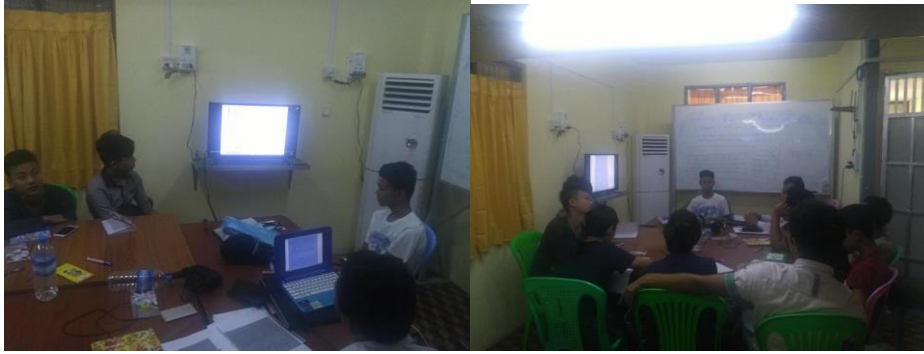
Classroom (1A/B) Downstair



Classroom 3 Downstair (Standby Place) +Upstair Classroom 4



IQY E Learning



IQY was started like this



Current IQY



SINGAPORE INSTITUTE OF ENGINEERING TECHNOLOGISTS

The Singapore Institute of Engineering Technologists (SIET) being the Professional Body for Engineering Technologists is a multi-disciplined learned establishment registered in Singapore since 1980 under the Societies Act [Singapore Government Gazette Notification No: 3310].



<https://www.facebook.com/sietorgsg/>

SIET's Presidential Message for 35th Anniversary (1980 – 2015)

35 years ago I initiated the formation of SIET - a local professional body for Polytechnic and Vocational graduates in Singapore. It is for the '**Technologists**' and '**Technicians**' – the two key building blocks within the engineering profession.

SIET has weathered through the '**winds and rains**' or '**ups and downs**' during its 35 years of existence.

Today SIET has gone global with closed collaboration with various professional bodies:

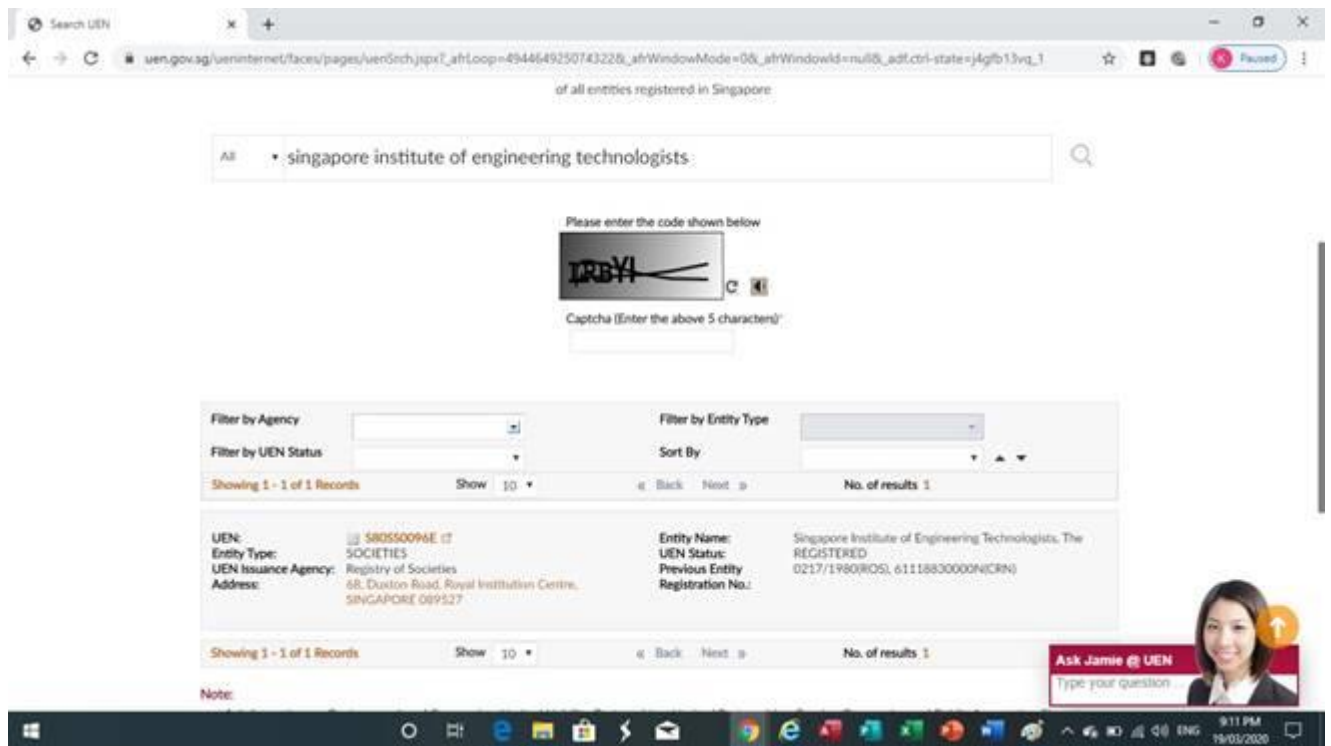
1. **United Kingdom** : The Society of Professional Engineers (SPE); The Institution of Engineering Designers (IED); Chartered Association of Building Engineers (CABE).
2. **South Africa** : Institute of Professional Engineering Technologists (IPET); Design, Technology and Management Society International (DTMSI).
3. **Italy** : Association of British Engineers in Italy (ABEI).
4. **Malaysia** : Technological Association of Malaysia (TAM).

SIET belongs to you - the Engineering/Technology graduates from Polytechnic and ITEs. Your support can make the difference – a stronger voice for the Engineering Profession : **Technicians → Technologists → Professional Engineers.**

Sam Man Keong (岑文强)

SIET's President (2014/2015)

Email: sammk1951@gmail.com



Some important milestones of SIET :

Year

1980

1981

1982

1984

1985

1986

Important Milestone

Establishment of SIET

SIET Yearbook launched (Last published in 1999)

SIET Quarterly Journals launched [Last issue : December 1999]

SIET – Advanced Diploma in Civil Engineering (incorporating CEI Part 2 syllabuses).

SIET Constitution was amended to enable the Institute to conduct its own **Professional Examinations**.

SIET was affiliated to the **Institute of Engineers & Technicians, UK** [Founded 1948; Incorporated 1967]

. Suitably qualified members can be registered as EngTech and IEng of UK.

[IET-UK later merged with IIE-UK; IIE-UK later merged with IEE-UK to form the present Institution of Engineering & Technology, UK.][website : www.theiet.org]

SIET adopted the **Society of Engineers, UK** as its own qualifying examinations:

[Established 1854; Incorporated 1910]

SOE Part 1 ➔ AMSIET

SOE Part 2 ➔ MSIET

SOE Part 3 ➔ FSIET

Members who have completed all the three part examinations and with the required professional experience can apply for registration as PEng(UK) with the Society of Professional Engineers, UK. [website : www.professionalengineers-uk.org]

SIET changed its name from ‘**Technicians**’ to ‘**Technologists**’.

SIET supported the **Master of Business Administration (MBA)** program awarded by the **Oklahoma City University, USA** in Singapore.

- 1988 SIET was elected as a full member of the **Singapore Professional Centre**.
SIET officially adopted The Engineering Council, UK Examinations as its alternate Qualifying Examinations:
EC Part 1 → MSIET
EC Part 2 → FSIET
- 1989 SIET introduced its first **Graduate Diploma in Management for Technology** (GDMT) programme.
Tuition classes leading to **UK - EC Part 2 Exam** began.
- 1990 Signed MOU with the **Technological Association of Malaysia** (TAM).
[website : www.tam.com.my]
- 1991 SIET was affiliated to the **Society of Engineers, UK**
[Founded 1854; Incorporated 1967]
[SOE-UK later merged with IIE-UK; IIE-UK later merged with IEE-UK to form the present Institution of Engineering & Technology, UK.][website : www.theiet.org]
- 1994 SIET – General Certificate in Engineering launched.
SIET – Diploma in Engineering Management launched.
- 1995 Signed MOU with the **Applied Science Technologists and Technicians of British Columbia**, Canada.
[website : www.asttbc.ca]
- Signed MOU with the **Institute of Professional Engineering Technologists, South Africa**.
[website : www.ipet.co.za]
- Signed MOU with the **Institution of Engineers, Australia**.
[website : www.engineersaustralia.org.au]
- 1997 Founder Member of the **World Federation of Technology Organizations** (WFTO).
[website : www.wfto.org]
Signed MOU with the **University of Southern Queensland**, Australia.
- Polytechnic Diploma holders in Engineering disciplines can upgrade themselves to ‘Professional Engineer’ level via **the Bachelor of Engineering programme by distance learning**.
[website : www.usq.edu.au]
- 1999 Signed MOU with the **University of Newcastle**, Australia.
- Polytechnic Diploma holders in Built Environment disciplines can upgrade themselves to ‘Fellow (FSIET)’ grade via **the Bachelor of Construction Management programme by distance learning**.
[website : www.newcastle.edu.au]
- 2005 Re-birth of SIET.**
- 2006 SIET Yearbook re-launched.
- 2008 **SIET – Accreditation Board** launched.
SIET – Approved Training Centre Scheme introduced.
- 2009 **SIET Certification Scheme** introduced:
AMSIET → Certified Engineering Associate (**CertEA**)*
MSIET → Certified Engineering Technologist (**CertET**)*
FSIET → Certified Technical Specialist (**CertTS**)*
[Must sit and pass the **SIET – Test of Professional Competence** unless exempted, e.g. **BCA-RE** can be registered as SIET – CertTS;
BCA – RTO can be registered as SIET – CertET without further exam.]

- 2010 **SIET – Professional Examinations:**
Level 1 – Associate Membership Exam (8 subjects)
[➔ SIET – Diploma in Engineering Technology]
Level 2 – Membership Exam (8 subjects)
[➔ SIET – Advanced Diploma in Engineering Technology]
Level 3 – Fellowship Exam (6 subjects)
[➔ SIET – Professional Graduate Diploma in Engineering Technology or Engineering Management]
[Formatted according to the **USA-NCEES : FE/PE Exams**; website : www.ncees.org]
- 2013 **MOUs with**
1. Institution of Engineering Designers, United Kingdom [**IED**]
2. SIPMM Academy, Singapore [*Diploma in **Engineering Management**; Advanced Diploma in **Engineering Management***]
- 2014 **MOUs with**
1. Association of British Engineers in Italy [**ABEI**]
2. Temasek Polytechnic, Singapore
3. **Institution of Aquaculture Singapore**

ST CLEMENTS UNIVERSITY MYANMAR COLLEGE

www.stclements.edu/myanmar



Our President-Dr David Le Cornu

St Clements University Myanmar College has been established to offer a wide range of university courses to the people of Myanmar as well as international students in both campus and online environment.

The courses offered are distance learning programs taught with local tutors helping to provide learning advice.

Places are available to non-Myanmar residents via distance learning.

The programs are Engineering, Information Technology , Management, Humanities , Technical and Vocational Teacher Education and several vocational education studies areas.

The engineering programs of St Clements University Myanmar College are delivered concurrently with engineering programs of IQY technical College ranging from Certificate to Master Diploma levels including Advanced Diploma and Professional Diplomas.

Professional Diplomas of IQY Technical College are equivalent to Bachelors degrees of St Clements University and Master Diplomas of IQY Technical College are equivalent to Masters degrees of St Clements University.

As Engineering diplomas of IQY Technical College are accredited by Singapore Institute of Engineering Technologists for Engineering Technologists registration with ASEAN federation of Engineering Organizations and they are also linked to Professional Engineers (UK) assessment system, the engineering graduates of St Clements University can also get the ASEAN and UK engineer registrations through IQY Technical College.

HISTORY

The St Clements Education Group was founded in 1995 when St Clements University was registered in the Turk and Caicos Islands as a university company offering non-traditional degree programs.

Mission Statement of St Clements Education Group

As far as practical education should be made easily accessible to the people through classroom campuses, satellite campuses, open learning and hybrid learning rather than forcing the students to leave their local community in order to obtain knowledge not available locally. Learning should be a lifelong experience and that higher education should be available to all who qualify, and not just school leavers.

An important part of the St Clements Education Group's philosophy flowing from its mission statement, is that it endeavors to take education to the people where there is need for it. This has led it opening schools in some very difficult parts of the world.

In 2012, St Clements University Myanmar College was firstly established as IQY Technical College of Highlight Computer Group in Myanmar to teach St Clements University Higher Education School Niue's Diploma/ Advanced Diploma and Bachelor Degree programs in Engineering, Information Technology and Management courses to the students of Myanmar at the price affordable to average working class people of Myanmar.

IQY Technical College of Highlight Computer Group (Myanmar) is an authorized training centre of Singapore Institute of Engineering Technologists for ASEAN Engineer, ASEAN Engineering Technologist and ASEAN Engineering Technician Registration. IQY Technical College of Highlight Computer Group is affiliated to St Clement's Technological University, International Institute of Science, Engineering & Management & The Institute of Professional Business & Technical Managers. IQY Technical College of Highlight Computer Group is the first Myanmar based institution that provides the international standard education to the students over the world by e-Learning.

From 2014 to 2017, IQY Technical College was operated as an affiliated college in Myanmar for St Clements University. In November 2017, St Clements University Myanmar College was established in the name of IQY St Clements Education Group which represents both St Clements University Myanmar College and IQY Technical College. All academic staff are taking part in both colleges in Myanmar.

St Clements University Myanmar College is not a registered educational institution in Myanmar, it has been developed to offer St Clements University's international programs to the people of Myanmar.



PROGRAMS

St Clements University Myanmar College offers a range of career oriented associate degrees, it is this focus in education for career development that St Clements University College specializes in.



ADMISSIONS

While catering for school leavers, St Clements University Myanmar College welcomes enquiries from mature adults wishing to develop their professional education to advance and develop their careers.



RECOGNITION

St Clements University Myanmar College works with a range of professional industry bodies to ensure the professional relevance of its degree programs

St Clements University Myanmar College Yangon-IQY Dagonthiri

No 33 Third Floor Left, Dagonthiri Street, Kyauk-myaung

Tarmwe Township

Yangon

Myanmar

Please See MAP- www.stclements.edu/myanmar/iqymap2.pdf

St Clements University Myanmar College -IQY Yangon Thura St South Okkalapa

No 307B Thura 2nd Street, 9 Ward, South Okkalapa

Yangon

Myanmar

Please See MAP- www.stclements.edu/myanmar/iqymap1.pdf

Contact: 09-448009297/ 09772644954 & 09402679529

St Clements University Myanmar College -IQY Yangon Yuzana Garden City

Room 404, Building 28, 8th Street, 94 Ward, Yuzana Garden City

Dagon Seikkham Township

Yangon

Myanmar

STC TECHNOLOGICAL UNIVERSITY



STC Technological University is a technological university which awards Master and Doctoral degrees in Applied Science, Applied Arts, Engineering and Education as well as providing the scholarships to the needy students of the developing countries.

It is a non profit international organization.

It only awards the degrees to the experienced researchers and the students who are awarded the scholarships. It does not offer any degree for commercial purpose.

STC Technological University academic council composes of academics from British West Indies & British Commonwealth Countries who nominate the candidates of research background to be awarded Masters & Doctoral degrees based on their practical research experiences & published works.

STC Technological University academic council also awards the scholarship Bachelor degrees in Engineering, Applied Science , Information Technology , Business Administration and Business Management through the affiliated colleges and schools led by International Academic Councillors.

For scholarship application & degree verification--Contact - stclementstu@gmail.com

Or

Apply through the affiliated schools & colleges

Approval of the scholarship will depend on consultation of the International Academic Councillor responsible for a particular country & e-mail interview with the applicant.

Only the successful candidates will be contacted by e-mail. The university has the right to make no contact to unsuccessful applicants.

International Councillors , Affiliated Organizations & awarded doctorate degree holders

Please contact stclementstu@gmail.com

STC University is an International Non Government Organisation established to provide the education needs of poor students in developing countries and it has the base in British West Indies Islands but it does not register with any government and does not operate as a profit organisation.

It assists the students by providing the education through the Government Registered Schools, Colleges worldwide but it does not issue any degree by charging any cost.

For this reason, it is not our business to take the concern on accreditation, diploma mills, government recognition, any issues raised by any government accreditation authorities , any government education departments, any governmental education laws and accreditation as well as any of degree mills issues.

STC Technological University wants the students to read our website and contact us only if they have satisfied with our information as neither STC Technological University nor our partners and affiliated educational institutions will answer the questions related to above issues because we are operating as EDUCATION REVOLUTIONISTS to equalise the education among riches and poors, First World and Third World.

We confer appropriate awards to academics who join our Worldwide Education Revolution by contributing appropriate academic research, operation , courses, training and resource developments.

ADDITIONAL INFORMATION

STC Technological University means St Kitts, Turk and Caicos Islands Technological University, operating as an International Educational Non Government Organisation since 2011 to assist the education needs especially in engineering which is essential to develop the communities of the students in West Indies, Caribbean , Africa, India, Pakistan, Myanmar and other developing countries.

As the main educational revolutionist activists founding members are engineering teachers from St Kitts, Turk and Caicos Islands who migrated there several years ago, we choose the name STC (St Kitts, Turk and Caicos).

Current CEO is Dr Peter Prasad originally from India.

Now STC Technological University has organised several colleges and schools which are either government registered or recognised by their regional professional organisations,

Based on the original awards, we provides the testimony in academic terms in accordance with MOUs.

Our network of affiliated colleges and schools include those in British West Indies, Africa, Asia, Middle East ,South Pacific and Latin America where there have been the most inequalities in education..

S TC Technological University Engineering Faculty is closely working with IQY Technical College Myanmar to deliver the engineering, engineering management and ICT engineering degree courses accredited by The Institution of Professional Engineers, Myanmar.

As we are educational revolutionist activists , if the instruments of the institutions which have done the most inequalities in education use the international media as the tool to undermine our efforts, we will also follow the same ways as utilized by them with the helps of our member activists worldwide.

IQY TECHNICAL UNIVERSITY TURKEY

Türkiye Direktörlüğü, Uzaktan Eğitim

SCPU Turkey & IQY Technical University Turkey



Professor Dr. Erdal Fırat was born in 1975. Their trainings are; Undergraduate: Mechanical Engineering, Graduate: Master of Business Administration, Doctorate: He has completed Political Science and Public Administration. Finally, Professor who completed his researches and studies in 2018. Erdal Fırat was entitled to become a professor in Political Science and Public Administration. He has 25 articles published in International Scientific Quality both in Turkish and English.

Dear Students,

We look forward to the days when a brand new era will begin in your life with us. Our aim is to make individuals who will contribute to the world by activating their talents and their potentials by equipping our students with a current and rich education program with our experience abroad, competent and dynamic teaching staff.

Our engineering faculty also aims to contribute to the country and to humanity in general in different fields.

We look forward to a good educational life that will help you achieve your dreams and goals.

Love and respect,

Professor Dr. Erdal Fırat
St. Clements IQY Private University and the Technical University, Turkey Dean

b



Our Academic Consultants ■ ■

St Clements Private University and IQY Technical University are institutionally accredited by the American Higher Education and Accreditation Association (AAHEA). Sign up to learn from our faculty members, distance education, study abroad, university

WHERE YOU ARE, THERE IS UNIVERSITY Bachelor's - Master's - Doctorate



Associate Your Account with Us





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Mühendisliği,
Elektrik ve İnşaat
Mühendisliği,
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Hesabınızı Bizimle İlişkilendirin



Mechanical Engineering, Electrical and Civil Engineering, distance education

READ AND STUDY!



IQY TECHNICAL COLLEGE (FIJI)

STC TECHNOLOGICAL UNIVERSITY (FIJI)

www.iqytechnicalcollege.com/FIJI.htm



LINKING THE STUDENTS OF FIJI TO INTERNATIONAL BY EDUCATION.



IQY Technical College(Fiji)

STC Technological University(Fiji)

Manikam Goundar

Manager and Authorized Agent

P O BOX 913,LABASA .

FIJI

IQY TECHNICAL UNIVERSITY (OMAN)

Dr. Mohammad Israr

Professor, Department of Mechanical Engineering

Sur University College

Behind Ministry of Health Hospital

Sur, Sultanate of Oman

Post Box-440, Postal Code-411

+968-91256765,+91-97242-00119 [Whatsapp]

+91-79873-98432, +91-94259-03147

PYAY TECHNICAL INSTITUTE (PTI)

www.highlightcomputer.com/pgti.htm

ONLINE INSTITUTE

www.highlightcomputer.com/pgti.htm



Pyay Technical Institute is reborn and re-established Institute of former Government Technical Institute Pyay which has been disbanded.

Pyay Technical Institute is now re organized as Online Training Institute by collaborating with IQY Technical College which is managed by a former Pyay GTI Graduate.

Our ultimate aim is to establish the physical educational institution of Government Technical Institute Pyay which has trained many qualified AGTI Engineers whose qualifications and experiences are one of the best Myanmar and International skilled engineers and we will pursue our dignity which was undermined.

Pyay Technical Institute Campuses & Contacts

(အမှတ်၁၆/၁၉၃) ၁၁လမ်း၊ နဝင်းကွက်သစ်၊ ပြည်မြို့

No.(16/193), 11st Street, Nawin New Qtr, Pyay

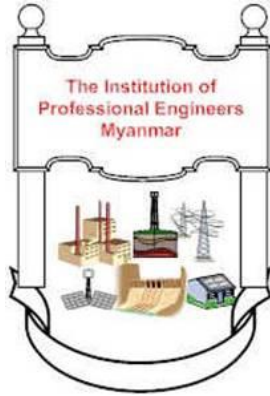


U Htin Aung Shine

Phone : 09250306242, 09779945508, 05325756

E mail- iqytechnicalcollege@gmail.com

THE INSTITUTION OF PROFESSIONAL ENGINEERS-MYANMAR (IPEM)



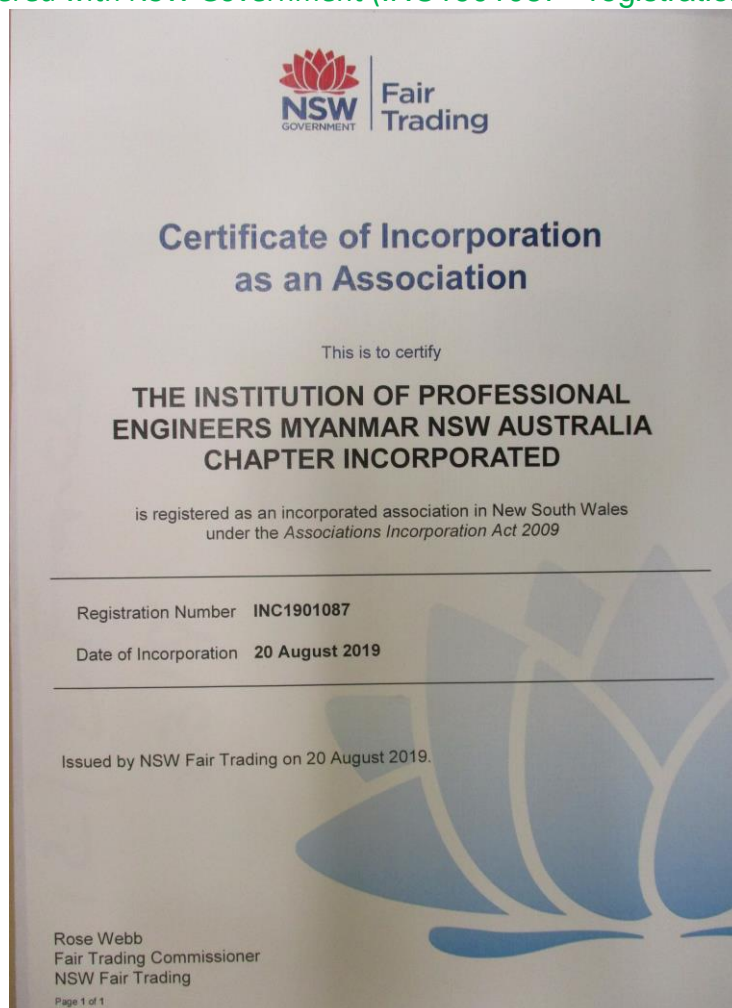
(Professional Association for Myanmar and Ex Myanmar Citizen Engineers and International Engineering Friends of Myanmar)

Member of International Federation of Engineering Education Societies (IFEES)

Myanmar Branch of The Society of Professional Engineers (International) (SPE)

The Institution of Professional Engineers Myanmar NSW Australia Chapter

Registered with NSW Government (INC1901087 - registration – LN)



Associate Member (Elected 2018) of World Federation of Engineering Organizations (WFEO)

www.ipemyanmar.org

www.ipemyanmar.blogspot.com

www.highlightcomputer.com/ipem.htm

**THE INSTITUTION OF PROFESSIONAL ENGINEERS MYANMAR
TECHNOLOGICAL UNIVERSITY
(IPEM TECHNOLOGICAL UNIVERSITY)**

www.ipemtechnologicaluniversity.education

**IPEM TECHNOLOGICAL UNIVERSITY-COORDINATION SERVICE
(IPEMTU International Engineering)**

www.ipemyanmar.org/ipemtucorrelationservice.htm

www.ipemyanmar.org/ipemtu.htm

THE INSTITUTION OF PROFESSIONAL ENGINEERS MYANMAR TRAINING UNIT

Located in Australia

IPEM BRANCHES

(1) Engineering Education Branch

Myanmar Society of Engineering Educators (MSEE)

Myanmar Society of Engineering Education (MSEE) is established as an Engineering Education Branch of The Institution of Professional Engineers Myanmar (IPEM) by collaboration with Education and Training Unit, IQY Technical College of The Institution of Professional Engineers Myanmar (IPEM)

MSEE will have the same Mission & Vision and Objectives of The Institution of Professional Engineers Myanmar (IPEM)

Website: **www.highlightcomputer.com/msee.htm**

(2) General Education Branch

The Institute of Professional Educators Myanmar

Professional Association for All Myanmar Educators including Primary, Secondary, Tertiary, Vocational Education and all other disciplines of teaching and training.

Membership and Training Enrolment

Website- **www.ipemyanmar.org**

REFERENCE SITE

www.highlightcomputer.com/bedschoolvet.htm

(3) Renewable Energy Branch

The Institute of Renewable Energy Engineers

www.highlightcomputer.com/iree.htm

(4) Society of Professional Engineers (UK and International) Co-operation

**www.thespeukinternational.org
<http://professionalengineers-ukinternational.blogspot.com>**

<https://thespeukinternational.webs.com/>

SOCIAL MEDIA

The Institution of Professional Engineers ,Myanmar Facebook Page

<https://www.facebook.com/Myanmar-Professional-Engineers-Group-382000479076721>

Myanmar Professional Engineers Group

www.ipemyanmar.org/MyanmarPEGroup.htm

From 29 May 2019

<https://twitter.com/IPEMORG>

<https://www.facebook.com/groups/1726726080906514/>

Up to 29 May 2019

<https://www.facebook.com/Myanmar-Professional-Engineers-Group-302227464060498/>

<https://www.facebook.com/groups/1558123277821034/>

Myanmar Civil Defence Engineers Group

<https://www.facebook.com/groups/303771553436602/>

GTHS Students who will study International Higher Education Group

<https://www.facebook.com/groups/986926511518594>

Engineer Contractors Group

<https://www.facebook.com/groups/1608455489446488/>

**THE INSTITUTION OF PROFESSIONAL ENGINEERS
MYANMAR TECHNOLOGICAL UNIVERSITY
(IPEM TECHNOLOGICAL UNIVERSITY)**

www.ipemtechnologicaluniversity.education



**THE INSTITUTION OF PROFESSIONAL ENGINEERS MYANMAR
TECHNOLOGICAL UNIVERSITY**

(IPEM TECHNOLOGICAL UNIVERSITY)

www.ipemtechnologicaluniversity.education



Tasks

The Institution of Professional Engineers Myanmar (IPEM) is an International Professional Association representing Myanmar Engineers and Engineering Friends of Myanmar. It is Member of International Federation of Engineering Education Societies-(IFEES -USA) and co-operates with Singapore Institute of Engineering Technologists and The Society of Professional Engineers International.

IPEM also administers Engineers Groups, Engineering Contractor Groups and Engineering Job Groups.

IPEM also delegates its education and training tasks to The Institution of Professional Engineers Myanmar Technological University.

By integrating academic and theory training and employment services, the graduates of The Institution of Professional Engineers Myanmar Technological University can secure the employment which is the aim of the pursuing the education and training.

<https://twitter.com/IPEMTU>

Teaching Programs

The teaching programs of IPEM Technological University are largely based on partnered institutions including IQY Technical College, STC Technological University ,St Clements University Myanmar College and SCPU School of Engineering Switzerland.

Instead of issuing own degrees, IPEM Technological University co-ordinates the diplomas and degrees issued by partnered institutions and link to professional practice and employment.

Legitimacy of operation and academic partners

IPEM Technological University is operating within the framework of National Education Strategic Plan (NESP) endorsed by Myanmar Parliament (Hluttaw) in the area of Alternative Education.

In 2019 and 2020 when IPEM Technological University was launched , there was no law in Myanmar to register private universities and tertiary education colleges.

The other self named private universities took the name of university to teach the degree courses of legitimate foreign universities and provide the facilitation of teaching tasks. Such practice is legal in Myanmar.

IPEM Technological university also does the same task as to other private universities by integrating, co-ordinating and representing the following legitimate foreign universities, colleges and professional associations.

- St Clements University and STC Technological University (Governmental Registered in British West Indies)
- St Clements Institute (Governmental Registered in Cambodia)
- SCPU School of Engineering (Ecole de Ingenieurs SCPU)
(Governmental Registered in Switzerland)
- IQY Technical College (Governmental Registered in Australia)
- Singapore Institute of Engineering Technologists (Governmental Registered in Singapore)
- The Institution of Professional Engineers Myanmar NSW Australia Chapter
(Governmental Registered in Australia)

THE SOCIETY OF PROFESSIONAL ENGINEERS (INTERNATIONAL)

www.thespeukinternational.org

<https://thespeukinternational.webs.com>

www.professionalengineers-ukinternational.blogspot.com



Background Information

The Society of Professional Engineers UK & International

(The Society of Professional Engineers -SPE) was established the United Kingdom in 1969, to promote the interests of skilled engineers in all the main branches of Engineering.

The main objective of the Society is to enhance the status of trained and experienced professional engineers in the absence in the UK of any legal protection for the title "**Engineer**". The founding members believed that this was necessary, as "Engineer" can be used by anyone in the UK, whether or not trained or experienced. This remains a priority for the Society.

The Society created and maintains a Register of Engineers who can demonstrate knowledge and competence in engineering. Applicants who meet the Society's criteria for membership may use the designation "**P.Eng**".

The Society of Professional Engineers traces its origins to the Society of Engineers, which was founded in 1854 as a learned society.^[1] On 27 October, 1969, a number of the Society of Engineers' Corporate members formed the Society of Professional Engineers. (The original Society of Engineers was integrated in 2005 into the Institution of Incorporated Engineers, itself merging with the Institution of Electrical Engineers in 2006 to form the Institution of Engineering and Technology, the biggest professional engineering body in Europe).

The Society is a Company Limited by Guarantee, registered in England, and its Memorandum and Articles of Association were approved by the UK Government's former Department of Trade and Industry, now Department for Business, Innovation and Skills. Its legal objects are:^[2]

- To promote the high standards of expertise and professionalism in the practice of engineering, for the benefit of those members of the general public who have need to avail themselves of the services of engineers.
- To promote the development of inventions and improvements in the practice of engineering and to disseminate information on matters affecting the practice of engineering so as to bring the results of research and considerations of good practice into the public domain.
- To promote improvements in the laws relating to matters of engineering practise so that members of the public may be better able to rely on the highest standards of advice and practise in those who purport to be professional engineers.

The Society keeps a register of persons who subscribe to the Society and who, in the eyes of the Society, 'have proved their competence and can be accurately described as Professional Engineers', awarding them the 'PEng MSPE' (member) or 'PEng FSPE' (fellow) designation according to qualifications and experience. Getting in is tough, but can prove rewarding if trying to excel in areas such as proving an invention.

In 2018 April, when The Society of Professional Engineers UK merged with Institution of Engineering and Technology, the international members of SPE-UK establish the Society of Professional Engineers UK & International and to keep the register of International Professional Engineers and their designations PEng,MSPE(UK &International) and PEng,MSPE(International)

The society becomes an online society and collaborates with other international engineering organisations which have the same objectives.

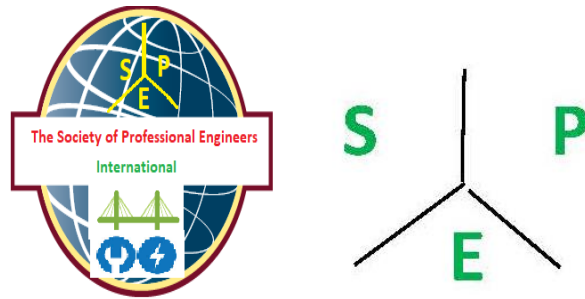
The Original Logo of The Society of Professional Engineers (UK) is shown below but **The Society of Professional Engineers UK & International will no longer use that logo and we are not a new form of The Society of Professional Engineers (UK) but a New International Professional Engineers Organization which does not link to The Society of Professional Engineers UK although we re-organize the former members of The Society of Professional Engineers UK to retain PEng titles.**

Due to our Life Members' wishes and UK is also included in International Community, on 8 February 2019, The Society of Professional Engineers (UK and International) changed its' name to The Society of Professional Engineers (UK and International). Our working documents will also be changed accordingly..

The Original Logo of The Society of Professional Engineers (UK) which is no longer used by The Society of Professional Engineers (International)



NEW LOGO OF THE SOCIETY OF PROFESSIONAL ENGINEERS (INTERNATIONAL)



The Society of Professional Engineers (International) acknowledges that our current website is sponsored by our international partner Pacific Engineering Ltd in Australia

The Society of Professional Engineers International integrates the following branches to provide the professional service for management and information technology.

- **Institute of Professional Business and Technical Managers (UK)**
- **International Institute of Science, Engineering and Management (Computer Science Branch)**
- **STC Technological University (Academic and Educational Branch)**

INSTITUTE OF COMPUTER ENGINEERS OF THE PHILIPPINES – SINGAPORE CHAPTER

Registry of Societies, UEN T18SS0007A



ICpEP-SG is a member of the Filipino Community (FilCom) of the Philippine Embassy in Singapore and a duly registered organization in Singapore with UEN No. T18SS0007A under the Registry of Societies, Ministry of Home Affairs, Republic of Singapore.

Contact us

ICpEP Singapore Office Address:

43 Pasir Panjang Road , Singapore 118503

Engineering Industrial Training
www.iqytechnicalcollege.com/eit.htm

EIT301 Advanced Diploma of Robotics and Mechatronics Engineering

EIT302 Advanced Diploma of Industrial Automation Engineering

EIT303 Advanced Diploma of Electrical and
Instrumentation (E&I) Engineering for Oil and Gas
Facilities

EIT304 Advanced Diploma of Plant Engineering

EIT 305 Professional Certificate of Competency in Instrumentation,

Automation & Process Control

EIT306 Professional Certificate of Competency in
Hazardous Areas & Intrinsic Safety For Engineers &
Technicians

EIT401 Bachelor of Science (Industrial Automation
Engineering)

EIT402 Undergraduate Certificate in Industrial Automation Engineering

EIT404 Professional Certificate of Competency in IEC 61850 Based

Substation Automation

EIT404 Professional Certificate of Competency in Gas Turbine
Engineering

EIT406 Professional Certificate of Competency in
Machine Learning & Artificial Intelligence

EIT407 Professional Certificate of Competency in Industrial
Data Communication

EIT408 Professional Certificate of Competency in Onshore &
Offshore Pipeline Systems

EIT409 Professional Certificate of Competency in
Practical Mechanical Sealing

EIT410 Professional Certificate of Competency in Practical
Machine Learning Using Python for Engineers &
Technicians

EIT411 Professional Certificate of Competency in Sewage & Effluent
Treatment Technologies

EIT412 Professional Certificate of Competency in
Advanced TCP/IP-Based Industrial Networking

EIT413 Professional Certificate of Competency in Allen
Bradley ControlLogix / Logix5000 PLC Platforms

EIT414 Professional Certificate of Competency in Big
Data and Analytics in Electricity Grids

EIT415 Professional Certificate of Competency in
Chemical Engineering & Plant Design

EIT416 Professional Certificate of Competency in
Fundamentals of Road Construction

EIT417 Professional Certificate of Competency in Arc Flash Protection

EIT418 Professional Certificate of Competency in Hydraulics and
Pneumatics

EIT419 Graduate Certificate in Renewable Energy Technologies

EIT501 Graduate Certificate in Civil - Railways Infrastructure
Engineering

EIT502 Graduate Certificate in Electrical and
Instrumentation in Oil and Gas Engineering

EIT503 Graduate Certificate in CAD and Computational Techniques

EIT504 Graduate Certificate in Civil Transportation Engineering

EIT505 Graduate Certificate in Fluid Power Engineering

EIT506 Graduate Certificate in Industrial Instrumentation and Process Control

EIT507 Graduate Certificate in Industrial Instrumentation and Safety Systems

EIT508 Graduate Certificate in Process and Thermal Engineering

EIT509 Graduate Certificate in Programmable Logic Controllers and SCADA

EIT510 Graduate Certificate in Industrial Automation Engineering

EIT601 Master of Engineering (Electrical & Instrumentation in Oil & Gas)

EIT602 Master Of Engineering (Industrial Automation)

EIT603 Master of Engineering (Safety, Risk & Reliability)

EIT604 Master of Engineering (Civil: Railway Infrastructure)

Latest Industrial and Business Knowledge Courses

Latest Engineering

Bachelor of Work Studies (Aviation) (5544326)

Bachelor of Work Studies (Shipping) (5544327)

Graduate Certificate in Fire Engineering (5544328)

Operational Efficiency (119901)

Building Management System & Fire Panel Programming Certificate(119902)

Digital Signal Processing and Field Instrumentation Certificate (119903)

Nuclear Power Plant Certificate (119904)

Solar Study Certificate (119905)

Diploma in Hotel Engineering (4433216)

UEE62520 Advanced Diploma in Air Conditioning and Refrigeration Engineering

MEM60122 Advanced Diploma of Engineering

MEM31922 Certificate III in Engineering - Fabrication Trade

UEE21920_CII Electronics

UEE30920 CIII Electronics Communication

UEE60220 Advanced Diploma in Electronic and Communication Engineering

UEE61720 Advanced Diploma in Engineering Technology Electronics

Latest Business Courses

Diploma in Aged Care (219901)

Diploma in Asian Cooking (219902)

Diploma in Baking and Cake Making (219903)

Diploma in Cake and Pastry (219904)

Diploma in Catering (219905)

Diploma in Commercial Cooking (219906)

Diploma in Disability Support (219907)

Diploma in Event Management (219908)

Diploma in Leadership Conflict Management Public Administration (219909)

Diploma in Learning Management (219910)

Diploma in Logistics (219911)

Diploma in Patisserie (219912)

Diploma in Project Management (219913)
Diploma in Special Education (219914)
Diploma in Strategic Leadership (219915)
Diploma in Tourism and Hospitality Management (219916)
Diploma in Travel and Tourism (219917)
Diploma in Wine Beer Juice Liquor Making (219918)
Certificate in Aircraft Cabin Cleaning (228765)
Certificate IV in Training and Assessment (TAE40116) (319980)
Certificate/Diploma/Advanced Diploma in Domestic and Housemaid Studies (319981)

Ih

Diploma in Leadership Management (254431)
Diploma in Marketing Communication (254432)
Diploma in Program Management (254433)
Graduate Diploma in Portfolio Management (654431)
Diploma in Strategic Leadership (254434)
Diploma in Hospitality Management (254435)
Diploma in Digital Marketing (254436)
Diploma in Social Media Marketing (254437)

Business and Technology

Accounting

- [FNS40217 - Certificate IV in Accounting and Bookkeeping](#)
- [FNS50217 - Diploma of Accounting](#)
- [FNS60217 - Advanced Diploma of Accounting](#)

Relevant IQY Course

Diploma/ Bachelor of Accounting ([Form 98 Accounting](#))

Information Technology

- [ICT40120 - Certificate IV of Information Technology.](#)
- [ICT50220 - Diploma of Information Technology.](#)
- [ICT60220 - Advanced Diploma of Information Technology.](#)

Relevant IQY Course

Diploma/ Bachelor of Applied Science (Information Technology) (Form 70)

Management

- [BSB40920 - Certificate IV in Project Management Practice](#)
- [BSB50820 - Diploma of Project Management](#)
- [BSB60720 - Advanced Diploma of Program Management](#)
- [BSB50420 - Diploma of Leadership and Management](#)
- [BSB60420 - Advanced Diploma of Leadership and Management](#)

Relevant IQY Course

Diploma/ Bachelor of Management/ Business Administration (Form 70)

Graduate Studies

- [BSB80320 - Graduate Diploma of Strategic Leadership](#)
- [BSB80120 - Graduate Diploma of Management \(Learning\)](#)

Relevant IQY Course

Master of Management (Form 116)

Packages

- [BSB50820 - Diploma of Project Management +](#)
[BSB60720 - Advanced Diploma of Program Management](#)
- [TLI50221 - Diploma of Logistics +](#)
[TLI60119 - Advanced Diploma of Deployment Logistics](#)
- [BSB50420 - Diploma of Leadership and Management +](#)
[BSB60420 - Advanced Diploma of Leadership and Management](#)
- [ICT50220 - Diploma of Information Technology +](#)
[ICT60220 - Advanced Diploma of Information Technology](#)

Hospitality

Hospitality

- [SIT30616 - Certificate III in Hospitality](#)
- [SIT40416 - Certificate IV in Hospitality](#)
- [SIT50416 - Diploma of Hospitality Management](#)
- [SIT60316 - Advanced Diploma of Hospitality Management](#)

Relevant IQY Course

International Vocational Training Courses Form 255/255A

Cookery

- [SIT30816 - Certificate III in Commercial Cookery](#)
- [SIT40516 - Certificate IV in Commercial Cookery](#)

- [SIT31116 - Certificate III in Asian Cookery](#)
- [SIT40816 - Certificate IV in Asian Cookery](#)

Relevant IQY Course

International Vocational Training Courses Form 255/255A

Patisserie and Baking

- [SIT31016 - Certificate III in Patisserie \(NSW/QLD\)](#)
- [SIT31016 - Certificate III in Patisserie \(TAS\)](#)
- [SIT40716 - Certificate IV in Patisserie \(NSW/QLD\)](#)
- [SIT40716 - Certificate IV in Patisserie \(TAS\)](#)
- [FBP30321 - Certificate III in Cake and Pastry](#)
- [FBP40221 - Certificate IV in Baking](#)

Relevant IQY Course

International Vocational Training Courses Form 255/255A

Event Management

- [SIT50316 - Diploma of Event Management](#)
- [SIT60216 - Advanced Diploma of Event Management](#)

Relevant IQY Course

International Vocational Training Courses Form 255/255A

Travel & Tourism

- [SIT50116 - Diploma of Travel and Tourism Management \(NSW/QLD\)](#)
- [SIT50116 - Diploma of Travel and Tourism Management \(TAS\)](#)
- [SIT60116 - Advanced Diploma of Travel and Tourism Management \(QLD\)](#)
- [SIT60116 - Advanced Diploma of Travel and Tourism Management \(TAS\)](#)

Relevant IQY Course

International Vocational Training Courses Form 255/255A

Diploma of Business (261443)

Diploma of Management (214467)

Advanced Diploma of Management (314467)

Diploma of Human Resources Management
(214468)

Diploma of Accounting (27114)

[illegible]

UPDATED COURSES

Click the following link to view the updated courses

<http://iqycoursesupdate.blogspot.com.au/>

VIDEO (MYANMAR) FOR THE OFFERED COURSES

www.iqytechnicalcollege.com/IQYIPEMCourseInformation.htm

[IQY Technical College Programs and Career](#)

Offered Courses

<u>Master of Law (LLM)/Master Diploma in Law</u>

Master of Law (LLM)/Master Diploma in Law

**IQY Technical College Faculty of Law, STC Technological University , St
Clements University and USA Law School**

[LLM Curriculum](#) (7766553)

Certificate in Legal Studies (Myanmar Law) 1133456 (IQY)

[Diploma/Advanced Diploma in Legal Studies \(Myanmar Law/International
Law\) 2133456/3133456 \(IQY\).](#)

[Bachelor of Business Administration \(Legal System\).\(4133456\).](#)

[Bachelor of Law \(BL\).\(4233456\).](#)

[Bachelor of Policing.\(4233457\).](#)

**Phoe Phyu School of Law, IPEMTU Degree College, STC Technological
University, IQY Technical College**

[Master of Engineering Legal Practice \(7766554\).](#)

[Master of Law \(Medico Legal Studies\)\(7766555\).](#)

[Diploma in Human Rights](#)

[Bachelor of Arts \(Politics and Human Rights\)\(465557\).](#)

HAND BOOKS

[IQY Milestones and recognitions](#)

Bachelor of Law (BL) for Paralegal Professionals

Bachelor of Law (BL) Course outline of IQY Degree College

IQY ဒီဂရီကောလိပ်၏ဥပဒေဘွဲ့ (BL) သင်တန်း

ယခင်ကရှိခဲ့ဘူးသော BA.BL စသည့်ဘွဲ့များတွင် BL ဘွဲ့ကိုမြန်မာတက္ကသိုလ်ဥပဒေသင်ရိုးကိုထဲသွင်းကာ IQY ဒီဂရီကောလိပ်၏ဥပဒေဘွဲ့ (BL) သင်တန်းကို STC Technological University - Faculty of Law ၏နိုင်ငံတကာဥပဒေသင်တန်းအကြံဉာဏ်များရယူကာ The Society of Professional Executive ၏ Representative Lawyer (RL) ကိုရရှိရန်စီစဉ်ထားသည်။

ဤသင်တန်းပြီးဆုံးပြီးနောက်ဘွဲ့ရများသည် Para-legal ၏လုပ်ငန်းများကိုလုပ်ဆောင်နိုင်သည်။ ။

Paralegals သည်ရှေ့နေရဲလက်ထောက်အဖြစ်စဉ်းစားနိုင်ပါသည်။ ။

၎င်းတို့သည်ဥပဒေများနှင့်အမှုများကိုသုတေသနပြုခြင်းမှသည်တရား ဝ င်စာရွက်စာတမ်းများရေးဆွဲခြင်းနှင့်တရားရုံးတွင်အသုံးပြုရန်သက်သေအထောက်အထားများစုဆောင်းခြင်းအထိအရာရာကိုလုပ်ဆောင်သည်။ ၎င်းတို့သည်ရှေ့နေများအားအစီရင်ခံစာများရေးသားခြင်း၊

သက်သေခံပစ္စည်းများကိုပြသခြင်းနှင့်ဆန့်ကျင်သောရှေ့နေနှင့်အယူခံတင်ခြင်းများအားဖြင့်ရုံးတင်စစ်ဆေးခြင်းအတွက်အဆင်သင့်ဖြစ်စေရန်ကူညီသည်။

အမှုကိစ္စများကိုကျယ်ကျယ်ပြန့်ပြန့်လုပ်ဆောင်နေသောကြောင့်တရားသူကြီးများသည်တရားသူကြီးများအနေဖြင့် ဝ န်ဆောင်မှုခံယူသူများကိုငွေပေးချေနိုင်သည်။

သင်တန်းသည်အောက်ပါအရည်အချင်းများကိုထောက်ပံ့ပေးသည်။

၁။ တရားဝင်ကူးယူခြင်း၊

၂။ စာရွက်စာတမ်းစီမံခန့်ခွဲမှု၊

၃။ ငွေစုစာရင်းစီမံခန့်ခွဲမှု၊

၄။ တရားဝင်ငွေတောင်းခံ ခြင်း၊

၅။ ဥပဒေရေးရာ ပြဌာန်းသည့်ဥပဒေကိုအမှုအတွက်သတ်မှတ်ခြင်း၊

၆။ နယ်ပယ်နှင့်တရားရုံးအစီရင်ခံခြင်းဝန်ဆောင်မှုများပြုခြင်း၊

၇။ တရားဝင်ဘာသာပြန်ခြင်း ၊

၈။ ကိန်းဂဏန်းထည့်သွင်းဝန်ဆောင်မှုပြုခြင်း၊

၉။ အတွင်းရေးမှူးနှင့်ဥပဒေအထောက်အကူပြုစီးပွားရေးလုပ်ငန်းစဉ်ဝန်ဆောင်မှုများပေးခြင်း

၁၀။ အီလက်ထရောနစ်ဖိုင်တွဲခြင်း၊

After having completed this course, the graduates can do the tasks of Para-legal

Paralegals can be thought of as lawyer's assistants; they do everything from conducting research on laws and cases to drafting legal documents and compiling evidence to be used in court. They help lawyers get ready for trial by writing reports, demonstrating exhibits and filing appeals with the opposing counsel. Because of their extensive work on cases, paralegals are able to bill clients for their work, whereas legal assistants cannot.

The training provides the following competencies

1. Legal Transcription
2. Document management
3. Deposition summary
4. Legal billing
5. Legal coding
6. Scoping and court reporting services
7. Legal Translation

8. Data entry service
9. Secretarial and paralegal business process services
10. E-filing service

List of Subjects

Year 1

Each 2 credits x 8=16 Credits

- BL101 Myanmar Penal Code
- BL102 Defending the law case
- BL103 Criminal Procedure
- BL104 Anti Corruption Law
- BL105 Telecommunications Law
- BL106 Myanmar Civil Servant Code
- BL107 Public safety & Law

- BL108 Freedom of Judges and Lawyers

Year 2

Each 2 credits x 8=16 Credits

- BL201 Urban Safety
- L202 Industry Law
- BL203 Leave and Holiday Law
- BL204 Employment Contract
- BL204 Human Rights
- BL205 Payment Law
- BL206 Dispute Settlement Law
- BL207 Shop and Office Place Law
- BL208 Social Security Rule

Year 3

Each 3 credits x 8=24 Credits

BL301 Community & Healthcare Law

BL302 Citizenship Duty and Responsibility

BL303 Disaster Protection Community Approach

BL304 Welfare Tasks

BL305 Ethics

BL306 Human Trafficking Protection

BL307 Humanity Work and Protection of Violence

BL308 Police Studies

TOTAL 60 Credits

Diploma in Law Holders can join the course at Year 4 and they can do self studies in Year 1 to 3 Subjects

ဥပဒေဒီပလိုမာရထားသူများသည် Year

4 တွင်တက်ရောက်နိုင်ပြီးပထမနှစ်မှ တတိယနှစ်ဘာသာရပ်များတွင်ကိုယ်ပိုင်လေ့လာနိုင်သည်။

Year 4

Each 2 credits x 12=24 Credits

BL401 Insurance Law

BL402 Constitution 2008

BL403 Civil Litigation

BL403module_9

BL404A Customs Law

BL404B Export Import System

BL404B Rate of Customs Duties

BL405 Myanmar Revenue Law

BL406 Negotiation Act

BL407A Business Law

BL407A Business Law Part1 Competition Law
BL407B Business Law Part2 Consumer Protection Law
BL407C Competition Rules
BL408 Myanmar Human Rights Law
BL409 Equity and Trust
BL410 Administrative Law
BL411 Public Governance Law
BL412Evidence Law

Year 5

Each 3 credits x 12=36Credits

BL501 Civil Litigation Procedure
BL502 Constitutions of ASEAN
BL503 Comparative Law
BL504 Criminology
BL505 Intellectual Property Law
BL506 Land Law
BL506 Land Law of Myanmar
BL506 Land usage Permission Certificate
BL507 International Environment Law
BL508 Law of Tort
BL509 Military Law
BL510 Myanmar Maritime Law
BL510 Myanmar Ocean Law
BL510 UN Ocean Law
BL511 Law of Commercial Arbitration
BAE512LawOfInternationalInstitutions

TOTAL 60 Credits

DEGREE= 120 Credits

Bachelor of Policing

6 credits/unit x 20 units = 120 credits

Year 1

POL101 The Individual in Society

POL102 Introduction to Criminal Justice

POL103 Mental Health in the Community

POL104 People, Place and Social Difference

POL105 Crime, Deviance and Society

POL106 Policing Practices

Year 2

POL201 Investigating and Communicating Social Problems

POL202 Youth Justice and Practice

POL203 Legislation, Courts and Policing

POL204 Criminal Law for Policing

POL205 Ethics in the Social Sciences

POL206 Evidence and Investigation

POL207 Crime Prevention and Drugs

Year 3

POL301 Governance in Policing

POL302 Applied Social Research

POL303 Gender, Crime and Violence

POL304 Evidence and Crime Scene Management

POL305 Policing Leadership

POL306 Contemporary Social Issues and Professional Practice

POL307 Creating Criminal Justice Solutions



Phoe Phyu School of Law

Curriculum for Master of Law (LL.M)

LL.M in International Trade Law

Core Modules

1. Law of the World Trade Organization and Human Rights Instruments(LLM713)
2. International Competition and Consumer Rights Law(LLM715)
3. International Commercial Dispute Resolution and Litigation(LLM717)
4. International Sale of Goods(LLM722)
5. International Carriage of Goods (LLM712)
6. Legal Research Skill and Methods, and Dissertation (MAE602)

Optional Modules

1. Technology and Cyber Law (LLM718)
2. Intellectual Property Law(LLM719)
3. Private International Law(LLM730)

LL.M in International Commercial Law

Core Module

1. Foundation of International Commercial Law and Human Rights Instruments (LLM715)
2. International Competition and Consumer Rights Law(LLM720)
3. International Commercial Dispute Resolution and Litigation(LLM717)
4. Principles of International Commercial Contracts(LLM721)
5. International Commercial Payments(LLM722)
6. Legal Research Skill and Methods, and Dissertation (MAE602)

Optional Modules

1. Technology and Cyber LawLaw (LLM718)
2. Intellectual Property Law(LLM719)
3. Private International Law(LLM730)



Phoe Phyu School of Law

LL.M in International Business Law

Core Module

1. Foundation of International Investment Law and Human Rights Instruments (LLM715)
2. International Competition and Consumer Rights Law (LLM720)
3. International Commercial Dispute Resolution and Litigation (LLM717)
4. Principles of International Commercial Contracts and Payments (LLM722)
5. Comparative Company Laws and Corporate Governance (LLM724)
6. Legal Research Skill and Methods, and Dissertation (MAE602)

Optional Modules

1. Technology and Cyber Law (LLM718)
2. Intellectual Property Law (LLM719)
3. Private International Law (LLM730)

LL.M in Real Estate Law and Human Rights Legal Practice

Core Module

1. Principles of Real Estate Law and Human Rights Instruments (LLM733)
2. Civil Laws and Civil Procedure Law (LLM730)
3. Lower & Upper Burma Land and Revenue Law (LLM735MY)
4. Town & Village Land Law and Farm Land & Virgin Land Law (LLM736MY)
5. Principles of Law of Acquisitions (LLM737MY)
6. Legal Research Skill and Methods, and Dissertation (MAE602)

Optional Modules

1. Technology and Cyber Law (LLM718)
2. Business Law (LLM719)
3. Private International Law (LLM730)



Phoe Phyu School of Law

LL.M in Strategic litigation Management and Court Practice

Core Module

1. Principles of Legal Professional Responsibilities and Human Rights Instruments(LLM732)
2. Civil Laws and Civil Procedure Law(LLM730)
3. Criminal Laws and Criminal Procedure Law (LLM738MY)
4. Principles of Law of Torts (LLM739MY)
5. Principles of Law of Evidence (LLM740MY)
6. Legal Research Skill and Methods, and Dissertation (MAE602)

Optional Modules

1. Technology and Cyber Law (LLM718)
2. Business Law (LLM719)
3. Private International Law(LLM730)

နိုင်ငံတကာအသိအမှတ်ပြုဥပဒေမဟာဘွဲ့နှင့်မဟာဒီပလိုမာတို့ကိုဖိုးဖြူဥပဒေကျောင်းမှအောက်ပါတက္ကသိုလ်များနှင့်ပူးတွဲချီးမြှင့်မည်။

တက္ကသိုလ်များနှင့်ပူးတွဲချီးမြှင့်မည်။

(၁) IQY နည်းပညာကောလိပ်

(ဩစတြေးလျအစိုးရ၏ဩစတြေးလျလုံခြုံရေးနှင့်ရင်းနှီးမြှုပ်နှံမှုကော်မရှင်တွင်မှတ်ပုံတင်ထားပါသည်)

(၂) အသင်း ၀ န်အပြည်ပြည်ဆိုင်ရာဥပဒေကျောင်းများအသင်း

(ကမ္ဘာ့တက္ကသိုလ်များနှင့်ဥပဒေကျောင်းများအတွက်အကြီးမားဆုံးပရော်ဖက်ရှင်နယ်အသင်း)

(၃) STC နည်းပညာတက္ကသိုလ်

(အပြည်ပြည်ဆိုင်ရာပညာရှင်အင်ဂျင်နီယာများအသင်းမှအသိအမှတ်ပြုပြီး၊ British West Indies တွင်မှတ်ပုံတင်ထားပါသည်)



Phoe Phyu School of Law

(၄) မြန်မာနိုင်ငံ၏ကျွမ်းကျင်သောအင်ဂျင်နီယာများအသင်း (သြစတြေးလျ NSW အစိုးရပရော်ဖက်ရှင်နယ်အသင်းအဖြစ်မှတ်ပုံတင်ထားသည်၊ အပြည်ပြည်ဆိုင်ရာအင်ဂျင်နီယာပညာရေးအသင်းချုပ်တွင်အသင်း ဝင်ဖြစ်သည်)

•ထို့အပြင်၊ နောက်ထပ် LLM ဘွဲ့ကိုလည်း AAHEA

(အမေရိကန်အဆင့်မြင့်ပညာရေးအသိအမှတ်ပြုဆိုင်ရာအမေရိကန်အသင်း)

မှအသိအမှတ်ပြုထားသောစိန့်ကလီမန်တက်ကောလိပ်မှ SCPU စီးပွားရေးကျောင်းမှလည်းချီးမြှင့်မည်။

Internationally Recognized Law Masters degree and Master Diploma will be conferred by Phye Phye School of Law as a joint award by the following universities

- (1) IQY Technical College (Registered with Australian Security and Investment Commission of Australian Government)
 - (2) Member School of International Association of Law Schools (The Largest Professional Association for Law Universities and Law Schools of the World.)
 - (3) STC Technological University (Accredited by The Society of Professional Engineers International and Registered in British West Indies)
 - (4) The Institution of Professional Engineers Myanmar (Registered as Incorporated Professional Association with NSW Government of Australia and Member of International Federation of Engineering Education Societies)
- In addition, another LLM degree will also be awarded by SCPU School of Business of St Clements University accredited by AAHEA (American Association for Higher Education Accreditation)



Phoe Phyu School of Law

Diploma in Human Rights

12 Units x 5 Credits per unit= 60 Credits

HR 101 Ethics

HR 102 Freedom of Judges and Lawyers

HR103 Human Trafficking

HR104 Humanity Work/ Protection of Violence

HR105 Legal Defence

HR106 Equal Employment Right

HR 201 Human Right

HR 202 Social Security Rule

HR 203 Worker Compensation

HR 204 Citizenship Duty and Responsibility

HR 205 Freedom of Judges and Lawyers

HR 206 Myanmar Defender Manual Burmese

Bachelor of Arts (Politics and Human Rights)

<http://www.highlightcomputer.com/Form245BAHumanrightsPloitics.htm>

BA (Politics and Human Rights) can be awarded by two ways

- Academic Study
- Political Practice and Human Rights Practice

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BA (Politics and Human Rights) ကိုနည်းနှစ်နည်းဖြင့်ချီးမြှင့်သည်

- ပညာရေးဆိုင်ရာလေ့လာမှု
- နိုင်ငံရေးအလေ့အကျင့်နှင့်လူ့အခွင့်အရေးအလေ့အကျင့်

Zawgyi One

BA (Politics and Human Rights) ကိုနည်းနှစ်နည်းဖြင့်ချီးမြှင့်သည်

- ပညာရေးဆိုင်ရာလေ့လာမှု
- နိုင်ငံရေးအလေ့အကျင့်နှင့်လူ့အခွင့်အရေးအလေ့အကျင့်

Academic Study Path Way

Part 1

Diploma in Politics and Human Rights

Academic study in

Form 312 Diploma in Human Rights (60 Credits)

Part 2

Bachelor of Arts (Politics and Human Rights)

Some subjects or study materials from the following courses will be taken out and provided by the tutor by discussing with the candidate.

- Form 342 Bachelor of Arts (General Arts)
- Form 343 Bachelor of Arts (Myanmar)
- Form 317 Representative Lawyer (RL) LLM Course
- Form 318 Bachelor of Law (BL) Para legal Course

-

Political Practice Path Way

Diploma in Politics and Human Rights AND Bachelor of Arts (Politics and Human Rights) can be conferred by the Academic Board of The Faculty of Law of IQY Technical College and IQY Degree College by consultation with politicians and Human Rights Lawyers based on the following aspects.

- Political Knowledge
- Formal or Informal Political Study
- Political Belief
- Political Stand for the people, justice, truth and fairness
- Political Publications (Formal OR Informal)

Formal—Publication in published books, journal

Informal-Publication of Handouts OR Social Media

- Sacrifice for political stand for the people, justice, truth and fairness
- Depending on the amount of assessed political practice and previous educational qualifications, Diploma in Politics and Human Rights AND Bachelor of Arts (Politics and Human Rights) can be conferred.

Academic Board of The Faculty of Law of IQY Technical College and IQY Degree College announces that Diploma in Politics and Human Rights AND Bachelor of Arts (Politics and Human Rights) can be regarded as Academic Award or Honorary Award based on the pathway followed.

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ပညာရေးဆိုင်ရာ Path Way.

အောက်ဖော်ပြပါသင်တန်းများမှဘာသာရပ်များသို့မဟုတ်သင်ကြားမှုဆိုင်ရာများကို သင်တန်းသားနှင့်ဆွေးနွေးခြင်းအားဖြင့်နည်းပြဆရာမှထုတ်ပေးမည်။

- Form 342 ဝိဇ္ဇာဘွဲ့ (အထွေထွေဝိဇ္ဇာပညာ)
- Form 343 Arts of Bachelor (Myanmar)
- Form 317 ကိုယ်စားလှယ်ရှေ့နေ (RL) LLM သင်တန်း
- Form 318 of Law of Bachelor (BL) Para ဥပဒေသင်တန်း

နိုင်ငံရေးအလေ့အကျင့် Path Way.

နိုင်ငံရေး၊

- နိုင်ငံရေးအသိပညာ

- တရားဝင်သို့မဟုတ်အလွတ်သဘောနိုင်ငံရေးလေ့လာမှု
- နိုင်ငံရေးယုံကြည်ချက်
- ပြည်သူလူထု၏နိုင်ငံရေးရပ်တည်ချက်၊ တရားမျှတမှု၊ အမှန်တရားနှင့်တရားမျှတမှု
- နိုင်ငံရေးပုံနှိပ်ထုတ်ဝေခြင်း (တရားဝင်သို့မဟုတ်အလွတ်သဘော)
- တရားဝင် - ပုံနှိပ်ထုတ်ဝေသောစာအုပ်များ၊ ဂျာနယ်များတွင်ထုတ်ဝေခြင်း
- လက်ကမ်းစာစောင်များ (သို့) လူမှုမီဒီယာများအားအလွတ်သဘောထုတ်ဝေခြင်း
- ပြည်သူလူထုအတွက်နိုင်ငံရေးရပ်တည်ချက်၊ တရားမျှတမှု၊ အမှန်တရားနှင့်တရားမျှတမှု အတွက်အနစ်နာခြင်း
- အကဲဖြတ်သည့်နိုင်ငံရေးအလေ့အကျင့်နှင့်ယခင်ပညာရေးအရည်အချင်းများပေါ်မူတည်၍ နိုင်ငံရေးနှင့်လူ့အခွင့်အရေးဒီပလိုမာနှင့် ဝိဇ္ဇာဘွဲ့ (နိုင်ငံရေးနှင့်လူ့အခွင့်အရေး) ကိုအပ်နှင်းနိုင်သည်။

IQY နည်းပညာကောလိပ်၏ဥပဒေပညာရေးဌာနဘုတ်အဖွဲ့နှင့် IQY ဒီဂရီကောလိပ်မှ နိုင်ငံရေးနှင့်လူ့အခွင့်အရေးဒီပလိုမာနှင့် ဝိဇ္ဇာဘွဲ့ (နိုင်ငံရေးနှင့်လူ့အခွင့်အရေး) ကိုပညာရေးဆိုင်ရာ ဘွဲ့သို့မဟုတ်ဂုဏ်ပြုချီးမြှင့်သည့် ဘွဲ့အဖြစ်မှတ်ယူနိုင်သည်ဟုကြေငြာသည်။

Zawgyi One

ပညာရေးဆိုဉာ Path Way

ေအာကုေဟုပပါသန္တနးမ်းမ္ဘာသာရပ္ပာသိုမဟုတ္တန္တကားမးဆိုဉာမ်းကို သန္တနးးသားုတ္တုေဆြးေုြးုုခုးအားုဖုတ္တုးုုပဆရာမ္မထုတုေပးမည့။

- Form 342 ဝိဇ္ဇာတြိတ (အေကြေထြဝိဇ္ဇာပညာ)
- Form 343 Arts of Bachelor (Myanmar)
- Form 317 ကိုယွားလွယုေရ္စေန (RL) LLM သန္တနးး
- Form 318 of Law of Bachelor (BL) Para ဥပဒေသန္တနးး

နိုင်ငံရေးအလွတ်အကဲငု Path Way

နိုင်ငံရေး၊

- နိုင်ငံရေးအသိပညာ
- တရားဝင်သို့မဟုတ်အလွတ်သဘောနိုင်ငံရေးလေ့လာမှု

• နိုင်ငံရေးယုံနာကညွှန်ကု

• ပျပညျလူထု၏နိုင်ငံရေးရပွည့်ကု၊ တရားမဗွတမ၊ အမန္တရားဝုငွတရားမဗွတမ၊

• နိုင်ငံရေးပံ့ပို့ပွတုေဝျခင်း (တရားဝုညျ/မဟုတ္တုလြေွေဘာ)

တရားဝု - ပံ့ပို့ပွတုေဝေသာစာအုပွား၊ ကနယွားတြေွတုေဝျခင်း

လက္ကမားစာစာဌား (သို/၊) လူမးမီဒီယာမားအားအုလြေွေဘာထုတုေဝျခင်း

• ပျပညျလူထုအုတြကိိုင်ငံရေးရပွည့်ကု၊ တရားမဗွတမ၊ အမန္တရားဝုငွတရားမဗွတမ၊အုတြကွနုစွာပျခင်း

• အကဲပျဖတ္တညျိုင်ငံရေးအလုအကံင်းဝုငွခညျာေရးအရညျခင်းမားေပု မုတညျရ် နိုင်ငံရေးဝုငွလျ/အုခြငွေွရးဒီပလိုမားဝုငွ ဝိဇာ်တြဉ် (နိုင်ငံရေးဝုငွလျ/အုခြငွေွရး) ကိုအပုးဝုင်းနိုင်ညျ။

IQY နညျးပညာေကာလိပု၏ဥပေဒပညာေရးဌာနဘုတ္တုဖြဉ်းဝုငွ IQY ဒီဂရီေကာလိပွ နိုင်ငံရေးဝုငွလျ/အုခြငွေွရးဒီပလိုမားဝုငွ ဝိဇာ်တြဉ် (နိုင်ငံရေးဝုငွလျ/အုခြငွေွရး) ကိုပညာေရးဆုဉ်တြဉ် သို/မဟုတုဏုပုဝိခးပျမးညျတြဉ် အုဖစ္စတ္တုနိုင်ညျေွေကုတသညျ။

Form 310

Diploma in Legal Studies and Administration (2133456)

Objective of the course

When facing the legal cases, many people will not know how to systematically present their cases to the court. Although lawyers are hired, lawyer can only do the legal judgement on the information provided by the client.

The ethics of lawyer prohibits them to construct the case.

In many circumstances, the clients need the assistance provided by someone who can share their feelings , provide the assistance to them in construction of the case and provide the support to present the case to the lawyers and the court.

Diploma in Legal Studies and Administration, Advanced Diploma in Legal Studies and Administration and Bachelor of Business Administration (Legal System) are the courses designed for Para-Legal Professional to provide effective supports to the clients, effective support for the lawyers, legal administration and law office administration.

The courses are not designed for becoming a Licensed Lawyer. But they are designed for Legal Support, Para-Legal , Law Office Support and Legal Business Management.

Course Outline

The students can firstly attend Diploma in Legal Studies and Administration then continue to study Advanced Diploma in Legal Studies and Administration.

Unicode

တရားရေးအမှုများနှင့်ရင်ဆိုင်ရသောအခါလူအများတို့သည်သူတို့၏အမှုများကိုတရားရုံးသို့မည်သို့စနစ်တကျတင်ဆက်ရမည်ကိုမသိရှိကြပါ။

ရှေ့နေများကိုငှားရမ်းထားသော်လည်းရှေ့နေသည်အမှုသည်မှပေးသောသတင်းအချက်အလက်များကိုသာတရားဥပဒေနှင့်အကြိုင်းဝင်မဝင်သုံးသပ်နိုင်သည်။

ရှေ့နေ၏ကျင့်ဝတ်သည်အမှုတည်ဆောက်ရန်တားမြစ်သည်။

အခြေအနေများစွာတွင်အမှုသည်များသည်သူတို့၏ခံစားချက်များကိုဝေမျှနိုင်သူ၊

အမှုတည်ဆောက်ခြင်းတွင်အကူအညီ ပေး၍ အမှုလိုက်ရှေ့နေများနှင့်

တရားရုံးသို့တင်ပြရန်ကူညီသူတစ် ဦး ဦး ထံမှပေးသောအကူအညီလိုအပ်သည်။

ဥပဒေရေးရာလေ့လာမှုနှင့်စီမံခန့်ခွဲမှုဒီပလိုမာ၊ဥပဒေရေးရာလေ့လာရေးနှင့်စီမံခန့်ခွဲမှုဒီပလိုမာနှင့်စီးပွားရေးစီမံခန့်ခွဲမှုဘွဲ့ (ဥပဒေစနစ်) သည်အမှုသည်များအားထိရောက်သောအထောက်အပံ့များ၊ ရှေ့နေများ၊ ဥပဒေရေးရာအုပ်ချုပ်ရေးနှင့်ဥပဒေများအတွက်ထိရောက်သောပံ့ပိုးမှုများပေးရန် Para-Legal Professional အတွက်ရည်ရွယ်သည့်သင်တန်းများဖြစ်သည်။ ရုံးအုပ်ချုပ်ရေး။ လိုင်စင်ရရှေ့နေတစ်ယောက်ဖြစ်လာရန်ရည်ရွယ်ထားခြင်းမဟုတ်ပါ။ သို့သော်၎င်းတို့သည် Legal Support၊ Para-Legal၊ ဥပဒေရုံးအထောက်အပံ့နှင့်ဥပဒေရေးရာ စီးပွားရေးစီမံခန့်ခွဲမှုအတွက် ရည်ရွယ်သည်။

သင်တန်းအစီအစဉ်

ကျောင်းသားများသည်ပထမ ဦး ဆုံးဥပဒေရေးရာနှင့်အုပ်ချုပ်ရေးဒီပလိုမာသို့တက်ရောက်နိုင်ပြီး၊ နောက်မှဥပဒေသင်ကြားမှုနှင့်အုပ်ချုပ်ရေးတွင်အဆင့်မြင့်ဒီပလိုမာကိုဆက်လက်လေ့လာနိုင်သည်။

ချီးမြှင့်မည့်လက်မှတ်

ဩစတြေးလျတွင်စီးပွားရေးနာမည်မှတ်ပုံတင်ထားပြီး၊နိုင်ငံတကာဥပဒေဥပဒေကျောင်းများ၏ အသင်းဝင်ဖြစ်သော IQY Technical College မှဥပဒေရေးရာနှင့်အုပ်ချုပ်ရေးဒီပလိုမာ၊ IQY နည်းပညာကောလိပ်မှအဆင့်မြင့်ဥပဒေဒီပလိုမာကိုချီးမြှင့်မည်။ ဥပဒေအသေးစိတ်လေ့လာလိုသူများအတွက်ဖိုးဖြူဥပဒေကျောင်းသို့ရည်ညွှန်းလိမ့်မည်။

Diploma in Legal Studies and Administration

List of Subjects

- LA101 Myanmar Penal Code
- LS102 Myanmar Code Criminal Procedure
- LS201A Defending in lawsuit
- Ls201B Jurisprudence
- LS202 Anti Corruption Law
- LS203 Telecommunications Law
- LS204 Defamation International Standards
- Mgt 101 Management

Advanced Diploma in Legal Studies and Administration

List of Subjects

LS301 Public Safety Law

- LS 301 A Civil Servant Code
- L:S301B Community Security
- LS301C Ethics
- LS301D Freedom of Judges and Lawyers
- LS301E Human Trafficking
- LS301F Humanity Work/ Protection of Violence
- LS301G Legal Defence
- LS301H Policing
- LS301I Safety in Education
- LS301J Safety Protection Training
- LS301K School Security
- LS301L Urban Safety
- LS301M Working at Company
- Mgt 201 Customer Service Management
- Mgt 205 Office Management
- Mgt 213 Conflict Management

LS302 Industry Law

- LS302A Leave and Holiday Law
- LS302B Employment Contract
- LS302C Equal Employment Right
- LS302D Factory Work
- LS302E Factory Act
- LS302F Code of Conduct
- LS302G Human Right

- LS302H Environmental Assessment
- LS302I Payment Law
- LS302J Dispute Settlement Law
- LS302K Shop and Office Place Law
- LS302L Shop Establishment
- LS302M Social Security Rule
- LS302N Worker Compensation
- Mgt 201 Customer Service Management
- Mgt 205 Office Management
- Mgt 213 Conflict Management

LS303 Community & Health Care Law

- LS303A Aged Care
- LS303B Caring Protection and Support Training
- LS303C Citizenship Duty and Responsibility
- LS303D Disaster Protection Community Approach
- LS303E Community Lesson
- LS303F Domestic Service
- LS303G Disaster Protection
- LS303H Health Care of Moving People
- LS303I Homecare and Domestic Assistant
- LS303J Laboratory Rule
- LS303K Mental Health
- LS303L Hospital Safety
- LS303M Welfare Tasks
- Mgt 201 Customer Service Management
- Mgt 205 Office Management
- Mgt 213 Conflict Management

Form 311 Bachelor of Business Administration (Legal System)

Objective of the course

When facing the legal cases, many people will not know how to systematically present their cases to the court. Although lawyers are hired, lawyer can only do the legal judgement on the information provided by the client.

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In many circumstances, the clients need the assistance provided by someone who can share their feelings , provide the assistance to them in construction of the case and provide the support to present the case to the lawyers and the court.

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Course Outline

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Unicode

တရားရေးအမှုများနှင့်ရင်ဆိုင်ရသောအခါလူအများတို့သည်သူတို့၏အမှုများကိုတရားရုံးသို့မည်သို့စနစ်တကျတင်ဆက်ရမည်ကိုမသိရှိကြပါ။

ရှေ့နေများကိုငှားရမ်းထားသော်လည်းရှေ့နေသည်အမှုသည်မှပေးသောသတင်းအချက်အလက်များကိုသာတရားဥပဒေနှင့်အကြိုင်းဝင်မဝင်သုံးသပ်နိုင်သည်။

ရှေ့နေ၏ကျင့်ဝတ်သည်အမှုတည်ဆောက်ရန်တားမြစ်သည်။

အခြေအနေများစွာတွင်အမှုသည်များသည်သူတို့၏ခံစားချက်များကိုဝေမျှနိုင်သူ၊

အမှုတည်ဆောက်ခြင်းတွင်အကူအညီ ပေး၍ အမှုလိုက်ရှေ့နေများနှင့်

တရားရုံးသို့တင်ပြရန်ကူညီသူတစ် ဦး ဦး ထံမှပေးသောအကူအညီလိုအပ်သည်။

ဥပဒေရေးရာလေ့လာမှုနှင့်စီမံခန့်ခွဲမှုဒီပလိုမာ၊ဥပဒေရေးရာလေ့လာရေးနှင့်စီမံခန့်ခွဲမှုဒီပလိုမာနှင့်စီးပွားရေးစီမံခန့်ခွဲမှုဘွဲ့ (ဥပဒေစနစ်) သည်အမှုသည်များအားထိရောက်သောအထောက်အပံ့များ၊ ရှေ့နေများ၊ ဥပဒေရေးရာအုပ်ချုပ်ရေးနှင့်ဥပဒေများအတွက်ထိရောက်သောပံ့ပိုးမှုများပေးရန် Para-Legal Professional အတွက်ရည်ရွယ်သည့်သင်တန်းများဖြစ်သည်။ ရုံးအုပ်ချုပ်ရေး။ လိုင်စင်ရရှေ့နေတစ်ယောက်ဖြစ်လာရန်ရည်ရွယ်ထားခြင်းမဟုတ်ပါ။ သို့သော်၎င်းတို့သည် Legal Support၊ Para-Legal၊ ဥပဒေရုံးအထောက်အပံ့နှင့်ဥပဒေရေးရာ စီးပွားရေးစီမံခန့်ခွဲမှုအတွက် ရည်ရွယ်သည်။

သင်တန်းအစီအစဉ်

ကျောင်းသားများသည်ပထမ ဦး ဆုံးဥပဒေရေးရာနှင့်အုပ်ချုပ်ရေးဒီပလိုမာသို့တက်ရောက်နိုင်ပြီး၊ နောက်မှဥပဒေသင်ကြားမှုနှင့်အုပ်ချုပ်ရေးတွင်အဆင့်မြင့်ဒီပလိုမာ/ စီးပွားရေးစီမံခန့်ခွဲမှုဘွဲ့ (ဥပဒေစနစ်) ကိုဆက်လက်လေ့လာနိုင်သည်။

ချီးမြှင့်မည့်လက်မှတ်

ဩစတြေးလျတွင်စီးပွားရေးနာမည်မှတ်ပုံတင်ထားပြီး၊နိုင်ငံတကာဥပဒေဥပဒေကျောင်းများ၏ အသင်းဝင်ဖြစ်သော IQY Technical Collegeနှင့် ဩစတြေးလျတွင်စီးပွားရေးနာမည် မှတ်ပုံတင်ထားပြီး UNESCO/ILO အသိအမှတ်ပြု International Association for Education and Vocational Guidance အသင်းဝင်ဖြစ်သော IQY Degree Collegeမှ စီးပွားရေးစီမံခန့်ခွဲမှု ဘွဲ့ (ဥပဒေစနစ်) ချီးမြှင့်မည်။

ဥပဒေအသေးစိတ်လေ့လာလိုသူများအတွက်ဖိုးဖြူဥပဒေကျောင်းသို့ LLB/LLM တက်ရန် ရည် ညွှန် လိမ့်မည်။

Diploma in Legal Studies and Administration

List of Subjects

- ☐ LA101 Myanmar Penal Code
- ☐ LS102 Myanmar Code Criminal Procedure
- ☐ LS201A Defending in lawsuit ☐ LS201B Jurisprudence
- ☐ LS202 Anti Corruption Law

- ☐ LS203 Telecommunications Law
- ☐ LS204 Defamation International Standards
- ☐ Mgt 101 Management

Advanced Diploma in Legal Studies and Administration

List of Subjects

LS301 Public Safety Law

- ☐ LS 301 A Civil Servant Code
- ☐ L:S301B Community Security
- ☐ LS301C Ethics
- ☐ LS301D Freedom of Judges and Lawyers
- ☐ LS301E Human Trafficking
- ☐ LS301F Humanity Work/ Protection of Violence
- ☐ LS301G Legal Defence ☐ LS301H Policing
- ☐ LS301I Safety in Education
- ☐ LS301J Safety Protection Training
- ☐ LS301K School Security
- ☐ LS301L Urban Safety
- ☐ LS301M Working at Company
- ☐ Mgt 201 Customer Service Management
- ☐ Mgt 205 Office Management
- ☐ Mgt 213 Conflict Management

LS302 Industry Law

- ☐ LS302A Leave and Holiday Law
- ☐ LS302B Employment Contract
- ☐ LS302C Equal Employment Right
- ☐ LS302D Factory Work
- ☐ LS302E Factory Act
- ☐ LS302F Code of Conduct
- ☐ LS302G Human Right
- ☐ LS302H Environmental Assessment
- ☐ LS302I Payment Law
- ☐ LS302J Dispute Settlement Law
- ☐ LS302K Shop and Office Place Law
- ☐ LS302L Shop Establishment
- ☐ LS302M Social Security Rule
- ☐ LS302N Worker Compensation
- ☐ Mgt 201 Customer Service Management
- ☐ Mgt 205 Office Management
- ☐ Mgt 213 Conflict Management

LS303 Community & Health Care Law

- ☐ LS303A Aged Care
- ☐ LS303B Caring Protection and Support Training

- ☐ LS303C Citizenship Duty and Responsibility
- ☐ LS303D Disaster Protection Community Approach
- ☐ LS303E Community Lesson
- ☐ LS303F Domestic Service
- ☐ LS303G Disaster Protection
- ☐ LS303H Health Care of Moving People
- ☐ LS303I Homecare and Domestic Assistant
- ☐ LS303J Laboratory Rule
- ☐ LS303K Mental Health
- ☐ LS303L Hospital Safety
- ☐ LS303M Welfare Tasks
- ☐ Mgt 201 Customer Service Management
- ☐ Mgt 205 Office Management
- ☐ Mgt 213 Conflict Management

☐ WS3001Management for Bachelors Degree

Advanced Legal Studies

- ☐ LLB630 Civil Litigation Practice
- ☐LLB634 General Law Practice

Program Outline

Teaching of the postgraduate law degree by applying **online** and **campus** instruction learning processes .

Pre-requisite

- LLB Degree OR Degree and HGP
- Any graduate who wants to learn the Law without qualifying to practise as a Lawyer.

1. Executive LL.M in Human Rights Legal Practice/ Master Diploma of Law in Humanright

6 Subjects, Each 20 Credits Total 120 Credits

LLB 120 Credits= Total 240 Credits

LLM701 POSTGRADUATE LEGAL SKILLS

This module is compulsory for all taught Law Masters Programmes and is taught in the first semester. The aim of this module is to assist students in developing a number of core legal study skills needed during the LLM year (and thereafter). The module will commence with an Induction Day followed by seminars on subjects such as identifying and understanding sources of law, using electronic research resources, the role of private international and comparative law in international commercial law. Later in the semester there are seminars on plagiarism (how to avoid it and proper citation of sources), and writing and presentation skills.

LLM702 Securing human rights in development and conflict

In this module, the concepts explored in Securing Human Rights are used to review strategies employed by actors to secure human rights in the context of development and conflict situations, broadly understood.

Topics covered

Section A - Securing Human Rights in Development

- Human rights-based approaches to development
- How international development agencies work on human rights issues
- The particular challenges of protecting women's human rights in development
- The responsibilities of businesses in human rights protection
- The practice of securing human rights through domestic level capacity building and litigation on poverty-related issues.

Section B - Securing Human Rights in Conflict

- Issues facing human rights officers in field operations
- Safeguarding human rights defenders living in (or targets of) conflict
- The needs of refugees and IDPs
- Page 2 • The particular issues faced by women in conflict
- The difficulties of securing human rights in the transition to peace.

Learning outcomes

This module reflects on and builds skills for human rights practice and includes contributions from human rights practitioners, who will engage directly with the students in periodic online seminars and via videos.

Assessment

This module is assessed by one item of coursework (70% of the overall grade), and three E-tivities (30%).

LLM703 Topics in international human rights law

This module aims to develop a more advanced legal understanding around a broad range of crucially important aspects of human rights principles and practice.

Topics covered

Section A - Securing Social Justice through Human Rights Law

- explores how international law engages with key questions of social justice that go to the very heart of the discipline
- the principle of equality to economic, social and cultural rights
- the human rights of women
- business and human rights

Section B – Securing Human Rights during Armed Conflict

- How law seeks to protect human dignity during armed conflict and other public emergencies

- An introduction to International Humanitarian Law international law on refugees and internally displaced persons.

Assessment

Page | 3 This module is assessed by one item of coursework (70% of the overall grade), and three E-tivities (30%).

LLM704 Researching human rights: social science research methods

This module will introduce students to the theories and methods of qualitative social sciences research and how they can be applied to the study of human rights.

Topics covered

- Students will reflect on the theoretical context, key concepts and tools of social sciences research in order to articulate a critical perspective on human rights
- Students will learn how to identify a range of ethical issues and how to overcome them, understand how qualitative data is collected, analysed, interpreted, appreciate how quantitative and qualitative methods can be combined in interdisciplinary human rights research and articulate methodological steps for Human Rights Impact Assessments.

Learning outcomes

This module is particularly recommended for students interested to pursue further study at PhD level or to develop a career conducting human rights research.

Assessment This module is assessed by one item of coursework (70% of the overall grade), and three E-tivities (30%).

LLM705 Human rights and development

This module will equip students to understand the conceptual, legal and practice-based links of human rights with development. The module is

being taught by leading researchers in the field based at the Danish Institute for Human Rights.

Topics covered

- Page 4 why post-1945 human rights and development were forced apart and the gradual move back towards one another
- the human rights story in the context of decolonisation
 - the rise of international development aid
 - Sustainable Development Goals and to relevant programming tools
 - human rights indicators and the AAAQ (available, accessible, acceptable, and of good quality) framework.

Learning outcomes

This knowledge will be consolidated with an introduction to human rights-based approaches (HRBA) in development and their applicability, including the critical examination of the impact of applying HRBAs to development projects in different sectors.

Assessment

This module is assessed by one item of coursework (70% of the overall grade), and three E-tivities (30%).

LLM706 Indigenous peoples, minorities and human rights

This module will investigate key historical and contemporary human rights issues faced by indigenous peoples and ethnic, religious and linguistic minorities, that emanate from the relationship they have with the states in which they live, other communities and the international system.

Topics covered

- Colonial genocide and contemporary settler/indigenous relations
- Discrimination and accommodation of non-dominant ethnic, religious and linguistic minorities
- Struggles for equality and non-discrimination
- How indigenous peoples and minorities are protected by international human rights law
- Jurisprudence and the mechanisms for implementation.

Learning outcomes

The module will provide an opportunity to reflect how these rights have been constructed and framed, from the collective rights of indigenous peoples to the individual rights of 'persons belonging to minorities', and how they are protected and implemented in practice.

Assessment

This module is assessed by one item of coursework (70% of the overall grade), and three E-tivities (30%).

Self Studies

LLM707 Genocide, gross human rights violations and reconciliation

LLM708 Securing human rights in development and conflict

LLM709 Topics in international human rights law

LLM710 Researching human rights: social science research methods

LLM711 Human rights and development

2.Executive LL.M in International Trade Law/ Master Diploma of Law in International Trade Law

In **LLM701 POSTGRADUATE LEGAL SKILLS**, By adding the Human Rights Context and the subject **LLM701R POSTGRADUATE LEGAL SKILLS AND HUMAN RIGHTS**, to be delivered to award **LL.M in International Trade Law and Human Rights / Master Diploma of Law in International Trade Law and Human Rights**

6 Subjects, Each 20 Credits Total 120 Credits
LLB 120 Credits= Total 240 Credits

LLM701 POSTGRADUATE LEGAL SKILLS

This module is compulsory for all taught Law Masters Programmes and is taught in the first semester. The aim of this module is to assist students in developing a number of core legal study skills needed during the

LLM year (and thereafter). The module will commence with an Induction Day followed by seminars on subjects such as identifying and understanding sources of law, using electronic research resources, the role of private international and comparative law in international commercial law. Later in the semester there are seminars on plagiarism (how to avoid it and proper citation of sources), and writing and presentation skills.

LLM712 CARRIAGE OF GOODS BY SEA AND MARINE INSURANCE

This module will provide you with a comprehensive introduction to the law and business of the carriage of goods by sea and marine insurance and is key to the International Trade Law masters. It examines carriage documents and their interaction, the general principles of carriage of goods by sea, carriage contracts in the form of charter parties and those evidenced by bills of lading. The module also explores international attempts at harmonisation in the area of international carriage and examines the operation of international carriage regimes (conventions) such as The Hague, Hague-Visby Rules, the Hamburg Rules and the Rotterdam Rules. The module also looks at certain key issues in the law of marine insurance such as the formation of the contract of insurance, the insurable interest, the duty of utmost good faith, warranties, subrogation, contribution and the assignment of interests in an insured policy.

LLM713 LAW OF THE WTO

2. The World Trade Organisation (WTO) and the General Agreement on Tariffs and Trade (GATT), which it administers, are central to the international law of trade in goods and services. In studying this module, you will cover the legal rules and institutions of the WTO and the implementation of WTO obligations by members. You will pay particular attention to the institutions and governance of the WTO, its dispute settlement system, the principle of nondiscrimination in international trade under the GATT, and the ability of the WTO to cope with issues such as development, regionalism, and environmental protection. The module is particularly suitable for students taking the International Commercial Business Law and International Trade LLMS.

LLM714 COMMERCIALISATION OF INTELLECTUAL PROPERTY

This module is aimed at students who may have an interest in either Intellectual Property (IP) Law and/or Competition Law, as well as students more focused on Commercial Law. Students will be expected to have taken either or both Globalisation of IP or International Competition Law in the Autumn semester. If not, students will only be permitted to take the module with the consent of the module organiser. The relationship between intellectual property and competition law and policy is not only a very interesting and complex area of law, but also one of major importance to the commercial sector. Although both regimes protect innovation, their approaches and underlying principles are fundamentally different and need to be reconciled. Without a sound understanding of the interface between them, the rights holder runs the risk of infringing competition law by way of exploiting intellectual property rights. The module therefore focuses on the commercially most relevant intellectual property rights (patents, trademarks and copyrights). It provides the student with a sound understanding of the different intellectual property rights, the possible mechanisms of their commercialisation and the relevant restraints posed by competition law. The module critically assesses the most recent case law and decisional practice of the European Commission in the technology and pharmaceutical sectors (including the judgments in Microsoft and AstraZeneca, and the investigations against Samsung and Motorola) and discusses its impact on commercial practice.

LLM716 INTERNATIONAL COMMERCIAL ARBITRATION

International arbitration has become the established method of determining disputes between international commercial businesses, with new arbitral centres emerging and the law and practice of international commercial arbitration evolving rapidly. This module examines the legal theory and practice of international commercial arbitration. The module's focus is on understanding the nature and operation of the arbitral process in the context of international commercial relationships, as a means of resolving disputes that arise in international commercial transactions. In addition to providing an overview of the arbitral process, the module also focuses on key problems and issues that arise in arbitral practice, such as the interaction and application of the various relevant laws, and

the application and interpretation of the most important international legal instruments relevant to international commercial arbitration such as the New York Convention and the UNCITRAL Model Law. We also engage with national case law and undertake problem solving, and adopt a comparative approach.

LLM717 INTERNATIONAL COMMERCIAL LITIGATION

Page | 7

This module will provide an introduction to the issues which arise in the litigation of commercial disputes on an international basis. It will cover the treatment of jurisdiction and applicable law in commercial disputes by reference mainly to UK and European legal sources, and introduce some of the principal features of the common law legal systems (UK and USA), as they apply to commercial cases.

3.. Executive LL.M in International Commercial Law /Master Diploma of Law in International Commercial Law

In **LLM701 POSTGRADUATE LEGAL SKILLS**, By adding the Human Rights Context and the subject **LLM701R POSTGRADUATE LEGAL SKILLS AND HUMAN RIGHTS**, to be delivered to award **LL.M in International Commercial Law and Human Rights / Master Diploma of Law in International Commercial Law and Human Rights**

6 Subjects, Each 20 Credits Total 120 Credits

LLB 120 Credits= Total 240 Credits

LLM701 POSTGRADUATE LEGAL SKILLS

This module is compulsory for all taught Law Masters Programmes and is taught in the first semester. The aim of this module is to assist students in developing a number of core legal study skills needed during the LLM year (and thereafter). The module will commence with an Induction Day followed by seminars on subjects such as identifying and understanding sources of law, using electronic research resources, the role of private international and comparative law in international commercial law. Later in the semester there are seminars on plagiarism (how to avoid it and proper citation of sources), and writing and presentation skills.

LLM715 FOUNDATIONS OF INTERNATIONAL COMMERCIAL LAW

1. This 40 credit year-long module forms the grounding of (and is compulsory for) the International Commercial and Business Law and International Trade Law courses, and aims to introduce students to the essential foundational elements of international commercial law, not studied at undergraduate level. It aims to give students an understanding of what drives the law governing international commerce, the reasons for harmonisation of the law in the area, the institutions involved in the harmonisation process and the scope of that process. We examine the various ways in which harmonised instruments are created and the major problems and policy issues which have to be confronted. This module does not aim to teach the detailed substantive law relating to any specific aspect of international commercial law but instead seeks to provide an outline map that enables you to understand the scale and scope of transnational commercial law, while at the same time understanding how such law is developed and what and who drives its development. We will explore several areas of international commercial practice in the Spring semester in which attempts have been made to harmonise or codify the law in those areas. The process by which harmonisation / codification was attempted in each of these areas will be examined, as will some of the

substantive rules produced. We will conclude with an examination of what has caused some harmonisation efforts to be successful and others to fail and finally to consider ways in which the harmonisation process can be improved in general and the impact of regionalisation.

LLM716 INTERNATIONAL COMMERCIAL ARBITRATION

Page | 8

International arbitration has become the established method of determining disputes between international commercial businesses, with new arbitral centres emerging and the law and practice of international commercial arbitration evolving rapidly. This module examines the legal theory and practice of international commercial arbitration. The module's focus is on understanding the nature and operation of the arbitral process in the context of international commercial relationships, as a means of resolving disputes that arise in international commercial transactions. In addition to providing an overview of the arbitral process, the module also focuses on key problems and issues that arise in arbitral practice, such as the interaction and application of the various relevant laws, and the application and interpretation of the most important international legal instruments relevant to international commercial arbitration such as the New York Convention and the UNCITRAL Model Law. We also engage with national case law and undertake problem solving, and adopt a comparative approach.

LLM717 INTERNATIONAL COMMERCIAL LITIGATION

This module will provide an introduction to the issues which arise in the litigation of commercial disputes on an international basis. It will cover the treatment of jurisdiction and applicable law in commercial disputes by reference mainly to UK and European legal sources, and introduce some of the principal features of the common law legal systems (UK and USA), as they apply to commercial cases.

LLM718 CURRENT ISSUES IN INTELLECTUAL PROPERTY LAW

This module will provide you with an in-depth look at a number of current issues in intellectual property and information technology law. The relevant issues will change each year, but issues will be drawn from a wide variety of topics. You will have an opportunity to consider how intellectual property law is challenged by these current issues and to analyse its responses and proposed responses. You will be expected to have taken either Globalisation of Intellectual Property Law or Internet Law and Governance in the Autumn Semester, or have demonstrated knowledge in either area. For students not taking the ITIP LLM admission to the module will be at the discretion of the module organiser, and previous knowledge may be required. Classes will involve a mixture of group presentations and tutor-led class discussion, in a 50/50 time split. The class will be divided into groups, and each group will be asked to research and make a 15 minute presentation on one aspect of a defined topic or following a prescribed brief, relating to information technology and/or intellectual property. The presentations will be followed by feedback and further instruction from the module leader as necessary, and an open session for discussion.

LLM719 GLOBALISATION OF INTELLECTUAL PROPERTY LAW

You'll be provided with an introduction to intellectual property across the areas of trademarks, patents and copyright within the context globalisation and in light of the influence of new technologies. You'll be provided with an understanding of the pervasiveness and importance of IPRs in the modern day along with a theoretical knowledge and critical understanding of the legal principles and theory in relation to different IPRs. The geographical focus will be Global, with some more detailed consideration of UK, US and European law where appropriate.

3. Executive LL.M in International Business Law / Master Diploma of Law in International Business Law

In **LLM701 POSTGRADUATE LEGAL SKILLS**, By adding the Human Rights Context and the subject **LLM701R POSTGRADUATE LEGAL SKILLS AND HUMAN RIGHTS**, to be delivered to award **LL.M in International Business Law and Human Rights / Master Diploma of Law in International Business Law and Human Rights**

6 Subjects, Each 20 Credits Total 120 Credits
LLB 120 Credits= Total 240 Credits

LLM701 POSTGRADUATE LEGAL SKILLS

This module is compulsory for all taught Law Masters Programmes and is taught in the first semester. The aim of this module is to assist students in developing a number of core legal study skills needed during the LLM year (and thereafter). The module will commence with an Induction Day followed by seminars on subjects such as identifying and understanding sources of law, using electronic research resources, the role of private international and comparative law in international commercial law. Later in the semester there are seminars on plagiarism (how to avoid it and proper citation of sources), and writing and presentation skills.

LLM720 COMPARATIVE INTERNATIONAL SALES LAW

This module is key to the International Trade Law LLM and takes a critical and comparative look at the fundamental legal arrangements for the international sale of goods and the two competing international legal regimes, being the UN Convention on Contracts for the International Sale of Goods (CISG) and the English law on sale of goods (including the Sale of Goods Act 1979), all against the backdrop of international legal harmonisation. Today, international sales contracts are frequently governed by the CISG which is in force in more than 80 States from all parts of the world, among them both major industrial nations and developing states. It has been widely applied in international commercial transactions in the past thirty years with more than 3000 decisions by state courts and arbitral tribunals having been reported so far. It therefore seems fair to say that the CISG has in fact been one of the success stories in the field of the international unification of private law. Nevertheless, the United Kingdom, one of the oldest -and biggest- global trading nations, has not, yet, ratified the CISG. Also, in spite of the widespread adoption of the CISG, it remains the case that many international traders choose English law to govern their international sales contracts. We will examine select substantive provisions of these two "competing" legal regimes with a view to determine their essential differences and similarities. This examination may shed light on questions such as, why parties would choose English Sales Law rather than the CISG, and the implications of the "competition" between the two regimes for efforts aimed at the international harmonisation of law. Throughout the module, attention will be drawn to problems arising in international sales practice in order to develop an understanding of the commercial context in which the law of international sales operates.

LLM721 INTERNATIONAL INVESTMENT AND ARBITRATION LAW

Foreign direct investment refers to an investment made in a foreign jurisdiction to achieve a long term economic benefit. Almost 3000 treaties worldwide regulate foreign direct investment, and it is the interpretation of these treaties by arbitral tribunals, together with customary international law, which forms the basis of international investment law. This module examines the nature of international investment law and investor-State dispute resolution procedures, and looks at recent developments in the area. The module considers the policies underlying international investment law and how these impact upon the operation of international investment law in practice.

LLM722 LAW AND PRACTICE OF INTERNATIONAL COMMERCIAL PAYMENTS

With the growing volume of international trade worldwide, it is important to understand the methods by which international payments are made, and the involvement of banks and other third parties in these transactions. This module therefore examines the law and practice relating to the different payment methods and mechanisms that may be adopted by commercial parties to discharge the payment obligations of international buyers of goods and services. These include direct payment (through bank

platforms) by means of electronic funds transfer but the main focus of the module is on the most common terms of payment in international trade utilising the intervention of banks, that is, documentary collections and payment under documentary credits, with a detailed examination of the most recent version of the Uniform Customs and Practice for Documentary Credits (UCP 600). The module starts with a practical overview of the different payment mechanisms which are commonly used in international trade. These are analysed and compared, their fundamental characteristics identified and their advantages and disadvantages considered. We then go on to examine in detail the legal issues relating to documentary collections and payment under documentary credits. Though our main focus will be on English law, the importance of documentary collections and documentary credits to world trade has led to a need for international uniformity. Three texts of importance in this area are the Uniform Rules for Collections (URC 522), the Uniform Customs and Practice for Documentary Credits (UCP 600) and the Supplement to UCP 600 for Electronic Presentations (eUCP). These texts have been prepared by the International Chamber of Commerce (ICC) and govern various aspects of documentary collection and documentary credit practice. UCP 600 will be studied in detail. The module concludes with an examination of new payment methods such as the ICC's Bank Payment Obligations, and how electronic commerce has impacted on the use of documentary credits, and a review of current legal issues impacting international payment techniques.

You will discover the essentials of international trade law in your core, year-long Foundations of International Commercial Law module. Here you will gain an understanding of what drives the law governing international trade and commerce and, therefore, the reasons for harmonisation of the law in this area, the institutions involved in the harmonisation process, and the scope of that process. You will develop a firm understanding of international harmonisation efforts, discovering how this has resulted in a move away from national sovereignty and towards the reduction of legal differences. You will also develop an understanding of how international trade law subjects inter-relate as you will explore several areas in which attempts have been made to harmonise or codify the law, and consider how successful these efforts have been, and ways in which the process can be improved.

You will then have the chance to explore the specialist areas of international trade law that interest you most. You can choose from more than 15 optional modules including, for example, International Sales and Carriage Law, Law of the World Trade Organisation, International Commercial Arbitration and Litigation, and the Law of International Commercial Payment, International Banking and Finance, Globalisation of Intellectual Property Law, Information Technology Law, E-Commerce and Internet Law.

You will also take the compulsory non-credit bearing Postgraduate Legal Skills and Research module at the start of your course and write a dissertation on an area of specific interest to you during the summer months.

With the consent of the Course Director, you can also choose up to 40 credits from modules from other postgraduate courses offered by UEA, allowing you to personalise your course to your specific interests. For example, you might choose a module from one of UEA's International Relations, International Development, Business, or Economics courses.

LLM723COMPARATIVE COMPANY LAW

Globalisation, democratisation of information, Europeanisation and global competition have been partially responsible for a lot of fundamental changes in Company law and in the way Company law is intended around the world. This module will provide students with a sound understanding of these changes and of comparative Company Law in general. This module provides an understanding of the basic concepts, principles, rules and procedures of modern company law in a globalised and international context. It is structured so as to enable students to see their own system of company law in a new and more meaningful light, and to be able to form new views about its future development alongside with the future of International Company Law. It is designed to develop awareness of some of the aspects of Company Law, including 'minimum capital' and the legal standing of shareholders, directors and creditors around the world, and shall give an overview of the ways in which the various countries are developing their own Company Law within their boundaries, and how

that influences the development of company law outside their boundaries. The module aims to do so by a review of the harmonisation programme in Europe, an international comparative study, and an illustration of empirical findings that show new ways in which corporate vehicles can be developed to meet particular policy objectives.

LLM724 COMPARATIVE CORPORATE GOVERNANCE

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This module examines the principal forms of corporate governance, control and regulation of the firm across countries. In particular, it introduces the key features of corporate governance and considers the legal relationship between directors, managers, and shareholders, including the contribution shareholder activism can make to improving corporate governance. The module also discusses the market for corporate control and the growing empirical research on comparative corporate governance. The overall purpose is to provide a theoretical and practical grasp of corporate governance, which can be useful for academic as well as professional work in this field.

4. Executive LL.M in Real Estate Law /Master Diploma of Law in Real Estate Law

In LLM701 POSTGRADUATE LEGAL SKILLS, By adding the Human Rights Context and the subject LLM701R POSTGRADUATE LEGAL SKILLS AND HUMAN RIGHTS, to be delivered to award LL.M Real Estate Law and Human Rights / Master Diploma of Law in Real Estate Law and Human Rights

6 Subjects, Each 20 Credits Total 120 Credits

LLB 120 Credits= Total 240 Credits

A Master of Laws (LL.M.) in Real Estate Law provides students with a solid foundation in real estate law, as well as in key areas such as real estate finance, residential and commercial leasing, land use, and affordable housing, as well as various areas such as environmental law, corporate law, tax, and related legal fields. The program can be completed in as few as two semesters, although students can also choose to take the Master on a part-time basis. The program is intended for attorneys looking to deepen their understanding of real estate law or to open up new career opportunities in real estate.

Classes include Real Estate Transactions, Real Estate Finance, Real Estate Drafting, Commercial Finance-Secured Transactions, Affordable Housing Law Practice & Policy, the Community Economic Development Clinic, Cooperatives and Condominiums, Environmental Law, Land Use Law, Land Use and Real Estate Development Skills

The areas of concentration include:

- Development
- Finance
- Sustainability
- Transactional

Required

courses:

LLM701 POSTGRADUATE LEGAL SKILLS

This module is compulsory for all taught Law Masters Programmes and is taught in the first semester. The aim of this module is to assist students in developing a number of core legal study skills needed during the LLM year (and thereafter). The module will commence with an Induction Day followed by seminars on subjects such as identifying and understanding sources of law, using electronic research resources, the role of private international and comparative law in international commercial law. Later in the semester there are seminars on plagiarism (how to avoid it and proper citation of sources), and writing and presentation skills.

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LLM725 Commercial Real Estate Transactions, Drafting & Negotiations Skills Workshop

LLM726 Federal / Union Income Tax Aspects of Real Estate

LLM727 Real Estate Finance

LLM728 Environmental Controls & Concerns Affecting Real Estate

LLM729 Leasing, Ownership & Management

5. Executive LL.M in Court Practice and Strategic Litigation Management/Master Diploma of Law in Strategic Litigation Management .

In LLM701 POSTGRADUATE LEGAL SKILLS, By adding the Human Rights Context and the subject LLM701R POSTGRADUATE LEGAL SKILLS AND HUMAN RIGHTS, to be delivered to award LL.M in Court Practice and Strategic Litigation and Human Rights/ Master Diploma of Law in Court Practice and Strategic Litigation and Human Rights

This course is practical based course and work based studies and practice assessment are main component of the course

Subjects

LLM701 POSTGRADUATE LEGAL SKILLS

This module is compulsory for all taught Law Masters Programmes and is taught in the first semester. The aim of this module is to assist students in developing a number of core legal study skills needed during the LLM

year (and thereafter). The module will commence with an Induction Day followed by seminars on subjects such as identifying and understanding sources of law, using electronic research resources, the role of private international and comparative law in international commercial law. Later in the semester there are seminars on plagiarism (how to avoid it and proper citation of sources), and writing and presentation skills.

- Civil Litigation Practice
- Commercial and Corporate Law Practice
- Financial and Ethical Responsibilities
- Property Law Practice

LLM730 Civil Litigation Practice

Civil Litigation Practice is a compulsory subject for the Graduate Diploma in Legal Practice which covers the core skills area 'Civil Litigation Practice'. This is a practical based subject which will allow students to apply the necessary skills and knowledge required to conduct a civil litigation matter.

Students will draft litigious and non-litigious documents, participate in alternative dispute resolution and will observe the presentation of evidence in a court setting.

Learning outcomes

1. Review core documents and identify the merits of a case, dispute resolution alternative processes and the costs of litigation.
2. Apply requirements and processes used in civil litigation.
3. Draft litigious and non-litigious civil litigation documents.
4. Analyse the presentation of evidence and processes used in a court setting.

LLM731 Commercial and Corporate Law Practice

The aim of this subject is to equip students with the necessary skills and knowledge required to conduct commercial transactions, such as the purchase of a business, on behalf of a client and provide advice on revenue implications in such transactions, as well as financing options.

Learning outcomes

1. Define and analyse the operation of commercial law in practice, involving identification of client rights; the legal requirements for setting-up commercial structures and carrying-out commercial transactions.
2. Identify options with respect to business asset financing and revenue implications of commercial transactions and communicate them to a client in a way in which they could be understood and acted upon.
3. Practise the process of purchasing a business and acting in the interests of a client in such transactions.
4. Appraise the processes involved in the purchase of a business and the role of a solicitor in the preparation of documents necessary for the carrying into effect of the transaction.

LLM732 Financial and Ethical Responsibilities

The aim of this subject is to equip students with the skills and knowledge to maintain accurate trust and general account records and to act ethically, professionally and responsibly in dealings with clients, the courts, the community and other legal professionals. Students will engage in practical exercises including preparing trust and general accounting documents and will reflect on ethical responsibilities by addressing current ethical issues and disciplinary cases.

Learning outcomes

1. Identify financial responsibilities in dealing with client money and operating a trust and general account.
2. Review core documents and demonstrate compliance with costs disclosure regulation.
3. Apply ethical standards in relation to the Court, to the legal profession and to clients.
4. Demonstrate compliance with professional responsibilities including legal duties, obligations and professional conduct rules.

LLM733 Property Law Practice

The aim of this subject is to equip students with the necessary skills and knowledge required to convey, lease and mortgage real property and provide general advice on standard matters arising under local government, planning, environmental or other legislation relating to land use.

Learning outcomes

1. Demonstrate the process to transfer title by drafting appropriate instruments giving consideration to execution, stamping and registration.
2. Evaluate a lease in a form allowed by law and describe matters relating to the lessor and lessee's respective interests, execution, stamping and registration.
3. Advise on creating and releasing mortgages, reflecting the agreement between the grantor and grantee and protecting their respective interests.
4. Explain land use by identifying a planning scheme including other statutory provisions regulating the relevant use.

LLM734 General Law Practice

. This course will be delivered on the General Practice Stage 1 route of the Legal Practice Course and is designed to reflect the nature of legal and commercial property issues encountered and dealt with by general practice.

This course aims to facilitate the study of civil litigation and dispute resolution in the context of realistic "case study" scenarios and, where possible simulated clinical and experiential learning, to provide students with exposure to problem based learning and to develop students' oral communication, advocacy, fact management and problem solving skills. The module will be structured to follow the chronological steps involved in acting for a client on a contentious matter and will be designed to ensure that each student appreciates the options at various stages and acquires the skills necessary to achieve the client's objectives. Issues of professional practice will be dealt with throughout the module.

Following completion of this course, students should be able to demonstrate their knowledge and understanding of civil litigation and dispute resolution in the context of given factual scenarios, identifying both legal and professional conduct issues when they arise.

This course will also be the lead subject for the teaching and assessment of advocacy. The teaching of advocacy will be built in to the main subject and delivered in the context of the same case studies sometimes by way of discreet advocacy session and sometime as part of a broader session covering other aspects of procedure.

The course is delivered by a combination of large and small group sessions, and directed and independent learning.

The civil litigation and dispute resolution content will be assessed by examination. The skill of advocacy will be assessed separately.

Learning Outcome

On completion of the course, students should be able, in relation to transactions and matters which they undertake, to:

- understand the nature of civil litigation
- identify the critical steps in the process of litigation
- use the legal knowledge, skills, procedures and behaviours appropriate to each client and each transaction matter
- identify the client's goals and alternative means of achieving those goals, and deal appropriately with client care
- investigate and identify the relevant facts, research and identify the relevant legal issues, and advise the client on the legal consequences
- identify the overall nature of the transaction or matter, then plan and progress that transaction or matter through a series of steps and decisions including, where appropriate, drafting documentation
- recognise and act within the rules of professional conduct
- identify the client's reasonable expectations as to quality and timeliness of service.

In particular:

Element 1: Case analysis

Students should be able to analyse factual material, identify the legal context in which factual issues arise, relate the central legal and factual issues to each other and be able to:

1. identify the elements of selected causes of action and criminal charges
2. identify, analyse and, if necessary, research the propositions of fact going to the elements and be able to identify, analyse, secure and preserve evidence to support propositions of fact

3. identify, analyse and advise on the admissibility and relevance of evidence and assess the strengths and weaknesses of each side's case including, where appropriate, the opponent's evidence.

Element 2: Courses of action and funding

Students should be able to:

1. identify possible courses of action, demonstrate an awareness of the legal and non-legal consequences of selecting a course of action and advise the client on the attendant costs, benefits and risks
2. advise the client on the different ways of funding litigation, including the availability of public funding.

Element 3: Procedure

Students should be able to identify the steps and strategies that need to be taken in the preparation and conduct of litigation.

Element 4: Civil Litigation and Dispute Resolution

Students should be able to:

1. identify the appropriate forum for the resolution of the dispute, including appropriate methods of alternative dispute resolution
2. identify possible cost consequences of different outcomes, the effect of the different costs rules and the impact of the likely costs orders on the conduct of litigation
3. demonstrate an understanding of the Civil Procedure Rules, the overriding objective, and their application
4. demonstrate an understanding of the court's role in the litigation process, in particular the court's case management powers and duties
5. identify steps to be taken prior to commencement and be able to issue, serve and respond to claim forms
6. advise on interim applications, prepare and conduct applications to the master or district judge

7. understand the steps needed to prepare the case for trial and the procedure and evidential issues arising from expert witnesses, witnesses of fact and disclosure, and demonstrate an awareness of the basic elements of trial procedure

8. demonstrate an awareness of the mechanisms which are available to enforce and appeal a judgment

9. prepare the appropriate documentation and draft claim forms, particulars of claim, defences, application notices, orders and witness statements.

Advocacy

On completion of this area, students should, in relation to the skill of advocacy be able to:

1. understand the importance of preparation and the best way to undertake it
2. understand the basic skills in the presentation of cases before courts and tribunals
3. be able to formulate and present a coherent submission based upon facts, general principles and legal authority in a structured, concise and persuasive manner.

Element 1: Case analysis and preparation

Students should be able to:

1. identify and analyse the relevant facts, the legal context in which the factual issues arise, and how they relate to each other
2. summarise the strengths and weakness of the case from each party's perspective
3. prepare the legal framework of the case, and a simple narrative outline of the facts
4. prepare the submission as a series of propositions based on the evidence
5. identify, analyse and assess the purpose and tactics of examination, cross-examination and re-examination to adduce, rebut and clarify evidence.

Element 2: Oral presentations

Students should be able to:

1. identify, analyse and assess the specific communication skills and techniques employed by a presenting advocate
2. demonstrate an understanding of the ethics, etiquette and conventions of advocacy.

Assessment

The course has an oral assessment which is not marked anonymously

a Summative assessment and rationale for tasks

Page | 18 Summative assessment for civil litigation and dispute resolutions will be provided by an examination made up of a one half (1/2) hour closed book multiple choice paper plus a one and a half hour open book practical paper based on advance documents. The use of advance documents allows the subject team greater opportunity to test knowledge and application in the examination and allows greater use of realistic legal scenarios.

Summative assessment for advocacy will be by way of a live advocacy exercise. The students will be provided with advance documentation based on a realistic case scenario and will have to prepare and then conduct a live submission in front of a tutor.

b. Additional formative assessment – detail of process and rationale

Formative assessment will be provided by a combination of self test questions and multiple choice questions which students will complete through the module e-learning portal site and in small group sessions. Students will also have the opportunity to sit a mock open book examination paper.

Formative assessment on advocacy will be provided during small group sessions.

c. Indication of how students will get feedback and how this will support their learning

The multiple choice questions are undertaken in a small group session and feedback given during this session. Detailed answers to the self test questions will be available on the e-learning portal and feedback on the mock examination will be given via the e-learning portal and in a large group session.

Feedback on advocacy will be given on an ongoing individual basis and as an integral part of small group sessions.

Assessment Style

100 % Assignment . Online library . In addition to around
Fees \$ 5,000 fees should be charged to receive a master's degree .

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In teaching process of law, it needs to set the Assignment as required by international trade and economics. Comparison between Myanmar Law and International law, international litigation , domestic legalisation, variation in

practice ,highlighting the difference and maintaining the human right standard values and harmony need to be emphasized.

Medico Legal Studies

LLM in Medico Legal Studies

This course trains the medical professionals and medical administrative persons to become Medico Legal Specialists.

Features of this course

Medical professionals must always make choices for the common good of the patients. However, healthcare scenarios and settings are complex, and taking the right decision while facing a situation may be difficult. It is essential for medical professionals to understand the legal implication of their actions and decisions for them and their patients, more so when the number of medico-legal cases is increasing rapidly. Likewise, legal professionals who aspire to handle cases involving medical laws find it difficult to understand the complex healthcare situations in view of their personal beliefs. Thus, it is important for both medical and legal professionals to understand medical laws objectively in order to practice successfully.

This course gives both the conceptual and practical application of medico-legal guidelines, medical ethics, landmark judgments and effective strategies to prevent and defend medical negligence litigation. The primary goal of this course is to help the learner think independently and become sensitive to the risks and issues that encompass the healthcare field.

LEARNING OUTCOME

After completing the course, medical professionals and administrators will be able to:

- Recognise medico-legal implications associated with day-to-day clinical practice
- Utilise the strategies to prevent and defend medical negligence litigation, effectively

After completing the course, lawyers will be able to:

- Counsel doctors and hospitals on various medico-legal situations
- Improve their legal practice related to medical negligence litigation in the Court

Entry Requirement

- MBBS
- BDS
- BVS
- B Pharm
- B Nursing
- Degree with work experience in Medical Administration

Subjects

LLM701 POSTGRADUATE LEGAL SKILLS (20 Credits)

LLM730 Civil Litigation Practice (20 Credits)

LLM735 Medico Legal Principle (10 Credits)
LLM736 Medico Legal Report Writing(5 Credits)
LLM737 Medical Tourism (5 credits)
LLM738 Medico Legal Issues (10 Credits)
LLM739 Triage and Medico Legal Issues (10 Credits)
LLM740 Medico Legal Ethical Issue Case Studies (10 Credits)
LLM741 General Medical Knowledge and Case Files (10 Credits)
LLM742 General Medical Knowledge (Continuation of LLM741)
LLM743 Medical Record System Project Task (10 Credits)
LLM744 Medical Data System (10 Credits)
LLM745 Forensic and Medico Legal Issues (10 Credits)

Total 120 Credits

LLM741 and LLM742 can be exempted for Licensed Medical Doctors but House Surgeons and the people who do not have Medical Doctor License must complete it.

Assessment

Submission of Study Progress Report

1 Report per month per subject over 12 months

This course is managed by STC Technological University through IQY Online Learning System.

UPDATED COURSES

Click the following link to view the updated courses

<http://iqycoursesupdate.blogspot.com.au/>

VIDEO (MYANMAR) FOR THE OFFERED COURSES

www.iqytechnicalcollege.com/IQYIPEMCourseInformation.htm

[IQY Technical College Programs and Career](#)

Offered Courses

<u>Bachelor of Applied Management/ Bachelor of Business Management /Professional Diploma in Management Courses</u>
<u>Advanced Diploma/ Diploma/ Certificate in Management & Business Courses</u>
<u>Double Degrees Program</u>
<u>Graduate Diploma/ Master Diploma/ Master of Management Courses</u>
<u>Diploma in Doctorate Studies/ Doctor of Philosophy Programs</u>

[Bachelor of Engineering Management Course Outline \(66213\)](#)

[Bachelor of Engineering \(Mechanical Engineering Management\) /Professional Diploma in Mechanical Engineering and Management Course \(38811/68811\)](#)

Bachelor of Applied Management/ Bachelor of Business Management /Professional Diploma in Management Courses

[Bachelor Degree Programs \(St Clements University Higher Education School &](#)

[STC Technological University of British West Indies\)](#)

[Bachelor of Business /Bachelor of Applied Management Course Outline\(66113/66515\)](#)

[Bachelor of Business Administration \(66615\)](#)

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[Bachelor of Engineering Management Course Outline \(66213\)](#)

Advanced Diploma/ Diploma/ Certificate in Management & Business Courses

The following courses highlighted in this area are combined with Certificate in Tertiary Preparation (Year 11+12) General Education

Management Course Outline (26113/36113/46114)

Certificate in Financial Management (26315)

for

Bachelor of Business Administration (42556678) from Bachelor of Management Course

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Certificate in Financial Management Learning Support Website(26315)

Business Management Programs

UK Business Courses

Certificate/ Diploma in Tourism Management (214467)

Certificate of Attendance in Diploma/ Professional Diploma in Engineering, Management and Information Technology Programs

(A66223) Form-Click [HERE](#)

Double Degrees Program

Double Degrees (BE+BMgt/ BE+BAppSc(IT)/ BMgt+BAppSc(IT))

IQY Technical College Masters Degree Information

Graduate Diploma/ Master Diploma/ Master of Management Courses

Master Degree Programs (St Clements University and

-

STC Technological University of British West Indies)

Master of Management (76114/76214/86215)

Master Diploma in Management (76114/76214/86215)

Master of Business Administration (86216)

(Master of Management +Thesis+ Some Accounting Subjects)

Master of Accounting/ Master Diploma in Accounting (77114)

Some Masters units in Master of Management and Master of Accounting can be organized as Graduate Diplomas such as Graduate Diploma in Financial Advising etc

Diploma in Doctorate Studies/ Doctor of Philosophy Programs

**Doctor of Philosophy Degree Programs (St Clements University and
STC Technological University of British West Indies)**

IQY Diploma in Doctorate Studies (90110)

Doctor of Business Administration (90111)

Bachelor of Business Administration (Legal System) (4133456)

Bachelor of Law (BL) (4233456)

The following programs can be studied by reading the provided books and submit the mini thesis. To enrol , contact the college.

Graduate Certificate in International Relations (6887654)

Bachelor of Economics (43322112)

Master of Economics (64455678)

Doctor of Philosophy (Economics) (7665543)

HAND BOOKS

IQY Milestones and recognitions

Courses

www.highlightcomputer.com/abscourses.htm

Study Guide + Teacher's Manual

To be given on request

Bachelor of Business Administration

The candidates who completed Bachelor of Management can proceed to do self study course Bachelor of Business Administration (66615) by studying the following subjects

- Accounting Skills for new Supervisors
- Building Better Teams
- Conducting Effective Performance Reviews
- Closing the Generation Gap in the Workplace
- Stress Management
- Building an Online Business
- E-Commerce Management
- Writing a Business Plan
- Coaching and Mentoring
- Project Management
- Train the Trainer

The students will need to submit the study reports.

Bachelor of Law (BL) for Paralegal Professionals

Bachelor of Law (BL) Course outline of IQY Degree College

IQY ဒီဂရီကောလိပ်၏ဥပဒေဘွဲ့ (BL) သင်တန်း

ယခင်ကရှိခဲ့ဘူးသော BA.BL စသည့်ဘွဲ့များတွင် BL ဘွဲ့ကိုမြန်မာတက္ကသိုလ်ဥပဒေသင်ရိုးကိုထဲသွင်းကာ IQY ဒီဂရီကောလိပ်၏ဥပဒေဘွဲ့ (BL) သင်တန်းကို STC Technological University - Faculty of Law ၏နိုင်ငံတကာဥပဒေသင်တန်းအကြံဉာဏ်များရယူကာ The Society of Professional Executive ၏ Representative Lawyer (RL) ကိုရရှိရန်စီစဉ်ထားသည်။

ဤသင်တန်းပြီးဆုံးပြီးနောက်ဘွဲ့ရများသည် Para-legal ၏လုပ်ငန်းများကိုလုပ်ဆောင်နိုင်သည်။ ။

Paralegals သည်ရှေ့နေရဲလက်ထောက်အဖြစ်စဉ်းစားနိုင်ပါသည်။ ။

၎င်းတို့သည်ဥပဒေများနှင့်အမှုများကိုသုတေသနပြုခြင်းမှသည်တရား ဝ င်စာရွက်စာတမ်းများရေးဆွဲခြင်းနှင့်တရားရုံးတွင်အသုံးပြုရန်သက်သေအထောက်အထားများစုဆောင်းခြင်းအထိအရာရာကိုလုပ်ဆောင်သည်။ ၎င်းတို့သည်ရှေ့နေများအားအစီရင်ခံစာများရေးသားခြင်း၊

သက်သေခံပစ္စည်းများကိုပြသခြင်းနှင့်ဆန့်ကျင်သောရှေ့နေနှင့်အယူခံတင်ခြင်းများအားဖြင့်ရုံးတင်စစ်ဆေးခြင်းအတွက်အဆင်သင့်ဖြစ်စေရန်ကူညီသည်။

အမှုကိစ္စများကိုကျယ်ကျယ်ပြန့်ပြန့်လုပ်ဆောင်နေသောကြောင့်တရားသူကြီးများသည်တရားသူကြီးများအနေဖြင့် ဝ န်ဆောင်မှုခံယူသူများကိုငွေပေးချေနိုင်သည်။

သင်တန်းသည်အောက်ပါအရည်အချင်းများကိုထောက်ပံ့ပေးသည်။

၁။ တရားဝင်ကူးယူခြင်း၊

၂။ စာရွက်စာတမ်းစီမံခန့်ခွဲမှု၊

၃။ ငွေစုစာရင်းစီမံခန့်ခွဲမှု၊

၄။ တရားဝင်ငွေတောင်းခံ ခြင်း၊

၅။ ဥပဒေရေးရာ ပြဌာန်းသည့်ဥပဒေကိုအမှုအတွက်သတ်မှတ်ခြင်း၊

၆။ နယ်ပယ်နှင့်တရားရုံးအစီရင်ခံခြင်းဝန်ဆောင်မှုများပြုခြင်း၊

၇။ တရားဝင်ဘာသာပြန်ခြင်း ၊

၈။ ကိန်းဂဏန်းထည့်သွင်းဝန်ဆောင်မှုပြုခြင်း၊

၉။ အတွင်းရေးမှူးနှင့်ဥပဒေအထောက်အကူပြုစီးပွားရေးလုပ်ငန်းစဉ်ဝန်ဆောင်မှုများပေးခြင်း

၁၀။ အီလက်ထရောနစ်ဖိုင်တွဲခြင်း၊

After having completed this course, the graduates can do the tasks of Para-legal

Paralegals can be thought of as lawyer's assistants; they do everything from conducting research on laws and cases to drafting legal documents and compiling evidence to be used in court. They help lawyers get ready for trial by writing reports, demonstrating exhibits and filing appeals with the opposing counsel. Because of their extensive work on cases, paralegals are able to bill clients for their work, whereas legal assistants cannot.

The training provides the following competencies

1. Legal Transcription
2. Document management
3. Deposition summary
4. Legal billing
5. Legal coding
6. Scoping and court reporting services
7. Legal Translation

8. Data entry service
9. Secretarial and paralegal business process services
10. E-filing service

List of Subjects

Year 1

Each 2 credits x 8=16 Credits

- BL101 Myanmar Penal Code
- BL102 Defending the law case
- BL103 Criminal Procedure
- BL104 Anti Corruption Law
- BL105 Telecommunications Law
- BL106 Myanmar Civil Servant Code
- BL107 Public safety & Law

- BL108 Freedom of Judges and Lawyers

Year 2

Each 2 credits x 8=16 Credits

- BL201 Urban Safety
- L202 Industry Law
- BL203 Leave and Holiday Law
- BL204 Employment Contract
- BL204 Human Rights
- BL205 Payment Law
- BL206 Dispute Settlement Law
- BL207 Shop and Office Place Law
- BL208 Social Security Rule

Year 3

Each 3 credits x 8=24 Credits

BL301 Community & Healthcare Law

BL302 Citizenship Duty and Responsibility

BL303 Disaster Protection Community Approach

BL304 Welfare Tasks

BL305 Ethics

BL306 Human Trafficking Protection

BL307 Humanity Work and Protection of Violence

BL308 Police Studies

TOTAL 60 Credits

Diploma in Law Holders can join the course at Year 4 and they can do self studies in Year 1 to 3 Subjects

ဥပဒေဒီပလိုမာရထားသူများသည် Year

4 တွင်တက်ရောက်နိုင်ပြီးပထမနှစ်မှ တတိယနှစ်ဘာသာရပ်များတွင်ကိုယ်ပိုင်လေ့လာနိုင်သည်။

Year 4

Each 2 credits x 12=24 Credits

BL401 Insurance Law

BL402 Constitution 2008

BL403 Civil Litigation

BL403module_9

BL404A Customs Law

BL404B Export Import System

BL404B Rate of Customs Duties

BL405 Myanmar Revenue Law

BL406 Negotiation Act

BL407A Business Law

BL407A Business Law Part1 Competition Law
BL407B Business Law Part2 Consumer Protection Law
BL407C Competition Rules
BL408 Myanmar Human Rights Law
BL409 Equity and Trust
BL410 Administrative Law
BL411 Public Governance Law
BL412Evidence Law

Year 5

Each 3 credits x 12=36Credits

BL501 Civil Litigation Procedure
BL502 Constitutions of ASEAN
BL503 Comparative Law
BL504 Criminology
BL505 Intellectual Property Law
BL506 Land Law
BL506 Land Law of Myanmar
BL506 Land usage Permission Certificate
BL507 International Environment Law
BL508 Law of Tort
BL509 Military Law
BL510 Myanmar Maritime Law
BL510 Myanmar Ocean Law
BL510 UN Ocean Law
BL511 Law of Commercial Arbitration
BAE512LawOfInternationalInstitutions

TOTAL 60 Credits

DEGREE= 120 Credits

BMgt+BAppSC (IT)

Year 1+2

Advanced Diploma in Management (60 cp)+
Diploma in Information Technology(30 cp)

Year 3+4

Bachelor of Applied Science (Computer Science & Computer Technology)

Year (3)

Unit	Topics	Reference	Points
ICT 301	General Electrical Knowledge	EE101	3
ICT 302	Digital Electronics	EE209/H012	3
ICT 303	Amplifier	EE208/H013	3
ICT 304	Material Science	E081	3
EE204	Physics	E046	3
EE201	Mathematics 1	E050	3
EE202	Mathematics 2	E026	3
EE306	Basic Control	I008	3
BAE605	Management		3
BAE408	Analog & Digital Electronics		3
	Mgt 301 Electronics Business		3
	Mgt 302 Information Security		3
	Mgt 303 Management Information System		4
		TOTAL	40

Year (4)

Unit	Topics	Reference	Points
ICT 401	Advanced Mathematics 1	BAE401	3
ICT 402	Advanced Mathematics 2	BAE402	3
BAE604	Telecommunication System		3
BAE508	Project Management		3
ICT 305	Professional Programming (1) C++		3
ICT 403	Professional Programming (2) Object Oriented		3
ICT 404	Professional Programming (3) Java		3
ICT 405	Professional Practice (1) Network		3
ICT 406	Professional Practice (2) Website		3
ICT 407	Artificial Intelligence		3
	Mgt 304 Electronics Commerce		3
	Mgt 305 Quantitative Methods for Management		3
	Mgt 306 Human Resources Management		3
	Mgt 307 Marketing Management		3
		TOTAL	42

Total credit points Year 1+2= 90+ Yr3+4=82 = 172

BE+BAppSCIT

Year 1+2

Adv Dip in Engineering (60cp)+Dip IT (30 cp)

Year 3+4

Bachelor of Engineering (Electrical)

YEAR 3 +4

Subjects		
<u>BAE 401 Advanced Engineering Mathematics</u>		
<u>BAE 402 Calculus</u>		
<u>BAE 403 Engineering Mechanics</u>		
<u>BAE 404 Engineering Materials & Thermodynamics</u>		
<u>BAE 405 Advanced Circuit Analysis</u>		
<u>BAE 406 Electro-mechanics</u>		
<u>BAE 407 Advanced Electro-magnetics Field & Materials</u>		
<u>BAE 408 Analogue & Digital Electronics</u>		
<u>ICT 302</u>	<u>Digital Electronics</u>	3
<u>ICT 303</u>	<u>Amplifier</u>	3
<u>ICT 304</u>	<u>Material Science</u>	3
<u>BAE 501 Advanced Power Systems & Power Transmission Networks</u>		
<u>BAE 502 Linear System</u>		
<u>BAE 503 Control System</u>		
<u>BAE 504 Power System Analysis</u>		
<u>BAE 505 Power System Optimization</u>		

<u>BAE 506 Power System Stability & Protection</u>
<u>BAE 507 Electro-mechanical Energy Conversion</u>
<u>BAE 508 Industrial Engineering & Industrial Management</u>
<u>BAE 601 Computer Programming</u>
<u>BAE 602 Computer Network</u>
<u>BAE 603 Software Engineering</u>
<u>BAE 604 Telecommunication Engineering</u>
<u>BAE 605 Engineering Management</u>
<u>BAE 606 Building Service Electrical & Mechanical Engineering</u>
<u>BAE 607 Radio Wave Propagation & Microwave Techniques</u>
<u>BAE 608 Professional Engineer Competency Demonstration Report</u>
<u>ICT 401Advanced Mathematics 1</u>
<u>ICT 402Advanced Mathematics 2</u>
<u>ICT 305Professional Programming (1) C++</u>

Engineering 72 CP+ ICT =12 CP= 84 CP

Year 5

<u>ICT 403</u>	<u>Professional Programming (2) Object Oriented</u>	3
<u>ICT 404</u>	<u>Professional Programming (3) Java</u>	3
<u>ICT 405</u>	<u>Professional Practice (1) Network</u>	3
<u>ICT 406</u>	<u>Professional Practice (2) Website</u>	3
<u>ICT 407</u>	<u>Artificial Intelligence</u>	3

Year 5= Engineering =24 CP+ICT 15 CP= 39 CP\

Total= Yr 1+2 90CP+ Yr 3+4=84CP+ Yr 5= 39 CP=Total 213 CP

Bachelor of Engineering (Civil)

Year (3) Part 1 ADVANCED GENERAL CIVIL ENGINEERING DEGREE LEVEL

Subjects
<u>BAE 401 Advanced Engineering Mathematics</u>

<u>BAE 402 Calculus</u>		
<u>BAE 403 Engineering Mechanics</u>		
<u>BAE 404 Engineering Materials & Thermodynamics</u>		
	<u>General Electrical Knowledge</u>	3
<u>ICT 302</u>	<u>Digital Electronics</u>	3
<u>ICT 303</u>	<u>Amplifier</u>	3
<u>ICT 304</u>	<u>Material Science</u>	
<u>BAE 508 Industrial Engineering & Industrial Management</u>		

Year (3) Part 2 ADVANCED GENERAL CIVIL ENGINEERING DEGREE LEVEL (18 Pt)

BAE421 Building Construction Engineering (4 pt)

BAE422 Estimating (2 pt)

BAE423 Fluid Mechanics (2 pt)

BAE424 Reinforced Concrete (2 pt)

BAE425 Timber Engineering (2 pt)

BAE521 Road & Bridge (2 pt)

BAE522 Rock Mechanics (2 pt)

BAE523 Soil Mechanics (2 pt)

BAE 523A Environmental Engineering

TOTAL 35 Pt

Year (4) Part 1

<u>BAE 601 Computer Programming</u>
<u>BAE 605 Engineering Management</u>
<u>BAE 606 Building Service Electrical & Mechanical Engineering</u>
<u>ICT 401Advanced Mathematics 1</u>

[ICT 402Advanced Mathematics 2](#)

[ICT 305Professional Programming \(1\) C++](#)

Year (4) Part 1

(12 Pt)

[BAE621 Structural Engineering \(3 pt \)](#)

[BAE623 Surveying& Traffic Engineering \(2 pt\)](#)

[BAE624 Water Supply , Sanitation & Finishing \(2 pt \)](#)

[BAE 608 Engineering Competency Demonstration Report Writing \(2pt\)](#)

SELF STUDY

[BAE622 Architecture \(3 pt \)](#)

Engineering 72 CP+ ICT =12 CP= 84 CP

Year 5

ICT 403	Professional Programming (2) Object Oriented	3
ICT 404	Professional Programming (3) Java	3
ICT 405	Professional Practice (1) Network	3
ICT 406	Professional Practice (2) Website	3
ICT 407	Artificial Intelligence	3

Year 5= Engineering =24 CP+ICT 15 CP= 39 CP\

Total= Yr 1+2 90CP+ Yr 3+4=84CP+ Yr 5= 39 CP=Total 213 CP

Bachelor of Engineering (Mechanical)

Year (3)

GENERAL APPLIED ENGINEERING (MECHANICAL) DEGREE

Subjects		
<u>BAE 401 Advanced Engineering Mathematics</u>		
<u>BAE 402 Calculus</u>		
<u>BAE 403 Engineering Mechanics</u>		
<u>BAE 404 Engineering Materials & Thermodynamics</u>		
	<u>General Electrical Knowledge</u>	3
<u>ICT 302</u>	<u>Digital Electronics</u>	3
<u>ICT 303</u>	<u>Amplifier</u>	3
<u>ICT 304</u>	<u>Material Science</u>	
<u>BAE 507 Electro-mechanical Energy Conversion</u>		
<u>BAE 508 Industrial Engineering & Industrial Management</u>		
<u>BAE511 Air-conditioning & Refrigeration Part 1</u>		
<u>BAE613 Mechanical Instrumentation Process</u>		
<u>BAE614 Machine Design</u>		
<u>BAE512 Building Service Water Supply System</u>		
<u>BAE511 Air-conditioning & Refrigeration Part 2</u>		
<u>BAE613 Mechanical Instrumentation Process</u>		
<u>ICT 401Advanced Mathematics 1</u>		
<u>ICT 402Advanced Mathematics 2</u>		
<u>ICT 305Professional Programming (1) C++</u>		

Year (4) Part 1 BE (Mechanical + General Related Subjects)

<u>BAE 601 Computer Programming</u>
<u>BAE 602 Computer Network</u>
<u>BAE 603 Software Engineering</u>
<u>BAE 605 Engineering Management</u>
<u>BAE 606 Building Service Electrical & Mechanical Engineering</u>

Year (4) Part 2

Bachelor of Engineering (Mechanical) Specialization (13 pt)

[BAE311 Plant Engineering \(2 pt\)](#)

[BAE312 Design Engineering \(2 pt\)](#)

[BAE313 Environmental Control \(2 pt\)](#)

[BAE314 Mechanical Power Generation \(2 pt\)](#)

[BAE315 Materials Engineering \(2 pt\) Part 1 Part 2](#)

[BAE 608 Engineering Competency Demonstration Report Writing \(3 pt\)](#)

Elective (2 pt)

Subjects	
<u>BAE513 Production Technology</u>	
<u>BAE611 Maintenance Engineering</u>	
<u>BAE612 Engineering Metallurgy</u>	

Engineering 72 CP+ ICT =12 CP= 84 CP

Year 5

<u>ICT 403</u>	<u>Professional Programming (2) Object Oriented</u>	3
<u>ICT 404</u>	<u>Professional Programming (3) Java</u>	3
<u>ICT 405</u>	<u>Professional Practice (1) Network</u>	3
<u>ICT 406</u>	<u>Professional Practice (2) Website</u>	3
<u>ICT 407</u>	<u>Artificial Intelligence</u>	3

Year 5= Engineering =24 CP+ICT 15 CP= 39 CP\

Total= Yr 1+2 90CP+ Yr 3+4=84CP+ Yr 5= 39 CP=Total 213 CP

BE+BMgt

Year 1+2

Advanced Diploma in Engineering 60 credit+
Diploma in Management 30 credits concurrent study

Year 3+4

Bachelor of Engineering (Electrical)

YEAR 3 +4

Subjects
<u>BAE 401 Advanced Engineering Mathematics</u>
<u>BAE 402 Calculus</u>
<u>BAE 403 Engineering Mechanics</u>
<u>BAE 404 Engineering Materials & Thermodynamics</u>
<u>BAE 405 Advanced Circuit Analysis</u>
<u>BAE 406 Electro-mechanics</u>
<u>BAE 407 Advanced Electro-magnetics Field & Materials</u>
<u>BAE 408 Analogue & Digital Electronics</u>
MANAGEMENT
<u>Mgt 301 Electronics Business</u>
<u>Mgt 302 Information Security</u>

<u>BAE 501 Advanced Power Systems & Power Transmission Networks</u>
<u>BAE 502 Linear System</u>
<u>BAE 503 Control System</u>
<u>BAE 504 Power System Analysis</u>
<u>BAE 505 Power System Optimization</u>
<u>BAE 506 Power System Stability & Protection</u>
<u>BAE 507 Electro-mechanical Energy Conversion</u>
<u>BAE 508 Industrial Engineering & Industrial Management</u>
<p>MANAGEMENT</p> <p><u>Mgt 303 Management Information System</u></p> <p><u>Mgt 304 Electronics Commerce</u></p> <p><u>Mgt 305 Quantitative Methods for Management</u></p>
<u>BAE 601 Computer Programming</u>
<u>BAE 602 Computer Network</u>
<u>BAE 603 Software Engineering</u>
<u>BAE 604 Telecommunication Engineering</u>
<u>BAE 605 Engineering Management</u>
<u>BAE 606 Building Service Electrical & Mechanical Engineering</u>
<u>BAE 607 Radio Wave Propagation & Microwave Techniques</u>
<u>BAE 608 Professional Engineer Competency Demonstration Report</u>

MANAGEMENT

Mgt 306 Human Resources Management

Mgt 307 Marketing Management

Mgt 308 Artificial Intelligence

Yr 3+4 Total Engineering = 72 CP+ Management=24 cp= 96 cp

Total Credit points= 90cp (Yr 1+2)+ 96 cp (Yr 3+4+5)= 186 cp

Bachelor of Engineering (Civil)

Year (3) Part 1 ADVANCED GENERAL CIVIL ENGINEERING DEGREE LEVEL

Subjects
<u>BAE 401 Advanced Engineering Mathematics</u>
<u>BAE 402 Calculus</u>
<u>BAE 403 Engineering Mechanics</u>
<u>BAE 404 Engineering Materials & Thermodynamics</u>
<u>BAE 508 Industrial Engineering & Industrial Management</u>
MANAGEMENT
<u>Mgt 301 Electronics Business</u>
<u>Mgt 302 Information Security</u>

Year (3) Part 2 ADVANCED GENERAL CIVIL ENGINEERING DEGREE LEVEL (18 Pt)

[BAE421 Building Construction Engineering \(4 pt\)](#)

[BAE422 Estimating \(2 pt\)](#)

[BAE423 Fluid Mechanics \(2 pt\)](#)

[BAE424 Reinforced Concrete \(2 pt\)](#)

[BAE425 Timber Engineering \(2 pt \)](#)

[BAE521 Road & Bridge \(2 pt \)](#)

[BAE522 Rock Mechanics \(2 pt \)](#)

[BAE523 Soil Mechanics \(2 pt \)](#)

[BAE 523A Environmental Engineering](#)

MANAGEMENT

[Mgt 303 Management Information System](#)

[Mgt 304 Electronics Commerce](#)

[Mgt 305 Quantitative Methods for Management](#)

TOTAL 35 Pt

Year (4) Part 1

<u>BAE 601 Computer Programming</u>
<u>BAE 605 Engineering Management</u>
<u>BAE 606 Building Service Electrical & Mechanical Engineering</u>
<u>BAE 609 Design Project</u>
Total Credit points in this group

Year (4) Part 1

(12 Pt)

[BAE621 Structural Engineering \(3 pt \)](#)

[BAE623 Surveying& Traffic Engineering \(2 pt\)](#)

[BAE624 Water Supply , Sanitation & Finishing \(2 pt \)](#)

[BAE 608 Engineering Competency Demonstration Report Writing \(2pt\)](#)

SELF STUDY

[BAE622 Architecture \(3 pt \)](#)

MANAGEMENT

[Mgt 306 Human Resources Management](#)

[Mgt 307 Marketing Management](#)

[Mgt 308 Artificial Intelligence](#)

Yr 3+4Total Engineering = 72 CP+ Management=24 cp= 96 cp

Total Credit points= 90cp (Yr 1+2)+ 96 cp (Yr 3+4+5)= 186 cp

Bachelor of Engineering (Mechanical)

Year (3)

GENERAL APPLIED ENGINEERING (MECHANICAL) DEGREE

Subjects
<u>BAE 401 Advanced Engineering Mathematics</u>
<u>BAE 402 Calculus</u>
<u>BAE 403 Engineering Mechanics</u>
<u>BAE 404 Engineering Materials & Thermodynamics</u>
<u>BAE 507 Electro-mechanical Energy Conversion</u>
<u>BAE 508 Industrial Engineering & Industrial Management</u>
<u>BAE511 Air-conditioning & Refrigeration Part 1</u>
<u>BAE613 Mechanical Instrumentation Process</u>
<u>BAE614 Machine Design</u>
<u>BAE512 Building Service Water Supply System</u>
<u>BAE511 Air-conditioning & Refrigeration Part 2</u>
<u>BAE613 Mechanical Instrumentation Process</u>
 MANAGEMENT <u>Mgt 301 Electronics Business</u> <u>Mgt 302 Information Security</u>

Year (4) Part 1 BE (Mechanical + General Related Subjects)

<u>BAE 601 Computer Programming</u>

<u>BAE 602 Computer Network</u>
<u>BAE 603 Software Engineering</u>
<u>BAE 605 Engineering Management</u>
<u>BAE 606 Building Service Electrical & Mechanical Engineering</u>

MANAGEMENT

[Mgt 303 Management Information System](#)

[Mgt 304 Electronics Commerce](#)

[Mgt 305 Quantitative Methods for Management](#)

Year (4) Part 2

Bachelor of Engineering (Mechanical) Specialization (13 pt)

[BAE311 Plant Engineering \(2 pt\)](#)

[BAE312 Design Engineering \(2 pt\)](#)

[BAE313 Environmental Control \(2 pt\)](#)

[BAE314 Mechanical Power Generation \(2 pt\)](#)

[BAE315 Materials Engineering \(2 pt\) Part 1 Part 2](#)

[BAE 608 Engineering Competency Demonstration Report Writing \(3 pt\)](#)

Elective (2 pt)

Subjects
<u>BAE513 Production Technology</u>
<u>BAE611 Maintenance Engineering</u>
<u>BAE612 Engineering Metallurgy</u>

MANAGEMENT

[Mgt 306 Human Resources Management](#)

[Mgt 307 Marketing Management](#)

[Mgt 308 Artificial Intelligence](#)

Yr 3+4Total Engineering = 72 CP+ Management=24 cp= 96 cp

Total Credit points= 90cp (Yr 1+2)+ 96 cp (Yr 3+4+5)= 186 cp

Bachelor of Engineering Management

To complete Bachelor of Engineering Managements, the following units are required to complete. Total Credit points= 120

	Units	Credit Points
Part 1	<u>General Management</u>	
	Mgt 101 Management	5
	Mgt 102 Performance Management	5
	Mgt 104 Project Management	5
	Mgt 105 Quality Management	5
	Mgt 106 Financial Management	5
	Mgt107 Industrial Risk & Safety Management	5
Part 2	<u>Leadership & Management</u>	
	Mgt 202 Change Management	5
	Mgt 203 Inventory & Budget Management	5
	Mgt 204 Continuous Improvement Management	5
	Mgt 208 Safety Management	5
	Mgt 209 Risk Management	5
	Mgt 211 Leadership	5
	Mgt 213 Conflict Management	5
Part 3	<u>Engineering & Information Management</u>	
	Mgt 210 Professional Development Management	5
	Mgt 303 Management Information System	5
	Mgt 305 Quantitative Methods for Management	5
	Mgt 306 Human Resources Management	5
	BAE606 Building Service Engineering Project	5

	RE007 Energy Efficiency Management	5
	RE016/BAE 508-Design& Management	5
Part 4	Engineering Topics	
	E071 Contract Management	5
	K041 Energy Efficient Building Management	5
	ME 205 Manufacturing Processes-and-Materials	5
	ME 303 Computer Aided Design and Manufacturing	5

Business Management Curriculum

YEAR (1)

Diploma of Management (30 points)

Each 4 Points

Mgt 101 Management
Mgt 102 Performance Management
Mgt 103 Operation Management

Mgt 104 Project Management
Mgt 105 Quality Management
Mgt 106 Financial Management

Mgt 107 Industrial Risk & Safety
Assessment

Mgt 108 Computer Application in
Management (2 points)

Click [HERE](#) to download the study guide

YEAR (2)

Option (1)

Advanced Diploma of Information Technology Management (30 points)

Master of Management (Qualified 1) Course for Business/ Accounting Degree Holders

Study the following units

Each 4 Points

ICT 103 Applied Programming

ICT 105 Systems Analysis and Programs

ICT 106 Software Engineering

ICT 202 Information Systems Principles and Networking

ICT 203 Information Systems, Analysis and Design

ICT 204 Advanced Programming

Mgt 501 Communication Skills & Management Leadership

ICT 104 Program Projects (2 Points)

Option (2)

Advanced Diploma of Management

(30 points)

Master of Management (Qualified 1) Course for Business/ Accounting Degree Holders

Study the following units

Compulsory Units (Each 3 Points)

Mgt 201 Customer Service Management

Mgt 202 Change Management

Mgt 203 Inventory & Budget Management

Mgt 204 Continuous Improvement Management

Mgt 208 Safety Management

Mgt 209 Risk Management

Mgt 210 Professional Development Management

Mgt 211 Leadership

Optional Units (Do any 2 units) (Each 3 Points)

Mgt 207 Business Letter Writing

Mgt 205 Office Management

Mgt 212 Preparing Portfolios

Mgt 213 Conflict Management

Mgt 206 Work-based Training Management

Click [HERE](#) to download the study guide

YEAR (3)

Bachelor of Business (E-Business & Management)

Master of Management (Qualified 2) Course for Business/Accounting Degree Holders

(60 Points)

The learning system will be based on self study. Read the given references study materials and prepare the project work. You need to read the books in English.

The following units common to MBA course are to be studied. **(Each 5 Points)**

- Mgt 301 Electronics Business
- Mgt 302 Information Security
- Mgt 303 Management Information System
- Mgt 304 Electronics Commerce
- Mgt 305 Quantitative Methods for Management
- Mgt 306 Human Resources Management
- Mgt 307 Marketing Management
- Mgt 308 Artificial Intelligence

To assess ,you need to write the report of 10 pages each on what you have learnt in the unit.

YEAR (4)

Pathway 1- Diploma in Management +Q1/Q2 Stream (Each 10 Points)

- Mgt 401 Management Project
- Mgt 402 Electronics Business Project

For **Master of Management (Thesis)** (120 points after Bachelor degree), the candidates will need to write the thesis

Res 601 Research Methods (Non award unit)

PLUS

Pathway 2- Direct entry for IQY Professional Diploma in Management Qualifications Holders

Master of Management

(Course Work)

120 Points after Bachelors Degree

Total Points= 120 Points (Bachelors degree)+120 Points (Masters degree studies)

This program has been developed to fulfil the needs for those who are seeking a degree at the master's level and whom wish to specialize in a particular field of endeavour not usually available as a study option.

The main scope of this program is to emphasize the usual administrative aspects of management at the appropriate master's degree level. The Master of Management is today a professional degree and one of the most popular degree programs in the managerial or administrative fields of endeavour.

Our program has been designed to focus on major study areas of management and administration. The core courses forming the basis of the degree program equips the student with the usual fundamental aspects of management and administration applicable to the master's degree level.

The Graduate Diploma course section is common to all the majors and students must continue a masters study after completion of Graduate Diploma.

-

Graduate Diploma in Management (8 units) (Each 10 Points)

Mgt 501 Organizational Change Management

Mgt 502 Strategic Plans Development & Implementation

Mgt 503 Leadership in Organization

Mgt 504 Innovation & Continuous Improvement

Mgt 505 Risk Management

Mgt 506 Knowledge & Information Management

Mgt 507 Human Resources Management & Strategic Planning

Mgt 508 Employee Relations Management

-

Master Of Management (5 units)

All Graduate Diploma Subjects PLUS

Mgt 601 Logistics Management

Mgt 602 Project Management

Mgt 603 Financial Management

PLUS

Res 601 Research Methods (Non award unit)

Mgt 606 Masters of Management Project

Certificate in Financial Management

Financial Management is an important aspect in Business Management. This course does not train the students to become accountants but it trains the students to understand the financial statements of the company & to assess the financial situation of the company & will be able to perform the financial management.

By doing this course, the students will be able to

- Explain how accounting information assists in making decisions.
- Describe the components of the balance sheet.
- Analyze business transactions and relate them to changes in the balance sheet.
- Compare features of proprietorships, partnerships, and corporations
- Explain how income is measured using both the accrual basis and cash basis accounting methods.
- Use the concepts of recognition, matching, and cost recovery to record revenues and expenses.
- Prepare an income statement and show how it is related to the balance sheet.
- Prepare a statement of cash flows and show how it differs from an income statement.
- Use double-entry accounting.
- Analyze and journalize transactions.
- Post journal entries to the ledgers.
- Prepare and use a trial balance.
- Correct erroneous journal entries and describe how errors affect accounts.
- Use T-accounts to analyze accounting relationships.
- Explain how computers have transformed processing of accounting data
- Explain the concept of the statement of cash flows.
- Classify activities affecting cash as operating, investing, or financing activities.
- Use the direct method to measure cash flow.
- Determine cash flows from income statement and balance sheet accounts.
- Use the indirect method to calculate cash flows from operations.
- Relate depreciation to cash flows provided by operating activities.
- Reconcile net income to cash provided by operating activities.
- Adjust for gains and losses from fixed asset sales and debt extinguishments in the statement of cash flows.
- Use the T-account approach to prepare the statement of cash flows.

Completion of this course can be given the credit in Mgt 106 Financial Management subject in Diploma in Management Course.

Learning Resources

Mgt106-Financial Management.ppt

Mgt106-Financial Management.ppt with audio explanation

Mgt106-Financial Management References.pdf

Mgt 106 Financial Management Questions.pdf

Certificate in Financial Management

Financial Management is an important aspect in Business Management. This course does not train the students to become accountants but it trains the students to understand the financial statements of the company & to assess the financial situation of the company & will be able to perform the financial management.

By doing this course, the students will be able to

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- Describe the components of the balance sheet.
- Analyze business transactions and relate them to changes in the balance sheet.
- Compare features of proprietorships, partnerships, and corporations
- Explain how income is measured using both the accrual basis and cash basis accounting methods.
- Use the concepts of recognition, matching, and cost recovery to record revenues and expenses.
- Prepare an income statement and show how it is related to the balance sheet.
- Prepare a statement of cash flows and show how it differs from an income statement.
- Use double-entry accounting.
- Analyze and journalize transactions.
- Post journal entries to the ledgers.
- Prepare and use a trial balance.
- Correct erroneous journal entries and describe how errors affect accounts.
- Use T-accounts to analyze accounting relationships.
- Explain how computers have transformed processing of accounting data
- Explain the concept of the statement of cash flows.
- Classify activities affecting cash as operating, investing, or financing activities.
- Use the direct method to measure cash flow.
- Determine cash flows from income statement and balance sheet accounts.
- Use the indirect method to calculate cash flows from operations.
- Relate depreciation to cash flows provided by operating activities.
- Reconcile net income to cash provided by operating activities.
- Adjust for gains and losses from fixed asset sales and debt extinguishments in the statement of cash flows.
- Use the T-account approach to prepare the statement of cash flows.

Completion of this course can be given the credit in Mgt 106 Financial Management subject in Diploma in Management Course.

Learning Resources

[Mgt106-Financial Management.ppt](#)

[Mgt106-Financial Management.ppt with audio explanations in English+Myanmar](#)
_____ (278 Megabyte)

[Mgt106-Financial Management References.pdf](#)

[Mgt 106 Financial Management Questions.pdf](#)

IQY Technical College

Diploma in Tourism Management

Course 214467

List of subjects (3 creditsx 10= 30 credits)

- TMGT101 Tourism Management
- TMGT102 Tour Guiding
- TMGT103 Airline Ticketing
- TMGT104 Advertising in Tourism Management
- TMGT105 Cultural awareness in Hospitality and Tourism
- TMGT106 Tourist Safety and Security
- TMGT107 Code of Ethics of Tour Operators
- TMGT108 Global Code of Ethics for Tourism
- TMGT109 Dispute Resolution in Tourism Management
- TMGT110 Destination Attractiveness
- TMGT110 Example
- Work as Tour guide

YEAR (1)

Diploma of Management

Mgt 101 Management
Mgt 102 Performance Management
Mgt 103 Operation Management
Mgt 105 Quality Management
Mgt 106 Financial Management
Mgt 108 Computer Application in
Management

Mgt 107 Industrial Risk & Safety
Assessment
Mgt 104 Project Management

YEAR (2)

Advanced Diploma of Information Technology Management

Study the following units

ICT 103 Applied Programming

ICT 105 Systems Analysis and Programs

ICT 106 Software Engineering

ICT 202 Information Systems Principles and Networking

ICT 203 Information Systems, Analysis and Design

ICT 204 Advanced Programming

ICT 104 Program Projects

Mgt 501 Communication Skills & Management Leadership

Study BAE 508 Industrial Engineering & Industrial Management . You need to read the books in English.

(Focus on Mgt 501 Communication Skills & Mgt 501 Basic Management)

& do the exercises assigned by teacher.

YEAR (3)

Bachelor of Business (E-Business & Management)

The learning system will be based on self study. Read the given references study materials and prepare the project work. You need to read the books in English.

The following units common to MBA course are to be studied.

Mgt 301	Electronics Business
Mgt 302	Information Security
Mgt 303	Management Information System
Mgt 304	Electronics Commerce
Mgt 305	Quantitative Methods for Management
Mgt 306	Human Resources Management
Mgt 307	Marketing Management
Mgt 308	Artificial Intelligence

To assess Level 3, you need to write the report of 10 pages each on what you have learnt in the unit.

YEAR (4)

Mgt 401 Management Project

Mgt 402 Electronics Business Project

Two reports one for Management for (Mgt 303+Mgt 305+Mgt 306) & another for Electronics Business + Marketing (Mgt 301+Mgt 302+Mgt 304+Mgt 307+Mgt 308) subjects are required to be presented.

Each should contain 4000 to 6000 words of how you pursue the study in Management,, Marketing, Electronics Business subjects should be described.

The project should contain management plans, business plan & performance, task, job procedures IT integration etc of the topics of your choices.

Diploma of Management

The Diploma of Management is flexible and open, providing a choice of which common skills are required and by allowing skills to be included from basically any industry area.

Subject List - All 8 Subjects to be completed

BSBWOR501B Manage personal work priorities and professional development

BSBMGT502B Manage people performance

BSBMGT515A Manage operational plan

BSBCUS501B Manage quality customer service

BSBFIM501A Manage budgets and financial plans

BSBLED501A Develop a workplace learning environment

BSBOHS509A Ensure a safe workplace

BSBPMG510A Manage projects

DOCTOR OF BUSINESS ADMINISTRATION (DBA)

Course Outline

Diploma in Doctorate Studies (DDS) IQY Diploma in Doctorate Studies is an academic award consisting of Research Studies and Writing Thesis Dissertation at 360 Credit points in which 240 Credit points are allocated for Masters Degree level academic qualifications and / or comparable professional experiences.

Subjects

- Introduction to Doctoral Studies
- DBA701 Advanced Business Information Systems (10 Credits)
- DBA702 Business Aspect of Industry(10 Credits)
- DBA703 Business Laws(10 Credits)
- DBA704 Business Accounting(10 Credits)
- DBA705 Advanced Business Studies(10 Credits)
- DBA706 Introductory Research(10 Credits)
 - ED433 Scholarly Learning
 - ED434 Reflective Academic Practice
 - ED404 Educational Research
- MAE 601 Research Method (30 Points)
- DBA 801 Thesis (30 Points)+(Completion 10 Credits+ Approval 20 Credits)

St Clements University OR STC Technological University will confer the Doctoral Degree by collaboration with IQY Degree College

Form 311 Bachelor of Business Administration (Legal System)

Objective of the course

When facing the legal cases, many people will not know how to systematically present their cases to the court. Although lawyers are hired, lawyer can only do the legal judgement on the information provided by the client.

The ethics of lawyer prohibits them to construct the case.

In many circumstances, the clients need the assistance provided by someone who can share their feelings , provide the assistance to them in construction of the case and provide the support to present the case to the lawyers and the court.

Diploma in Legal Studies and Administration, Advanced Diploma in Legal Studies and Administration and Bachelor of Business Administration (Legal System) are the courses designed for Para-Legal Professional to provide effective supports to the clients, effective support for the lawyers, legal administration and law office administration.

The courses are not designed for becoming a Licensed Lawyer. But they are designed for Legal Support, Para-Legal , Law Office Support and Legal Business Management.

Course Outline

The students can firstly attend Diploma in Legal Studies and Administration then continue to study Advanced Diploma in Legal Studies and Administration.

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တရားရေးအမှုများနှင့်ရင်ဆိုင်ရသောအခါလူအများတို့သည်သူတို့၏အမှုများကိုတရားရုံးသို့မည်သို့စနစ်တကျတင်ဆက်ရမည်ကိုမသိရှိကြပါ။

ရှေ့နေများကိုငှားရမ်းထားသော်လည်းရှေ့နေသည်အမှုသည်မှပေးသောသတင်းအချက်အလက်များကိုသာတရားဥပဒေနှင့်အကြိုင်းဝင်မဝင်သုံးသပ်နိုင်သည်။

ရှေ့နေ၏ကျင့်ဝတ်သည်အမှုတည်ဆောက်ရန်တားမြစ်သည်။

အခြေအနေများစွာတွင်အမှုသည်များသည်သူတို့၏ခံစားချက်များကိုဝေမျှနိုင်သူ၊

အမှုတည်ဆောက်ခြင်းတွင်အကူအညီ ပေး၍ အမှုလိုက်ရှေ့နေများနှင့်

တရားရုံးသို့တင်ပြရန်ကူညီသူတစ် ဦး ဦး ထံမှပေးသောအကူအညီလိုအပ်သည်။

ဥပဒေရေးရာလေ့လာမှုနှင့်စီမံခန့်ခွဲမှုဒီပလိုမာ၊ဥပဒေရေးရာလေ့လာရေးနှင့်စီမံခန့်ခွဲမှုဒီပလိုမာနှင့်စီးပွားရေးစီမံခန့်ခွဲမှုဘွဲ့(ဥပဒေစနစ်) သည်အမှုသည်များအားထိရောက်သောအထောက်အပံ့များ၊ ရှေ့နေများ၊ ဥပဒေရေးရာအုပ်ချုပ်ရေးနှင့်ဥပဒေများအတွက်ထိရောက်သောပံ့ပိုးမှုများပေးရန် Para-Legal Professional အတွက်ရည်ရွယ်သည့်သင်တန်းများဖြစ်သည်။ ရုံးအုပ်ချုပ်ရေး။ လိုင်စင်ရရှေ့နေတစ်ယောက်ဖြစ်လာရန်ရည်ရွယ်ထားခြင်းမဟုတ်ပါ။ သို့သော်၎င်းတို့သည် Legal Support၊ Para-Legal၊ ဥပဒေရုံးအထောက်အပံ့နှင့်ဥပဒေရေးရာ စီးပွားရေးစီမံခန့်ခွဲမှုအတွက် ရည်ရွယ်သည်။

သင်တန်းအစီအစဉ်

ကျောင်းသားများသည်ပထမ ဦး ဆုံးဥပဒေရေးရာနှင့်အုပ်ချုပ်ရေးဒီပလိုမာသို့တက်ရောက်နိုင်ပြီး၊ နောက်မှဥပဒေသင်ကြားမှုနှင့်အုပ်ချုပ်ရေးတွင်အဆင့်မြင့်ဒီပလိုမာ/ စီးပွားရေးစီမံခန့်ခွဲမှုဘွဲ့ (ဥပဒေစနစ်) ကိုဆက်လက်လေ့လာနိုင်သည်။

ချီးမြှင့်မည့်လက်မှတ်

ဩစတြေးလျတွင်စီးပွားရေးနာမည်မှတ်ပုံတင်ထားပြီး၊နိုင်ငံတကာဥပဒေဥပဒေကျောင်းများ၏ အသင်းဝင်ဖြစ်သော IQY Technical Collegeနှင့် ဩစတြေးလျတွင်စီးပွားရေးနာမည် မှတ်ပုံတင်ထားပြီး UNESCO/ILO အသိအမှတ်ပြု International Association for Education and Vocational Guidance အသင်းဝင်ဖြစ်သော IQY Degree Collegeမှ စီးပွားရေးစီမံခန့်ခွဲမှု ဘွဲ့(ဥပဒေစနစ်) ချီးမြှင့်မည်။

ဥပဒေအသေးစိတ်လေ့လာလိုသူများအတွက်ဖိုးဖြူဥပဒေကျောင်းသို့ LLB/LLM တက်ရန် ရည် ညွှန် လိမ့်မည်။

Diploma in Legal Studies and Administration

List of Subjects

- ☐ LA101 Myanmar Penal Code
- ☐ LS102 Myanmar Code Criminal Procedure
- ☐ LS201A Defending in lawsuit ☐ LS201B Jurisprudence
- ☐ LS202 Anti Corruption Law

- ☐ LS203 Telecommunications Law
- ☐ LS204 Defamation International Standards
- ☐ Mgt 101 Management

Advanced Diploma in Legal Studies and Administration

List of Subjects

LS301 Public Safety Law

- ☐ LS 301 A Civil Servant Code
- ☐ L:S301B Community Security
- ☐ LS301C Ethics
- ☐ LS301D Freedom of Judges and Lawyers
- ☐ LS301E Human Trafficking
- ☐ LS301F Humanity Work/ Protection of Violence
- ☐ LS301G Legal Defence ☐ LS301H Policing
- ☐ LS301I Safety in Education
- ☐ LS301J Safety Protection Training
- ☐ LS301K School Security
- ☐ LS301L Urban Safety
- ☐ LS301M Working at Company
- ☐ Mgt 201 Customer Service Management
- ☐ Mgt 205 Office Management
- ☐ Mgt 213 Conflict Management

LS302 Industry Law

- ☐ LS302A Leave and Holiday Law
- ☐ LS302B Employment Contract
- ☐ LS302C Equal Employment Right
- ☐ LS302D Factory Work
- ☐ LS302E Factory Act
- ☐ LS302F Code of Conduct
- ☐ LS302G Human Right
- ☐ LS302H Environmental Assessment
- ☐ LS302I Payment Law
- ☐ LS302J Dispute Settlement Law
- ☐ LS302K Shop and Office Place Law
- ☐ LS302L Shop Establishment
- ☐ LS302M Social Security Rule
- ☐ LS302N Worker Compensation
- ☐ Mgt 201 Customer Service Management
- ☐ Mgt 205 Office Management
- ☐ Mgt 213 Conflict Management

LS303 Community & Health Care Law

- ☐ LS303A Aged Care
- ☐ LS303B Caring Protection and Support Training

- ☐ LS303C Citizenship Duty and Responsibility
- ☐ LS303D Disaster Protection Community Approach
- ☐ LS303E Community Lesson
- ☐ LS303F Domestic Service
- ☐ LS303G Disaster Protection
- ☐ LS303H Health Care of Moving People
- ☐ LS303I Homecare and Domestic Assistant
- ☐ LS303J Laboratory Rule
- ☐ LS303K Mental Health
- ☐ LS303L Hospital Safety
- ☐ LS303M Welfare Tasks
- ☐ Mgt 201 Customer Service Management
- ☐ Mgt 205 Office Management
- ☐ Mgt 213 Conflict Management

☐ WS3001Management for Bachelors Degree

Advanced Legal Studies

- ☐ LLB630 Civil Litigation Practice
- ☐LLB634 General Law Practice

IQY Technical College Masters Degree Programs

Myanmar Version _____ English Version List of EE/CE/ME/RE/ICT Subjects

IQY Technical College သည် STC Technological University/ St Clements University/ IPTEM Technological University များ၏ Masters Degree များကို Engineering, Information Technology, Management, Humanities, Education လေ့လာမှုများအတွက်လည်းသင်ပါသည်။

Masters Degree in Engineering ကိုအောက်ပါအစီအစဉ်၌ခွဲထားပါသည်။

1. Master of Engineering Practice
2. Master of Engineering Science
3. Master of Engineering

Master of Engineering Practice သည်အလုပ်အတွေ့ အကြုံရှိအင်ဂျင်နီယာများအတွက်ဖြစ်သည်။

IQY Year 4 Professional Diploma/BE ပြီးသူများအတွက်ဘွဲ့ ရအင်ဂျင်နီယာလေ့ကျင့်ရေး (Year 5/6

Graduate Engineer Training) တွင်ပါဝင်သောဘာသာများကိုလည်းထဲသွင်းထားသည်။

Electrical/Civil/Mechanical /Renewable Energy သာမကအခြားလိုင်းများအတွက်လည်းသင်သည်။

Course Work 8 Subjects (Graduate Diploma in Engineering Practice) + Project (BAE709) (For Master of Engineering Practice) ပြီးရန်လိုသည်။

Self study online program ဖြစ်ပြီး Assignment/ Project /Study Report/ Analysis/ Experience Presentation/ Design Works /Job Record Presentation စသည်တို့ ကိုအဓိကထားသည်။

Master of Engineering Practice ပြီးသူတို့သည် 5 Years Experience ရှိပါက The Society of Professional Engineers (UK and International) ၏ Member (MSPE-UK & International) နှင့်

Professional Engineer (UK and International) (PEng(UK and International)) လျှောက်နိုင်သည်။

Master of Engineering Practice is for experienced engineers . It will include the following subjects of 10 credits each

- BAE 701 Engineering Fundamental
- BAE 702 Engineering Management
- BAE 703 Leadership & Human Resources Management
- BAE 704 Risk Management & Industrial Safety

- BAE 705 Engineering Competency Development
- BAE 706 Engineering Report Writing
- BAE 707 Engineering Ethics
- BAE 708 Engineering Knowledge

Completion of the above subjects will earn Graduate Diploma in Engineering Practice (80 credits at Masters level +120 Credits for Bachelors degree level total 200 credits. Completion of two or more units can earn Graduate Certificate in Engineering.

The candidate will need to do BAE 709 Engineering Design Project of 40 credits to complete Master of Engineering Practice of 240 credits.

Master of Engineering Science/Master of Engineering

သည် ကျောင်းဆင်းစ BE များ၊အလုပ်အတွေ့ အကြုံမရှိသေးသောအင်ဂျင်နီယာများ အတွက် ဖြစ်သည်။ Electrical, Civil. Mechanical အတွက် 24 Subjects အခြားလိုင်းများအတွက်သင် ရိုးပါအတိုင်းပြီးစီးက Master of Engineering Science ရမည်။ထို့ နောက် Thesis (BAE709A) ပြီးစီးက Master of Engineering ရမည်။

Self study online program ဖြစ်ပြီးပျမ်းမျှတစ်လလျှင်တစ်ဘာသာနှုန်းဖြင့် 20 pages လေ့လာမှု၊ အစီရင်ခံစာကိုဘာသာတိုင်းအတွက်ရေးသားတင်ပြရမည်။

လေ့လာမှုအစီရင်ခံစာတွင်အောက်ပါတို့ ပါဝင်ရမည်။

- နေ့စွဲ၊လေ့လာသောအခန်းများ၊
- အဓိကအချက်များ၊အခြေခံသဘောတရား၊ဆက်စပ်မှုများ၊ညီမျှခြင်း၊ဖော်မြူလာ၊ပုံများ၊
- လက်တွေ့ သုံးခြင်းများ၊
- Powerpoint ပုံစံတင်ပြသောအနှစ်ချုပ်မှတ်စုများ။
- ကိုယ်ပိုင်ထင်မြင်ယူဆသုံးသပ်ချက်များ။

There are 24 units in Masters Program, the candidate will need to complete one unit per month so that the whole program will be completed within 24 months. (120 credits at Masters level and 120 Credits for Bachelors degree total 240 credits) to complete Master of Engineering Science, then submit the thesis to complete Master of Engineering.

Completion of the 12 subjects will earn Graduate Diploma in Engineering Practice (60 credits at Masters level +120 Credits for Bachelors degree level total 180 credits. Completion of two or more units can earn Graduate Certificate in Engineering.

ELECTRICAL

Part 1 Course Work

Any 24 subjects can be selected .

- (1) BAE 658-Real-time Systems
- (2) BAE 665-Fabrication Engineering at the Micro and Nanoscale
- (3) BAE 655-Wireless Communications.
- (3A) BAE 671-Satellite Communications and Navigation Systems
- (4) BAE 665-Embedded Digital Signal Processing Systems
- (5)BAE 657-Advanced Electromagnetics Applications
- (6)BAE 676-Failure Analysis
- (7)BAE 673-Frequency Stability
- (8) MEE11-High Speed A-D Converters
- (9) MEE2-Advanced Electric Power Engineering
- MEE9-Handbook of Power System Engineering-.pdf (11.57MB)
- (10)MEE12-Iterative Learning Control
- (11) BAE 664-Distributed Generation in Power System
- (12) BAE 675-Nanoelectronics
- (13) MEE1-Electric Distribution Systems
- (14) BAE 674-Intelligent Systems
- (15) MEE13-Non linear control

- (16) BAE 656-Advanced Digital Signal Processing and Noise Reduction**
- (17) BAE 677-Photovoltaic Systems**
- (18) BAE 660-Control Engineering**
- (19) BAE 659-Computer-aided Control Systems**
- (20) MEE7-EMI Filter Design**
- (21) BAE 661-Design of Electrical Services for Buildings**
- (22) BAE 670-Power System Engineering**
- (23) MEE10-High Performance Control of AC Drives**
- (24) BAE 667-Industrial Control System**
- (25) MEE14-System Engineering Concepts**
- (26) MEE6-Electronics+Power Electronics+Opto Electronics+Microwave+Radar**
- (27) BAE 666-Generating Electricity in a Carbon Constrained World**
- (28) BAE 669-Power Electronics and Instrumentation Engineering**
- (29) BAE 663-Advanced Digital Electronics**
- (30) MEE8-Flexible Power Transmission**
- (31) BAE 668-Photonics**
- (32) MEE3-Electric Power Transmission System Engineering**
- (33) BAE 672-Industrial& System Engineering**
- (34) MEE5-Electro Optics**
- (35) MEE4-Electricity Power Generation**
- (36) BAE 662-Design of Rotating Electrical Machines**

Part 2 Thesis

BAE709A Master of Engineering Thesis

CIVIL

Part 1 Course Work

All 24 subjects must be completed.

- (1) BAE 654-Theory & Design of Bridges
- (2)BAE 653-Surveying
- (3) BAE 652-Structural Analysis
- (4) BAE 649-Soil & Rock Mechanic
- (5)BAE 651-Strom & Waste Water
- (6) BAE 650-Steel Design.pdf
- (7) BAE 648-Railways Bridges
- (8)BAE 646 Highway Engineering
- (9) BAE 647-Piling Engineering
- (10) BAE 645-Geotechnics
- (11) BAE 642-Design of Reinforce Concrete
- (12) BAE 644-Estimating
- (13) BAE 643-Earthquake Resistant Structure
- (14) BAE 638-Construction Drawing
- (15)BAE 641-Construction Site Planning
- (16) BAE 640-Construction Mathematics.
- (17) BAE 639-Construction Materials
- (18) BAE 634-Building Construction
- (19) BAE 637-Composite Structure of Steel & Concrete
- (20) BAE 636-Building Technology Electrical Mechanical System
- (21) BAE 635-Building Survey
- (22) BAE 633-Bridge Construction
- (23) BAE 632-Architectural Design
- (24) BAE 631-Advanced Concrete Technology

Part 2 Thesis

BAE709A Master of Engineering Thesis

MECHANICAL

Part 1 Course Work

Any 24 subjects to be completed.

- (1) BAE 694-Control Engineering
- (2) BAE 682-Assembly Automation & Product Design
- (3) BAE 688-Manufacturing & Management.
- (4) BAE 692-Metallurgy
- (5) BAE 689A-Mechanical Design
- (6) BAE 686-Electro-Mechanical Manufacturing Process
- (7) BAE 683-Material engineering
- (8) BAE 693-Piping System
- (9) BAE 689B-Mechanical Design
- (10) BAE 625- Structural Engineering Mechanics
- (11) BAE 696-Specification Development
- (12) BAE 698-Thermal Engineering
- (13) BAE 699-Rotating Machinery Vibration
- (14) BAE 678A-Machine Design
- (15) BAE 684-Computerised Engine Control
- (16) BAE 678B-Machine Design
- (17) BAE 685-Electric Vehicle Technology
- (18) BAE 695-Random Vibration
- (19) BAE 691-Mechatronics
- (20) BAE 680-Quality Control
- (21) BAE 690-Mechanical Estimating
- (22) BAE 679- Materials Science
- (23) BAE 681- Welding Engineering.
- (24) BAE 679-Composite Materials & Joining Technology
- (25) BAE 687-Lasers in Manufacturing
- (26) BAE 697-Structural Foundation Design

Part 2 Thesis

BAE709A Master of Engineering Thesis

RENEWABLE ENERGY

Part 1 Course Work

The following 10 subjects to be completed.

Each 10 credits and total 100 credits to get Graduate Diploma

(1) RE511- Sustaining Earth Energy resources

(2) RE510- Water Conservation

(3) RE509- Applied Photovoltaics

(4) RE508- Solar Hydrogen Energy System

(5) RE507- Offshore Wind Turbines Part 1

RE507- Offshore Wind Turbines Part 2

(6) RE505- Green Building Design

(7) RE504- Engineering Solution for Sustainability

(8) RE503- Energy Management in Industrial and Commercial Facilities

(9) RE502- Biomass Gasification

(10) RE 501-Control of Solar Energy System

INFORMATION TECHNOLOGY

Part 1 Course Work

The following 8 subjects to be completed

Each 10 credits, total 80 credits to complete Graduate Diploma

(1) Programming (ICT 601)

(2) E-Commerce (ICT 602)

(3) Multimedia Systems (ICT 604)

(4) Database Systems (ICT 502)

(5) Applied Computing I (ICT 505)

(6) Applied Computing (ICT 506)

(7) Software Engineering (ICT 603).zip (90.71MB)

The following two Electrical (Computer) subjects must be completed

Each 5 credits. Two combined units 10 credits

(8) BAE658 Real Time Systems + BAE 674 Intelligent Systems

BAE 658-Real-time Systems

BAE 674-Intelligent Systems

Part 2 Thesis

BAE709B Master of Applied Science (Information Technology) Thesis

ENGLISH VERSION

(1) Master of Engineering Practice (240 credits, 120 credits for BE degree)

Master of Engineering Practice is for experienced engineers . It will include the following subjects of 10 credits each

- BAE 701 Engineering Fundamental
- BAE 702 Engineering Management
- BAE 703 Leadership & Human Resources Management
- BAE 704 Risk Management & Industrial Safety
- BAE 705 Engineering Competency Development
- BAE 706 Engineering Report Writing
- BAE 707 Engineering Ethics
- BAE 708 Engineering Knowledge

Completion of the above subjects will earn Graduate Diploma in Engineering Practice (80 credits at Masters level +120 Credits for Bachelors degree level total 200 credits. Completion of two or more units can earn Graduate Certificate in Engineering.

The candidate will need to do Engineering Design Project of 40 credits to complete Master of Engineering Practice of 240 credits

(2) Master of Engineering (240 credits, 120 credits for BE degree)

Masters of Engineering program is for recent graduates who have completed their BE degrees.

It will include the following 24 subjects of 5 credits each

The students will have to write 20 pages study progress report for each of the subjects outlined below.

The report needs to include

- Date and chapters that the candidate reads (The student will need to read the book
- at least 4 days per week)

- Highlight the key concepts, key formula, key theory & practical application concepts .
- Notes of the topic that you read.
- Key diagrams, formula, problem solutions
- Powerpoint slides to express the key topics

There are 24 units in Masters Program, the candidate will need to complete one unit per month so that the whole program will be completed within 24 months. (120 credits at Masters level and 120 Credits for Bachelors degree total 240 credits) to complete Master of Engineering Science, then submit the thesis to complete Master of Engineering.

Completion of the 12 subjects will earn Graduate Diploma in Engineering Practice (60 credits at Masters level +120 Credits for Bachelors degree level total 180 credits. Completion of two or more units can earn Graduate Certificate in Engineering.

LIST OF SUBJECTS

Please see above

Diploma in Doctorate Studies (DDS)

IQY Diploma in Doctorate Studies is an academic award consisting of Research Studies and Writing Thesis Dissertation at 360 Credit points in which 240 Credit points are allocated for Masters Degree level academic qualifications and / or comparable professional experiences.

The candidates who have completed MAE 601 Research Method (30 Points) and their thesis proposal are accepted will be awarded IQY Master Diploma in Research Studies (270 Credit Points).

The candidates who have completed MAE602 Thesis (30 Points) but have not submitted it to St Clements University will be awarded IQY Diploma in Doctorate Studies (300 Credit Points)

Only St Clements University will confer the Doctoral Degree while IQY Technical College will provide the facilitation and successful candidates will be issued with BAE801 Thesis Dissertation Assessment and Defence (60 Points) when the success is notified by St Clements University. In the case of failure to meet the quality of dissertation, St Clements University's Diploma in Doctorate Studies or other relevant award can be issued and Doctorate degree award fees will not be charged.

IQY Technical College will issue Letter of Congratulation for having been successful in PhD.

Doctoral Research Studies

IQY Master Diploma in Research Studies

<http://www.highlightcomputer.com/iQYDDS.pdf>

Dissertation for Doctorate

MAE 601 Research Method (30 Points)

MAE602 Thesis (30 Points)

[http://www.filefactory.com/file/111r1k0ftawt/n/11.Research+Thesis_\(ICT_605\).zip](http://www.filefactory.com/file/111r1k0ftawt/n/11.Research+Thesis_(ICT_605).zip)

BAE801 Thesis Dissertation Assessment and Defence (60 Points)

MAE601 Research Method

This course guides the student, step by step, through the research process, from problem selection through writing up results. It provides all of the basics necessary to complete a research project in any discipline.

Outline. The following aspects are reflected in this course:

What is research?

Tools of research

The problem: the heart of the research process

Review of the related literature

Planning your research design

Writing the research proposal

Qualitative research

Historical research

Descriptive research

Experimental and causal - comparative designs

Statistical techniques for analyzing quantitative data

Technical details: style, format, and organization of the research report

Doctoral Research Proposal

Synopsis: Research students are expected to present a written research proposal within three months after commencement. The proposal is handed in to the study leader.

Assessors of this proposal are selected by the faculty for their understanding of the field and the research involved. The purpose of a research is to set out a plan for conducting the research and writing the dissertation within the available time. It should take account of the availability and guidance of the study leader.

The starting point for a research proposal is the topic, which is the field of interest in which the research is to be carried out. In introducing the topic, the proposal should clarify the field that it falls into and the specific part that field which the research will explore.

It should clarify why the topic is of interest and importance, and how the proposed research will contribute to the field of knowledge or profession. The proposal should clarify the research questions, ensuring that these are specific and answerable.

It is important to show how these questions relate to the topic are, and how they will advance the student's contribution. The proposal should detail the research to be carried out, and clarify the research methods, the timeframe and the reasons for selecting particular methods.

Where a period of literature review or research should precede any empirical research, this should be factored in as part of the research. It is important to estimate any periods of field research and to flag their duration and cost in your research proposal.

MAE 602 Thesis

Thesis Dissertation for Doctorate

Candidates need to complete a 60000-words dissertation (in Myanmar or English) and a 3000-words executive portfolio (in English).

This program requires the candidates to complete a thesis as part of the assessment for the Doctorate

Doing a thesis / dissertation means that instead of knowledge and information being presented and following a prescribed route for answering questions, candidates are thrust into an active role of managing an investigation into a topic area. This means researching and

discovering things for themselves.

They will have to set their own targets and parameters, pose their own central research questions and decide on the appropriate sources of information to support the research. It therefore requires the use of the higher-level cognitive skills of analysis, synthesis and evaluation. Candidates may choose an area of particular interest to them within the scope of course title.

BAE801 Thesis Dissertation Assessment and Defence (60 Points)

Doctoral dissertation

A dissertation is an individual effort and the candidate, academic tutor and the course professor will work together on constructing an approved topic (research question) and methodologies.

Dissertation Defence for doctorate

It is expected of Doctoral candidates to defend their thesis by means of a colloquium (academic discussion). The purpose of the meeting is for the candidates to convince a panel of experts in the field of the dissertation how well they have done in the conducting of their research study and the preparation of their dissertation

Candidates need to complete all course assessments with the results of Grade B+ or above.

Master of Management

This program has been developed to fulfill the needs for those who are seeking a degree at the master's level and whom wish to specialize in a particular field of endeavor not usually available as a study option.

The main scope of this program is to emphasize the usual administrative aspects of management at the appropriate master's degree level. The Master of Management is today a professional degree and one of the most popular degree programs in the managerial or administrative fields of endeavor.

Our program has been designed to focus on major study areas of management and administration. The core courses forming the basis of the degree program equips the student with the usual fundamental aspects of management and administration applicable to the master's degree level.

The Graduate Diploma course section is common to all the majors and students must continue a masters study after completion of Graduate Diploma.

Graduate Diploma in Management (8 units)

Mgt 501 Organizational Change Management

Mgt 502 Strategic Plans Development & Implementation

Mgt 503 Leadership in Organization

Mgt 504 Innovation & Continuous Improvement

Mgt 505 Risk Management

Mgt 506 Knowledge & Information Management

Mgt 507 Human Resources Management & Strategic Planning

Mgt 508 Employee Relations Management

Master Of Management (5 units)

All Graduate Diploma Subjects PLUS

Mgt 601 Logistics Management

Mgt 602 Project Management

Mgt 603 Financial Management

PLUS

Res 601 Research Methods

PLUS

Mgt 604 Thesis

Master of Accounting

(STC Technological University/ St Clements University Myanmar College)

Self study with Study Report Program

Total 240 Credits.

24 units with each 10 credits to be completed

Part 1 (Select any 12 units)

BACC601 Accounting Theory

BACC602 Accounting & Information Processing

BACC603 Cost Accounting

BACC604 Managerial Accounting

BACC605 Budgeting and Decision Making

BACC606 Cost Analysis

BACC607 Accounting Reporting

BACC608 Financial Econometrics

BACC609 Income Measurement

BACC610 Process and Activity-Based Costing

BACC611 Accounting Information

BACC612 Job Costing

BACC613 Assets

Graduate Diploma in Accounting will be completed

Part 2 (Select any 12 units)

MACC701 Budgeting and Planning

MACC702 Financial Analyses

MACC703 Strategic Financial Management

MACC704 Accounting Cycle

MACC705 Dynamic Costing

MACC706 International Financial Reporting

MACC707 Liabilities and Equity

MACC708 Financial Decision-Making

MACC709 Corporate Valuation

MACC710 Managerial Decision Making

MACC711 Corporate Finance Governance

MACC712 Capital and Strategic Debtor Management

MACC713 Enterprise Performance Evaluation

MACC714 Assets Management

Professional Diploma in Mechanical Engineering and Management

www.iqytechnicalcollege.com/ProfDipMechEnggMgtOutline.pdf

This program is mixture of Mechanical Engineering and Management. The graduates can either work as Mechanical Engineer or Project Manager

Advanced Diploma in Mechanical Engineering and Management

Advanced Diploma in Mechanical Engineering

30 Credit Points in Engineering units Each 2 Points

Maths 101 Engineering Mathematics

ME101 Applied Mathematics

ME106 Electrical Circuits

ME201 Introduction to Fluid Mechanic

ME103 Engineering Mechanics

ME107+ME102 Thermodynamics and Heat Transfer

ME108 Principle of Engines (Self Study)

ME203 Control Engineering

ME205 Manufacturing Processes and Materials (Self Study)

ME634 Pnuematics (Self Study)

ME334 Air-conditioning and Refrigeration (Self Study)

ME434 Mechatronics and Robotics (Self Study)

EE102+ME105 Electrical Workshop

ME305 Corrosion Protection (Self Study)

CE111 Drawing

30 Credit Points in Management units

Advanced Diploma in Management

Mgt 101 Management (4 pt)

Mgt 102 Performance Management (4 pt)

Mgt 103 Operation Management +Mgt 107 Industrial Risk Assessment
(4 pt)

ICT 104 Mgt 104 Program Project +BAE 508 Project Management

(6 pt)

Mgt 105 Quality Management (4 pt)

ICT 107 Business Information Systems (4 pt)

Mgt 108 Computer Application in Management (4 pt)

THS graduates will need to do self study in some mechanical units .

Advanced Diploma in Mechanical Engineering and Management will be completed

Professional Diploma in Mechanical Engineering and Management

PART 1-Engineering (9 points)

Professional Diploma in Engineering (Year 3) (9 points for Engineering)

Complete BAE units by personal attendance and RE units by self study

1 BAE 401 Advanced Engineering Mathematics (2 pt)

2 BAE 402 Calculus (2 pt)

3 BAE 403 Engineering Mechanics (2 pt)

4 BAE 404 Engineering Materials & Thermodynamics (3 pt)

PART 2-Management (21 points)

Complete any 7 units at each 3 points

Complete

<http://www.iqytechnicalcollege.com/advdipmgt.htm>

Mgt 201 Customer Service Management

Mgt 202 Change Management

Mgt 203 Inventory & Budget Management

Mgt 204 Continuous Improvement Management

Mgt 205 Office Management

Mgt 206 Work-based Training Management

Mgt 207 Business Letter Writing

Mgt 208 Safety Management

Mgt 209 Risk Management

Mgt 210 Professional Development Management

Mgt 211 Leadership

Mgt 212 Preparing Portfolios

Mgt 213 Conflict Management

Professional Diploma in Mechanical Engineering & Management (Year 4)
(30 points)

Professional Diploma in Mechanical Engineering

Complete 10 units at 30 Points

RE011a Civil and Mechanical Engineering (3 pt)

BAE606 Building Services Electrical and Mechanical Engineering(3 pt)

BAE314 Power Generation (3 pt)

BAE423 Fluid Mechanics(3 pt)

BAE512 Building Services Water Supply System (3 pt)

RE014 Electronics Control (3 pt)

BAE601 Computer Programming (3 pt)

BAE605 Management (3 pt)

BAE508 Project Management (3 pt)

BAE608 Engineering Competency Report (3 pt)

Professional Diploma in Mechanical Engineering and Management will be completed

Military Studies
YEAR 1
Diploma in Homemade Small Arms Technology

MIL 101 Gun Training in Myanmar
MIL102 Homemade Gun Making
MIL103 Homemade Fire Thrower Gun Making
MIL104 Explosive Making Books
MIL105 Defence System
MIL201 Strategy
MIL202 Advanced Gun Making

PROFESSIONAL MILITARY STUDIES
(International)

Bachelor of Arts (Defence Studies)
Bachelor of Science (Academic Discipline & Defence Studies)
Bachelor of Engineering (Academic Discipline & Defence Studies)
Bachelor of Arts (Defence Studies)

YEAR 2

MIL203-Modern-security-problems
MIL204 Art and Science of Welfare
MIL205 Building Strategy and Performance
MIL206 Cause of War
MIL207 Elements of Military Art and Science
MIL208 Welfare Studies
MIL209 Conflicts
MIL210 National Security
MIL211 Fire Arms Studies
MIL212 Strategic Management
MIL213 Guerrilla Warfare Method
MIL214 Psychology

YEAR 3

MIL301 Psychology for Control
MIL302 Military Psychology
MIL303 Military Leadership

MIL304 Modern Security Challenges
MIL305 National Security
MIL306 Peace Making
MIL307 Military Performance Improvement
MIL308 Strategic Leadership
MIL309 Strategic Planning in the Military
MIL310 Strategies of War

YEAR 4

- MIL401 Battle Tactics
MIL402 Mental Training
MIL403 Uncertainty in Strategic Planning
MIL404 Advanced Military Strategies
MIL405 Cyber War
- ICTN704 CISCO Firewall ICTN705 CISCO LAN Switching Configuration
 - ICTN706 Computer Architecture and Security
- MIL406 Military History
MIL407 Professional Studies

For other Academic Discipline and Defence Degrees, the relevant contents of academic disciplines need to be mixed with above professional defence studies subjects.

Bachelor of Science (Academic Discipline & Defence Studies)
Bachelor of Engineering (Academic Discipline & Defence Studies)

BAM/MAM402 Ancient Myanmar Defence
BAM/MAM302 Ancient Myanmar Historical Events
Mgt 101 Management
Mgt 102 Performance Management
Mgt 103 Operation Management

Suggested Military Subjects for other professional disciplines

BAM/MAM302 Ancient Myanmar Historical Events
Mgt 101 Management
Mgt 102 Performance Management
Mgt 103 Operation Management
MIL105 Defence System

MIL201 Strategy

MIL205 Building Strategy and Performance

MIL207 Elements of Military Art and Science

MIL208 Welfare Studies

MIL211 Fire Arms Studies

MIL212 Strategic Management

MIL303 Military Leadership

PLUS

RELATED PROFESSIONAL STUDIES SUBJECTS

**IQY Technical College/ IQY Degree
College/ IPMTU Degree College Programs**
IQY University IPEM Technological University

<http://www.iqytechnicalcollege.com/IQY University IPEM Technological University 1+2.pdf>

COMMERCIAL PROGRAMS

1/Faculty of Engineering

Engineering

<http://www.iqytechnicalcollege.com/offeredcoursesEngg.htm>

Engineering Practice

Australian Engineering Courses

www.iqytechnicalcollege.com/AustralianEngineeringCourses.pdf

2/Faculty of Information Technology

Information Technology

<http://www.iqytechnicalcollege.com/offeredcoursesIT.htm>

3/Faculty of Management

Management

<http://www.iqytechnicalcollege.com/offeredcoursesMgt.htm>

NON COMMERCIAL PROGRAMS

4/Faculty of Teacher Education

Teacher Education

<http://www.iqytechnicalcollege.com/offeredcoursesEdu.htm>

5/Faculty of Vocational Education

Vocational Education & Basic Education

<http://www.iqytechnicalcollege.com/offeredcoursesVoc.htm>

6/Faculty of Arts

7/Faculty of Science

BSc (Maths/Physics/Chemistry) with Vocational Studies

<http://www.iqytechnicalcollege.com/Traditional%20subjects%20BSc%20with%20Vocational%20Studies.pdf>

Archaeologist U Myint Aung School of Myanmar Literature Courses BA (Myanmar) and Other courses

<http://www.iqytechnicalcollege.com/BAMyanmar.pdf>

Engineering Science

Arts and Science

<http://www.iqytechnicalcollege.com/BAGeneralArtsScience.pdf>

Arts and Science Courses

<http://www.iqytechnicalcollege.com/BAGeneralArtsScience.htm>

8/Faculty of Humanities

Humanities

[http://www.iqytechnicalcollege.com/offeredcoursesHumanities.h
tm](http://www.iqytechnicalcollege.com/offeredcoursesHumanities.htm)

9/Faculty of Law

Law

<http://www.iqytechnicalcollege.com/offeredcoursesLaw.htm>

10/Faculty of Multicultural and Religious Studies

BA (English)

<http://www.iqytechnicalcollege.com/BAEnglish.pdf>

Fitness and Language

[http://www.iqytechnicalcollege.com/offeredcoursesLanguageFitn
ess.htm](http://www.iqytechnicalcollege.com/offeredcoursesLanguageFitness.htm)

Diploma in Asian Cooking (219902)

Diploma in Baking and Cake Making (219903)

Diploma in Cake and Pastry (219904)

Diploma in Catering (219905)

Diploma in Commercial Cooking (219906)

Bachelor of Arts (Buddhism Studies) (629901)

Bachelor of Arts (Islamic Studies) (629902)
Bachelor of Arts (Christian Studies) (629903)
Bachelor of Arts (Hindu Studies) (629904)
Bachelor of Arts (Jewish Studies) (629905)

11/Department of Collaboration & Australian IQY Technical College

Department of Collaboration and Australian IQY Technical College offer the online distance learning programs for Australian and International students by collaborating with Australian Educational Institutions.

IQY Degree College and IPEMTU Degree College offer Doctorate Programs for all faculties.

IQY Diploma in Doctorate Studies (90110)

Specific Courses

<http://www.iqytechnicalcollege.com/Form345SpecificCourses.htm>

Performance based Degree Diploma Programs

<http://www.iqytechnicalcollege.com/PB.htm>

Trade Practice/Vocational Practice/ Professional Practice/Engineering Practice/Work Practice

Collaboration Programs

<http://www.highlightcomputer.com/iqyadministration/collaboration.htm>

Open Public Courses

Honorary Award Programs

<http://www.iqytechnicalcollege.com/honorary.htm>

International Conversion Courses

<http://www.iqytechnicalcollege.com/eitaibt.htm>

Latest Industrial and Business Knowledge Courses

<http://www.iqytechnicalcollege.com/latestknowledge.htm>

Certificate in Aircraft Cabin Cleaning
Certificate IV in Training and Assessment

The following courses are offered for Australian Students, The students will also receive the international qualifications

Australian Engineering Courses

www.iqytechnicalcollege.com/AustralianEngineeringCourses.pdf

12/The Institution of Professional Engineers Myanmar Branch of Military Engineering and Military Studies & People Defence Force Academy (PDFA)

Military Studies

<http://www.iqytechnicalcollege.com/MilitaryStudies.htm>

456678G/556678G Advanced Diploma/ Bachelor of Work Studies(Security Service)

13/Faculty of Political Science

5557789 Bachelor of Political Science

6557789 Master of Political Science

7557789 Doctor of Political Science

COMMERCIAL PROGRAMS + NON COMMERCIAL PROGRAMS

All Programs

Click the following link to view the updated courses

<http://iqycoursesupdate.blogspot.com.au/>

VIDEO (MYANMAR) FOR THE OFFERED COURSES

<http://www.iqytechnicalcollege.com/IQYIPEMCourseInformation.htm>

[IQY Technical College Programs and Career](#)

[IQY Career Flow and Entry Table](#)

[IQY Courses and Award Systems and Recognition](#)

This table shows only Technical, Vocational, Engineering, Information Technology and Management studies.

All IQY Diploma programs require Year 12 or equivalent educational qualifications.

The students will need to do Year 9 to 12 studies in General Education before attending IQY Diploma Programs at Year 1

<http://www.highlightcomputer.com/y712lessons.htm>

In some cases, the relevant General Education programs can be concurrently undertaken together with IQY Diploma Programs so that **Certificate in Tertiary Preparation (Year 11+12)** can be embedded and the mode of the studies will be based on the needs of individual students. Generally after Year 12, Diploma (Year 1), Advanced Diploma (Year 2) and Bachelors Degree (Year 3 and 4) in line with international standards.

According to Myanmar Education system, to complete BE degree, including Year 11+12, total 6 Years will need to be spent to study by the students with Year 10 Qualifications.

The students of all IQY Advanced Diploma in Engineering (Electrical, Mechanical, Civil), Information Technology and Management Courses have also completed the following Skills Training Subjects (GE- General Engineering, IE-Intermediate Engineering) which are mapped to Australian Training Packages

IQY Advanced Diploma	Skills Training Subjects
Electrical Engineering	Advanced Diploma in Electrical Engineering Skills Training (GE+IE) Units Link
Civil Engineering	Advanced Diploma in Civil Engineering Skills Training (GE+IE) Units Link
Mechanical Engineering	Advanced Diploma in Mechanical Engineering Skills Training (GE+IE) Units Link

For all other courses, specific advice will be provided individually.

UPDATED COURSES

Click the following link to view the updated courses

<http://iqycoursesupdate.blogspot.com.au/>

VIDEO (MYANMAR) FOR THE OFFERED COURSES

www.iqytechnicalcollege.com/IQYIPEMCourseInformation.htm

[IQY Technical College Programs and Career](#)

Offered Courses

<u>Physical Education-Fitness Program</u>
<u>Language</u>

Physical Education-Fitness Program

[Fitness Training](#)

Language

Dr Mon's School of English

Bachelor of Arts-English (4667890)

Diploma in English (3667890)

Diploma in Business English (3667891)

Certificate in English (2667890)

Certificate in Business English (2667891)

Enrolment

<https://www.emailmeform.com/builder/form/ob3X7Klh9eV6x9AfbQab5e8>

www.iqytechnicalcollege.com/Language1.pdf

HAND BOOKS

[IQY Milestones and recognitions](#)

BACHELOR OF ARTS (ENGLISH)

B.A. English is a 3-year undergraduate course dealing with the various nuances of English as a language, both written and spoken. It is excellent preparation for careers in teaching, media, and advertising, writing, and publishing.

Employment Roles	Content Writer, Executive Assistant, HR Manager, Primary School Teacher, High School Teacher, Operations Team Leader, Copywriter, Marketing Manager, Editor, Graphic Designer, Technical Writer etc.
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Why Study BA English?

Each student admitted into the BA English program has their own personal goals and reasons to pursue the program. Some of the reasons why this program should be considered are stated below.

- Multiple career opportunities: One of the major benefits of studying BA in English is the diverse career opportunities that are available. Students can choose to work or study in their line of study or in a completely different field. Graduates from this program are in demand, especially in media and publishing houses, in both the private and government sectors

What is BA English?

The program aims to introduce a wide range of Literatures in English. In the primary phase, Bachelor of Arts course has the aim to offer the opportunity for students to be able to respond and read novels of the large spectrum, play and create poetry with associated genres. At a secondary level, the students will be exposed to wider socio-cultural and political issues in relation to contemporary English. This program in English will be serving as an excellent foundation for students who want to do a very deep study.

The B.A. English course provides a strong background in the study of English. This particular program stresses upon:

- Diversity
- Literary Analysis
- Written and oral communication skills
- Critical thinking

through a rigorous curriculum of literature, composition, language and linguistics, and communication studies. Students interested in creative writing may choose this profession.

BA English Syllabus

The semester-wise syllabus of BA English are mentioned below:

Year 1

Part 1

Diploma in English (30 credits)

FOUR SKILLS ENGLISH

WENG 1	Workplace English 1
WENG 2	Workplace English 2
WENG 3	Workplace English 3

WENG1-Workplace English 1

- Business Communication
- Listening
- Writing
- Reading

WENG2-Workplace English 2

- Speaking

WENG3-Workplace English 3

- Career Development

Part 2

Bachelor of Arts(English)

Contents

Year 2 (45 Credits Each subject 9 Credits)

ENG201 Communicative English & Professional Communication

ENG202 History of English Literature

ENG203 English Poetry

ENG204 English Prose

ENG205 Writing in English: Fiction

ENG206 Cultural Studies

Year 3 (45 Credits Each subject 9 Credits)

ENG301 History of English Language and Phonetics

ENG302 Shakespeare: Comedies

ENG303 Elements of Literary Criticism

ENG304 English Poetry: Modern

ENG305 English Drama

ENG306 Biography

BA English Scope

Career options after completing a BA English degree is either looking for a job or going for higher education.

- BA English graduates find jobs in media houses, publishing houses, MNCs and other industries in both private and public sectors.
- Some job profiles that graduates get hired as are content writer, copywriter, teachers, journalist, editors, proofreaders, human resources management etc.

Job profiles are not limited for BA English graduates. One can gain employment in various sectors and industries.

Diploma in Human Rights

12 Units x 5 Credits per unit= 60 Credits

HR 101 Ethics

HR 102 Freedom of Judges and Lawyers

HR103 Human Trafficking

HR104 Humanity Work/ Protection of Violence

HR105 Legal Defence

HR106 Equal Employment Right

HR 201 Human Right

HR 202 Social Security Rule

HR 203 Worker Compensation

HR 204 Citizenship Duty and Responsibility

HR 205 Freedom of Judges and Lawyers

HR 206 Myanmar Defender Manual Burmese

Bachelor of Arts (Politics and Human Rights)

<http://www.highlightcomputer.com/Form245BAHumanrightsPloitics.htm>

BA (Politics and Human Rights) can be awarded by two ways

- Academic Study
- Political Practice and Human Rights Practice

Unicode

BA (Politics and Human Rights) ကိုနည်းနှစ်နည်းဖြင့်ချီးမြှင့်သည်

- ပညာရေးဆိုင်ရာလေ့လာမှု
- နိုင်ငံရေးအလေ့အကျင့်နှင့်လူ့အခွင့်အရေးအလေ့အကျင့်

Zawgyi One

BA (Politics and Human Rights) ကိုနည်းနှစ်နည်းဖြင့်ချီးမြှင့်သည်

- ပညာရေးဆိုင်ရာလေ့လာမှု
- နိုင်ငံရေးအလေ့အကျင့်နှင့်လူ့အခွင့်အရေးအလေ့အကျင့်

Academic Study Path Way

Part 1

Diploma in Politics and Human Rights

Academic study in

Form 312 Diploma in Human Rights (60 Credits)

Part 2

Bachelor of Arts (Politics and Human Rights)

Some subjects or study materials from the following courses will be taken out and provided by the tutor by discussing with the candidate.

- Form 342 Bachelor of Arts (General Arts)
- Form 343 Bachelor of Arts (Myanmar)
- Form 317 Representative Lawyer (RL) LLM Course
- Form 318 Bachelor of Law (BL) Para legal Course

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Political Practice Path Way

Diploma in Politics and Human Rights AND Bachelor of Arts (Politics and Human Rights) can be conferred by the Academic Board of The Faculty of Law of IQY Technical College and IQY Degree College by consultation with politicians and Human Rights Lawyers based on the following aspects.

- Political Knowledge
- Formal or Informal Political Study
- Political Belief
- Political Stand for the people, justice, truth and fairness
- Political Publications (Formal OR Informal)

Formal—Publication in published books, journal

Informal-Publication of Handouts OR Social Media

- Sacrifice for political stand for the people, justice, truth and fairness
- Depending on the amount of assessed political practice and previous educational qualifications, Diploma in Politics and Human Rights AND Bachelor of Arts (Politics and Human Rights) can be conferred.

Academic Board of The Faculty of Law of IQY Technical College and IQY Degree College announces that Diploma in Politics and Human Rights AND Bachelor of Arts (Politics and Human Rights) can be regarded as Academic Award or Honorary Award based on the pathway followed.

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Unicode

ပညာရေးဆိုင်ရာ Path Way.

အောက်ဖော်ပြပါသင်တန်းများမှဘာသာရပ်များသို့မဟုတ်သင်ကြားမှုဆိုင်ရာများကို သင်တန်းသားနှင့်ဆွေးနွေးခြင်းအားဖြင့်နည်းပြဆရာမှထုတ်ပေးမည်။

- Form 342 ဝိဇ္ဇာဘွဲ့ (အထွေထွေဝိဇ္ဇာပညာ)
- Form 343 Arts of Bachelor (Myanmar)
- Form 317 ကိုယ်စားလှယ်ရှေ့နေ (RL) LLM သင်တန်း
- Form 318 of Law of Bachelor (BL) Para ဥပဒေသင်တန်း

နိုင်ငံရေးအလေ့အကျင့် Path Way.

နိုင်ငံရေး၊

- နိုင်ငံရေးအသိပညာ

- တရားဝင်သို့မဟုတ်အလွတ်သဘောနိုင်ငံရေးလေ့လာမှု
- နိုင်ငံရေးယုံကြည်ချက်
- ပြည်သူလူထု၏နိုင်ငံရေးရပ်တည်ချက်၊ တရားမျှတမှု၊ အမှန်တရားနှင့်တရားမျှတမှု
- နိုင်ငံရေးပုံနှိပ်ထုတ်ဝေခြင်း (တရားဝင်သို့မဟုတ်အလွတ်သဘော)
- တရားဝင် - ပုံနှိပ်ထုတ်ဝေသောစာအုပ်များ၊ ဂျာနယ်များတွင်ထုတ်ဝေခြင်း
- လက်ကမ်းစာစောင်များ (သို့) လူမှုမီဒီယာများအားအလွတ်သဘောထုတ်ဝေခြင်း
- ပြည်သူလူထုအတွက်နိုင်ငံရေးရပ်တည်ချက်၊ တရားမျှတမှု၊ အမှန်တရားနှင့်တရားမျှတမှု အတွက်အနစ်နာခြင်း
- အကဲဖြတ်သည့်နိုင်ငံရေးအလေ့အကျင့်နှင့်ယခင်ပညာရေးအရည်အချင်းများပေါ်မူတည်၍ နိုင်ငံရေးနှင့်လူ့အခွင့်အရေးဒီပလိုမာနှင့် ဝိဇ္ဇာဘွဲ့ (နိုင်ငံရေးနှင့်လူ့အခွင့်အရေး) ကိုအပ်နှင်းနိုင်သည်။

IQY နည်းပညာကောလိပ်၏ဥပဒေပညာရေးဌာနဘုတ်အဖွဲ့နှင့် IQY ဒီဂရီကောလိပ်မှ နိုင်ငံရေးနှင့်လူ့အခွင့်အရေးဒီပလိုမာနှင့် ဝိဇ္ဇာဘွဲ့ (နိုင်ငံရေးနှင့်လူ့အခွင့်အရေး) ကိုပညာရေးဆိုင်ရာ ဘွဲ့သို့မဟုတ်ဂုဏ်ပြုချီးမြှင့်သည့် ဘွဲ့အဖြစ်မှတ်ယူနိုင်သည်ဟုကြေငြာသည်။

Zawgyi One

ပညာရေးဆိုဉာ Path Way

ေအာကုေဟုပပါသန္တနးမ်းမ္ဘာသာရပ္ပာသိုမဟုတ္တန္တကားမးဆိုဉာမ်းကို သန္တနးးသားုတ္တုေဆြးေးြးုရခုးအားုဖုတ္တုးုပဆရာမ္မထုတုေပးမည့။

- Form 342 ဝိဇ္ဇာတြိတ် (အေကြေကြဝိဇ္ဇာပညာ)
- Form 343 Arts of Bachelor (Myanmar)
- Form 317 ကိုယွားလွယုေရ္ဇေန (RL) LLM သန္တနးး
- Form 318 of Law of Bachelor (BL) Para ဥပဒေသန္တနးး

နိုင်ငံရေးအလွတ်အကဲငု Path Way

နိုင်ငံရေး၊

- နိုင်ငံရေးအသိပညာ
- တရားဝင်သို့မဟုတ်အလွတ်သဘောနိုင်ငံရေးလေ့လာမှု

• နိုင်ငံရေးယုံနာကညွှန်ကု

• ပျပညျလူထု၏နိုင်ငံရေးရပွည့်ကု၊ တရားမဗွတမ၊ အမန္တရားဝုငွတရားမဗွတမ၊

• နိုင်ငံရေးပုံဝိပွတုေဝျခင်း (တရားဝုညျ/မဟုတ္တုလြေတောဘာ)

တရားဝု - ပုံဝိပွတုေဝေသာစာအုပ္ပံး၊ က်နယံးတြေတုေဝျခင်း

လက္ကမုးစာစာဌ်း (သို/၊) လူမးမီဒီယာမားအားအလြေတောဘာထုတုေဝျခင်း

• ပျပညျလူထုအတြကိနိုင်ငံရေးရပွည့်ကု၊ တရားမဗွတမ၊ အမန္တရားဝုငွတရားမဗွတမ၊အတြက္ကနန္တုခင်း

• အကဲပျဖတ္တညျိုင်ငံရေးအလုအကံင်းဝုငွခညာေရးအရညွခင်းမားေပု မူတညျရ် နိုင်ငံရေးဝုငွလျ/အခြငွေရးဒီပလိုမားဝုငွ ဝိဇာ်တြဌ (နိုင်ငံရေးဝုငွလျ/အခြငွေရး) ကိုအပုးဝုင်းနိုင်ညျ။

IQY နညးပညာေကာလိပု၏ဥပေဒပညာေရးဌာနဘုတ္တုဖြဌးဝုငွ IQY ဒီဂရီေကာလိပွ နိုင်ငံရေးဝုငွလျ/အခြငွေရးဒီပလိုမားဝုငွ ဝိဇာ်တြဌ (နိုင်ငံရေးဝုငွလျ/အခြငွေရး) ကိုပညာေရးဆုဌာ်တြဌ သို/မဟုတုဏုပုဝိခ်းပျမးညျတြဌ အျဖစ္တုညျိုင်ညျေဗုကုတသညျ။

Bachelor of Arts (General Arts)

Course 43321341

20 subjects at 6 credits per subject=120 credits

BA101 Myanmar

BA102 English

BA103 Philosophy

BA104 Geography

BA105 Myanmar History

BA201 Political Science

BA202 Archaeology

BA203 Anthropology

BA204 Myanmar Literature

BA205 World History

BA301 Logic

BA302 Myanmar Literature

BA303 Myanmar Poem

BA304 Pre-history

BA305 Sociology

BA401 Myanmar Culture

BA402 English Literature

BA403 Legal Studies & Administration

BA404 World Geography

BA405 Economics

Bachelor of Science (General Science)

Course 43321342

Each subject 6 credits Total 20 Subjects and 120

credits Year 1

BS101 Myanmar

BS102 English

BS103 Physics

BS104 Chemistry

BS105 Mathematics

Year 2

BS201 Geology

BS202 Forestry

BS203 Botany

BS204 Zoology

BS205 Statistics

Year 3

BS301 Industrial Chemistry

BS302 Astrology

BS303 Computer Science

BS304 Renewable Energy

BS305 Economics

Year 4

BS401 Legal Studies

BS402 Medical Science

BS403 Optometry

BS404 Geographic Information System

BS405 Oceanography

Bachelor of Science (Physics)

Course 43321343

Bachelor of Science (Chemistry)

Course 43321344

Bachelor of Science (Geology)

Course 43321345

Bachelor of Science (Biology)

Course 43321346

Bachelor of Science (Forensic Science)

Course 43321347

Bachelor of Science (Environmental)

Course 43321348

ALL SCIENCE CURRICULUM

QUT Curriculum is referred

Bachelor of Engineering Science (Genetic Engineering)

Course 43321349

CURRICULUM

Bachelor of Nautical Science(43321350)

Curriculum

Bachelor of Nautical Science

Bachelor of Marine Science (43321351)

Curriculum

[Bachelor of Marine Science](#)

Bachelor of Engineering Science (43321352)

Curriculum

[Bachelor of Science \(Photonics\)](#)

Bachelor of Engineering Science (43321353)

Curriculum

[Bachelor of Science \(Forestry\)](#)

Bachelor of Arts (Antropology)

Course 4332150

Bachelor of Arts (Geography)

Course 4332151

Bachelor of Arts (History)

Course 4332152

Bachelor of Arts (Psychology)

Course 4332154

Bachelor of Arts (Sociology)

Course 4332155

Bachelor of Arts (Philosophy)

Course 4332156

Bachelor of Science (Maths/Physics/Chemistry) with Vocational Studies

Unicode

အစဉ်အလာရှိသည့်၊ ရူပဗေဒ၊ ဓာတုဗေဒဘာသာရပ်များအား BSc (သင်္ချာ / ရူပဗေဒ / ဓာတုဗေဒ)

ဘွဲ့ရရှိရန်အတွက်အသက်မွေး ၀ မ်းကျောင်းဘာသာရပ်များတွဲဖက်၍သင်ကြားနိုင်သည်။

ကျောင်းသားများသည်အလယ်အလတ်သိပ္ပံဘာသာရပ်ဒီပလိုမာတွင်ပထမဆုံးသင်ကြားပြီး BSc သင်တန်းကိုဆက်တက်မည်ဖြစ်သည်။

IQY ဒီဂရီကောလိပ်နှင့်တိုက်ရိုက်အွန်လိုင်းပညာသင်ကြားရန်မှာ ၁၀၀၀၀၀ ကျပ်ဖြစ်သည်။

အခြားပညာရေးအဖွဲ့များနှင့်ကျောင်းများသည် IQY ဒီဂရီကောလိပ်နှင့် ပူးပေါင်း၍ အစီအစဉ်ကိုသင်ကြားနိုင်သည်။
ထိုအဖွဲ့များမှအပိုဆောင်းအခကြေးငွေများပေးနိုင်ပါသည်။

Bachelor of Education Course ကိုတက်ရောက်လိုသောကျောင်းသားများအနေဖြင့်လည်း BSc သင်တန်းကိုအပိုထပ်ဆောင်းအခမဲ့ပေးတက်နိုင်ပါသည်။

စုံစမ်းရန်/Enquiry

<http://www.iqytechnicalcollege.com/contact1.htm>

စာရင်းသွင်းရန်/ Enrolment

<https://www.emailmeform.com/builder/form/17R43w4uffLma2JArh>

Tick BSc Maths/Physics/Chemistry OR BSc(Maths) or BSc(Physics) or BSc(Physics/Chemistry)



English

Traditional subjects Mathematics, Physics, Chemistry can be studied with Vocational Subjects to get BSc (Maths/Physics/Chemistry) degrees.

The students will firstly study the Diploma in Intermediate Science then will continue BSc course.

The fees for direct online study with IQY Degree College is Kyats 100000.

Other education groups and schools can collaborate with IQY Degree College to teach the program.

Additional fees can be charged by those groups.

The students who want to attend Bachelor of Education Course can also attend BSc course at no extra fees.

Bachelor of Science (Maths/Physics/Chemistry) with Vocational Studies (49980)

The Bachelor of Science gives students a solid foundation in scientific knowledge and practice while allowing them to specialise in an area of interest.

Students study the Bachelor of Science to broaden their depth of knowledge, before specialising in a specific field.

Studying science provides an education for life. Training in multiple fields of science gives students transferable skills – a foundation of logical, analytical, critical thinking, teamwork and communication.

There are several disciplines studies in Science. At IQY Degree College, they are organized under the title of Work Studies to provide both theory and practical application of vocational studies.

- Bioinformatics-----Under Agri Foods
- Genetics-----Under Agri Foods
- Molecular and Cell Biology-----Under Agri Foods
- Biology-----Under Agri Foods
- Biotechnology-----Under Renewable Energy
- Food Science-----Under Agri Foods
- Geographical Studies----Under Civil Engineering
- Earth Science----Under Civil Engineering
- Immunology-----Under Agriculture
- Materials Science---Under Mechanical Engineering
- Microbiology-----Under Agri Foods
- Marine and Coastal Science---Under Marine Engineering

Year 12 Equivalent

Diploma in Intermediate Science (Dip ISc)

Year 1 (30 credits)

BS101-Degree Mathematics (6 credits)

BS102 -Degree Chemistry (6 credits)

BS103 Degree Physics (6 credits)

BS104 English (6 credits)

BS105 Myanmar (6 credits)

Year 2 (30 credits)

BS201 Differential Equations (5 credits)

BS202 Discrete Mathematics (5 credits)

BS203 Materials Chemistry (5 credits)

BS204 Engineering Physics 1 (5 credits)

BS205 English (5 credits)

BS206 Myanmar (5 credits)

Year 3 (30 credits)

BAE401 Advanced Engineering Mathematics (5 credits)

BAE402 Calculus (5 credits)

BS301 Physical Chemistry (5 credits)

BS302 Mass Transfer (5 credits)

BS303 Particle Mechanics (3 credits)

BS304 Chemical Process (2 credits)

BS305 Engineering Physics 2 (5 credits)

Year 4 Vocational Studies (30 credits)

Choose One Diploma in Work Studies Course

(2) အဆင့်မြင့်ဒီပလိုမာအတွက်လေ့လာရန် / To study for Advanced Diploma

Form 220 BWS 1 Sewing & Non Engineering Manufacturing

Form 221 BWS 2 Foods Service

Form 222 BWS 3 Children Service

Form 223 BWS 4 Aged Care

Form 224 BWS 5 Customer Service

Form 225 BWS 6 Safety Industry

Form 226 BWS 7 Transport Logistics

Form 227 BWS 8 Agri Foods Production

Form 228 BWS 9 Live Stock

Form 229 BWS 10 Sales and Marketing

Form 230 BWS 11 Properties Services

Form 231 BWS 12 Performing

Form 232 BWS 13 Water Services

Form 233 BWS 14 Textile Care

Form 234 BWS 15 Personal Services

Form 235 BWS 16 Asset Management

Form 236 BWS 17 Properties Maintenance

Form 237 BWS 18 Industry

Form 238 BWS 19 Clerk of Work

Form 239 BWS 20 Engineering Manufacturing / Printing

Form 240 BWS 21 Public Communication/postal/ Library

Form 241 BWS 22 Education Support

Form 242 BWS 23 Production and Industry

Form 243 Master of Professional Engineering (International)

Form 244 BWS 24 Visual Arts and Crafts

Form 245 BWS 24 Visual Arts and Crafts

Form 246 BWS 25 Screen Media

Bachelor of Science (Physics) with Vocational Studies (49981)

Physics is the study of the laws of nature that govern the behaviour of the universe, from the smallest sub-atomic particles to the universe itself. It applies these laws to the solution of practical and theoretical problems and to the development of new technologies.

Year 12 Equivalent

Diploma in Intermediate Science (Dip ISc)

Year 1 (30 credits)

BS101-Degree Mathematics (6 credits)

BS102 -Degree Chemistry (6 credits)

BS103 Degree Physics (6 credits)

BS104 English (6 credits)

BS105 Myanmar (6 credits)

Year 2 (30 credits)

BS201 Differential Equations (5 credits)

BS202 Discrete Mathematics (5 credits)

BS203 Materials Chemistry (5 credits)

BS204 Engineering Physics 1 (5 credits)

BS205 English (5 credits)

BS206 Myanmar (5 credits)

Year 3 (30 credits)

BS301 Analog and Digital Electronics 1(5 Credits)

BS302 Process Control (5 Credits)

BAE407 Electromagnetics (5 Credits)

BAE408 Analog and Digital Electronics 2 (5 Credits)

Vocational Studies (10 Credits)

Year 4 Vocational Studies (30 credits)

Choose One Diploma in Work Studies Course

(2) အဆင့်မြင့်ဒီပလိုမာအတွက်လေ့လာရန် / To study for Advanced Diploma

Form 220 BWS 1 Sewing & Non Engineering Manufacturing

Form 221 BWS 2 Foods Service

Form 222 BWS 3 Children Service

Form 223 BWS 4 Aged Care

Form 224 BWS 5 Customer Service

Form 225 BWS 6 Safety Industry

Form 226 BWS 7 Transport Logistics

Form 227 BWS 8 Agri Foods Production

Form 228 BWS 9 Live Stock

Form 229 BWS 10 Sales and Marketing

Form 230 BWS 11 Properties Services

Form 231 BWS 12 Performing

Form 232 BWS 13 Water Services

Form 233 BWS 14 Textile Care

Form 234 BWS 15 Personal Services

Form 235 BWS 16 Asset Management

Form 236 BWS 17 Properties Maintenance

Form 237 BWS 18 Industry

Form 238 BWS 19 Clerk of Work

Form 239 BWS 20 Engineering Manufacturing / Printing

Form 240 BWS 21 Public Communication/postal/ Library

Form 241 BWS 22 Education Support

Form 242 BWS 23 Production and Industry

Form 243 Master of Professional Engineering (International)

Form 244 BWS 24 Visual Arts and Crafts

Form 245 BWS 24 Visual Arts and Crafts

Form 246 BWS 25 Screen Media

Bachelor of Science (Mathematics) with Vocational Studies (49982)

The discipline of mathematics at IQY Degree College is divided into several areas of study: Pure Mathematics, Applied Mathematics and Statistics.

Pure Mathematics is the study of the essential structures of mathematics. Work by pure mathematicians underpins most of the technological advances of this century. Pure Mathematics is concerned with problems and techniques which transcend specific applications. Research, focusing on the development of existing theories or the creation of new ones, may be driven by applications or by the internal demands of the discipline. Pure Mathematics courses provide the insights and understanding required by those using mathematics, leading to mastery of the fundamental processes of mathematical science and the capacity for innovative applications in any area.

Applied Mathematics concerns the development of mathematics and models for understanding scientific phenomena, for the solution of technical and industrial problems, and for use in the social, economic and management sciences. Courses are designed to provide basic mathematical and computational skills needed for a wide range of applications, to develop the capability to construct, analyse and interpret mathematical models, and to encourage enthusiasm for the role of the mathematician in a variety of contexts.

Statistics is the science and art of using factual material for modelling and inference. Its mathematical foundations are in the theory of probability and it deals with how to estimate and make decisions using knowledge which is uncertain or observational material which is subject to error. There is a rich interplay of ideas between the theory of statistics and fields such as engineering, medicine and biological and behavioural sciences where statistical problems constantly arise.

Year 12 Equivalent

Diploma in Intermediate Science (Dip ISc)

Year 1 (30 credits)

BS101-Degree Mathematics (6 credits)

BS102 -Degree Chemistry (6 credits)

BS103 Degree Physics (6 credits)

BS104 English (6 credits)

BS105 Myanmar (6 credits)

Year 2 (30 credits)

BS201 Differential Equations (5 credits)

BS202 Discrete Mathematics (5 credits)

BS203 Materials Chemistry (5 credits)

BS204 Engineering Physics 1 (5 credits)

BS205 English (5 credits)

BS206 Myanmar (5 credits)

Year 3 (30 credits)

BAE401 Advanced Engineering Mathematics (5 credits)

BAE402 Calculus (5 credits)

BS301 Programming for Mathematicians and Scientists (5 credits)

BS302 Applied Mathematics (5 credits)

Mechanics of Solids

Vocational Subject (10 Credits)

Year 4 Vocational Studies (30 credits)

Choose One Diploma in Work Studies Course

(2) အဆင့်မြင့်ဒီပလိုမာအတွက်လေ့လာရန် / To study for Advanced Diploma

Form 220 BWS 1 Sewing & Non Engineering Manufacturing

Form 221 BWS 2 Foods Service

Form 222 BWS 3 Children Service

Form 223 BWS 4 Aged Care

Form 224 BWS 5 Customer Service

Form 225 BWS 6 Safety Industry

Form 226 BWS 7 Transport Logistics

Form 227 BWS 8 Agri Foods Production

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Form 229 BWS 10 Sales and Marketing

Form 230 BWS 11 Properties Services

Form 231 BWS 12 Performing

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Form 233 BWS 14 Textile Care

Form 234 BWS 15 Personal Services

Form 235 BWS 16 Asset Management

Form 236 BWS 17 Properties Maintenance

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Form 238 BWS 19 Clerk of Work

Form 239 BWS 20 Engineering Manufacturing / Printing

Form 240 BWS 21 Public Communication/postal/ Library

Form 241 BWS 22 Education Support

Form 242 BWS 23 Production and Industry

Form 243 Master of Professional Engineering (International)

Form 244 BWS 24 Visual Arts and Crafts

Form 245 BWS 24 Visual Arts and Crafts

Form 246 BWS 25 Screen Media

Bachelor of Science (Physics Chemistry) with Vocational Studies (49983)

This combination discipline degree will provide the following knowledge.

Physics

Physics is the study of the laws of nature that govern the behaviour of the universe, from the smallest sub-atomic particles to the universe itself. It applies these laws to the solution of practical and theoretical problems and to the development of new technologies.

Chemistry

The Chemistry stream is designed for students who wish to specialise in the chemical sciences and undertake the maximum number of Chemistry courses. It is designed to provide education and training in all contemporary fields of chemistry, and should be selected by students who wish to devote the majority of their studies at Stage III to Chemistry.

Year 12 Equivalent

Diploma in Intermediate Science (Dip ISc)

Year 1 (30 credits)

BS101-Degree Mathematics (6 credits)

BS102 -Degree Chemistry (6 credits)

BS103 Degree Physics (6 credits)

BS104 English (6 credits)

BS105 Myanmar (6 credits)

Year 2 (30 credits)

BS201 Differential Equations (5 credits)

BS202 Discrete Mathematics (5 credits)

BS203 Materials Chemistry (5 credits)

BS204 Engineering Physics 1 (5 credits)

BS205 English (5 credits)

BS206 Myanmar (5 credits)

Year 3 (30 credits)

BS301 Physical Chemistry (5 credits)

BS302 Mass Transfer (5 credits)

BS303 Particle Mechanics (3 credits)

BS304 Chemical Process (2 credits)

BS305 Engineering Physics 2 (5 credits)

Vocational Subject (10 Credits)

Year 4 Vocational Studies (30 credits)

Choose One Diploma in Work Studies Course

(2) အဆင့်မြင့်ဒီပလိုမာအတွက်လေ့လာရန် / To study for Advanced Diploma

Form 220 BWS 1 Sewing & Non Engineering Manufacturing

Form 221 BWS 2 Foods Service

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Form 239 BWS 20 Engineering Manufacturing / Printing

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Form 241 BWS 22 Education Support

Form 242 BWS 23 Production and Industry

Form 243 Master of Professional Engineering (International)

Form 244 BWS 24 Visual Arts and Crafts

Form 245 BWS 24 Visual Arts and Crafts

Form 246 BWS 25 Screen Media

UPDATED COURSES

Click the following link to view the updated courses

<http://iqycoursesupdate.blogspot.com.au/>

VIDEO (MYANMAR) FOR THE OFFERED COURSES

www.iqytechnicalcollege.com/IQYIPEMCourseInformation.htm

[IQY Technical College Programs and Career](#)

Offered Courses

[Bachelor of Education/ Diploma in Education/ Diploma in Teaching /Professional Diploma/Master Diploma/Masters degree in Education Courses](#)

[Diploma in Doctorate Studies/ Doctor of Philosophy Programs](#)

[Bachelor of Education/ Diploma in Education/ Diploma in Teaching /Professional Diploma in Education Courses](#)

[Bachelor Degree Programs \(St Clements University Higher Education School &](#)

[STC Technological University of British West Indies\)](#)

[Master of Education \(Engineering Education/ School and Vocational Education\).](#)
(80018).

[Professional Diploma in Technical Teaching \(Training, Assessment & Learning Management\).](#)

(10615/46415/56415/66415/76415)

[Diploma in Engineering Education for Government Technical Colleges & Technological University Teachers & Vocational Education Teachers in Myanmar](#)

(10615/46415/56415/66415/76415)

[Diploma in Engineering Education \(Level 1/2/3 Engineering Education Program\).](#)

[Preparation for Teaching Practice & TVET Teacher Training \(Introductory 2 weeks course\).](#)

Diploma in Higher Education Teaching Course

Engineering Education & Accreditation Course

Certificate in Teaching Support+ Diploma in Teaching Practice+ Bachelor of Teaching+ Bachelor of Education (School & Vocational) (66213/66313).

Diploma in Teaching Practice

PROFESSIONAL DIPLOMA IN SCHOOL & VOCATIONAL EDUCATION)

(BACHELOR OF EDUCATION (SCHOOL & VOCATIONAL EDUCATION)

Teacher Training for Volunteer Organizations

IQY Diploma in Doctorate Studies (90110)

HAND BOOKS

Dip Teaching +BEd Videos
IQY Teacher Education Course Video in Myanmar
<https://youtu.be/nAeLtVKTsGA>

30 May 2021 Zoom Lesson—BEd+DipTchg

https://youtu.be/_fXPYsZQpDc

6 June 2021 Zoom Lesson-- BEd+DipTchg

https://youtu.be/ti8OYkB4j_U

13 June 2021 Zoom Lesson-- BEd+DipTchg

<https://youtu.be/yskNfqSs0as>

20 June 2021 Lesson BEd +Teach Tchg

<https://youtu.be/sxbDkua6DhE>

27 June 2021 Lesson BEd+Tchg

<https://youtu.be/74A7PZPZGOQ>

<https://youtu.be/d8MsTfCILpM>

28 June 2021 Lesson BEd+Tchg

<https://youtu.be/5bfn2TARgnw>

29 June 2021

<https://youtu.be/OnfnyQQNIDE>

30 June 2021

BEd Program

<https://youtu.be/gBVpHV7OCDE>

PROFESSIONAL DIPLOMA IN SCHOOL & VOCATIONAL EDUCATION)

.(BACHELOR OF EDUCATION (SCHOOL & VOCATIONAL EDUCATION)

www.highlightcomputer.com/bedschoolvet.htm

BEd

https://mega.nz/file/ywdAkIzb#Vf6P-tZAhrD_krFL3Gy6LfRDV_-mRQzG3330upIKQ8

MEd+DipEnggEd

<https://mega.nz/file/UkMD1AwC#D1v40j53lx1aEHwaR5vUEn5z7aCoLMwn5uB0SGQ3Rd0>

This course aims to provide the teacher education theories and practical applications in school and vocational education classes.

Principles of teaching , learning , training and assessment are combined with instruction design methodologies and knowledge related to learning environment.

Modern learning technologies and technology in classroom contexts are added..

Teachers who are working in voluntary schools can be provided with necessary teaching and training knowledge to work as qualified teachers by attending this course.

Pre-requisite

Degree Holders	Non Degree Holders
<ul style="list-style-type: none">• Bachelor Degree & Teaching Experiences	<ul style="list-style-type: none">• Completion of Year 11+12 (Certificate in General & Vocational Education Level 4) PLUS• Completion of Diploma level qualification in Engineering, IT & Management courses of IQY Technical College & other vocational colleges/schools

Course structure

This course integrates Diploma in Teaching Practice , Teaching Practicum and Advanced study in Education to achieve 120 credit points required to get Professional Diploma in School & Vocational Education .awarded by IQY Technical College (Authorized Training Centre of Singapore Institute of Engineering Technologists, Member of ASEAN Federation of Engineering Organizations)

The universities (STC Technological University & St Clements University) affiliated to IQY Technical College award Bachelor of Education (School & Vocational Education) to holders of Professional Diploma in School & Vocational Education.

Year 1/2

Diploma in Teaching Practice (60 credits)

jointly taught by (STC Technological University/ St Clements University)

Singapore Institute of Engineering Technologists/ IQY Technical College)

ENROLMENT LINK

Click the following link & fill the form.

<http://www.emailmeform.com/builder/form/tq48xQ6acb>

List of Subjects for Teaching Practice

ED101P Teaching Support (5 Credits)

ED102P Application of Information Technology in School Education (5 Credits)

ED103P Classroom Management (5 Credits)

ED104P Teaching Portfolio (5 Credits)

ED105P Inclusive Teaching (5 Credits)

ED106P Subject Area Knowledge (5 Credits)

ED107 Theory of Education, Educational Technology & Teaching Practice
(15 Credits).

ED107A-Theory of Education (ED101) (Slide 1 to 60 Principle of Learning)

ED107B-Education Technology (ED102) (Slide 61 to 100)

ED107C-Teaching Practice (ED103 Classroom Management) (Slide 101 to 140)

ED107D-Lesson Planning (ED104 Teaching Portfolio)(Slide 241 to 300)

ED107E-Teaching& Learning (Slide 141 to 160+ Slide 200 to 240)

ED107F-Inclusive Teaching (ED105 Inclusive Teaching Slide 161 to 200)

ED107G-Evaluation& Assessment (Slide 301 to 320)

ED108 Curriculum Study , Teaching & Learning (15- Credits)

Interpreting Curriculums

Study Sequence for Graduates

ED106 Subject Area Knowledge (Present Degree)

Part (1) Theory Training & Assignment (Certificate in Teaching Practice)

ED107 Theory of Education, Educational Technology & Teaching Practice
(15 Credits).

ED108 Curriculum Study , Teaching & Learning (15 Credits)

Part (2) Teaching Practice Portfolio Presentation (Diploma in Teaching Practice)

ED101P Teaching Support (5 Credits)

ED102P Application of Information Technology in School Education (5 Credits)

ED103P Classroom Management (5 Credits)

ED104P Teaching Portfolio (5 Credits)

ED105P Inclusive Teaching (5 Credits)

Study Sequence for Experienced Teachers

ED106 Subject Area Knowledge (Present Degree)

Part (1) Theory Training & Assignment (Certificate in Teaching Practice)

ED107 Theory of Education, Educational Technology & Teaching Practice
(15 Credits)

ED108 Curriculum Study , Teaching & Learning (15 Credits)

Part (2) Teaching Practice Portfolio Presentation (Diploma in Teaching Practice)

The following subjects can be exempted by presenting the reference letter from the school.

ED101 Teaching Support (5 Credits)

ED103 Classroom Management (5 Credits)

ED105 Inclusive Teaching (5 Credits)

The following subject needs to be studied

ED102 Application of Information Technology in School Education (5 Credits)

Teaching portfolio needs to be presented for the following subject

ED104 Teaching Portfolio(5 Credits)

REFERENCE EDUCATION THEORIES

ED 101 Theory of Education (5 Credits)

ED 102 Education Technology (5 Credits)

ED 103 Teaching Practice (5 Credits)

ED 104 Lesson Planning (5 Credits)

ED 105 Principle of Learning (5 Credits)

ED 106 Interpreting Curriculums (5 Credits)

VIDEOS

IQY Teacher Training 1

<https://youtu.be/CHqmQ1Ifwa4>

IQY Teacher Training 2

<https://youtu.be/i-VpgngRumw>

IQY Teacher Training 3

<https://youtu.be/eYujIkvdPYw>

IQY Teacher Training 4

<https://youtu.be/n9y49b5qO8g>

TEACHER TRAINING- IQY-Video Download Programs

<https://sconverter.com/>

<https://y2mate.com>

<https://keepvid.ch/en/youtube-video-downloader>

STUDY GUIDES & LESSONS

ED101 to ED106

www.highlightcomputer.com/ED101106.pdf

ED107 Lessons

ED107 Exercises

www.highlightcomputer.com/ED107Exercises.pdf

ED107 Part 1 (Slide 1 to 20) ED107A-Theory of Education (ED101) (Slide 1 to 60 Principle of Learning)

www.highlightcomputer.com/ED1071.pdf

ED107 Part 2 (Slide 21 to 40) ED107A-Theory of Education (ED101) (Slide 1 to 60 Principle of Learning)

www.highlightcomputer.com/ED1072.pdf

ED107 Part 3 (Slide 41 to 60) ED107A-Theory of Education (ED101) (Slide 1 to 60 Principle of Learning)

www.highlightcomputer.com/ED1073.pdf

ED107 Part 4 (Slide 61 to 80) ED107B-Education Technology (ED102) (Slide 61 to 100)

www.highlightcomputer.com/ED1074.pdf

ED107 Part 5 (Slide 81 to 120) ED107B-Education Technology (ED102) (Slide 61 to 100)+ ED107C-Teaching Practice (ED103 Classroom Management) (Slide 101 to 140)

www.highlightcomputer.com/ED1075.pdf

ED107 Part 6 (Slide 121 to 140) ED107C-Teaching Practice (ED103 Classroom Management) (Slide 101 to 140)

www.highlightcomputer.com/ED1076.pdf

ED107 Part 7 (Slide 141 to 160) ED107E-Teaching & Learning (Slide 141 to 160)

www.highlightcomputer.com/ED1077.pdf

ED107 Part 8 (Slide 161 to 180) (ED105 Inclusive Teaching Slide 161 to 200)

www.highlightcomputer.com/ED1078.pdf

ED107 Part 9 (Slide 181 to 200) (ED105 Inclusive Teaching Slide 161 to 200)

www.highlightcomputer.com/ED1079.pdf

ED107 Part 10 (Slide 201 to 220) (ED107E-Teaching & Learning Slide 200 to 240)

www.highlightcomputer.com/ED10710.pdf

ED107 Part 11 (Slide 221 to 240) (ED107E-Teaching & Learning Slide 200 to 240)

www.highlightcomputer.com/ED10711.pdf

ED107 Part 12 (Slide 241 to 260) ED107D-Lesson Planning (ED104 Teaching Portfolio)(Slide 241 to 300)

www.highlightcomputer.com/ED10712.pdf

ED107 Part 13 (Slide 261 to 280) - ED107D Lesson Planning (ED104 Teaching Portfolio)(Slide 241 to 300)

www.highlightcomputer.com/ED10713.pdf

ED107 Part 14 (Slide 261 to 300) - ED107D Lesson Planning (ED104 Teaching Portfolio)(Slide 241 to 300)

www.highlightcomputer.com/ED10714.pdf

ED107 Part 15 (Slide 301 to 320)- ED107G-Evaluation& Assessment (Slide 301 to 320)

www.highlightcomputer.com/ED10715.pdf

ED108 Lessons

ED108 Exercises

www.highlightcomputer.com/ED108Exercises.pdf

ED108 Part 1 (Slide 1 to 20)

www.highlightcomputer.com/ED1081.pdf

ED108 Part 2 (Slide 21 to 40)

www.highlightcomputer.com/ED1082.pdf

ED108 Part 3 (Slide 41 to 60)

www.highlightcomputer.com/ED1083.pdf

ED108 Part 4 (Slide 61 to 80)

www.highlightcomputer.com/ED1084.pdf

ED108 Part 5 (Slide 81 to 100)

www.highlightcomputer.com/ED1085.pdf

ED108 Part 6 (Slide 101 to 120)

www.highlightcomputer.com/ED1086.pdf

ED108 Part 7 (Slide 121 to 140)

www.highlightcomputer.com/ED1087.pdf

ED108 Part 8 (Slide 141 to 160)

www.highlightcomputer.com/ED1088.pdf

OPTIONAL

(Certificate in Vocational Education& Training-Engineering Technology Teaching)

Online training & assignment

<http://www.highlightcomputer.com/gtc.htm>

ADDITIONAL REFERENCES FOR ED107 LESSONS

ED 101 Theory of Education

www.highlightcomputer.com/ED101.ppt

ED 102 Education Technology

www.highlightcomputer.com/ED102.ppt

Integration of Learning Technology in Teaching & Learning Part 1

http://youtu.be/bV_CJdY7fs0

Technology in Classroom

<http://youtu.be/rzLQq6D6-OU>

ED 103 Teaching Practice

www.highlightcomputer.com/ED103Part1.ppt

www.highlightcomputer.com/ED103Part2.ppt

ED 104 Lesson Planning

www.highlightcomputer.com/ED104.ppt

ED 105 Principle of Learning

www.highlightcomputer.com/ED105.ppt

ED 106 Interpreting Curriculums

www.highlightcomputer.com/ED106.ppt



ED101 to ED106 ASSIGNMENTS

www.highlightcomputer.com/ED101106.pdf

Year 3 / 4

Professional Diploma in School & Vocational Education

60 credits in the following subjects

ED437 Teaching Skills (5 Credits)

ED438 Assessment & Feedback (5 Credits)

ED439 Fostering Students' Learning (5 Credits)

ED 402A Educational Leadership & Change Management in School Education

(10 Credits)

ED407A Learning Environment in School Education (10 Credits)

ED440 Science Teaching (5 Credits)

ED441 Mathematics Teaching (5 Credits)

ED442 Technology Teaching (5 Credits)

ED443 TVET Teaching (10 Credits)

GROUP (1) CURRICULUM SUBJECTS

ED437 Teaching Skills (5 Credit Points)

- **ED431-Critical Thinking**

www.highlightcomputer.com/ED431CriticalThinking.pptx

VIDEOS

<https://youtu.be/Cekuc04E2xM>

Assessment

Assignment

Refer your textbooks, select one chapter and write the followings

- the main purpose, the key question, the most important information, the main references or conclusions, the key idea, the main assumptions of the material, the implications, and the main point of view.
- Prepare one assessment requiring critical thinking by the students.
- Do internet research by using www.google.com and type Socratic questioning then submit the examples of Socratic questions.

- **ED431-Reflection& Evaluation (Day 2)**

www.highlightcomputer.com/ED431ReflectionEvaluation.pptx

VIDEO

https://youtu.be/Ezre_83QIfE

Assessment

Assignment

Write the lesson plan on how will you provide Problem Based Learning & Self Reflection for a group of students

Write one significant event in your class teaching and write down your own plan how to improve your teaching.

- **ED431-Teaching and learning strategies (Day 3)**

www.highlightcomputer.com/ED431Teachinglearningstrategies.pptx

VIDEO

https://youtu.be/gMJi_3CSDq0

Assessment

Assignment

- Outline 3 teaching strategies that you prefer to apply in your teaching and discuss the good points and bad points. Also write how to improve them for best teaching and learning

ED438 Assessment & Feedback (5 Credit Points)

ED432A-assessment principles+ED432B-constructive feedback+

Lessons

Down load and study the following power point slides and answer the questions

www.highlightcomputer.com/ED432ABC.pptx

VIDEO

<https://youtu.be/CIi1k4NECoQ>

Assessment

Assignment

ED432A-assessment principles

Provide three assessment evidences that you use in teaching.

ED432B-constructive feedback

Provide three assessment feedbacks that you provide to your students

ED439 Fostering Students' Learning (5 Credit Points)

ED433H-consequences for student learning+ED433I-improving students learning+ED433J-different ways of thinking about university teaching+ED433K-identify problems and issues

Lessons

Down load and study the following power point slides and answer the questions

www.highlightcomputer.com/ED433HIJK.pptx

VIDEO

<https://youtu.be/F2gUlg4qBho>

Assessment

Assignment

Provide one task that you want your students to do critical thinking.

Write one learning outcome of the lesson that you are teaching & provide your plan how to teach, facilitate & assess the students to reach that outcome

ED434H-reflect critically on and evaluate own teaching+ ED434J-reflecting on learning from formal learning programs

Lessons

Down load and study the following power point slides and answer the questions

www.highlightcomputer.com/ED434HIJK.pptx

VIDEO

<https://youtu.be/wIbNCUXxIMI>

Assessment

Assignment

Write a plan how will you maximize the effectiveness of teaching & learning for your students

ED 402A Educational Leadership & Change Management for School Education (10 CP)

Video

· Day 10 Session 2-Change Management

<http://youtu.be/ynkcUcKr8tQ>

· Powerpoint+Audio

POWER POINT

· Day10Session2+3.ppt (0.57MB)

<http://www.mongroupsdney1.com/Day10Session23.ppt>

· AUDIO

<http://yourlisten.com/Kyaw.Naing/day-10-session-23>

ASSIGNMENT

Down load the following file

www.highlightcomputer.com/MgtAdvDip.zip

Read the contents in" Mgt 211 " and answer the followings.

Q1.How does leadership relate to management?

Q2.Explain Instructional leadership

Q3.Explain Transformational leadership

Q4.Explain Moral leadership

Q5.Explain Participative leadership

Q6.Explain Managerial leadership

Q7.Explain Contingent leadership

Q8.Explain New Model of Leadership

Q9.Compare manager and leader.

Q10.What are the competencies of a leader?

Q11.What type of leadership is preferred by you and provide the reason. ·

ED407A Learning Environment in Schools (10 CP)

· POWER POINT

Day10Session1.ppt (11.78MB)

<http://www.mongroupsydneyl.com/Day10Session1.ppt>

AUDIO

<http://yourlisten.com/Kyaw.Naing/day-10-session-1>

ASSIGNMENT

Based on your classroom experience, write the factors important for class room environment.

Project

Prepare a project plan how to develop a school that will provides the education for needy students.

GROUP (2) TEACHING PRACTICE SUBJECTS

ED440Science Teaching (5 credits)

Review the Science Teaching Videos in the following links

<http://www.highlightcomputer.com/y712lessons.htm#A>

<http://www.highlightcomputer.com/y910.htm>

Then develop your own teaching plan which combines e-Learning strategies. Your plan should contain

- Written notes to be given to students
- The lessons to be explained to the students
- Exercises to be given to the students
- Time frame and detailed teaching plan

ED441 Mathematics Teaching (5 credits)

Review the Mathematics Teaching Videos in the following links

<http://www.highlightcomputer.com/y712lessons.htm#A>

<http://www.highlightcomputer.com/y910.htm>

Then develop your own teaching plan which combines e-Learning strategies. Your plan should contain

- Written notes to be given to students
- The lessons to be explained to the students
- Exercises to be given to the students
- Time frame and detailed teaching plan

ED442 Technology Teaching (5 credits)

Review the Technology Teaching Videos in the following links

<http://www.highlightcomputer.com/y712lessons.htm#A>

<http://www.highlightcomputer.com/y910.htm>

Then develop your own teaching plan which combines e-Learning strategies. Your plan should contain

- Written notes to be given to students
- The lessons to be explained to the students
- Exercises to be given to the students
- Time frame and detailed teaching plan

GROUP (3) TVET TEACHING SUBJECTS

ED443 TVET Teaching (10 Credits)

Lesson Video

NNER Conference Presentation by Myanmar Vocational Training Collaboration Youtube

<https://youtu.be/2ZYnsJWSZU4>

(1) Select any two Vocational Education Subjects from the following link

<http://www.mongroupsdney1.com/mvtclessons.htm>

(2) Teach the students

(3) Provide evidence of their works

GROUP (4) SELF DEVELOPMENT SUBJECTS

Education

ED 101 Theory of Education

[www.highlightcomputer.com/ED 101 Theory of Education.zip](http://www.highlightcomputer.com/ED_101_Theory_of_Education.zip)

ED 102 Education Technology

[www.highlightcomputer.com/ED 102 Education Technology.zip](http://www.highlightcomputer.com/ED_102_Education_Technology.zip)

ED 103 Teaching Practice

[www.highlightcomputer.com/ED 103 Teaching Practice.zip](http://www.highlightcomputer.com/ED_103_Teaching_Practice.zip)

ED 104 Lesson Planning

[www.highlightcomputer.com/ED 104 Lesson Planning.zip](http://www.highlightcomputer.com/ED_104_Lesson_Planning.zip)

ED 105 Principle of Learning

[www.highlightcomputer.com/ED 105 Principle of Learning.zip](http://www.highlightcomputer.com/ED_105_Principle_of_Learning.zip)

ED 106 Reading & Writing to Learn

[http://www.highlightcomputer.com/ED 106 Reading & Writing to Learn.zip](http://www.highlightcomputer.com/ED_106_Reading_&_Writing_to_Learn.zip)

ED 107 Teaching & Learning

[www.highlightcomputer.com/ED 107 Teaching & Learning.zip](http://www.highlightcomputer.com/ED_107_Teaching_&_Learning.zip)

ED 108 Teaching Elementary

[www.highlightcomputer.com/ED 108 Teaching Elementary.zip](http://www.highlightcomputer.com/ED_108_Teaching_Elementary.zip)

ED 201 Class Room Mgt & Teaching

[http://www.highlightcomputer.com/ED 201 Class Room Mgt & Teaching.zip](http://www.highlightcomputer.com/ED_201_Class_Room_Mgt_&_Teaching.zip)

ED 202 Curriculum & Design

[www.highlightcomputer.com/ED 202 Curriculum & Design.zip](http://www.highlightcomputer.com/ED_202_Curriculum_&_Design.zip)

ED 203 K-12 Education

[www.highlightcomputer.com/ED 203 K-12 Education.zip](http://www.highlightcomputer.com/ED%203%20K-12%20Education.zip)

ED 204 School Education

[www.highlightcomputer.com/ED 204 School Education.zip](http://www.highlightcomputer.com/ED%204%20School%20Education.zip)

ED 205 Teaching & Measuring

[www.highlightcomputer.com/ED 205 Teaching & Measuring.zip](http://www.highlightcomputer.com/ED%205%20Teaching%20&%20Measuring.zip)

ED 206 Designing Instructions & Assessment

[http://www.highlightcomputer.com/ED 206 Designing Instructions & Assessment.zip](http://www.highlightcomputer.com/ED%206%20Designing%20Instructions%20&%20Assessment.zip)

ED 207 Teacher Education

[www.highlightcomputer.com/ED 207 Teacher Education.zip](http://www.highlightcomputer.com/ED%207%20Teacher%20Education.zip)

ED 208 Inclusive Education

[www.highlightcomputer.com/ED 208 Inclusive Education.zip](http://www.highlightcomputer.com/ED%208%20Inclusive%20Education.zip)

ED 301 Educational Policy

[www.highlightcomputer.com/ED 301 Educational Policy.zip](http://www.highlightcomputer.com/ED%20301%20Educational%20Policy.zip)

ED 302 English Teaching

[www.highlightcomputer.com/ED 302 English Teaching.zip](http://www.highlightcomputer.com/ED%20302%20English%20Teaching.zip)

ED 303 Humanities Teaching

[www.highlightcomputer.com/ED 303 Humanities Teaching.zip](http://www.highlightcomputer.com/ED%20303%20Humanities%20Teaching.zip)

ED 304 Maths Teaching

[www.highlightcomputer.com/ED 304 Maths Teaching.zip](http://www.highlightcomputer.com/ED%20304%20Maths%20Teaching.zip)

ED 305 Science Teaching

[www.highlightcomputer.com/ED 305 Science Teaching.zip](http://www.highlightcomputer.com/ED%20305%20Science%20Teaching.zip)

ED 306 Technology Teaching

[www.highlightcomputer.com/ED 306 Techology Teaching.zip](http://www.highlightcomputer.com/ED%20306%20Techology%20Teaching.zip)

ED 307 Business Teaching

[www.highlightcomputer.com/ED 307 Business Teaching.zip](http://www.highlightcomputer.com/ED%20307%20Business%20Teaching.zip)

ED 308 Computer Supported Learning & Distance Education

[http://www.highlightcomputer.com/ED 308 Computer Supported Learning & Distance Education.zip](http://www.highlightcomputer.com/ED%20308%20Computer%20Supported%20Learning%20&%20Distance%20Education.zip)

ED 401 Adult Learning Technology

[www.highlightcomputer.com/ED 401 Adult Learning Technology.zip](http://www.highlightcomputer.com/ED%20401%20Adult%20Learning%20Technology.zip)

ED 402 Educational Leadership

[www.highlightcomputer.com/ED 402 Educational Leadership.zip](http://www.highlightcomputer.com/ED%20402%20Educational%20Leadership.zip)

ED 403 School Culture

[www.highlightcomputer.com/ED 403 School Culture.zip](http://www.highlightcomputer.com/ED%20403%20School%20Culture.zip)

ED 404 Educational Research

[www.highlightcomputer.com/ED 404 Educational Research.zip](http://www.highlightcomputer.com/ED%20404%20Educational%20Research.zip)

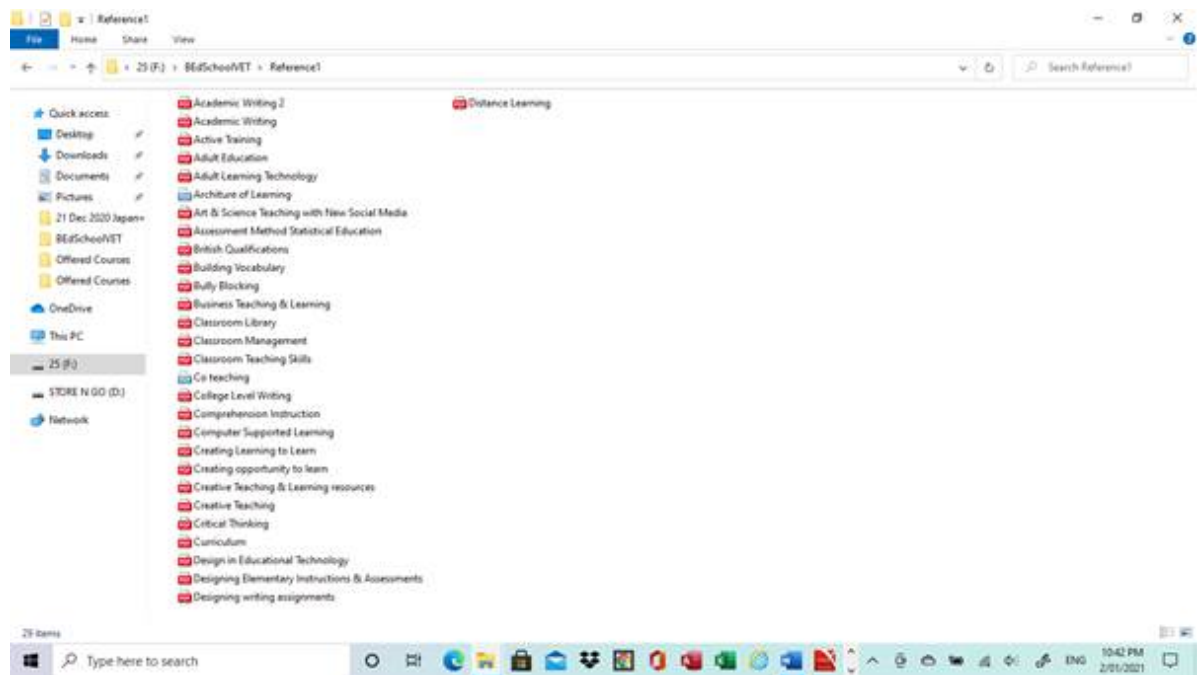
ED 405 Training Principle

[www.highlightcomputer.com/ED 405 Training Principle.zip](http://www.highlightcomputer.com/ED%20405%20Training%20Principle.zip)

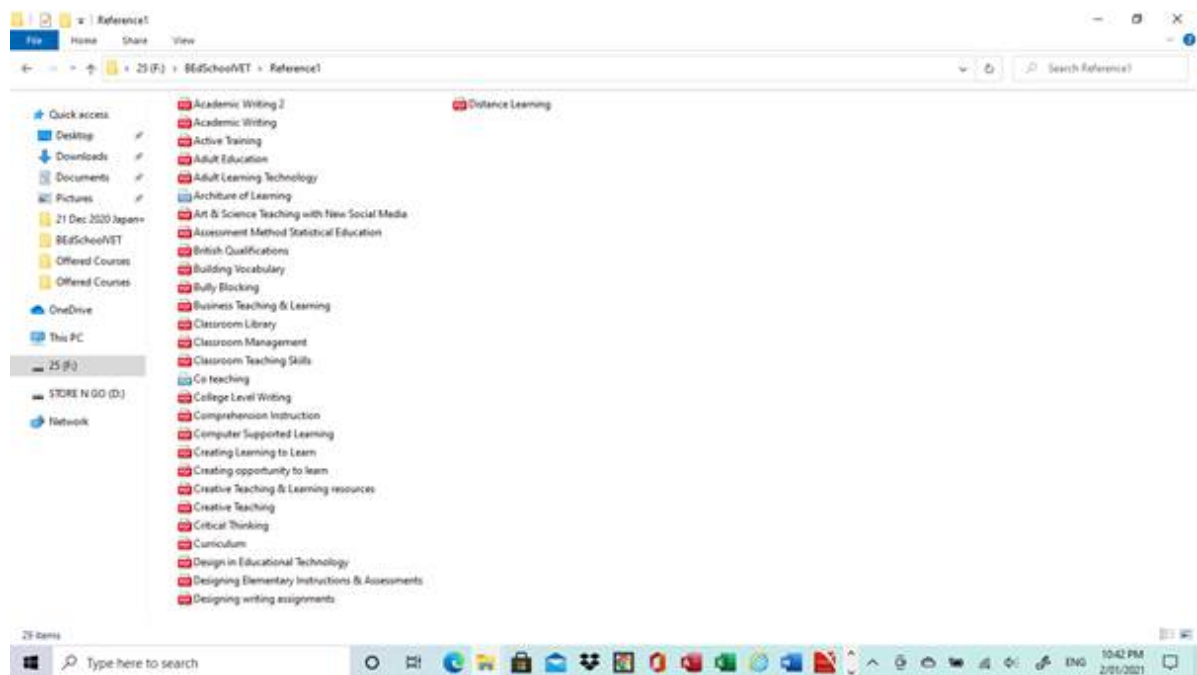
ED 406 Educational Policy

[www.highlightcomputer.com/ED 406 Educational Policy.zip](http://www.highlightcomputer.com/ED%20406%20Educational%20Policy.zip)

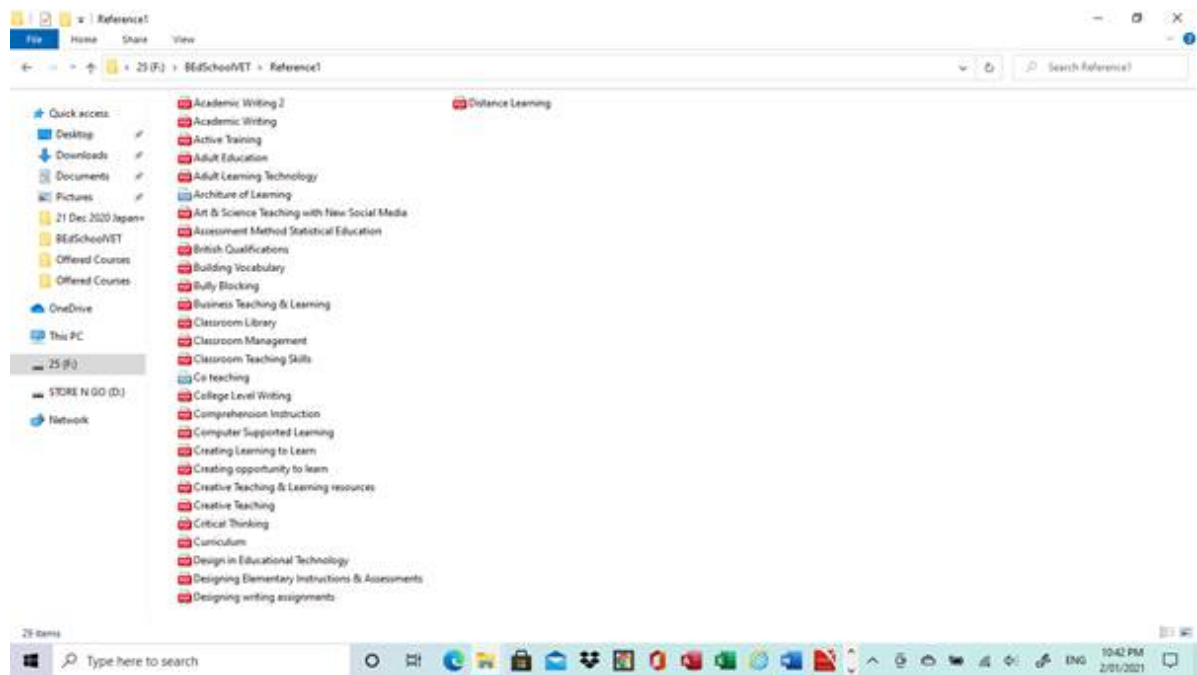
www.highlightcomputer.com/Reference1.zip



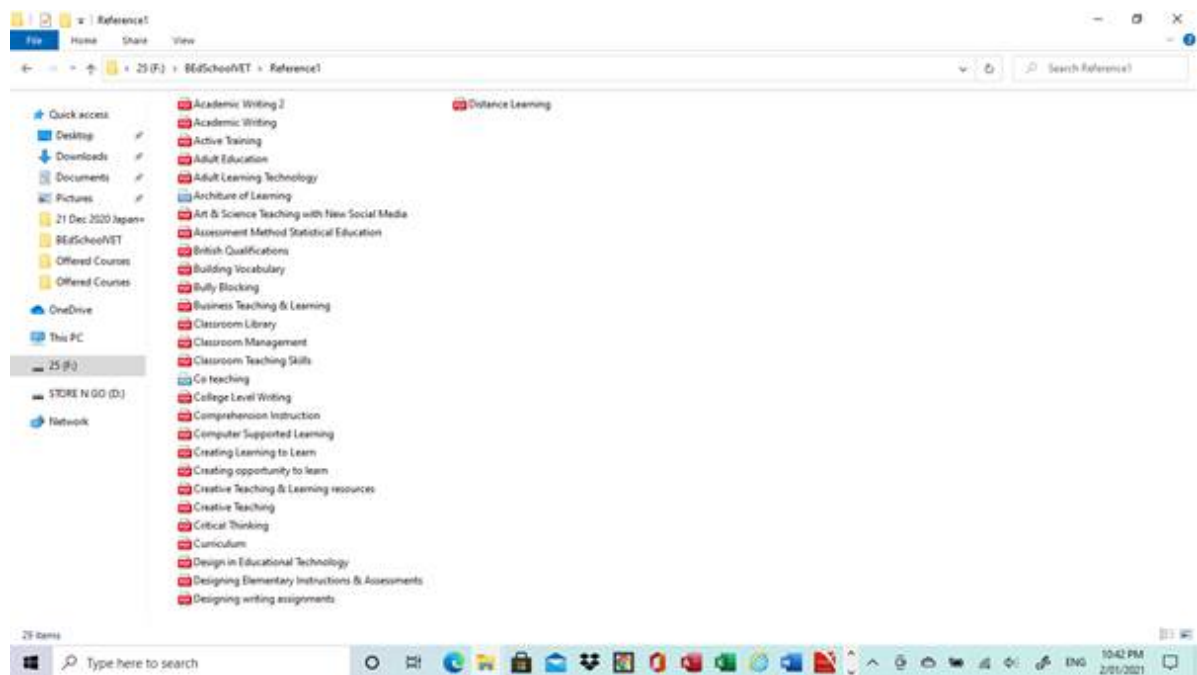
www.highlightcomputer.com/Reference2.zip



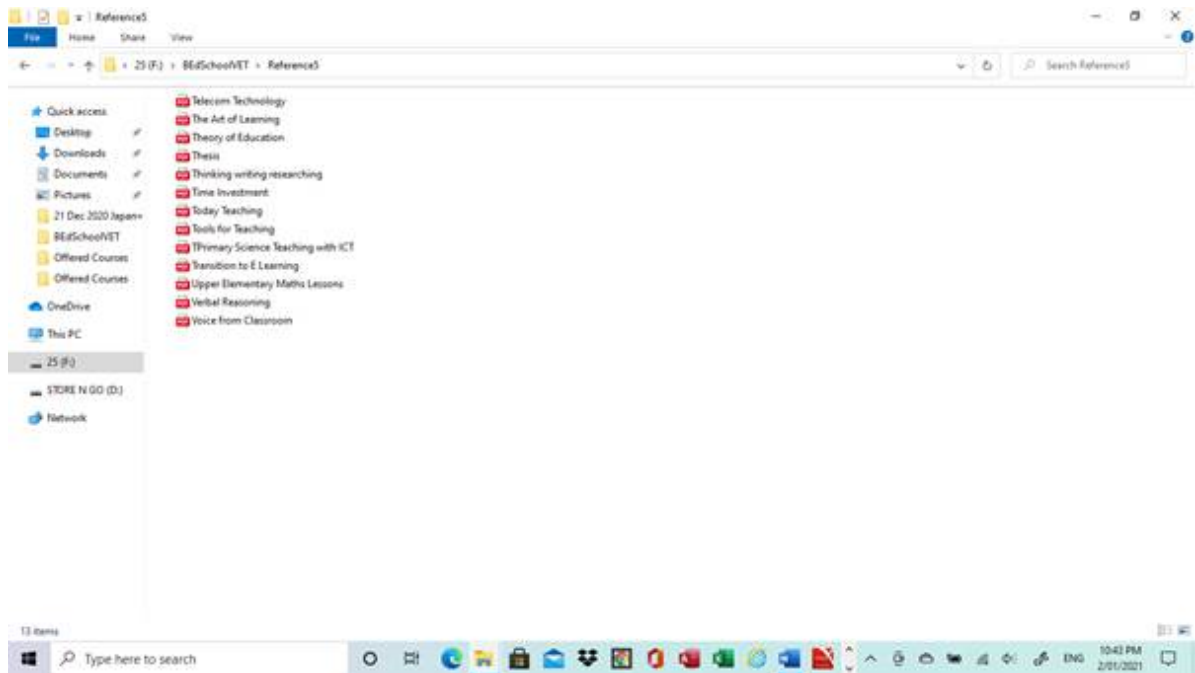
www.highlightcomputer.com/Reference3.zip



www.highlightcomputer.com/Reference4.zip



www.highlightcomputer.com/Reference5.zip



<https://mega.nz/folder/8Rh0iSbS#1o-bnbyr43V8C7ZyLFK-YQ>

Download from above link

ED 308 Computer Supported Learning & Distance Education.zip (44.37MB)

ED 408 Middle & High School Teaching.zip (3.63MB)

ED 403 School Culture.zip (14.7MB)

ED 305 Science Teaching.zip (14.87MB)

ED 306 Technology Teaching.zip (4.63MB)

ED 304 Maths Teaching.zip (10.03MB)

ED 204 School & Vocational Education.zip (26.56MB)

ED 208 Inclusive Teaching.zip (5.38MB)

ED 207 Teacher Education.zip (9.65MB)

ED 205 Teaching & Measuring.zip (3.79MB)

ED 203 K-12 Education.zip (3.17MB)

Preparation for Myanmar Engineering Council Accreditation Course Detailed Course Teaching Plans & Summary of Notes --- Prepared by Dr Kyaw Naing

This teaching plan and summary of notes are developed in connection with the DVD containing the electronic textbooks, readers and accreditation and evaluation work samples that are to be distributed to the participants. This plan provides the summary of the course notes and study guide for the training.

Session	Topic	Page
Day 1 Session 3	Writing the objectives of the course	2
Day 2 Session 2	Outcome based education + Competency based education & training for outcome	3
Day 3 Session 1	Requirement of Myanmar Engineering Council & how to design the curriculum to address the learning outcomes	6
Day 4 Session 1+2	Programme structure, course contents, delivery and assessment methods+ Adult and Vocational Education & Training	18
Day 5 Session 1+2	Approach to various learning modes in Vocational Education and Training +Preparing vocational teaching portfolios	37
Day 5 Session 3	Learning outcome & teaching & training	38
Day 6 Session 1& 3	Developing the assessment strategies in Vocational Education and Training	38
Day 7 Session 2	Integration of Learning Technology in Teaching & Learning Part 1	41
Day 7 Session 3	E-Learning Platform Example	52
Day 8 Session 1	Technology in Classroom	53
Day 8 Session 2	Integration of Learning Technology in Teaching & Learning Part 2	71
Day 9 Session 1 +2	Preparing the documents to comply with Myanmar Engineering Council Requirement	72
Day 10 Session 1	Learning Environment	78
Day 10 Session 2	Change Management	90
Additional	Further Training	101

Day 1 Session 3

Highlighting [9.2.1 General Information \(MEng C\)](#)

9.2.2 Programme Objectives

& writing the objectives of the course by Dr Kyaw Naing

Step 1-Provide General Outline

Reference Reading (Education theory)

ED 106 Interpreting Curriculums

<http://www.filefactory.com/file/1h141zxbov8z/ED%20106%20Interpreting%20Curriculums.zip>

Page Number---

ED 106 Interpreting Curriculums/CURRICULUM DESIGN AND DEVELOPMENT-1.pdf

Slide 5, 2, 34, 40, 41,45,46,47,49,50,51,55,81

Practical Information

Provide the examples of how to set up the program objectives for Professional Engineer, Engineering Technologists and Engineering Associates levels

www.highlightcomputer.com/OverallProgramGeneral.pdf

Step 2-Provide PE / Eng Technologist Requirement

www.highlightcomputer.com/engineersaustraliareferences.htm

130607_stage_1_pe_2013_approved.pdf

Page 2 explain details

Then show page 1 & 3 -6

REFER DETAILED-EngineeringJobCompetencies.pdf

Step 3-Link to practical program outcome design

SAMPLE

Page 5/6 of OverallProgramGeneral.pdf

www.highlightcomputer.com/OverallProgramGeneral.pdf

References

Engineers Australia References

www.highlightcomputer.com/engineersaustraliareferences.htm

Stage 1 Competencies of PEng, Eng Technologists & Eng Associates

Engineering job competencies

<http://www.highlightcomputer.com/EngineeringJobCompetencies.pdf>

Participants' tasks

Write the course objectives of the engineering programs that they are teaching, discussion & feedback

Day 2 Session 2

Competency based education & training & how the competency based training is important to reach the desired outcome

By Dr Kyaw Naing

References

Characteristics of Learning Outcomes

In Certificate I to Vocational Diploma

http://www.filefactory.com/file/32hy8l1za8wz/TAE10_R3.4.docm

Provide the level of performances of the students tasks in the curriculums & activities

Sample Curriculums

Certificate to Advanced Diploma

<http://www.highlightcomputer.com/detailedcontent.htm>

Bachelor degrees equivalent level

[http://highlightcomputer.com/B%20E+B%20App%20Sc\(IT\)+B%20Bus%20Course%20Detailed%20Contents.htm](http://highlightcomputer.com/B%20E+B%20App%20Sc(IT)+B%20Bus%20Course%20Detailed%20Contents.htm)

Step 1-Provide General Outline

AGTI

- demonstrate understanding of specialised knowledge with depth in some areas
- analyse, diagnose, design and execute **judgements** across a broad range of technical or management functions
- generate ideas through the analysis of information and concepts at an abstract level
- demonstrate a command of wide-ranging, highly specialised technical, creative or conceptual skills
- demonstrate accountability for personal outputs within broad parameters

BTech

- The self-directed development and achievement of broad and specialised areas of knowledge and skills, building on prior knowledge and skills.
- Substantial breadth and complexity involving the initiation, analysis, design, planning, execution and evaluation of technical and management functions in highly varied and highly specialised contexts.
- Applications involve making significant, **high-level, independent judgements** in major broad or planning, design, operational, technical and management functions in highly varied and specialised contexts. They may include responsibility and broad-ranging accountability for the structure, management and output of the work or functions of others.
- The degree of emphasis on breadth, as opposed to depth, of knowledge and skills may vary between qualifications granted at this level.

BE

- The self-directed development and achievement of broad and specialised areas of knowledge and skills, building on prior knowledge and skills.
- Substantial breadth, depth and complexity involving the initiation, analysis, design, planning, execution and evaluation of major functions, both broad and highly specialised, in highly varied and highly specialised contexts.
- Further specialisation within a systematic and coherent body of knowledge.
- Applications involve making high-level, **fully independent, complex judgements** in broad planning, design, operational, technical and management functions in highly varied and highly specialised contexts. They may include full responsibility and accountability for all aspects of work and functions of others, including planning, budgeting and strategy development.
- The degree of emphasis on breadth, as opposed to depth, of knowledge and skills may vary between qualifications granted at this level.

Step 2 Objective is required for the designed course

Why we need to do this thing?

Principle of Adult Learning—

Motivation/ Reason/ Needs/Desires/ Benefit

Sample Objectives

Advanced Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology) Course Outlines

IQY Technical College's two years Advanced Diploma in Engineering is designed to train the students **to work as Engineering Technologist** in wide ranges of industries.

It is designed to provide the following competencies.

To train the students to operate within broadly-defined technical environments, and undertake a wide range of functions and responsibilities. They are often specialists in the theory and practice of a particular branch of engineering technology or engineering-related technology

Professional Diploma in Engineering (Electrical+ Mechanical+ Civil+ Renewable Energy Engineering+ Computer Engineering & Information Technology) Course Outlines

IQY Technical College's four years Professional Diploma in Engineering is designed to train the students **to work as Engineering Technologist /Professional Engineer** in wide ranges of industries.

The program is designed to train the students to become Professional Engineers who are required to take responsibility for engineering projects and programs in the most far-reaching sense.

Provide examples of objectives

Objectives/ folder

Objective for each lesson materials

Example

801A-Teaching & Learning in Adulthood Tasks Samples/document 11,
/Document 22 TVET801A 3.4.doc---Page 4 to 8 then expand Page 9 to 12 Read.

Step 3-Link to practical program contents design

Detailed Contents examples are provided

Folder/ Detailed Contents/

Day 3 Session 1

Day 4 Session 1

9.2.3 Learning Outcomes

Requirement of Myanmar Engineering Council

& how to design the curriculum to address the learning outcomes

By Dr Kyaw Naing

Educational Theoretical Readings

ED 104 Lesson Planning

<http://www.filefactory.com/file/4m30ym0ez37r/ED%20104%20Lesson%20Planning.zip>

ED 202 Curriculum & Design

<http://www.filefactory.com/file/1jotv5d428j1/ED%20202%20Curriculum%20%26amp%3B%20Design.Zip>

Practical Example

www.highlightcomputer.com/OverallProgramGeneral.pdf

Page 13 to 21

ED 104 Lesson Planning

<http://www.filefactory.com/file/4m30ym0ez37r/ED%20104%20Lesson%20Planning.zip>

Step 1 Review the educational theory related to lesson planning

ED 104 Lesson Planning/ Lesson Planning.pdf

Pupils have two kinds of needs. First, there are the general ones that provide the preconditions for education the need for such things as security, comfort and dignity.

Second, there are learning needs - provision for special educational needs such as dyslexia, for example, or remedial action to help pupils make good any gaps in their knowledge from earlier parts of the curriculum.

10

This is an idea I hit on when learning to teach adult classes and then used with (quite senior) classes in school at the beginning of their courses. Make a numbered list of the aims that pupils might have for the course you are teaching them.

For example:

- 1 Achieve a qualification.
- 2 Get the best grade at the end of the course.
- 3 Progress to a further course.
- 4 Muddle through.
- 5 Find out more about [a specified area of the subject].
- 6 have no specific aims.

OBJECTIVES

Objectives are based on the notion that education is observable and measurable

LEARNING

- o Which parts of your lessons lend themselves to thinking in terms of stimulus and response?
- o Where do assessment criteria require only certain *outcomes* rather than levels of *understanding*

1 Knowledge and understanding.

2 Skills, techniques, and methods (Idea 21).

3 Attitudes and perspectives (Idea 22). ^

4 Judgements and decisions (Idea 23).

attitude

12 Here is a checklist of the qualities an objective

Specific in terms of

- (a) what is to be learnt and
- (b) the time within which it is to be learnt;

Capable of assessment;

Achievable;

Manageable in the context you are working in.

55

1 T A ' or

1 Introduction.

2 Exposition. ,

3 Clarification.

4 Enactment.

5 Feedback.

6 Transfer

7 Deliberate practice.

There are four main types of practice:

56

- 1 Drills.
- 2 Variable practice.
- 3 Massed practice.
- 4 Distributed practice.

57

- 1 Introduction.
- 2 Presentation.
- 3 Conclusion

When preparing a PowerPoint presentation, use the following checklist to help avoid the most common pitfalls:

Are any of the slides too cramped? Can I reduce the amount of information on each slide?

When do I need to ask the class to focus on the screen?

When do I want them to focus on me as speaker?

How can I use body language or audience interaction to encourage this?

How can I vary my speaking position in order to establish eye contact and rapport?

When should I turn off the display?

25

Theoretical Learning

- o theory and generalization;
- o the concrete and the particular (see Idea 26); ^
- o reflection (see Idea 27); 21
- 0 activity - 'learning by doing' (see Idea 28).

26

Learning from concrete

25). In place of generalizations, axioms, probabilistic statements and deductive logic

Use one both of the two great staples of concrete learning - the worked example and the case study

27

Reflective Learning

The first is by encouraging pupils to reflect on aspects of their life in general - things that they have learnt beforehand, whether in or out of school.

The second is by encouraging pupils to reflect on what they have already learnt or experienced within the scheme of work that you are now engaged in appropriate for work experienced learners.

28

Active Learning

Active learning can feature in your planning in two places. Sometimes you can arrange for active learning within your lessons - drama, role-play, observation, conducting surveys, filming, and so on. Sometimes you can build it into the homeworks that you set, such as interviewing, researching and mini fieldwork projects

General learning strategies - techniques, habits of mind, and so on, not related to specific subjects or topics.

Contiguous knowledge - knowledge closely associated with that you are planning to teach.

For a pupil learning about a certain theme in a certain period of history, examples would include knowledge of other themes in that period.

Comparable knowledge - knowledge of a different topic that is sufficiently similar for analogies to be drawn. For example, in technology a pupil might learn about the qualities of one material by comparing it to other materials.

Top-down' knowledge - pupils who have learnt about a general concept (e.g. deforestation) proceed to learn about particular instances (e.g. Amazonia).

'Bottom-up' knowledge - pupils who have learnt about particular cases proceed to learn about the general concepts, issues or themes that they exemplify.

Step 2 Provide the lesson plan format

ED 104 Lesson Planning/ Instructional Design for Action Learning.pdf

Lesson Plan Format

Phase One:

Develop the following:

- ? Training content
- ? Graphics
- ? Media needs
- ? Lesson plans
- ? Instructor guides
- ? Evaluation needs
- ? Software needs

Phase Two:

Revise all items in Phase One.

Phase Three:

Complete the following.

- ? Conduct the test.
- ? Revise the program on the basis of the test.
- ? Schedule a second test, if needed.

TITLE: How to use the bundling machine

WRITTEN BY: Author's

Note DATE: Date Written

OBJECTIVES: At the end of this session, the participants will be able to

1. State one reason for using the bundling machine
2. Demonstrate the correct use of the bundling machine located in the workshop
3. State when the bundling machine is used

SESSION TIME: 15 minutes

NUMBER OF PARTICIPANTS: 6 (up to 10)

ENTRY LEVEL: New employees

AIDS/EQUIPMENT: Sample bundling machine

6 bundling cards for each participant
Whiteboard and markers

POTENTIAL FAULTS: Session not to be conducted at start or finish time of workshop

METHOD: Show and tell

Phase Four:

Conduct the following.

- ? Pilot-test a prototype program.
- ? Evaluate the pilot test.
- ? Identify the required revisions.

Revise the program as required (on the basis of the pilot test).
? Schedule another test, if needed.

Phase Five: Follow-through on the following.

? Finalize the training program content.
? Produce the training program in final form.

During the development phase, you will select, write, or otherwise obtain all training documentation and evaluation materials. These may include the following:

? Training materials
? Instructor guide (including lesson plans and a list of required supporting materials)
? Learners' guide or workbook
? Nonprint media (computer software, audiotapes and videotapes, equipment checklists)
? Program evaluation materials
? Procedures for evaluation
? Supervisors' form for evaluation of course participants' post-training job performance
? Training documentation
? Class attendance forms and other records for participants
? Course documentation (written objectives, authorship and responsibility for course material, lists of instructors and facilitators, and their qualifications)

Step 3 Expand the each lesson plan to unit in the curriculum

ED 202 Curriculum & Design/ Curriculum.pdf

6.1 Frame of Reference

The rapid progress of globalization has led to many unprecedented changes in the world in which students are educated and in which graduates will practice (Friedman, 2006). As Friedman puts it, "Globalization has collapsed time and distance and raised the notion that someone anywhere on earth can do your job more cheaply.

In 2004, the National Academy of Engineering published a report summarizing visions of what the engineering profession might be like in the year 2020 (National Academy of Engineering, 2004). A follow-up report (National Academy of Engineering, 2005) on how to educate the engineer of 2020 was released a year later.

The key message gleaned is that engineering education must be adapted to the challenges of globalization.

Course and curriculum redesign must better address and constructively align “what” is to be learned and “why” those target outcomes are needed.

Then, building on the “what” and “why”, it should present clearly the “how” or strategies used to achieve them. We know that current engineering students will be tomorrow’s engineering workforce and that they will have to face and address challenges and dilemmas that are very different from the problems and tasks they were exposed to as students.

The nature of those challenges will require them to take on open-ended ill-defined problems and unforeseen issues, understand system-level challenges, and respond to them with innovations.

If they have not experienced creative challenges that require innovative responses in their engineering classes, they will not be prepared to do so in their professional careers.

The “how” of developing this type of skills and expertise in analysis, evaluation, and creative production for unforeseen needs requires authentic experience in tasks that require students to exercise these skills.

There are various ways to provide practice in creative problem-solving and innovation.

One way to provide this experience is experiential learning. If designed well, experiential learning not only offers authentic opportunity but also supports self-determined motivation and regulation.

Further, it can be structured to enable adaptive interaction among those with various types of expertise, sharing in a professional community, and experience building both competence and community.

This involves balancing structure and autonomy, supporting both team and individual effort, and valuing error that leads to deeper learning and skill refinement. Related to these outcomes is the power of metacognition, reflection on task process and products, both during and after experiences.

Metacognition is directly linked to the process skills of analysis and evaluation and, within a discipline, divides legitimately creative experts from those whose skills are limited to doing the same thing, albeit doing it well, over and over again (Ericsson, 2006).

Curriculum Development

- Needs of engineering workforce
- Appropriate to changing needs of industry & technology
- National guidelines
- Relevant & related to & based on and past & current curriculums

- Based on accumulation of lesson planning for each lesson, each unit in the curriculum
- Concern the interrelation of the contents
- Develop on skills level & performance standards—Outcome based/ Competency based/ Adult Education/ Vocational Education & Training

Step 4 Provide the practical example of a curriculum which is developed based on MEng C requirements

Myanmar Engineering Council

9.2.3 Learning Outcomes

I List down the Learning Outcomes and state where are they published

Show Page 13+14 of OverallProgramGeneral.pdf

Practical Example

www.highlightcomputer.com/OverallProgramGeneral.pdf

Myanmar Engineering Council

ii how the Learning Outcomes relate to the Programme Objectives.

Page 20 Show the table & explain it. Page 20+21

Then show Page 28-30--- BE (Electrical)

Then show Page 35-37--- BE (Civil)

Then show Page 41-43--- BE (Mechanical)

iii. Describe the processes used to establish and review the Learning Outcomes, and the extent to which the programme's various stakeholders are involved in these processes. (Myanmar Engineering Council)

- Explain the contents in
Detailed Course Teaching Plans/TAEASS502B Folder

iv Describe the data gathered and explain the results of the assessment.
(Myanmar Engineering Council)

Analysis of Assessment

- Explain the contents in
Detailed Course Teaching Plans/ analysis of assessment records

v Explain how the assessment results are applied to further develop and improve the programme. (Myanmar Engineering Council)

- Explain the contents in
Detailed Course Teaching Plans/ how improvements were made to
assessment and or recognition processes

Individual Teachers Reflection---

- Self Assessment Journal Reflection.doc
- Collection of Teachers' Reflection by Head of Department

vi. Describe the materials, including student work and other tangible materials that demonstrate (Myanmar Engineering Council)

- Page 23+24 of **OverallProgramGeneral.pdf**
- Online mode of learning materials
- In DVD, CD etc

Processes and Results: (MEng C) The programme shall have a clear linkage between Programme Objectives and Learning Outcomes (Section 4.0); a process of ongoing assessment an evaluation that demonstrates the achievement of Programme Objectives with documented results; and evaluation results that are used in the continual improvement of the programme. (Myanmar Engineering Council)

Professional Diploma

Year 2+3 Learning Outcomes & Teaching /Assessment Strategies Page 49 to 52 of
OverallProgramGeneral.pdf

- Then provide the example Page 61 to 63-BE (Electrical)
- Then provide the example Page 67 to 69-BE (Civil)
- Then provide the example Page 74 to 76-BE (Mechanical)

(Myanmar Engineering Council)

- the choice of the teaching-learning (delivery) methods.
- The curricular approach, the educational content and the teaching-learning
- assessment & evaluation methods for the attainment achievement of the Learning Outcomes.
- Explain the contents in
Detailed Course Teaching Plans/course delivery documentation
- Assessment
- Assessment Validation
- Continuous Improvement Register
- Delivery and Assessment Schedule
- eScope Application
- Industry Consultation
- MOU
- OTHER
- Physical Resources
- TAS

(Myanmar Engineering Council)

A balanced curriculum shall include all technical and non-technical attributes listed in the Learning Outcomes, (the essential elements forming the core of the programme and additional specialist or optional studies (electives).

(MEng C)

☐ The curriculum shall integrate theory with practice through adequate exposure to laboratory work and professional engineering(MEng C)

☐ Time allocation

☐ Credit points (The academic programme component must consist of a minimum total of 120 credit (a) A minimum of 80 credit hours shall be engineering courses consisting of engineering sciences and engineering design/projects appropriate to the student's field of study. (MEng C)

(b) The remaining credit hours shall include sufficient content of general education component (such as mathematics, computing, languages, general studies, co- curriculum, management, law, accountancy, ec(MEng C)

Provide samples—Page 77 to 86 of OverallProgramGeneral.pdf

- To be download from internet or Day 7 Session 3 contents (USB)

• Day 4 Session 1

Academic Curriculum

(curriculum design)the philosophy and approach adopted in the programme structure (Myanmar Engineering Council)

Step 1 Provide the philosophy & approach related to VET & Competency Based Training

Provide- Page 43 to 46 of OverallProgramGeneral.pdf

+

Page 47 to 52 of OverallProgramGeneral.pdf

Step 2 Provide the examples

- To be download from internet or Day 7 Session 3 contents (USB)

Day 4 Session 2

Show & Explain the contents in session Day 4 Session 2 folder

Depending on the academic discipline of the participants, the relevant training packages are to be demonstrate.

General Knowledge related to overseas programs

By Dr Kyaw Naing

Vocational Education Teacher Education

http://www.filefactory.com/file/4yb11lp1x9b/n/Vocatinal_Education_Teacher_Education_pdf

Sample Training Packages

Day 5 Session 1

Approach to various learning modes in VET

Myanmar Engineering Council References

- the choice of the teaching-learning (delivery) methods.
- A balanced curriculum
- The curriculum shall integrate theory with practice through adequate exposure to laboratory work and professional engineering(MEng C)
- Time allocation
- Credit points

Group Base learning.pdf

Ref - 16.taadel401a Plan & Organize Group Base learning.pdf

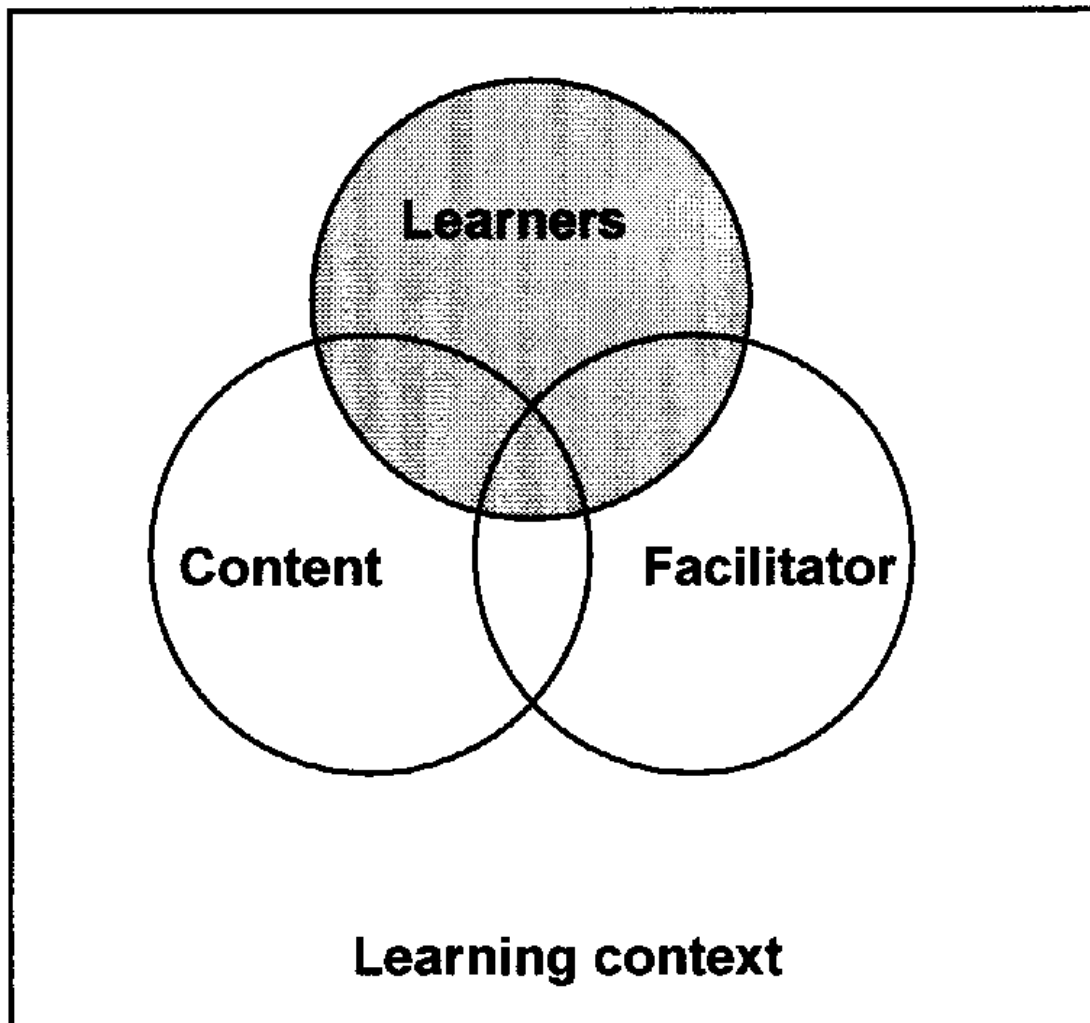
First of all, what is learning? Learning is a personal process, which occurs internally. Learning can involve:

- growth of knowledge
- development of skills
- change of attributes.

Models, like myths and metaphors, help us to make sense of information. A model can offer the means for understanding an otherwise incomprehensible problem. Models can provide structure and meaning; they often help us to visualise a concept or problem, breaking it down into discrete and manageable parts. As such, models are very useful in learning.

Facilitating learning

When it comes to facilitating learning, there are three things the facilitator need to manage: the learners, the content and themselves. These need to be considered separately and collectively and managed in the context of the learning environment. In the beginning, it can feel a bit like running a three-ring circus! As you can imagine, undertaking such a process also requires considerable preparation to make sure that everything goes smoothly. Armed with a clear plan, an understanding of how people learn, and an increased awareness of the part you play, you will be well on the way to being a success.



Knowles' andragogical model of learning

The need to know

Adults need to know why they are learning something before undertaking to learn it. When adults undertake to learn something on their own, they invest considerable energy determining the benefits they will gain from learning it and the negative consequences of not learning it. Consequently, one of the first tasks of the facilitator of learning is to help the learners become aware of the 'need to know'.

The role of learners' experience

Adults have a variety of life experience that represents a rich resource for learning. To capitalise on adult learners' experience, facilitators can use techniques that tap into these — group discussion, storytelling, simulation exercises, problem-solving activities, case studies and other interactive strategies. While the richness of experience is a valuable resource for learning, it can also present some challenges, as these experiences can be filled with bias and presupposition which may impact on our perceptions.

Readiness to learn

Adults are ready to learn those things they need to know and do, in order to cope effectively with their real life situations. 'Readiness to learn' occurs strongly when adults move from one developmental stage to the next. Timing learning experiences to coincide with those developmental tasks is obviously important.

Orientation to learning

Adults are motivated to learn something to the extent that they perceive that it will help them perform tasks or deal with problems that they are likely to encounter. They learn most effectively when learning is presented in the context of application to real life situations.

Motivation

While adults respond to some external motivators (better jobs, promotions, higher salaries etc), the most potent motivators are internal pressures (desire for increased job satisfaction, self-esteem, quality of life). Generally, adults are motivated to keep growing and developing, however, this motivation is often blocked by barriers such as a negative self-concept, especially as a student; inaccessibility of opportunities or resources; time constraints; and programs that do not meet the needs of adult learners.

Another way of looking at the principles of adult learning

The Australian National Training Authority (ANTA) provided a number of principles of adult learning in 1995, which were slightly modified in 1998. The following list is a compilation of both sets of principles.

Active participation

Adults learn best when they actively participate; that is, when they are involved physically, intellectually or emotionally. Adults learn best by 'doing'.

Meaningful and relevant

How does it relate to me? Adults need to be able to relate to the material—to identify the meaning and relevance of the material to them and their situation.

Holistic learning

Adults like to know where this material fits in relation to the whole. Starting with the big picture, then dropping down into the specific details, provides a context for the material.

Multi-sensory learning

We have five senses—why limit learning to one sense? Instead, use a range of senses: sight, sound, taste, smell and touch. Using two or three senses in the learning experience increases the learners' capacity to understand and to retain the material.

- **Active Participation---Practical/ Work-based Learning**
- **Meaningful & Relevant—Curriculum & Resource Planning**
- **Holistic Learning—Career objective link to outcome 7 objective of the course , subjects/ units and detailed contents plans**
- **Multisensory Learning—e-Learning, face to face, Educational Multimedia**

Practiced and reinforced

Learners require appropriate time and opportunities to practice and reflect on what they have learnt and apply this material to their workplace context. Practice opportunities need to be provided for developing knowledge and skills and changing attributes.

Regular and useful feedback

Learners like feedback; they want to know how well they are doing. Feedback provided early in the learning experience can mean that learners practice and reinforce the correct behaviours, rather than reinforce incorrect information or behaviours. Feedback needs to be provided in a positive and constructive manner. When providing feedback, concentrate on the action or the behaviour and not on the person.

Reward

Learners respond differently to learning experiences, yet they all need to be able to identify the benefits and value of the experience. These benefits act as a reward for the work learners have done and help motivate further learning. Sometimes it is also valuable to provide external recognition and reward. It is very motivating to be told you have done well and your efforts are recognised and appreciated.

Behavioural learning theory

Observable behaviour rather than internal thought processes are the focus; in particular, learning is shown by a change in behaviour. Four key principles are considered to be important. They are:

- learning is better when the learner is active, not passive
- frequent practice is necessary for learning
- positive reinforcements, like rewards and successes, are encouraged
- objectives need to be clear, for example, performance criteria found in units of competency.

Information processing theory

This theory uses the computer as a model for human learning. The human mind, like the computer, takes in information; changes the form and content of this information; stores and locates it; and generates responses to it. The approach to learning here is primarily through the use and study of memory.

Cognitive learning theory

This theory is based on the cognitive process we use to acquire knowledge, which includes knowledge gained through perception, intuition and reasoning. The theory outlines an active mental process of acquiring, remembering and using knowledge.

Constructivist learning theory

This theory is based on the idea that learners construct knowledge for themselves. That is, each learner individually and socially constructs meaning as they learn. This then leads to a focus on the learner, rather than on the subject or the lesson to be taught, as it is the learner's thinking about the learning which is the key to the learning taking place.

Learner/ students centred learning

- Teacher as facilitator—Provide tool, references, resources,
- Provide the students with the task.
- Ask them to do research themselves
- Present their work evidence portfolios
- Assess their work
- E-Learning is an effective way to provide a great deal of resources.

Situational approach to learning

The emphasis here is on learning being situation-based, that is, placed in a social context, like a workplace. Learning takes place through the relationships between people, and is based on the conditions that bring people together, allowing for particular pieces of information to take on relevance and meaning

Problem-based learning

This approach to learning recognises the need to develop problem-solving skill in order for learning to take place. The learning goals are the learners' abilities to solve the problem, present solutions and revise solutions when presented with additional information.

Project Design / Assessment

Further reading

Page 30 to 34 of Ref - 16.taadel401a Plan & Organize Group Base learning.pdf


Left hemisphere/Right hemisphere

Left Hemisphere	Right Hemisphere
Functions and Characteristics	Functions and Characteristics
Mathematical	Artistic
Verbal	Imaginative
Sequential	Random
Literal	Spatial
Logical	Holistic
Linear	Intuitive
Analytic	Synthesiser
Rational	Non-rational
Verbal	Non-verbal
Symbolic	Metaphoric
Abstract	Concrete
Temporal	Non-temporal

PART learning styles

Further reading

Page 36 to 37 of Ref - 16.taadel401a Plan & Organize Group Base learning.pdf



Global	Analytic
Big Picture	Detail
Inter-connection	Specific
Broad overall approach	Step by step
Begin with the end in mind	Start at the beginning

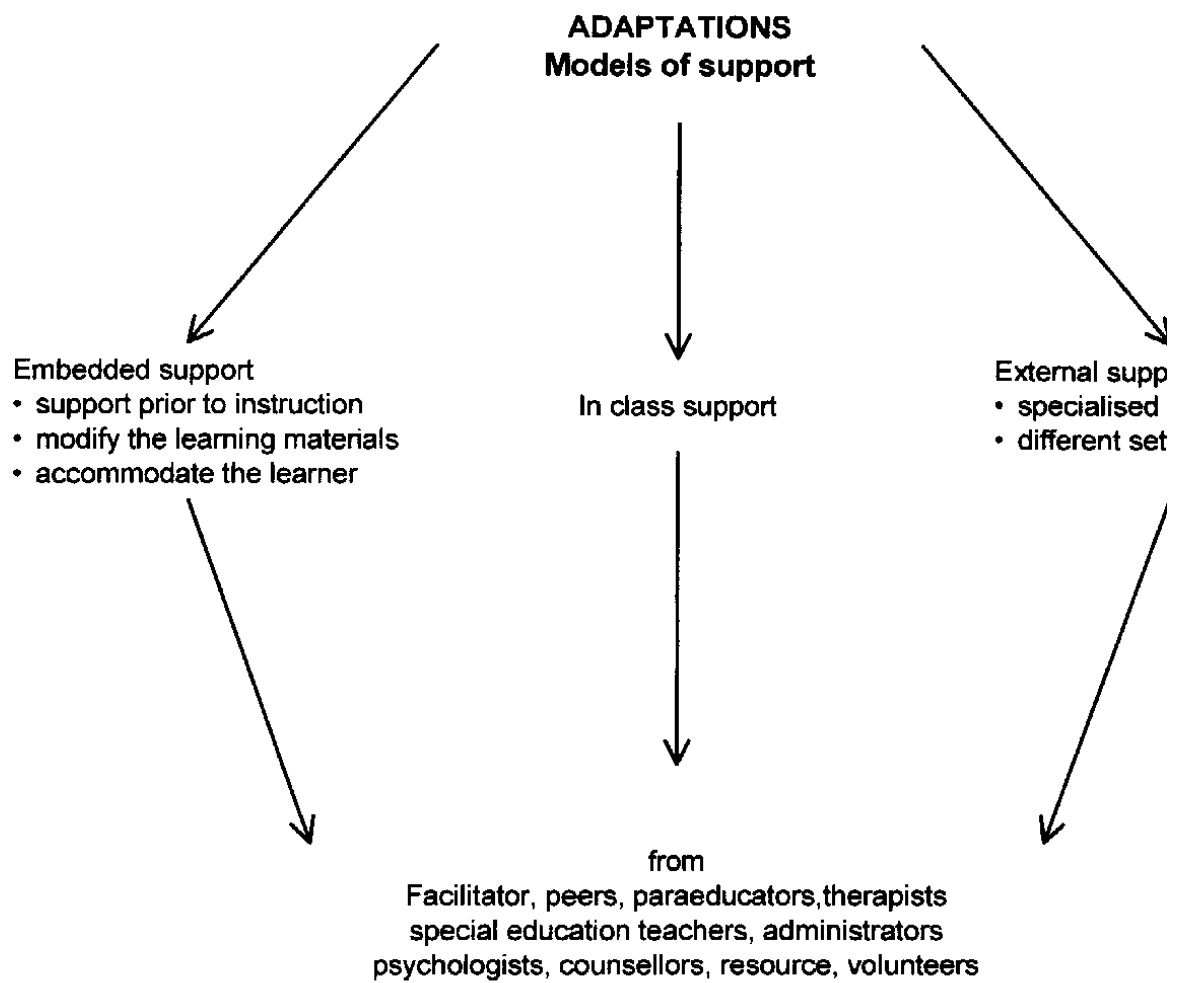
- your roles and responsibilities as the facilitator
- the learning context
- the learner program requirements
- who your learners are, what their needs and characteristics are, and how you might go about supporting them
- how to identify potential risks to learners
- other factors that should be considered when planning and organising group-based delivery.

Regulatory environment

Learning program requirements

Learners, their needs and characteristics

Before planning training, it is important to get a clear understanding of exactly who the learners are and what they need to gain from the program.



Modify the learning materials

- Incorporate techniques such as modelling, demonstrating, visual/diagrammatic representation, opportunities to practise skills, peer support and repetition.
- Build underpinning knowledge and skills using support materials.
- Tape sessions for learners unable to attend class.
- Provide resources in large print (this may just involve making activity cards in slightly larger font to make them more accessible).
- Use videos and audio tapes to offer variety.
- Post class notes on a website.
- Build in information about discrimination—the law, direct and indirect forms of discrimination.
- Use video conferencing facilities to access learners.
- Provide different instructional materials to meet a learner's individual goals.

Accommodate the learner

- Draw on a range of resources from first language, including peer support.
- Listen to problems and help within limits.
- Arrange the timetable so it caters for people who work or have family commitments.
- Provide flexibility in the timing of assessment tasks.
- Use adaptive technology.
- Modify the number of items that a learner is expected to learn or complete.
- Extend the time allowed for learning, task completion or testing.
- Increase the amount of personal assistance with a specific learner.
- Modify the way a learner can respond to instruction (verbal, written, hands-on).
- Vary the extent to which a learner is actively involved in a task.
- Adjust the goals or outcome expectations while using the same materials.
- Adapt the skill level, problem type or the way learners may approach the work.

Provide in-class support

- Ensure appropriate physical and communication supports are available.
- Incorporate inclusiveness strategies so that learners learn from each other, not just the facilitator — for example, group sessions, peer tutoring, co-operative learning, reciprocal teaching.
- Introduce Indigenous protocols into learning relationships.
- Get learners to provide instructions and directions for activities.
- Build in activities in which learners and you, as facilitator, think about the values and beliefs they have with regard to diversity, including gender.
- Challenge the subtle forms of discrimination you witness within the practice environment.

Identifying risks

Preparing for facilitating

This Learning Topic explores what you need to do to prepare for facilitating a group and to prepare the content and structure of your learning resources.

There are many things you need to do:

- identify learning objectives, performance criteria and assessment methods (where required) and refine them
- identify, evaluate, select, modify and contextualise existing published learning resources and support materials
- develop an outline of the structure of each session
- develop specific session-based learning resources and activities
- identify specific facility, technology and equipment needs for each session
- identify and organise additional resourcing to meet identified learner support needs, where required.

The delivery plan

A delivery plan is sometimes referred to as a session plan. It could cover a series of sessions.

A delivery plan provides you with a step by step guide to follow. You will need to start with learning objectives and then develop a delivery plan that provides you with a guide for the effective facilitation of learning. You will structure information, develop resources and provide practice opportunities that meet the needs of your learners.

A delivery plan may include:

- duration of each activity or exercise
- individual or group objectives
- formative assessment opportunities
- location of training
- number of learners
- activities to be used
- resources, for example, a whiteboard, overhead projector, handouts, or articles
- any additional requirements to meet special needs of learners
- OHS considerations to ensure a safe learning environment. This may be addressed under separate headings of venue, activities, equipment, or personnel as appropriate.

Learning objectives

Imagine what archery would be like without a target, or football without the goal posts—how would you know if you were successful? This is what it is like to run a session without planned and documented learning objectives. How would you know where you were going? How would you know if you had succeeded?

Learning objectives state what the learner is to learn as a result of participating in the program or session. Due to the diversity in the sector, you may find different kinds of learning objectives. They could include:

- units of competency
- learning objectives
- individual or group objectives
- generic or technical skills.

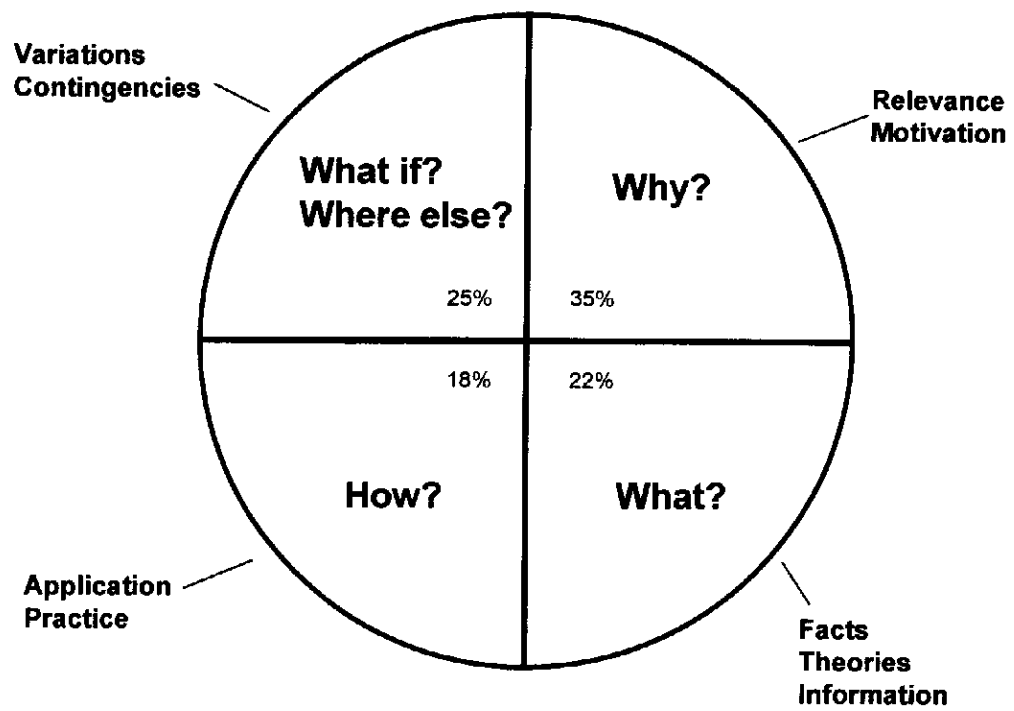
Assessment methods

You need to find out:

- what responsibility you will have for assessment
- who else may be involved in assessing your learners
- what you need to do if others are responsible for assessing your learners.

Checklist for selecting resources

- ☐ Is the resource current?
- ☐ Does the resource cover the competency standards or learning objectives that need to be addressed in the learning program?
- ☐ Does the resource provide clear and comprehensive information?
- ☐ Does the resource clearly identify its purpose and objective?
- ☐ Is the resource able to be contextualised to meet your learning needs?
- ☐ Does the resource respond to access and equity issues?
- ☐ Does the resource offer flexibility for delivery and assessment?
- ☐ If a course has been selected, do the hours and cost seem reasonable?
- ☐ Is the resource recognised by accredited bodies or organisations as covering the training requirements?



Learning activities may include:

- discussion
- role-plays
- written tasks
- slides and/or video presentations
- case studies
- solving problems
- 'thinking skills' exercises
- collaborative learning projects
- workplace practice
- question and answer
- online research
- self-paced materials
- group learning activities
- individual activities
- practice
- demonstration
- a combination of the above.

Further reading

Page 77 to 84 of Ref - 16.taadel401a Plan & Organize Group Base learning.pdf

Work based learning.pdf

22.taadel404a Facilitate work based learning.pdf

individual learning.pdf

20.taadel403a Facilitate individual learning.pdf

Distance based learning

24.taadel405a Coordinate 7 facilitate distance based learnin.pdf

Day 5 Session 2

Preparing vocational teaching portfolios

Provide the following examples / Worksheet & Explain

Provide Training through instruction and demonstration of work skills

TAADEL301A.doc (0.03MB)

<http://www.filefactory.com/file/2ppyhdlqhlsh/n/TAADEL301A.doc>

Facilitate work-based learning

TAADEL404A.doc (0.03MB)

<http://www.filefactory.com/file/60ojucglvyu3/n/TAADEL404A.doc>

Group based delivery

TAADEL401A.doc (0.03MB)

<http://www.filefactory.com/file/3i5scp12gkdn/n/TAADEL401A.doc>

Use Training Packages to meet client needs

TAADES401A.doc (0.03MB)

<http://www.filefactory.com/file/32bofyy182wf/n/TAADES401A.doc>

Design and develop learning programs

TAADES402A.doc (0.03MB)

<http://www.filefactory.com/file/4nhro84kl2nx/n/TAADES402A.doc>

Work effectively in vocational education and training

TAAENV401A.doc (0.03MB)

<http://www.filefactory.com/file/45zeif6cy5zx/n/TAAENV401A.doc>

Foster and promote an inclusive learning culture

TAAENV402A.doc (0.03MB)

<http://www.filefactory.com/file/3zoufgaty89n/n/TAAENV402A.doc>

Ensure a safe and healthy learning environment

TAAENV403A.doc (0.03MB)

<http://www.filefactory.com/file/6ireaw7s5jg9/n/TAAENV403A.doc>

Individual learning

TAADEL403A.doc (0.03MB)

<http://www.filefactory.com/file/7g3h9iwpodfr/n/TAADEL403A.doc>

Language Literacy & Numeracy

1397606218-taelln411_sample.pdf (0.34MB)

http://www.filefactory.com/file/5fh2bd8z3k0r/n/1397606218-taelln411_sample.pdf

Report.pdf (0.41MB)

<http://www.filefactory.com/file/655u3gypqyj3/n/Report.pdf>

Section 4 Model for core skills analysis.pdf (0.69MB)

http://www.filefactory.com/file/6p480mpcelft/n/Section_4_Model_for_core_skills_analysis.pdf

ACSF_Document.pdf (1.03MB)

http://www.filefactory.com/file/54s5xbe3esdn/n/ACSF_Document.pdf

LLN Preparation of students.docx (0.02MB)

http://www.filefactory.com/file/77ps5dxgbhbj/n/LLN_Preparation_of_students.docx

Australian Core Skills Framework for LLN Level determination.docx (0.02MB)

http://www.filefactory.com/file/4qt7gx24cd9l/n/Australian_Core_Skills_Framework_for_LLN_Level_determination.docx

Day 6 Session 1 & 3

Assessment Validation Guide of Myanmar Engineering Council

- assessment & evaluation methods for the attainment achievement of the Learning Outcome

Step 1

Day 6 Session 1/ VET Level Assessment Tasks/27.taaass401a Plan & organize assessment.pdf

Page 15, 18, 21, 22, 23, 24, 25, 26, 27, 28, 29, 31, 32, 51-Levels of performance

The potential assessment methods were:

Observation of the candidate at work/practical demonstration

Role-play

Customer feedback

Written and verbal questioning

Practical tasks
Third party report
Case study—customer complaints
Journal
Portfolio

Methods:

- observation of the candidate at the workplace interacting, serving and attending to customers
- verbal questioning that focuses on underpinning knowledge and contingency management for the three competencies
- role-play for customer complaints; working in a non-discriminatory manner; or a simulation of processing particular payments such as gift certificates
- third party reports from a supervisor.
- Sequencing of assessment activities
- When planning the assessment, consideration was given to the sequence of assessment activities.
- The initial assessment could be verbal questioning to ensure candidates have the required knowledge. This could be followed by a role-play to establish that individuals have basic skills to serve customers.
- A series of observations on the-job could be supplemented by a third party report from the supervisor

OHS

- Find out the answers to the following questions in your practice environment.
- Who are the relevant OHS personnel?
- What are the main OHS considerations in your industry or area of assessment?
- What are the specific procedures relating to hazard identification?
- What risk control measures are in place?

- What are the requirements for reporting hazards and incidents?
- What are the emergency procedures?
- What are the procedures for use of the relevant personal protective equipment?
- What OHS factors do you need to consider when planning assessment?

Page 74 , 78, 79,80, 81, 82, 83, 85, 86, 90, 91

Step 2

Day 6 Session 3/ TAEASS502B/ Assessment tools developed

Show the samples

Day 6 Session 1/ VET Level Assessment Tasks/8.Guides for preparing VET portfolios

Show the samples

Step 3

Day 6 Session 3/ Audit tools/

Day 6 Session 3/ TAEASS502B/ Assessment tools developed/

Show the samples

Also show the examples in

Day 6 Session 1/ University level Education Assessment Assignment Tasks Samples/ 2.2.doc

Day 6 Session 1/ University level Education Assessment Assignment Tasks Samples/ 3.3.doc

Further Reading

Day 6 Session 1/ University level Education Assessment Assignment Tasks Samples /NSWTVET804A.doc



Day 7 Session 2

Learning Technology Part 1

Detailed Course Teaching Plans/ Day 7 Session 2/ 5.Learning Technology 1/
index.html/ [Start the Unit](#)/Do the course

Look the sample module structure in CD based delivery

Table of Contents

- [Unit Outline](#) 
- [Unit Plan](#) 
- [Weekly Timetable](#)
- [Course Related Readings](#)
- [Assessment Information](#)
- **Required Coursework**
 - [Module 1: Getting Started and IT Empowerment and Teaching](#)
 - [Module 2: IT and Education: The Hype and the Reality](#)
 - [Module 3: Ghosts of Schooling Past, Present and Future](#)
 - [Module 4: Making the World Wide Web Work for You](#)
 - [Module 5: Technology in Your Classroom](#)

Module 1: Getting Started and IT Empowerment and Teaching

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- [Objectives](#)
- [Week 1](#)

- [Introduction](#)
- [Purpose of the Course](#)
- [Course Goals](#)
- [Course Structure](#)
- [Studying a Networked Multimedia Course on the WWW](#)
- [Navigating this Web Site and the On-line Facilities](#)
 - [Accessing the Course Materials Via the Internet](#)
 - [Accessing the Course Materials Via the CD-ROM](#)
- [The Community of Learners: The Course Communication Tools](#)
 - [Our Bulletin Boards \(BBS\) and Chat Room](#)
 - [Course Email](#)
 - [Netiquette](#)
- [About Your Portfolio](#)
- [Week 1 Skills Training](#)
- [Week 1 Checklist](#)
- [Week 2](#)
 - [Introduction](#)
 - [IT In and Out of the Classroom](#)
 - [Week 2 Skills Training](#)
 - [Week 2 Checklist](#)
- [Summary](#)
- [Optional Extras](#)

Module 2: IT and Education: The Hype and the Reality

Table of Contents

- [Objectives](#)

- [Week 1](#)
 - [Introduction](#)
 - [IT In Education](#)
 - [Networked Multimedia](#)
 - [Some Examples](#)
 - [First Class](#)
 - [Two Other Classes](#)
 - [Integrated Learning, Enjoyable Learning](#)
 - [The Curriculum Framework, Outcomes, and Integration Across the Learning Areas](#)
 - [Week 1 Skills Training](#)
 - [Week 1 Checklist](#)
- [Week 2](#)
 - [But What Can, and Should, I Do?](#)
 - [Week 2 Skills Training](#)
 - [Week 2 Checklist](#)
- [Summary](#)
- [Optional Extras](#)

Module 3: Ghosts of Schooling Past, Present and Future

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 - [Introduction](#)
 - [The Right Time And The Right Place](#)
 - [Tools, Not Take-overs](#)

- [Computing As A Tool, NOT An End In Itself](#)
- [Schools Of The Future: At Least ONE Has Arrived!](#)
- [A More Constrained Look At A School Design Model TM](#)
- [Week 1 Skills Training](#)
- [Week 1 Checklist](#)
- [Week 2](#)
 - [Creating the Active Learning Environment](#)
 - [Discussion](#)
 - [Does This Mean That You Need A Massive IT Infrastructure To Use Computers In The Classroom Effectively?](#)
 - [IF \(if and only if\) We Know How To Use Them Effectively!!](#)
 - [Week 2 Skills Training](#)
 - [Week 2 Checklist](#)
- [Summary](#)
- [Optional Extras](#)

Module 4: Making the World Wide Web Work for You

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 - [Some Free Advice](#)
 - [Email](#)
 - [Web Based Email](#)
 - [Spam](#)
 - [Attachments](#)
 - [Mailing Lists](#)

- [Newsgroups](#)
- [Bulletin Boards](#)
- [Chat Rooms](#)
- [Pager Programs \(Instant Messaging\)](#)
- [Internet Telephony](#)
- [Internet VideoConferencing](#)
- [Let's Look at Some Linked Multimedia](#)
 - [The Nine Planets: An Example](#)
- [Using Web Information to Generate Other Class Activities](#)
- [Week 1 Skills Training](#)
- [Week 1 Checklist](#)
- [Week 2](#)
 - [How Do We Use It?](#)
 - [How Do We Find It?](#)
 - [Specialised "Teacher Sites"](#)
 - [Search Directories and Search Engines](#)
 - [Evaluating What We Find](#)
 - [Quality Control and WWW](#)
 - [Week 2 Skills Training](#)
 - [Week 2 Checklist](#)
- [Summary](#)
- [Optional Extras](#)

Module 5: Technology in Your Classroom

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 - [Educational Software](#)
 - [More Ideas, Approaches, Tools and Tricks](#)
 - [Integration](#)
 - [Early Learning and Primary](#)
 - [Discussion](#)
 - [Skills Training](#)
 - [Checklist](#)
- [Summary](#)
- [Optional Extras](#)

Use the hyperlinks to join the contents

Advantages

- Consistent teaching & learning
- Good references
- It is time consuming to start but once it has been developed, the head of the department can effectively control the whole and teaching and learning system
- The students can be directed to self place learning, resource research .
- By this way the self dependency and confidence can be developed

Disadvantages

- Needs IT skills
- Need to prepare all lessons in advanced.
- Computer competency
- Time consuming
- Limitation of resources

If this methodology is utilized to share the resources between the institutes rather than at the classroom teaching level, more consistent teaching, learning and resources sharing can be achieved among the institutes located at different geographical locations.

Introduction

Learning Technologies are the various forms of Information Technology (IT) [or Information and Communications Technologies (ICT)], which are used to improve student learning. Learning Technologies (LT) encompass:

- integration of IT into teaching and learning;
- developing and enhancing teacher competencies in learning technologies;
- student access to electronic educational resources (hardware, software and networked multimedia); and
- school infrastructure and connectivity.

Learning Technologies are an integral part of teaching and learning programs and are expected to facilitate the development and improvement of outcomes in all learning areas (not just "Technology and Enterprise"). They are tools to achieve an outcome, not an outcome within themselves. Let us not forget that! Success will be shown by what teachers and students achieve and can do, not by the number of machines sitting in classrooms

Accessing the Course Materials Via the CD-ROM

All materials for this course and other *Learning Technology for Teachers* courses provided by Curtin University are also provided on CD-ROM. The CD-ROM allows us to include some files (exercises, handbooks, videos , etc.) that, because of their large size, have not been placed on the Internet site.

The CD-ROM has a file structure that is virtually identical to that of the Internet site.

The main **ADVANTAGES** of accessing the course via the CD-ROM are:

- Access is MUCH FASTER than via the Internet;
- Some materials are available only on the CD-ROM; and
- Many students will find it convenient that an Internet connection is not required.

The main **DISADVANTAGES** of accessing the course via the CD-ROM are:

- The CD-ROM is "static" - that is, it can not be updated. In an area changing as fast as networked multimedia, it probably has a "shelf life" of about three or four months;
- There is no access to the internal Mail, Bulletin Board, Chat Rooms or hypertext logging; and
- Some materials that are available only via other Internet sites cannot be accessed.

Dimension	Traditional classroom	Classroom using Internet - Multimedia - information technology
Primary source of knowledge	Teacher	Available "out there" in the net
Learning group	Class size or small group	Class or the individual in an unlimited number of net sites
Learner age range	Uniform	8 to 80
Learning initiator	Mostly a teacher	The student
Learning schedule	In school, at fixed hours	In school as well as any other time
Place of learning	The school	Next to a computer
Learning tools	Reading and writing materials	Computer technology
Learning style	Linear	Parallel
State of updated knowledge	Knowledge rarely updated	State of the art knowledge
Student questions directed to	Teacher: question time limited	Teacher and experts: question time flexible
Evaluation	Teacher is main source	Projects are main source
Laboratory work	May be a % of class time	Mainly indirect as lab simulation

Tools, Not Take-overs

Do we want computers to replace teachers?

Do we want every child to have access to her own computer throughout the school day?

Do we know where computers are best used in schools, and where listening - talking - thinking - writing (on paper) - reading (from books) are preferred methods of instruction?

Do we really know what we want to do with IT in the classroom, much less how to do it?

One approach is to provide every child -- or, more likely, have every parent provide for their child -- a personal laptop computer. This is becoming increasingly common, especially in independent schools.

Is this the answer?

Computing As A Tool, NOT An End In Itself

Before looking a little more closely at "wired schools", we should consider the impacts of IT and computing across the curriculum, from pre-school to secondary and beyond -- what does it really offer?

I addressed some of these issues in the paper I asked you to read for Module 2 (Staff Development in Computing and Information Systems Literacy: Computing as a Tool, Not an End in Itself). You might recall that my goals were to look at:

What are the differences between "educational computing" (that is, using computers, digital information and the Internet to teach a wide range of subjects), and "computer education" (teaching how computers and networks operate, personal computing skills, information systems design and analysis, programming, etc.)? Can IT change the nature of teaching and learning, in a range of environments, from pre-school to tertiary study? Are our schools exploiting the potential successfully? Do we need / want the "cyber classroom - School of the Future" to dominate education? What are its pros and cons?

What is the division of responsibility, between the home and the school, in encouraging the developing of IT skills, as well as providing access to IT?

Are students being inundated with "information" with little consequent increase in knowledge or understanding? Is IT becoming the education system's servant, or are teachers and students becoming IT's slave?

Search Directories and Search Engines

Many people like to think of the Internet as a huge library of information, but nothing could be further from the truth. Libraries are designed specifically to support the organised retrieval of published information and use tools, such as card catalogues and online databases, created for this purpose. The Internet -- and especially the World Wide Web -- was not designed this way. The Web has evolved into a somewhat chaotic digital repository that includes not only books, reports, and other types of papers, but also raw scientific data, menus, meeting notices, personal

stories, multimedia recordings, recipes, transcripts of interactive conversations, news, and advertisements. Pages of great value share Web space with pages of little or no worth to the general public (which is as it should be on a democratic Net).

Methods for organising the chaos of the Web are being developed continuously, but so far there is no single source for searching its entire contents. Because content being searched with one tool may or may not overlap with content being searched with another (no two indexes are exactly the same), you might have to use more than one tool to satisfy your research query.

Choosing the most appropriate tool for a search can save you time and frustration. Just as you wouldn't want to use a high-heeled shoe to pound in a nail, you wouldn't want to frustrate yourself by using a search tool that makes your research more difficult.

(from Internet Search Techniques, by Karin Rex, ZDU, 1998.)

We've already looked at special "teacher sites" and the use of special lists compiled for teachers by others. Later you may want to focus on refining your own search skills and building up your own list of favourites. [As previously mentioned, there is an excellent tutorial on 'Using the Internet -- Basic and Advanced Searching' referenced in the optional extras section at the bottom of this page.]

Evaluating What We Find

Once you have practised searching, you'll get very handy, very quickly, at it. More difficult is deciding the value of what we find on the WWW -- as I mentioned earlier, there are no editors, no filters -- grandma's old wives tales share the Internet with scholarly articles and hate sites.

I have seen two serious problems with my own children, especially when they were 10 - 13 years old, using the Internet

Firstly, they seem to think it is the "first stop" for all homework -- WWW first, then books, then ask Mum or Dad. Very often, the WWW is **not** the place to start, or even to finish; an encyclopaedia (paper or CD-ROM), or a newspaper/magazine/book, would be much more useful.

Secondly, children are used to believing what they read, and see on TV, and see on computer screens, and often have difficulty distinguishing a vested interest or personal axe to grind (even if they can pick the most extreme "hate sites" or "radical religion" pages). [A third issue, of course, is access to inappropriate material although most school networks are fairly well filtered and protected these days.]

I don't think that many educators have paid sufficient attention to these issues.

Quality Control and the WWW

There is a wealth of poor quality information on the WWW -- endless examples of information that is inaccurate, inaccessible, invalid, incomplete, out of date, unreadable or simply irrelevant. Students (and teachers) need a set of evaluation skills beyond those required for print media.

Remember that virtually anyone can publish virtually anything on the WWW; authors make mistakes, assume personas, exaggerate, make false claims, and simply lie. Consider the WWW site that claimed to be written by a political party but was in fact written by the opposition party, or the citation of an online physics paper by A. Einstein (Amy Einstein, of Melbourne). [adapted from a paper by Emma Worsfold and Debra Hiom, citation unknown.]

So what do we need to consider? Source (author / authority / affiliation), Content (accuracy / objectivity), Currency and Purpose would be at the top of my list.

Source (author / authority / affiliation)

- Who wrote the material?
- What are his/her credential **on this subject**? [A PhD in physics does not guarantee authority on AIDS, politics or theology]
- What are his/her professional affiliations? Can they be verified independently? [And are they the same as the site's, or is the site a "personal page" on a commercial service?]

Content (accuracy / objectivity)

- Are the sources for all factual information, including charts and diagrams, cited?
- Can the cited sources be located?
- Is the material well-written (comparable to a textbook)?
- Is there evidence of bias, or a particular point of view on a controversial topic?
- Are the links provided relevant, unbiased and comprehensive?
- Is the site free from advertising? If not, does the advertiser have a vested interest in the topic? [such as a pro-smoking page supported by a tobacco company]

Currency

- Is this a subject which changes rapidly over short periods of time?
- Is a publication date / date of last revision provided?
- If data are time-dependent, are dates provided?

Purpose

- Is it clear why the author wrote the material? Is the author affiliated with an educational institution (.edu), a non-profit organisation (.org), the government (.gov), or a commercial venture (.com)? [It is important to note that some domains can be bought by pretty much anyone and anyway, would you trust every country's .gov sites?] In other words, Check the Source
- Is the purpose of the sponsoring organisation clear?

- Can the organisation be located independently of the WWW (physical address, mailing address, telephone/fax)?

Students should be made aware of these issues when they first start using the WWW, not years down the track.

Learning Technology 2

Sample CD based training

Day 7 Session 2/ 6.Learning Technology 2/Do the course/index.html/Stream 6: Planning, Implementing and Managing School Technology Infrastructure

Day 7 Session 2/ 6.Learning Technology 2/Do the course/index.html/
Stream 7: Learning Technologies for Teacher - Librarians

Day 7 Session 2/ 6.Learning Technology 2/Do the course/index.html/
Stream 8: Creating Courses on the WWW and CD-ROM/ Part 2:
Creating Multi-platform CD-ROMs

- Browse this pages and show how practical training can be provided by CD based training.

Day 7 Session 3

Show IQY Technical College Learning platform in DVD.

- iqytechnicalcollege.htm
- School Lesson DVD
- Lesson DVDs
- Lesson DVDs Mod
- IQY Technical Resources provided to other organizations Part 1
- IQY Technical Resources provided to other organizations Part 2

- IQY Technical Resources provided to other organizations Part 3A
- IQY Technical Resources provided to other organizations Part 3B
- Mixed DVD Lessons School + Higher Education
- K 2.11 Computer Back up
- KN Office L1.1 Computer Back Up
- Engineering Practicals
- Intensive 26 Days Session Videos

Explain e-Learning system of IQY Technical College

Develop resource development tasks

- Taking audio
- Taking photo
- Edit audio
- Embed into power point
- Take video
- Change format
- JPG/PDF conversion
- Video format change
- Insert hyperlinks
- Uploading hints
- Hand on practices

Day 8 Session 1

Technology in Classroom

Day 8 Session 1/ 7. [Technology in classroom/ index.html/](#) **Start the Unit/Do the course/** [Developing Leadership Skills in Technology](#)

Teachers as Learners

Before commencing any program of supervision, it is important to develop an understanding of the teacher as a learner. Teachers' practice, it is held, is determined by the construction of an internally verifiable base of knowledge. Learning or change requires a teacher to test new knowledge against what he/she already knows to be "true". Sometimes called a "constructivist" perspective [1]

(MacKinnon & Erickson, 1988), it requires that any attempt "to change the practices of those who teach, it is necessary to come to grips with the subjectively reasonable beliefs of teachers" (Fenstermacher, 1978, p.174).

To understand the teacher as a learner, it is useful to have some conception of the what and how of teacher learning. Michael Fullan (1990) describes four aspects of the teacher as learner - technical, reflective, inquiry and collaborative. "[These aspects] must be seen in combination. Each has its separate tradition of research and practice, and each has made important contributions in its own right. The mastery of technical skills increases instructional certainty; reflective practice enhances clarity, meaning and coherence; inquiry fosters investigation and exploration; collaboration enables one to receive and give ideas and assistance" (p. 19-20).

Leadership

The teacher as learner is shaped by a variety of personality and career factors that make up the total teacher. Teacher learning is also affected by environmental factors - the classroom, colleagues and the culture of the school, of which leadership is one aspect. It is important not to overplay (nor underplay) the importance of leadership in teaching. The teacher is a professional practitioner constantly grappling with real problems in his/her classroom. Reflection, inquiry, collaboration and the development of technical expertise will proceed with or without good leadership. Leadership can however make a difference in promoting teacher learning by mobilising an organisational climate of support (Rosenholtz, 1989). Fullan et al (1990, p. 14-15), for example, refer to four climatic conditions:

Day 8 Session 1/ ED 308 Computer Supported Learning & Distance Education/Computer Supported Learning.pdf

Page 14 to 22

Collaborative learning:

- promotes critical thinking skills

Under this dot point Panitz suggests that collaborative learning develops higher level thinking skills; stimulates critical thinking; helps students clarify ideas through discussion and debate; enhances skill building and practice; develops oral communication skills; fosters metacognition in students; and improves students' recall of text content through cooperative discussions;

- involves students actively in the learning process

And here, that it creates an environment of active, involved, exploratory learning; encourages student responsibility for learning; involves students in developing curriculum and class procedures; provides training in effective teaching strategies to the next generation of teachers; helps students wean themselves away from

considering teachers the sole sources of knowledge and understanding; fits in well with the TQM and CQI models of effective management; promotes a learning goal rather than a performance goal; fits in well with the constructivist approach; and allows students to exercise a sense of control on task;

models appropriate student problem-solving techniques

Collaborative learning fosters modeling of problem solving techniques by students' peers; allows assignment of more challenging tasks without making the workload unreasonable; can help weaker students improve their performance when grouped with higher achieving students; provides stronger students with the deeper understanding that comes only from teaching material (cognitive rehearsal); leads to the generation of more and better questions in class; provides a safe environment for alternate problem solutions; and addresses learning style differences among students.

Collaborative learning:

Psychological Benefits

- can increase students' self esteem

Group learning can help to reduce anxiety; enhance student satisfaction with the learning experience; promote a mastery attribution pattern rather than helpless attribution pattern; and encourage students to seek help and accept tutoring from their peers;

- develops positive attitudes towards teachers

Such an environment can create a more positive attitude on the part of students towards their instructors; and create a more positive attitude by instructors toward their students; and set high expectations for students and teachers.

Social Benefits

Collaborative learning:

- **develops a social support system for students**

For example, it promotes student-faculty interaction and familiarity; develops social interaction skills; promotes positive societal responses to problems and fosters a supportive environment within which to manage conflict resolution; creates a stronger social support system; fosters and develops interpersonal relationships; and helps students to develop responsibility for each other;

- **builds diversity understanding among students and staff**

- Collaborative learning builds more positive heterogeneous relationships; encourages diversity understanding; fosters a greater ability in students to view situations from others' perspectives (development of empathy); and helps majority and minority populations in a class learn to work with each other (different ethnic groups, men and women, traditional and non-traditional students);
- establishes a positive atmosphere for modeling and practicing cooperation
- Collaborative learning establishes an atmosphere of cooperation and helping;
- helps students learn how to criticize ideas rather than people; helps to model desirable social behaviors necessary for employment situations that utilize teams and groups;
- helps students practice modeling societal and work related roles;
- fosters team building and a team approach to problem solving while maintaining individual accountability; creates environments where students can practice
- building leadership skills; increases leadership skills of female students; develops learning communities;
- provides the foundation for developing learning communities within institutions and in courses; helps to promote social and academic relationships well beyond the classroom and individual course; and helps teachers
- change their roles from their being the focus of the teaching process to becoming facilitators of the learning process (they move from teacher-centered to student centered learning).

Graham and Misanchuk (2003) have suggested that there are three general stages that

are important if using groups in a CSCL environment is to be successful:

- creating the groups,
- structuring the learning activities, and
- facilitating group interactions

- Davis (1993) has supplied excellent solutions to a number of problems of collaborative

- learning, broken down under the following headings:
 - • general strategies,
 - • designing group work,
 - • organizing learning groups,
 - • evaluating group work,
 - • dealing with student and faculty concerns about group work, and
 - • setting up study teams.

General strategies,

- designing group work,
- organizing learning groups,
- evaluating group work,
- dealing with student and faculty concerns about group work, and
- setting up study teams.
 - forming teams,
 - dealing with dysfunctional teams,
 - grading,
 - distance learning, and
 - avoiding discouragement.

Challenges for teachers

Salmon (2000) has suggested that in any computer-supported session, the instructor might need to be a chair, host, lecturer, tutor, facilitator, mediator of team debates, mentor, provocateur, observer, participant, co-learner, assistant, community organizer, or some combination of these! This clearly points to the fact that the skills required on the part of the instructor are more complex and diverse than those required for a face-to-face lecture. Thus, instructors need to be prepared for the different roles they will have to assume. In some cases, this may mean formalized training programs.

However, it is quite possible for collaborative learning to benefit all students. It is often said by academics and instructors generally that the best way to learn a subject is to teach it, and for good reason – when teaching, one needs to gain a thorough knowledge of the subject, not

only to prepare material, but also to be able to answer questions confidently.

No matter how good the preparation on the part of the instructor, further questions will almost inevitably arise during the course of instruction, thus leading to an even better understanding.

It seems naïve in the extreme to assume a similar process will not occur when the students themselves take on the unofficial role of instructors to other students within their group.

Assessment

- At the beginning of the course, the instructor randomly assigns students into groups.
- Each group is assigned one of the weekly topics and has to make a single online presentation. Students are assessed not just for their group's presentation but also for their comments about other presentations.
- Each group presentation is also assessed on the quality of the discussion that follows. Typically, by the end of semester, students will have received over 100 inputs on their work from other students in the group, other groups, and the instructor.
- In the last week of term, students are invited to submit a recommendation in writing on each other's group performance.
- The instructor considers any such recommendations when allocating individual marks for group performance to members of the group.
- A student who a group decides did not contribute sufficiently may suffer a reduction in mark as a result.
- Different assessment criteria may be used – for example, for the electronic presentation, clarity and structure of presentation, originality of ideas, and ability to substantiate arguments by relevant data; for other contributions, understanding the arguments

that are made by other presenters, linking them to the relevant literature, and making pertinent critical comments about these arguments.

- The students' final marks are based on a combination of their group work throughout the semester and their performance in an end-of-semester examination.

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Online Group Projects:

Preparing the Instructors to Prepare the Students

- Preparing instructors to prepare students to participate in online group projects is an important precursor to successful collaborative projects in computer-supported courses.
- Lesson modules developed in "*The Group Project Project*" provided instructors with specific guidance in applying techniques and teaching strategies for collaborative online projects. Interviews with instructors and students participating in online collaboration and group projects, as well as reviews of published research, were influential in determining the content of the instructor preparation modules.
- Student collaborative learning and the resulting learning communities are important elements in online teaching, both in principle and in practice. It is the vibrant sense of community of learners that makes successful online courses so rewarding for participants.
- Group projects need to be considered in the overall instructional plan for usefulness, timeliness, and instructional quality. However, many instructors teaching
- online classes are themselves new to online teaching and learning. They need guidance in setting up and delivering instruction for their students to fully engage in an online collaborative learning experience. Providing this guidance was the goal of

The Group Project

- The Group Project incorporates theories and methods learned, and applies them to online lessons targeting instructors. The project focused on the development of lesson modules (or learning objects) that are intended to be used as part of a larger course.

- These modules include guidelines and specific “how to’s” for instructors, based on reported research in collaborative group projects in online learning. These lessons are designed to prepare instructors to prepare students to participate in online group projects and to apply techniques and teaching strategies for collaborative learning to online group projects. With this set of flexible instructional modules, the basic elements of online group projects can be passed on to instructors either individually or as a group.
- These modules instruct faculty members on the theory and process for including group projects in their own online course work. Preparation of instructors and students for online collaboration and group projects are critical to their success.

Student-Centered Learning

“

- Student-centered learning requires active input from students and requires intellectual effort and aids retention. Students must build their own knowledge through activities that engage them in active learning. Effective learning happens when students take stock of what they already know and then move beyond it.
- The role of the teacher in student centered learning is to facilitate the students’ learning by providing a framework (i.e., activities for students to complete) that facilitates their learning (Hiltz, 1993).
- Following the Constructivist Learning Approach, online group project activities are collaborative, conversational, intentional, and reflective (Lum, Mebius, & Wijekumar, 1999). Collaborative work, joint assignments, and learning resources shared among class members and the instructor are integrated (Mason, 1998). To succeed, students are self disciplined, intrinsically motivated, willing to learn, comfortable with basic technology, have access to a computer with an Internet connection and have adequate computing skills (McCormick & Jones, 1998).
- The group will not have all the skills or knowledge necessary to complete the activities and will need to work through a series of trial and error attempts.
- Experimenting is an important activity within the project. Depending on the skills within the group, the instructor may have to provide additional instruction or guidance or direction to ensure that the groups will be successful in bridging the knowledge gap before or during the project work.
- Practicing skills through project activities ensures that learners have the opportunity to acquire knowledge and move toward the expected learning outcomes. The group work necessitates using and refining skills in many

areas of group working, relationship building, and the specific content-related tasks.

- Group project work usually involves some individual work and the synthesis of the group deliverable. In an online environment, these activities usually require reading and summarization of the source information. Using online communications -discussion, email, chat-requires students to engage in reading and summarization.
- Depending on the project task, the depth of research and analysis can be extensive or relatively minor. Conducting research and analysis online is a natural extension of the project.
- Articulating (writing, drawing) appropriate to the project should be included.
- Each student is required to contribute through articulation, informing, and, in some cases, persuading team members. Online, more forms of expression such as images, animation, video, audio, may be possible and encouraged.

Instructional Approach

- In online teaching and learning, technology can provide new and challenging avenues for addressing a variety of learning styles. It is important to strive for a balance of instructional methods. Students can be taught in a manner they prefer, which leads to an increased comfort level and willingness to learn. Some learning in a less preferred manner provides practice and feedback in ways of thinking and solving problems.
- Students may not initially be comfortable with this, but with practice, they will become
- more effective learners. Teaching designed to address all dimensions on any of the
- models is likely to be effective (Felder, 1996). While each learning style model has its advocates, all models lead to more or less the same instructional approach.
- Traditional instruction focuses almost exclusively on formal presentation of material
- (lecturing), a style comfortable only for learners who prefer information presented in an organized, logical fashion and who benefit from time for reflection. To reach all types of learners, instruction should explain the relevance of each new topic, present the basic information and methods associated with the topic, provide opportunities for practice in the methods, and encourage exploration of applications

- Distance learning styles, or learning preferences, change over time and by situation (Diaz, 2002). Student characteristics change constantly. A model that continuously monitors student characteristics and determines which characteristics facilitate favourable outcomes is more appropriate than traditional static learning style models.
- This student- and learning-centered approach in educational practice can be accommodated in an online learning environment by providing information - student tracking, captured discussions, work products-for increasing faculty sensitivity to the individual learner

Benefits of Group Projects in Online Collaborative Learning

- There are significant benefits that can be derived from collaborative learning and project work (Tinzmann et al., 1990). The principle benefits of group projects in online collaborative learning include but are not limited to: building self-esteem, reducing anxiety, encouraging understanding of diversity, fostering relationships, stimulating critical thinking, and developing skills needed in the workforce.
- Building self-esteem is an important benefit of online collaboration and group project activities. Students are simultaneously working alone and in an intense community of learners. Students must develop and rely on their own efforts.
- There is little opportunity to be swept along with the rest of the group.
- There is no escaping the personal accountability. By contributing to the group effort, students take personal credit for their role in the activity.
- This visible effort is concrete evidence of participation and learning and contributes to building students' self-esteem.

Page 39 of Computer Supported Learning.pdf

Text -E Learning Standards.pdf

Page 22

The development of competency model

A competency may be considered to be based on subject matter knowledge and skill, contextualized with respect to particular situations or scenarios (Harzallah, Berio and Vernadat, 2006).

Competencies may be assembled and linked in a rich data structures. A competency may appear in more than one place in a competencies hierarchy.

Thus, it makes sense to capture the data model of competencies in some reusable form, so they have to be defined only once.

- **Description:** the general description of the competency.
- **Type:** type of trait that represents an aspect of the competency such as knowledge, skill, attitude, and so on.
- **Relationship:** relationship to other competencies such as “part-of”, “child competency”, and “parent competency”.
- **Proficiency level:** a measurement of the degree to which the competency has been achieved.
- **Measurement scale:** a scale that relates to proficiency level and weight.
- **Taxonomy:** a taxonomy reference for structuring competency data.

Evidence: facts or indicators about the achievement of a competency, such as test results and certificates.

- **Tools:** any tool(s) required to support reaching the competency.

- **User area:** Other data, such the description of a job position.

Page 23 *Table 1. A comparison of the capabilities of competency standards*

Page 25 *Figure 1. QTI version 2.0 processing (Wills et al., 2006)*

Page 26 *Coding*

Page 27 *Figure 3. Competency model*

Page 28 *Figure 4. Architecture of the COMBA system*

Page 29 *Figure 5. Ontology of COMBA*

Page 30 *Figure 7. ‘QTItools’ player showing the test result*

Experimental Validation of Generated Questions

An experiment (Sitthisak, Gilbert and Davis, 2008) was carried out to demonstrate the acceptability of the generated questions from the competency model, exploring the following two questions:

- Were the generated questions semantically intelligible to an expert teacher of the domain?

- How did students rate the generated questions on the criteria of clarity, usefulness, challenge, and match with the learning outcomes?

The results indicate that the generated questions were of acceptable value to the students.

The student ratings showed the specific questions were more useful, and the generic questions were more challenging. This finding suggests that the students did not enjoy answering with definitions and explanations, and preferred questions with a variety of specific situations.

Page 33 *Table 6. Illustrative question template summaries*

Learner management in e-Learning Page 500

Educational institutions and corporate bodies are turning to e-Learning primarily because it has capabilities to effectively impact a larger community for the least amount of investment and expense.

Secondarily, it is contributing to an increase in retention and recruitment. To fully apprehend the results of e-Learning, it is important to examine the systems of learning available, how to manage them, and how they can be integrated with other learning environments.

Example www.electricaldiploma2013.zoomshare.com Study option 1/2/3

SAMPLE ASSESSMENT ITEMS:

- **documented learning strategies**

In TAFE college where I am teaching, there are different categories of students. Some can attend the classes during the day times, some from the industries can only attend at night & some from remote areas can not attend the face to face classes.

I develop the teaching strategies to teach the face to face classes as well as flexible online/ off line learning.

I establish the learning support website

www.electricaldiploma2013.zoomshare.com

Advanced Diploma in Electrical Engineering & Technology Home.htm

& plan three tupes of learning strategies

Study Option 1.

The students will study the lessons by downloading them from the link

Click

HERE

http://www.filefactory.com/file/58jjdqiek18z/Study_Option%201.htm

Password—joe2013

The face to face class lessons are recorded in digital note takers and digitized.

The students learn the topics of the lessons, do the exercises and submit the assignments.

By this way, the same level of learning as to face to face class can be obtained.

Study Option 2

Study option 1 is suitable for the students who have not learnt the lessons before.

But some students prefer their own study & want to do self paced assignment projects. For those, I design the study option 2 webpage in which the textbooks/ reference books are uploaded & linked. The students can study those resources , do the project assignments and submit them.

It is more suitable for the matured aged students with industrial experiences.

The link can be accessed at

Click [EE011 +1790817794.Zoomshare.com](https://www.zoomshare.com/join/EE011+1790817794)

<http://www.filefactory.com/file/551mzcdoav8p/1790817794zoomshare.htm>

Password—joe2013

Study Option 3

It is a video version of lesson delivery. The same classroom demonstration can be viewed. The students who attend the face to face class or who view the lesson demonstration will then be assessed by test/ examinations.

[youtubevideos.htm](#)

Practical

Practical delivery is also designed with both face to face and online mode.

For online mode, the students can study and do the engineering practicals from the following link.

[youtubevideos.htm](#)

Thus, merging the two areas, functions in LMS will include:

- Managing facilities, users, courses, instructors, roles, and generating reports,
- A Course calendar outlining the timelines for course or assignment,

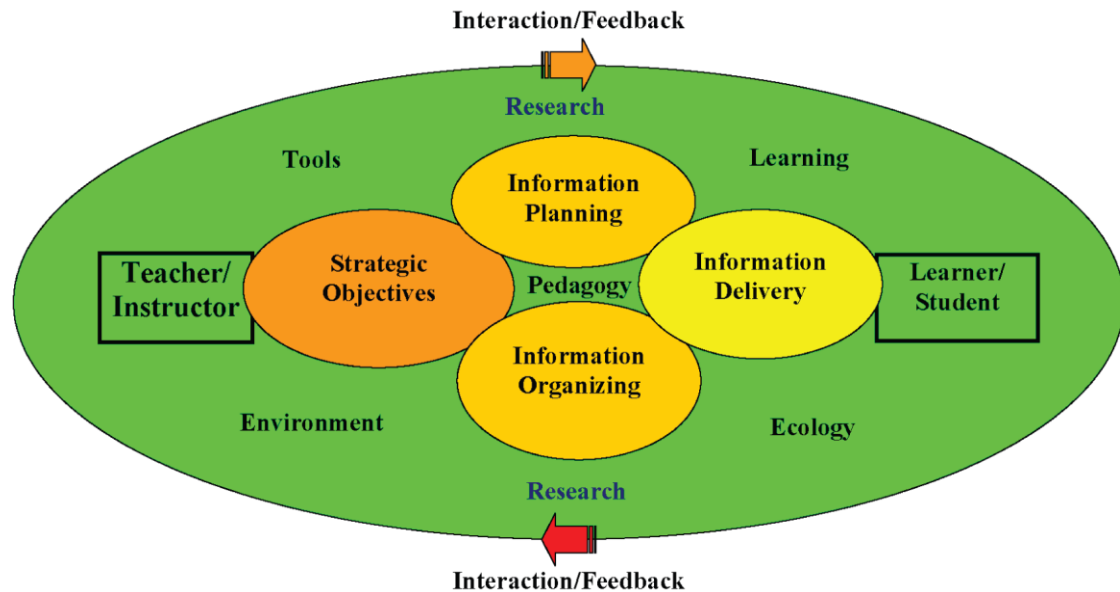
- A Learning Path or the means of identifying how the student and faculty will complete the knowledge and other competencies,
- Student messaging and notifications,
- Assessment/testing capable of handling student pre/post testing,
- Display scores and transcripts,
- Grading of coursework and roster processing, including wait listing,
- Web-based or blended course delivery.

Characteristics more specific to corporate learning, which sometimes includes franchisees or other business partners, includes:

- Autoenrollment (enrolling Students in courses by predefined criteria),
- Administrator/Manager enrollment and approval,
- Definitions for prerequisites or equivalencies (generally boolean),
- Integration with performance tracking and management systems,

Planning tools to identify skill gaps at departmental and individual level,

- Curriculum, required and elective training requirements at an individual and organizational level,
- Grouping students according to demographic units (geographic region, product line, business size, etc.),
- Assign corporate and partner employees to more than one job title at more than one demographic unit.



Overview of traditional, Non E-based Pedagogy

Principles of teaching have been traditionally established in methods of instruction for a while and extensively researched. According to Meyen et al (2002), pedagogy includes teaching methods related to the following

- a. presentation of experiences,
- b. engagement of learners,
- c. reinforcement,
- d. motivation,
- e. organization of teaching tasks,
- f. feedback,
- g. evaluation, and
- h. curriculum integration

of these elements have been researched to determine the most significant factors with what, who, when, where and how. However, certain common themes have emerged over time including:

1. learner
2. teacher
3. learning environment
4. learning content
5. learning support systems/tools

For example, when an institution trains teachers, is the institution's effectiveness evaluated on the basis of the following?

- i. number of teachers produced,
- ii. practices and approaches to teaching and

producing the teachers and evaluating them?

iii. failure, passing, college admission or attendance rates of the students produced by the teacher or the institutions in which they teach?

iv. how many students go on from the school to be classified as successful professionals

v. e.t.c.?

Overview of E-based Pedagogy

According to Meyen et al (2002), e-Learning is a form of pedagogy, and the effectiveness of pedagogical practices can be measured. A knowledge base of pedagogical practices has evolved over time and is currently still a work in progress.

Examples include practices related to communication, assessment, instructional design and mediation.

Traditional/classical and E-Learning systems

In both systems, the themes are the same and the players have been stable. What has changed is that the traditional environment more strongly emphasizes a hierarchical structure for learning with the teacher controlling the environment, and a more limited social environmental learning.

However, because classical learning also includes limited space (in distance and time) for physical contact, it also has some social learning environments. This is in contrast to the virtual environment where several learning processes may be simultaneously engaged in several private spaces that may include two or more people.

Thus the “hubbub” of the communication environment can be “controlled” for more private interactions without the other learning “relationships” being aware of the exchanges in the virtual spaces.

However, the virtual environment lacks the physical interactions of the real environment, thus the avenues for information transmission to all the senses is currently limited.

five-phase implementation strategy

labeled *initiating*, *discovering*, *envisioning*, *actioning* and *sustaining*. with four key theoretical concepts: metastrategy (Limerick et al. 1998); appreciative inquiry (Cooperrider and Whitney 1996); action learning (Argyris and Schon 1996; Kolb 1984; Zuber-Skerrit 1990) and organizational capacity building

Technology in the resource Poor Environment

Technology and creativity in e-Learning can help compensate for and overcome levels of resource poverty.

Recent advances in computer technology have made e-Learning a major component of the learning environment. Teachers and students are challenged to upgrade their skills for appropriate use of the technology to meet pedagogical and didactic needs.

The virtual environment allows and encourages students to initiate their learning.

The instructor/teacher's role becomes more supportive, flexible and responsive, to meet and address the student's requirements while the instructor also expands his/her repertoire of tools and competencies.

By learning and implementing new skills, teachers can introduce new approaches such as multimedia course design, tutoring, managing collaborative work groups, problem-based learning, product development or any emerging technologies to encompass new teaching and learning in contrast to traditional teaching methods.

This high quality, effective and efficient learning process for both students and teachers can be brought about by improved teacher training

To make pedagogy effective, teachers can design and develop courses (FGCU 2006, Athabascau 2004, Illinois Online Network 2007) of interest and make them available on-line for communicating with the student remotely.

The design must incorporate necessary skills for understanding – conceptual, cognitive, psychometric, and attitudinal, among others – knowledge, skills and competence transfer.

Such measures do not require much resources for the teacher; rather, it utilizes available technologies to gain interaction with the student.

Example

- e-Based electrical practical class.
- e-based practical videos

Course Notes DVD/CD/ Day 7 Session 3

Course Notes DVD/CD/Day 8 Session 2

Sample- Switch board Circuit breaker Installation 1.mp4—Electrical

Sample- Brick Laying.mp4-----Civil

Sample-- CNC 1.mp4-- CNC 3.mp4-----Mechanical

The Use of blended Learning Approaches to Address specific resource Needs

In e-Learning, the terms blended learning and hybrid courses are synonymously used to refer to a combination or integration of face-to-face class room instruction with online instruction (Graham 2005).

Blended learning incorporates the best features of the two learning approaches.

Regardless of whether the environment is resource rich or resource poor, the blended learning helps to bridge gaps in learning. Learners will have face-to-face instruction, a wealth of learning activities available online for independent learning, and reduce drawbacks in resources for class instruction and time.

In resource poor environments, it is necessary to assess the level of blending required based on the resource needs available for class room and online instruction. If the quality of instructors, buildings, or space is a limitation, then online instruction makes a greater contribution and has greater weight; but a balance is more critical to the learner's needs.

Blending is an ongoing process and evolves with time, until effective delivery of instruction is attained for both instructor and learner.

The reduction of class room time will also help retain students who are limited by other constraints such as transportation, family responsibilities, occupation, and/or being otherwise engaged.

Blended learning allows students to make up for class hours with online instruction available for them to study at their own pace and style.

Blended learning also provides more options for the teacher to manage and organize course curriculum.

Online instruction can be used to deliver a major portion of course contents, while class room instruction can be utilized for discussing difficult aspects of learning or for problem solving (Doo & Seung 2008).

The blended learning environment puts greater responsibility on the instructor to design the course to address the needs of the learner based on the best pedagogy applicable to the student.

LMS may help to monitor and track student performance, and throw light on blended instruction effectiveness.

Day 8 Session 2

Sharing the e-Learning work experience utilized in TAFE-NSW
Australian Classroom

- Resources development
- Computer assisted test
- Use of online test/online survey
- Online simulated practicals

www.easytestmaker.com

<http://www.emailmeform.com/>

Step 1

Hard Drive

Show iqytechnicalcollege.htm--- Students in Australia

Study Option 1/2/3

Step 2

Hard Drive

RECORD-2015/ Teaching/ IQY-STCTU/ Engg Skill

Show study areas

Step 3

Hard Drive

RECORD-2015/ Teaching/ IQY-STCTU/ GE+IE

Show study areas

- Assist in contents preparation

Day 9 Session 1

Explain the contents in Day 9 Session 2 Folder

Day 9 Session 2

Preparing the documents to comply with Myanmar Engineering Council Requirement

ASSESSMENT POLICY OF ADVANCED DIPLOMA COURSES IN ENGINEERING, MANAGEMENT & INFORMATION TECHNOLOGY

ASSESSMENT POLICY OF PROFESSIONAL DIPLOMA COURSES IN ENGINEERING, MANAGEMENT & INFORMATION TECHNOLOGY

ASSESSMENT POLICY OF CERTIFICATE/ DIPLOMA COURSES IN ENGINEERING, MANAGEMENT & INFORMATION TECHNOLOGY

The assessment tasks are designed for assessing the followings

Graduates at this level will have specialised knowledge and skills for skilled/paraprofessional work and/or further learning

Knowledge	Graduates at this level will have technical and theoretical knowledge in a specific area or a broad field of work and learning
Skills	<p>Graduates at this level will have a broad range of cognitive, technical and communication skills to select and apply methods and technologies to:</p> <ul style="list-style-type: none">• analyse information to complete a range of activities• provide and transmit solutions to sometimes complex problems• transmit information and skills to others
Application of knowledge and skills	Graduates at this level will apply knowledge and skills to demonstrate autonomy, judgement and defined responsibility in known or changing contexts and within broad but established parameters

Competency-based training focuses on students' ability to achieve learning outcomes to a specified level (ie Competent). Once the students attain this level, they receive a grade of Competent .

The assessment grades are given at USA Grading Criteria together with Australian Competency based training system,.

The assessment tasks up to diploma level is focussed on the knowledge the students needed in order to perform that work, and the abilities the students needed in order to apply their knowledge in an engineering /management, Information Technology context.

The assessments project assignments are designed to assess the candidates' capability in feasibility investigation, scoping, establishing criteria/performance measures, assessing and reporting technical and procedural options; design and development; component, resources and materials sourcing and procurement; construction, prototyping, manufacture, testing, installation, commissioning, service provision and de-commissioning; tools, plant, equipment and facilities acquisition, management, maintenance, calibration and upgrades; operations management; procedures documentation; presentation and reporting; maintenance systems design and management; project and facility management; quality assurance, costing and budget management; document control and quality assurance in several engineering, business and information technology applications.

IQY Technical College uses continuous monitoring & assessment methods and tasks to evaluate the student's competence in a particular unit of competence/qualification. All assessments tasks are designed in accordance to the relevant training package specifications of a qualification/unit of competence and may include assignments, practical assessments, presentation, project work, written tests or other methods deemed appropriate to assess students' competence in carrying out tasks to a required standard.

Especially assignments/ project works are continually assessed throughout the course as the students progress in their study. For a limited circumstances, formal written tests are conducted.

ASSESSMENT POLICY OF ADVANCED DIPLOMA COURSES IN ENGINEERING, MANAGEMENT & INFORMATION TECHNOLOGY

The assessment tasks are designed for assessing the followings

Graduates at this level will have broad knowledge and skills for paraprofessional/highly skilled work and/or further learning

Knowledge	Graduates at this level will have broad theoretical and technical knowledge of a specific area or a broad field of work and learning
Skills	<p>Graduates at this level will have a broad range of cognitive, technical and communication skills to select and apply methods and technologies to:</p> <ul style="list-style-type: none">· analyse information to complete a range of activities· interpret and transmit solutions to unpredictable and sometimes complex problems· transmit information and skills to others
Application of knowledge and skills	<p>Graduates at this level will apply knowledge and skills to demonstrate autonomy, judgement and defined responsibility:</p> <ul style="list-style-type: none">· in contexts that are subject to change· within broad parameters to provide specialist advice and function

Competency-based training focuses on students' ability to achieve learning outcomes to a specified level (ie Competent). Once the students attain this level, they receive a grade of Competent .

The assessment grades are given at USA Grading Criteria together with Australian Competency based training system,.

The assessment tasks for advanced diploma level is focussed on operate within broadly-defined technical & business environments, and undertake a wide range of functions and responsibilities and specifically in its application, adaptation or management, in a variety of contexts.

Their expertise often lies in familiarity with the current state of development of a business system or technology domain and most recent applications of the business and technology

The assessment tasks are designed for assessing the activities, knowledge & skills that combines the need for a strong understanding of practical situations and applications, with the intellectual challenge of keeping abreast of leading-edge developments as a specialist in a technology or business domain and how these relate to established practice.

The assessment tasks are focussed on students' understanding of the specific interactions with other aspects of an overall operating context and for managing the contributions of their specialist work to a broader engineering or business system or solution. The students' focus on sustainable solutions and practices which optimise technical, social, environmental and economic outcomes within the technology or business practice domain and understanding of the standards and codes of practice that underpin the technology & business practice domain and ensure that the performance outcomes comply with statutory requirements & relevant code of practice of business systems as well as implementation, operation, quality assurance, safety, management, and maintenance of projects, plant, facilities, or processes within specialist practice area(s) of the technology & business practice domain

IQY Technical College uses continuous monitoring & assessment methods and tasks to evaluate the student's competence in a particular unit of competence/qualification. All assessments tasks are designed in accordance to the relevant training package specifications of a qualification/unit of competence and may include assignments, practical assessments, presentation, project work, written tests or other methods deemed appropriate to assess students' competence in carrying out tasks to a required standard.

Especially assignments/ project works are continually assessed throughout the course as the students progress in their study. For a limited circumstances, formal written tests are conducted.

ASSESSMENT POLICY OF PROFESSIONAL DIPLOMA COURSES IN ENGINEERING, MANAGEMENT & INFORMATION TECHNOLOGY

The assessment tasks are designed for assessing the followings

Graduates at this level will have broad and coherent knowledge and skills for professional work and/or further learning

Knowledge	Graduates at this level will have broad and coherent theoretical and technical knowledge with depth in one or more disciplines or areas of practice
Skills	<p>Graduates at this level will have well-developed cognitive, technical and communication skills to select and apply methods and technologies to:</p> <ul style="list-style-type: none">· analyse and evaluate information to complete a range of activities· analyse, generate and transmit solutions to unpredictable and sometimes complex problems· transmit knowledge, skills and ideas to others
Application of knowledge and skills	<p>Graduates at this level will apply knowledge and skills to demonstrate autonomy, well-developed judgement and responsibility:</p> <ul style="list-style-type: none">· in contexts that require self-directed work and learning· within broad parameters to provide specialist advice and functions

The assessment grades are given at USA Grading Criteria together with Australian Competency based training system, Test / Examination & Project Assignments are utilized in assessment tasks.

The assessment tasks are designed to assess the candidate's capability to take responsibility for engineering / business / IT projects and programs in the most far-reaching

sense. This includes the reliable functioning of all materials, components, sub-systems and technologies used; their integration to form a complete, sustainable and self-consistent system; and all

interactions between the technical system and the context within which it functions. The latter includes understanding the requirements of clients, wide ranging stakeholders and of society as a whole; working to optimise social, environmental and economic outcomes over the full lifetime of the product or program; interacting effectively with other disciplines, professions and people; and ensuring that their work contribution is properly integrated into the totality of the undertaking.

The assessment tasks are designed for candidate's capability in interpreting technological possibilities to society, business and government; and for ensuring as far as possible that policy decisions are properly informed by such possibilities and consequences, and that costs, risks and limitations are properly understood as the desirable outcomes.

The assessment activities are also focussed on bringing knowledge to bear from multiple sources to develop solutions to complex problems and issues, for ensuring that technical and non-technical considerations are properly integrated, and for managing risk as well as sustainability issues. While the outcomes of engineering have physical forms, the work of

The students' advancement of technologies and with the development of new technologies and their applications , new business practice through innovation, creativity and change. Professional Engineers may conduct research concerned with advancing the technology & business practice and with developing new principles and technologies within a broad technology & business practice discipline.

Explain the contents in Day 9 Session 2 Folder

Day 10 Session 1

Learning Environment

By- Dr Kyaw Naing

Reference

ED 407 Learning Environment

<http://www.filefactory.com/file/31o7fw99ux7l/ED%20407%20Learning%20Environment.zip>

9.2.2 Programme Objectives

- i. State the vision and mission of the Technological Institutions.
- ii. Describe the Programme Objectives and state where they are published.
- iii. Describe how the Programme Objectives are consistent with the vision and mission of the Technological Institutions and stakeholder requirements.
- iv. Describe the processes used to establish and review the Programme Objectives, and the extent to which the programme's various stakeholders are involved in these processes.
- v. Describe how the Technological Institutions ensures achievement of the Programme Objectives.
- vi. Describe the ongoing evaluation of the level of achievement of these objectives, and the extent to which the programme's various stakeholders are involved in these processes.
- vii. Describe how the results obtained from evaluation are being used to improve the effectiveness of the programme.

(Myanmar Engineering Council)

Evaluation/Obtain the Result----

Individual Teacher/Class----- Course—Department--- The whole Institute

How to assess the learning environment is the main thing to assess the academic position and operation condition of the whole institution.

ASSESSING AND IMPROVING CLASSROOM ENVIRONMENT

STUDENTS SPEND a vast amount of time, in the order of 15,000 hours, in school classrooms during primary and secondary schooling. Consequently, the quality of life in these classrooms is of great importance and students' reactions to and perceptions of their school experiences are significant.

Teachers often speak of a classroom's climate, environment, atmosphere, tone, ethos or ambience and consider it to be both important in its own right and influential in terms of student learning. It would be rare, however, for science and mathematics teachers to include classroom environment measures among their evaluation procedures. Typically, teachers concentrate almost exclusively on the assessment of academic achievement, and devote little attention to factors which might be related to their students' performance.

ASSESSMENT OF CLASSROOM ENVIRONMENT

DESPITE THE FACT that the original form of several instruments measuring student perceptions of classroom environment has proved useful for various research purposes, experience has shown that many teachers would prefer an assessment method which is more economical in terms of the time required for administration and scoring.

A METHOD FOR IMPROVING CLASSROOM ENVIRONMENT

FRASER (1981) has proposed a simple approach by which teachers can use information obtained from classroom environment questionnaires to guide attempts to improve their classrooms. The basic approach involves two aspects. First, assessments of student perceptions of both their actual and preferred classroom environment are used to identify differences between the actual classroom environment and that preferred by students. Second, strategies aimed at reducing these differences are implemented. An example of the use of these methods in a secondary science class is described by Fraser and Fisher (1986) and an example involving a mathematics class is contained in Fraser, Malone and Neale (1989).

1. Assessment.
2. Feedback.
3. Reflection and Discussion.
4. Intervention.

5. Reassessment.

Scales

- My Class Inventory—Page 49+50
- Science Laboratory Environment Inventory—Page 55+61-64
- Items in the What is Happening in this Class? Questionnaire

Student Cohesiveness

1. I make friendships among students in this class.
2. I know other students in this class.
3. I am friendly to members of this class.
4. Members of the class are my friends.
5. I work well with other class members.
6. I help other class members who are having trouble with their work.
7. Students in this class like me.
8. In this class, I get help from other students.

Teacher Support

9. The teacher takes a personal interest in me.
10. The teacher goes out of his/her way to help me.
11. The teacher considers my feelings.
12. The teacher helps me when I have trouble with the work.
13. The teacher talks with me.
14. The teacher is interested in my problems.
15. The teacher moves about the class to talk with me.
16. The teacher's questions help me to understand.

Involvement

17. I discuss ideas in class.
18. I give my opinions during class discussions.
19. The teacher asks me questions.
20. My ideas and suggestions are used during classroom discussions.
21. I ask the teacher questions.
22. I explain my ideas to other students.
23. Students discuss with me how to go about solving problems.
24. I am asked to explain how I solve problems.

Investigation

- 25. I carry out investigations to test my ideas.
- 26. I am asked to think about the evidence for statements.
- 27. I carry out investigations to answer questions coming from discussions.
- 28. I explain the meaning of statements, diagrams and graphs.
- 29. I carry out investigations to answer questions which puzzle me.
- 30. I carry out investigations to answer the teacher's questions.
- 31. I find out answers to questions by doing investigations.

- 32. I solve problems by using information obtained from my own investigations.

Task Orientation

- 33. Getting a certain amount of work done is important to me.
- 34. I do as much as I set out to do.
- 35. I know the goals for this class.
- 36. I am ready to start this class on time.
- 37. I know what I am trying to accomplish in this class.
- 38. I pay attention during this class.
- 39. I try to understand the work in this class.
- 40. I know how much work I have to do.

Cooperation

41. I cooperate with other students when doing assignment work.
42. I share my books and resources with other students when doing assignments.
43. When I work in groups in this class, there is teamwork.
44. I work with other students on projects in this class.
45. I learn from other students in this class.
46. I work with other students in this class.
47. I cooperate with other students on class activities.
48. Students work with me to achieve class goals.

Equity

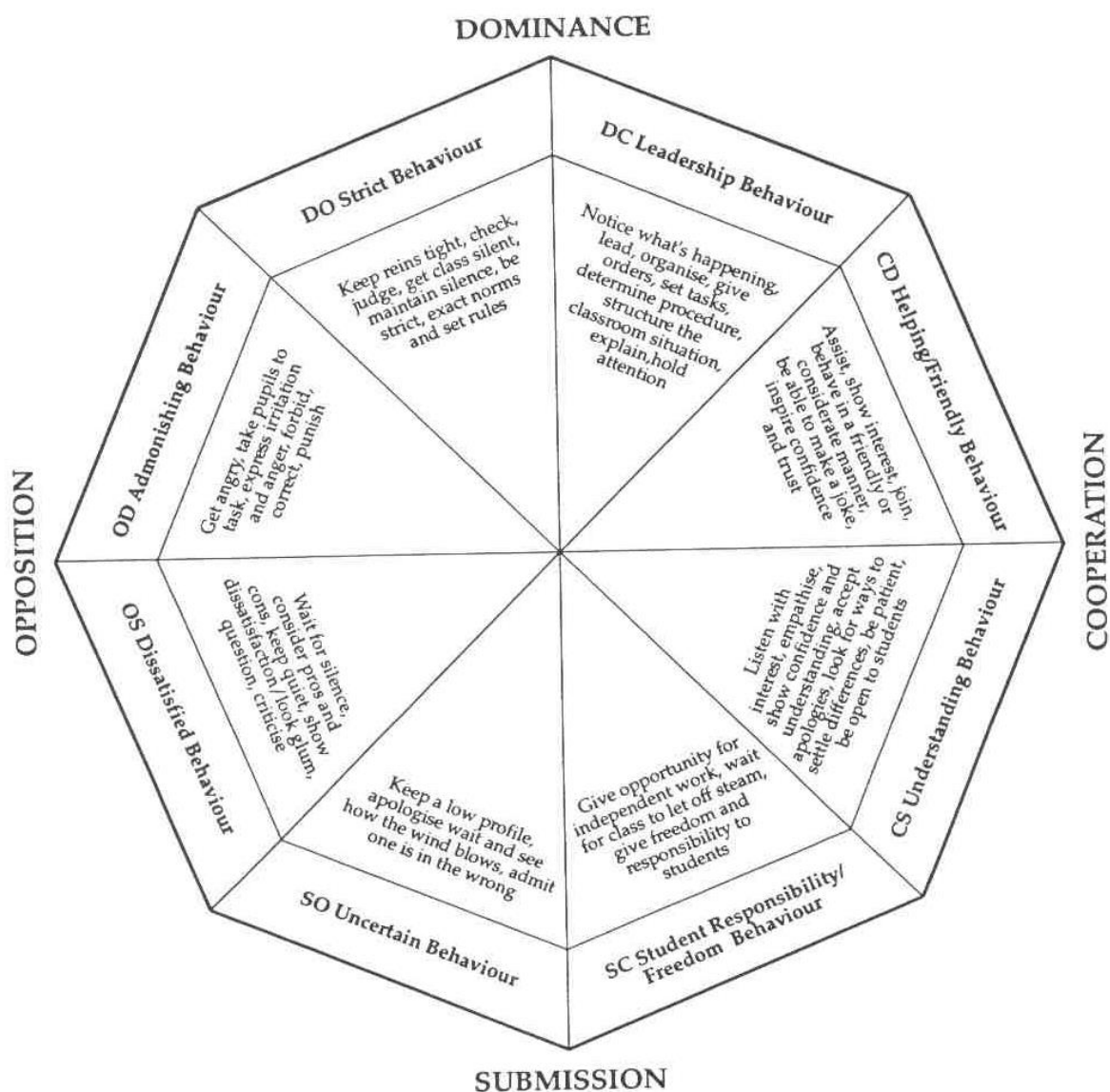
49. The teacher gives as much attention to my questions as to other students' questions.
50. I get the same amount of help from the teacher as do other students.
51. I have the same amount of say in this class as other students.
52. I am treated the same as other students in this class.
53. I receive the same encouragement from the teacher as other students do.
54. I get the same opportunity to contribute to class discussions as other students.
55. My work receives as much praise as other students' work.
56. I get the same opportunity to answer questions as other students.

Page 29 of Day 10 Session 1/ ED 407 Learning Environment/ 12.Learning Environment.pdf
Page 10--- Learning Environment Measurement Scales

Page 29 of Day 10 Session 1/ ED 407 Learning Environment/ 12.Learning Environment.pdf
Page 38--- Learning Environment Measurement Scales—Constructivist Learning Environment Survey

QUESTIONNAIRE ON TEACHER INTERACTION (QTI)

In order to facilitate hand scoring, the items are arranged in cyclic order and in blocks of four. Items 1 to 24 in the Supplement assess the four scales called *Leadership* behaviour, *Understanding* behaviour, *Uncertain* behaviour and *Admonishing* behaviour, whereas Items 25 to 48 assess the scales *Helpful/Friendly* behaviour, *Student Responsibility and Freedom* behaviour, *Dissatisfied* behaviour and *Strict* behaviour.



	Never	Always	Teacher Use
1. This teacher talks enthusiastically about her/his subject.	0 1 2 3 (4)		Lea
2. This teacher trusts us.	0 1 2 (3) 4		Und
3. This teacher seems uncertain.	0 (1) 2 3 4		Unc
4. This teacher gets angry unexpectedly.	(0) 1 2 3 4		Adm
5. This teacher explains things clearly.	0 1 2 (3) 4		Lea
6. If we don't agree with this teacher, we can talk about it.	0 1 (2) 3 4		Und
7. This teacher is hesitant.	(0) 1 2 3 4		Unc
8. This teacher gets angry quickly.	0 (1) 2 3 4		Adm
9. This teacher holds our attention.	0 1 2 (3) 4		Lea
10. This teacher is willing to explain things again.	0 1 (2) 3 4		Und
11. This teacher acts as if she/he does not know what to do.	0 1 (2) 3 4		Unc
12. This teacher is too quick to correct us when we break a rule.	0 1 (2) 3 4		Adm
13. This teacher knows everything that goes on in the classroom.	0 1 (2) 3 4		Lea
14. If we have something to say, this teacher will listen.	0 1 2 (3) 4		Und
15. This teacher lets us boss her/him around.	0 (1) 2 3 4		Unc
16. This teacher is impatient.	0 (1) 2 3 4		Adm
17. This teacher is a good leader.	0 1 2 (3) 4		Lea
18. This teacher realises when we don't understand.	0 1 2 3 (4)		Und
19. This teacher is not sure what to do when we fool around.	(0) 1 2 3 4		Unc
20. It is easy to pick a fight with this teacher.	0 1 2 3 4		Adm
21. This teacher acts confidently.	0 1 2 3 (4)		Lea
22. This teacher is patient.	0 1 2 (3) 4		Und
23. It's easy to make a fool out of this teacher	(0) 1 2 3 4		Unc
24. This teacher is sarcastic.	0 (1) 2 3 4		Adm

For Teacher's Use Only: Lea 19 Und 17 Unc 4 Adm 7

6.1 The Nature of the Curriculum

Interviews with teachers and students in both countries indicated that the nature of the curriculum could be a major influence on the learning environment created by teachers in each country. The story of a Taiwanese classroom describes a teacher-centered lesson in which students appear to play a fairly passive role. Without exception, the classes observed by the researcher in Taiwan were teacher-centered and, whilst the roles of the students varied between teachers, there were generally few opportunities for discussions or questions. Interviews with teachers revealed that the teacher-centered approaches were largely a result of the examination-driven nature of the curriculum:

The story describes the teacher's battle to fit the required content into each lesson and the desire of the teacher to avoid giving the students additional work. The science curriculum (for both biology and physics) is presented to students in the form of textbooks, and examinations are based on the content of these. As a result, it is important for teachers to cover all areas. Teachers whom were interviewed explained that teacher-centered methods were the most practical way to cover the content in the given time frame and diversions (described in the story as student questions referring to real-life situations) are often not possible given the time constraints:

In contrast, the Australian teachers whom were interviewed generally expressed a desire to use methods that were not teacher-centered in their science classes. Their reasons were varied, but generally it was felt that, by using a variety of approaches, students would be better able to develop a range of abilities in their students. In many cases, these teachers claimed that they were encouraged, through professional development days and by other staff, to use a variety of methods in their teaching.

Rote learning was frowned upon by many of the teachers interviewed in Australia and one commented that "developing the students' ability as learners is more important than the acquisition of content knowledge" (Interview, Teacher 1, p. 2). In general, these teachers were of the opinion that, by incorporating a range of teaching styles, they were more likely to cater for the range of learning styles that could be present in their class. In addition, they felt that their students were more likely to understand concepts if they were actively involved in their learning.

6.4 Questioning Techniques

Both stories describe the use of questioning in the classrooms, but it appears that the techniques used were different for the two countries. The question-and-answer session described in Australia depicts a teacher posing questions to the whole class and selecting only from students with their hands raised. Interviews with teachers indicated that they were careful not to damage the self-esteem of students and to ensure that the student's pride amongst his/her peers was protected. According to student interviews, many students were reluctant to raise their hands unless they were reasonably sure of the answer, while others made a point of never answering questions in class. Students explained that ridicule from peers was possibly the main reason for their reluctance to answer questions: "I usually don't like putting my hand up. ... If I get the answer wrong, then I get embarrassed [because] other kids in the class could laugh at me" (Australian Student A).

In contrast, teachers whom were observed in Taiwan (described in the story in Figure 2) randomly select students using the students' identity numbers (stitched above the pocket on their school shirts) rather than their names. The selected student stood up to answer the question and, if the answer was wrong, the teacher bluntly told him or her so. The student then either tried again or sat down and listened to the answer of another student. Interviews with students revealed that they were not uncomfortable with this method of questioning and that questions were used as a means of gauging what students need to know or what they do not understand to enable them to improve and learn. As one student put it, "When he [the teacher] teaches important content, he checks that we understand. So he asks us questions" (Taiwanese Student, Interview 2, Item 23).

Day 10 Session 2

Change Management

By- Daw Hla Myat Mon

References

University of Technology Master of Business Change Management References

& experience in University of Technology Sydney--- Change Management in Business

&

By- Dr Kyaw Naing—Educational Leadership & Educational Change Management.

Leadership

● Management has its start point in the organisation. It is taken to involve the conduct and evolutionary development of an institution and its staff by means of rational decisions and performance monitoring underpinned by information systems, policies, procedures and plans. ● Leadership has a start point in the people within the organisation. It is concerned with getting their willing cooperation and contribution towards organisational goals and with meeting their needs as individuals.

● Just as 'managers' exist at all levels of the organisation so, too, can leaders be found at all levels. The latter do not necessarily depend on a formal role position. ● Both activities, leading and managing, are required. The balance between each activity varies both from time to time and also from the position of an individual within an organisation.

Both activities, leading and managing, are required. The balance between each activity varies both from time to time and also from the position of an individual within an organisation. 2 Leadership issues: raising achievement

● Whether one activity subsumes the other or whether management and leadership exist as poles of activity along a continuum does not have any bearing on the argument presented.

● Incorporation and the essential need to run an efficient and effective organisation have made it inevitable that there has been an emphasis on the top levels of colleges and upon the managerial activities of senior management. Leadership has

always been required at that level. Our interest lies in improving the impact of leadership activity at lower levels in colleges.

- These lower levels are those at which course organisation and delivery by a group of staff is the key activity. If leadership is to have a more direct impact on student achievement than is the case with the mediated leadership activity of senior post-holders, then this lower level may be the one level to examine in more detail.

Leadership in further education

- clarification of what we mean by leadership, particularly within an educational context
- an outline of a number of models of, or approaches to, leadership
- a description of the key behaviours which are associated with effective leadership
- leadership roles within organisations
- how leadership impacts on student outcomes

Features of leadership

- leadership is a process of influencing
- leadership can be exercised by people in organisations who do not possess formal authority
- leadership implies followers
- leadership involves the achievement of goals or objectives

What does leadership look like?

Instructional leadership

It focuses on the development of behaviours that directly influence teachers in their relationships with students and, in particular, the planning and delivery of teaching and learning.

Transformational leadership

Idealised influence – the ability of the leader to gain the trust, respect and support of those being led. This might otherwise be termed charisma which brings it close to the traits concept of leadership.

- Inspirational motivation – the ability to inspire and focus the attention of individuals on the achievement of shared goals, often using imagery and symbols.
- Intellectual stimulation – a culture of challenge and questioning where individuals are constantly encouraged to reassess both ways of working and the values of the organisation including those of the leader.
- Individualised consideration – the support that is available to individuals to allow them to develop in order to meet new challenges and goals.

Moral leadership

Moral leadership is based on the assumption that educational and other organisations operate within a framework of absolute values.

The leader's role is to:

- influence the adoption of a clear set of organisational values
- manage conflict over the interpretation of basic values
- commit others to the values that leaders themselves believe to be good.

Participative leadership

Participative leadership In common with moral leadership, participative leadership emphasises consultation and the importance of the decision-making processes of the group. Unlike moral leadership, however, participation and consultation are usually based on more pragmatic decisionmaking needs rather than on any ideas of 'moral rightness' or 'what ought to be'. The need to establish a sense of ownership of decisions usually underpins use of the model.

Participative leadership can be seen as leading to:

- better quality decisions
- greater consensus and acceptance

- better understanding of the decision by those responsible for implementing it
- the development of decision-making skills throughout the organisation
- enhanced motivation and job satisfaction for staff involved in decision-making
- resolution of conflict and the development of the team. However, participative leadership often results in conflicts associated with:
 - the need for consensus and at the same time the need for strong and authoritative leadership
 - the need to consult and involve while at the same time making decisions which are timely and efficient in terms of the resources used
 - the need to reconcile accountability for the implementation of externally derived policy with the values and systems orientation of staff within a school or college

Managerial leadership

This model of leadership is strongly evidenced in further education.

The model is sometimes referred to as transactional or functional and is widely associated with writer John Adair.

Teams and teamworking are important in the model, and the leader's primary responsibility is to balance the needs of the team, the task on which the team is engaged, and the individual needs of team members.

The leadership role is strongly associated with the team leader rather than any of the other team members and there is therefore an emphasis on leader training and skills development.

Contingent leadership

Closely related to the managerial leadership model is contingent or situational leadership. Leadership is viewed as situationally focused – in other words

variations in the contexts for decision-making require different leadership responses. Leaders therefore need to master a range of leadership practices including the development of different leadership styles that can be adopted in varied settings. Organisational learning The concept of the learning organisation developed during the late 1980s and early 1990s. It is often associated with the work of Peter Senge. Senge's view was that just as individuals have the capacity to continually learn, so too do organisations. This new type of organisation requires a new type of leadership – one in which the purpose of leadership is to build organisational capacity for learning. The leader has three important roles to perform:

- As designer, the leader's role is to design the organisational learning process so that people are able to solve problems and achieve personal mastery. This requires new leadership behaviours including coaching, mentoring and helping others to learn.
- As steward, the leader has a responsibility not only for developing a personal vision for the organisation but ensuring that the vision reflects the common aspirations of others working in it.
- As teacher, the leader's role is not just about coaching and supporting individuals but more importantly about developing 'systemic understanding' – the ability to see how the various parts of the organisation fit together and inter-relate, and how learning can be transferred from one section or from one situation to another (Senge 1990).

LEADERSHIP IN CHANGE MANAGEMENT

A NEW MODEL OF LEADERSHIP

It has been argued that the traditional style of management is inappropriate for today's organisation. A more flexible, responsive leader displaying high trust, participative management styles is needed to replace the autocratic, individualised, competitive leader who was found to be effective in the past (Smith & Hutchinson 1995, 93)

THE MANAGERS

Future TAFE managers need the 'soft' or 'people' skills that have been described by many management theorists (Feuer 1988; Randell 1993; Smith & Hutchinson 1995) according to the participants in this study. Words used by participants to describe these managers included integrity, honesty, sincerity, humbleness, courage, openness, trust, empowering, supporting, developing, empathetic, flexible, team centred, adaptable, encouraging, approachable, fair and ethical.

From management to leadership

The shift from management to leadership has been brought about by the fundamental requirement for people to cope with the management of change. John Kotter (1990) suggested that management is about planning, organising and controlling, whereas leadership is about setting direction, aligning people – and motivating and inspiring them. It is fundamentally about people.

THE MANAGER	THE LEADER
Administers Is a copy Maintains Focuses on systems Relies on control Short-range view Asks how and when Eye on the bottom line Imitates Accepts the status quo Obeys orders without question Does things right Is trained Managers operate within the culture.	Innovates Is an original Develops Focuses on people Inspires trust Long-range view Asks what and why Eye on the horizon Originates Challenges the status quo Obeys when appropriate but thinks Does the right things Learns Leaders create the culture.

The leadership competencies

- First, leaders need to set the direction for the organisation, which incorporates a vision of the future.
- Second, effective leaders are influential examples and role models because they are aware that people are more influenced by what they see than by what they are told.
- Third, they are effective communicators, both in communicating the vision, and also inspiring their people in such a way that it causes an emotional effect.
- Fourth, provided that the leader is convincing, followers will want to be part of the operation and work towards the common goal themselves. This process is one of alignment.
- Fifth, effective leaders bring out the best in people. This involves a holistic approach which embraces motivation, empowerment, coaching and encouragement.
- Sixth, leaders need to be proactive in a situation of continual change. In effect, they become change agents.
- The seventh attribute is the ability to make decisions in times of crisis and for the ambiguous.

These seven competencies, which are discussed in detail in *The business of leadership* (Hooper and Potter 1997), are the skills required to lead effectively at all levels, in the appropriate style, in order to add value to an organisation. In addition, these competencies enable leaders to make significant improvement to the performance of their organisations.

Effective communications

Part of the process of creating understanding is effective communications. It is particularly difficult when managing change, because leaders are often struggling to clarify their own thinking as well as trying to communicate a clear message. Unless there is clarity of thought, there is a danger that leaders will give a mixed message, which can lead to confusion. The important first step is to have a clear strategy right from the outset. Once the general way forward is clear, it is essential that the senior management team maintain open communications with every individual in that group.

Change Management Approach

Traditional Change Management Approach & Participative Change Management Approach

Read the provided article “Change Management Approach.pdf” & “Helping People Adapt”

TRADITIONAL CHANGE MANAGEMENT APPROACH

For a number of decades the dominant paradigm has been the traditional change management approach. It is best represented by the viewpoint that leaders and managers are solely responsible for making the key decisions within an organisation and are also accountable for ensuring successful change management processes. The focus in the literature is about

managing the transition and specifically overcoming resistance to change (Hay and Hartel, 2000; Maurer 1996; Tichy, 1983; Quinn, 1978; March and Simon, 1958). Senior managers ‘worry a lot’ about change but too few of these concerns are focused on building rapport with the affected staff. Much of the focus instead is with providing legitimate justification for the need for the change. They avoid dealing with the tougher issues of staff perception of hidden agendas and unsurfaced rationale(s) rooted in self-interest and the exercise of managerial power.

Resistance to change (once seen as inevitable) when manifested can be resolved through a number of mechanisms. Argyris and Kaplan's (1994) study of the implementation of activity based costing identified three processes to overcome barriers to change that exist at the individual, group, inter-group and organisational levels. These included education and training to explain the need for change and reduce fear of the unknown; sponsorship of the process by key individuals who then persuade others; and, alignment of incentives such that systems and structures reward and reinforce effective change.

PARTICIPATIVE CHANGE MANAGEMENT APPROACH

There is a need to alter the approach and shift the focus within the extant literature with its prescriptive edge that attempts to deliver more successful change management and implementation with the concomitant emphasis on identifying and overcoming employee resistance (Waldersee and Griffiths, 1997; Clarke, 1994; Kanter, Stein and Jick, 1992;

EFFECTIVE WAY OF CHANGE MANAGEMENT

Carnall, 1990). The alternative is to involve employees from the beginning by permitting and encouraging active involvement, full participation in and psychological ownership of the change process.

This would act as an effective counterfoil to the shortcomings of management '...failing to communicate a vision, planning problems, not matching vision with processes, not being committed to the change process, failing to lead by example, demonstrating inconsistencies of attitudes to change' (Walderssee and Griffiths, 1997, p. 10).

The first step is to rethink the existing negative notion of resistance. Waddell and Sohal (1998, p. 5) argue that one should consider the utility of resistance in '...injecting energy into the change process' and that it '...encourages the search for alternative methods and outcomes in order to synthesise the conflicting opinions that may exist.' This means that resistance can be a positive force and a critical source of innovation during a change process to ensure that many more possibilities are examined and evaluated closely.⁴ What we advocate then is to recast the notion of resistance so that it is viewed instead as the active encouragement of constructive conflict. This avoids what can happen if overt resistance is itself merely resisted and battered down (usually by information overload) by senior managers. This resistance can become more intense and covert, effectively derailing the change process.

The next step is to utilise an action framework that has a collective and collaborative approach to decision-making and the change process. The management role becomes one of facilitation not the usual top-down dictatorial change management decision-making process. The intellectual underpinning for this move comes from action learning and action research methodologies, which are oriented to both change

and learning/research within organisations. They are participative and egalitarian and have a problem/solution orientation that is recursive (cyclic in nature). As a result they are empowering, engender greater ownership of the outcome(s) and are also reflexive, flexible and responsive to the organisational context and constraints (Sankaran et al., 2001).

Under this approach the affected employees form groups that are empowered to consider, debate alternatives, construct outcome(s) and actively engage in and manage the change process from both a bottom up and a top down perspective. Senior managers and employees are equal and active participants in the change process. The result is a more effective organisational change with enhanced employee engagement in, and ownership of, the outcome(s) and minimising, if not eliminating, resistance.

FURTHER READINGS & TEXTBOOKS

Textbook

ED 308 Change Management

http://www.filefactory.com/file/4cxrjx86buot/n/9_Leadership_Change_Management.zip

ED 402 Educational Leadership

<http://www.filefactory.com/file/68h2rewfq7jx/ED%20402%20Educational%20Leadership.zip>

COURSE OUTCOME & FURTHER TRAINING

After completion of this training course, IQY Technical College (Accredited by Singapore Institute of Engineering Technologists) Diploma in Technical Teaching (Training, Assessment & Learning Management) can be completed as well as the award from it's affiliated overseas university.

The components of **Professional Diploma in Technical Teaching (Training, Assessment & Learning Management)** which are included in Diploma in Technical Teaching (Training, Assessment & Learning Management)

Level 1-Educational Theories , Teaching Pedagogies & Training and Assessment Practice

- [Part \(2A\) Basic Teaching Practicum Preparation](#)
- [Part \(2B\) Training &Assessment Practice](#)

Level 2-Adult Vocational Education

- [Part \(2\) Vocational Education & Training Practice](#)

Level 3-Training Authorities Accreditation Compliances

- [Part \(2\) Myanmar Engineering Council's Accreditation Compliance Practice](#)

By completing the educational theory subjects at Level 1 Part 1, Level 2 Part 1, Level 3 Part 1 and Level 4 of Professional Diploma in Technical Teaching (Training, Assessment & Learning Management), the professional diploma can be completed.

Professional Diploma in Technical Teaching (Training, Assessment & Learning Management)

www.highlightcomputer.com/ProfDipTechTchg.pdf

Objective of the course

This Professional Diploma in Technical Teaching (Training, Assessment & Learning Management) is designed as Teachers Education Professional Development for teachers in Government Technical Colleges , Technological Universities and other Vocational Education and Training Institutions in Myanmar to upgrade their skills and knowledge in training and assessment, curriculum design and development, management of technical training institutions, adult and vocational education and training ,assessment validation and current accreditation rules and requirements of Myanmar Engineering Council as well as current training and assessment practices of overseas industrialized countries.

Learning Outcomes

After completion of the levels of the training programs, the students should be able to

- Understand adult learning principles in technical education and training contexts

- Apply the skills in training, assessment, course development, curriculum development, learning management and management of technical training institutions.
- Understand the accreditation requirements of Myanmar Engineering Council in accredited engineer, technologist and technician education & prepare for the compliance processes.
- Understand the technology, science and mathematics teaching & educational pedagogies principles of outcome based education and effectively utilize them in the workplace
- Provide effective work-based learning & career development for the working people in industries and apply the various ways of assessing the competences

Components of the course

- Educational theories ,educational technology, teaching and learning, teaching and measuring.
- Lesson planning, interpreting curriculums, class room management, instruction and assessment design, training principle, competency based training and assessment integrated the competencies of Australian Training and Assessment (TAE40110) course
- Management of educational establishment in line with the accreditation requirements of Myanmar Engineering Council by customizing the competencies in Australian Vocational Education and Training Diploma (TAE50111) to be relevant to the requirements of Myanmar Vocational Education and Training .
- Postgraduate level educational knowledge related to Learning Technology, Technology in classrooms, educational leadership, leadership and change management , computer supported learning and distance education,
- Teaching practicum preparation at different levels of training

Study Areas & Levels of Training

Level 1-Educational Theories , Teaching Pedagogies & Training and Assessment Practice

Part (1) Educational Theoretical Subjects

- ED 101 Theory of Education
- ED 102 Education Technology
- ED 103 Teaching Practice
- ED 104 Lesson Planning
- ED 105 Principle of Learning
- ED 106 Interpreting Curriculums

- ED 107 Teaching & Learning
- ED 201 Class Room Management & Teaching

Part (2A) Basic Teaching Practicum Preparation

ED101P-Teaching Support

ED102P- Application of Information Technology in School /Vocational Education

ED103P- Classroom Management

ED104P- Teaching Portfolio

ED105P- Inclusive Teaching

ED106P- Subject Area Knowledge

ED107P- Theory of Education, Educational Technology & Teaching Practice

ED107PA-Theory of Education

ED107PB-Education Technology

ED107PC-Teaching Practice

ED107PD-Lesson Planning

ED108P- Curriculum Study , Teaching & Learning

ED108PA-Principle of Learning

ED108PB-Interpreting Curriculums

ED108PC-Teaching & Learning

Part (2B) Training &Assessment Practice (Certificate IV in Training & Assessment TAE40110)

- ED111P Learning Program Design & Development Practice
(TAEDES401A Design and develop learning programs)
- ED112P Assessing the needs of trainees
(TAEDES402A Use training packages and accredited courses to meet client needs Delivery)
- ED113P Group based learning
(TAEDEL401A Plan, organise and deliver group-based learning)
- ED114P Workplace Assessment

(TAEDEL402A Plan, organise and facilitate learning in the workplace Assessment)

- ED115P Assessment Planning

(TAEASS401B Plan assessment activities and processes)

- ED116P Competency Assessment

(TAEASS402B Assess competence)

- ED117P Assessment Validation

(TAEASS403B Participate in assessment validation)

- ED118P Work skills Instruction

(TAEDEL301A Provide work skill instruction)

- ED119P Educational Presentation

(BSBCM401A Make a presentation)(TAEASS301B Contribute to assessment

Level 2-Adult Vocational Education

Part (1) Adult Vocational Education Theoretical Subjects

- ED 401 Adult Learning Technology
- ED 202 Curriculum & Design
- ED 205 Teaching & Measuring
- ED 206 Designing Instructions & Assessment
- ED 405 Training Principle

Part (2) Vocational Education & Training Practice (Diploma in Vocational Education & Training TAE50111)

- ED201P-Advanced Assessment Practice
(TAEASS501A: Provide advanced assessment practice)
- ED202P-Assessment Development
(TAEASS502B: Design and develop assessment tools)
- ED203P-Training Facilitation
(TAEDEL502A: Provide advanced facilitation practice)
- ED204P-Learning Strategies
(TAEDES501A: Design and develop learning strategies)

- ED205P- Language Literacy & Numeracy
(TAELLN401A: Address adult language, literacy and numeracy skills)
- ED206P-Continuing Professional Development
(TAEPDD501A: Maintain and enhance professional practice)
- ED207P Learning Resources Design & Development
(TAEDES502A: Design and develop learning resources)
- ED208P Organizational Training Needs Analysis
(TAETAS501B: Undertake organisational training needs analysis)
- ED 404 Educational Research (Part 1)
(TAERES501A: Apply research to training and assessment practice)
- ED209P- Training Program Evaluation
(TAEDES505A: Evaluate a training program)

Level 3-Training Authorities Accreditation Compliances

Part (1) Educational Leadership Subjects

- ED 402 Educational Leadership
- ED 301 Educational Policy (Myanmar Engineering Council Accreditation Requirements)
- ED 308 Change Management
- ED309 Educational Communication
- ED 407 Learning Environment
- ED311 Outcome based Education

Part (2) Myanmar Engineering Council's Accreditation Compliance Practice

- ED301P- Curriculum design for accreditation compliance
- ED302P-Overall accreditation and compliance practice

Level 4-Specialized Teaching Areas

- ED 308 Computer Supported Learning & Distance Education
- ED 304 Maths Teaching
- ED 305 Science Teaching

- ED 306 Technology Teaching
- ED 404 Educational Research (Part 2)
- ED310 Learning Technology I & II

Diploma in Vocational Education & Training, Diploma in Technical Teaching (Training, Assessment & Learning Management)
Diploma in Engineering Education (YTU)

www.highlightcomputer.com/ProfDipTechTchg.pdf

Objective of the course

This Diploma in Engineering Education/Professional Diploma in Technical Teaching (Training, Assessment & Learning Management) is designed as Teachers Education Professional Development for teachers in Government Technical Colleges , Technological Universities and other Vocational Education and Training Institutions in Myanmar to upgrade their skills and knowledge in training and assessment, curriculum design and development, management of technical training institutions, adult and vocational education and training ,assessment validation and current accreditation rules and requirements of Myanmar Engineering Council as well as current training and assessment practices of overseas industrialized countries.

Learning Outcomes

After completion of the levels of the training programs, the students should be able to

- Understand adult learning principles in technical education and training contexts
- Apply the skills in training, assessment, course development, curriculum development, learning management and management of technical training institutions.
- Understand the accreditation requirements of Myanmar Engineering Council in accredited engineer, technologist and technician education & prepare for the compliance processes.
- Understand the technology, science and mathematics teaching & educational pedagogies principles of outcome based education and effectively utilize them in the workplace
- Provide effective work-based learning & career development for the working people in industries and apply the various ways of assessing the competences

Components of the course

- Educational theories ,educational technology, teaching and learning, teaching and measuring.
- Lesson planning, interpreting curriculums, class room management, instruction and assessment design, training principle, competency based training and assessment integrated the competencies of Australian Training and Assessment (TAE40110) course
- Management of educational establishment in line with the accreditation requirements of Myanmar Engineering Council by customizing the competencies in Australian Vocational Education and Training Diploma (TAE50111) to be relevant to the requirements of Myanmar Vocational Education and Training .
- Postgraduate level educational knowledge related to Learning Technology, Technology in classrooms, educational leadership, leadership and change management , computer supported learning and distance education,
- Teaching practicum preparation at different levels of training

Level	Course	Abbreviation	Pre-requisite	Target Group
1	Diploma in Vocational Education & Training (Certificate in Vocational Education & Training for completion of certain subjects)	Dip VET	Degree/Diploma /Certificate In relevant professional/ vocational areas	Vocational Education Teachers in various training courses
2	Diploma in Technical Teaching	Dip Tech Tchg	Diploma in Vocational Education & Training	Government Technical College Teachers
3	Diploma in Engineering Education	Dip Engg Ed	Diploma in Technical Teaching	Technological University Teachers
4	Diploma in Engineering Education (Specialist Discipline)	Dip Engg Ed (Specialist Area)	Diploma in Engineering Education	Technological University Teachers with specialized teaching in specific area of study.

Training & Assessment System Overview

Level	Course	2 weeks workshop (Assessment based on participation in workshop sessions)	Teaching Experience Assessment +Teaching Portfolio Assessment (Individual Assessment- During/After two weeks workshop) (The candidates can submit their portfolios)	Self study & Assignment Assessment (Individual Assessment)
1	Diploma in Vocational Education & Training (Certificate in Vocational Education & Training for completion of certain subjects)	ED120-Part (2A) Basic Teaching Practicum Preparation ED121-Part (2B) Training & Assessment Practice (Day 1 to 6 Session 3 s)	ED 103 Teaching Practice ED 104 Lesson Planning ED 106 Interpreting Curriculums ED 107 Teaching & Learning ED 201 Class Room Management & Teaching	ED 101 Theory of Education ED 102 Education Technology

Level	Course	2 weeks workshop (Assessment based on participation in workshop sessions)	Teaching Experience Assessment +Teaching Portfolio Assessment (Individual Assessment- During/After two weeks workshop)	Self study & Assignment Assessment (Individual Assessment)
2	Diploma in Technical Teaching	ED 202 Curriculum & Design ED 405 Training Principle ED220-Part (2) Vocational Education & Training Practice (Diploma in Vocational Education & Training TAE50111) (All session 3s)	ED 206 Designing Instructions & Assessment	ED 401 Adult Learning Technology ED 205 Teaching & Measuring ED411-Engineering Education (1)
3	Diploma in Engineering Education	ED 301 Educational Policy (Myanmar Engineering Council Accreditation Requirements) ED309 Educational Communication ED311 Outcome based Education ED320-Part (2) Myanmar Engineering Council's Accreditation Compliance Practice (All Sessions 1/2/3)	ED301P- Curriculum design for accreditation compliance ED302P-Overall accreditation and compliance practice	ED 402 Educational Leadership ED 308 Change Management ED 407 Learning Environment ED412 Engineering Education (2)

Level	Course	2 weeks workshop (Assessment based on participation in workshop sessions)	Teaching Experience Assessment +Teaching Portfolio Assessment (Individual Assessment- During/After two weeks workshop)	Self study & Assignment Assessment (Individual Assessment)
4	Diploma in Engineering Education (Specialist Discipline)		ED 308 Computer Supported Learning & Distance Education ED310 Learning Technology I & II ED312 Technology in Classrooms	ED 304 Maths Teaching ED 305 Science Teaching ED 306 Technology Teaching ED 404 Educational Research (Part 2) ED413 Engineering Education (3)

Study Areas & Levels of Training

Level 1-Educational Theories , Teaching Pedagogies & Training and Assessment Practice

Part (1) Educational Theoretical Subjects

- ED 101 Theory of Education
- ED 102 Education Technology
- ED 103 Teaching Practice
- ED 104 Lesson Planning
- ED 105 Principle of Learning
- ED 106 Interpreting Curriculums
- ED 107 Teaching & Learning
- ED 201 Class Room Management & Teaching

ED120-Part (2A) Basic Teaching Practicum Preparation

ED101P-Teaching Support

ED102P- Application of Information Technology in School /Vocational Education

ED103P- Classroom Management

ED104P- Teaching Portfolio

ED105P- Inclusive Teaching

ED106P- Subject Area Knowledge

ED107P- Theory of Education, Educational Technology & Teaching Practice

ED107PA-Theory of Education

ED107PB-Education Technology

ED107PC-Teaching Practice

ED107PD-Lesson Planning

ED108P- Curriculum Study , Teaching & Learning

ED108PA-Principle of Learning

ED108PB-Interpreting Curriculums

ED108PC-Teaching & Learning

ED121-Part (2B) Training & Assessment Practice (Certificate IV in Training & Assessment TAE40110)

- ED111P Learning Program Design & Development Practice
(TAEDES401A Design and develop learning programs)
- ED112P Assessing the needs of trainees
(TAEDES402A Use training packages and accredited courses to meet client needs Delivery)
- ED113P Group based learning
(TAEDEL401A Plan, organise and deliver group-based learning)
- ED114P Workplace Assessment
(TAEDEL402A Plan, organise and facilitate learning in the workplace Assessment)
- ED115P Assessment Planning
(TAEASS401B Plan assessment activities and processes)
- ED116P Competency Assessment
(TAEASS402B Assess competence)
- ED117P Assessment Validation
(TAEASS403B Participate in assessment validation)
- ED118P Work skills Instruction
(TAEDEL301A Provide work skill instruction)
- ED119P Educational Presentation
(BSBCMM401A Make a presentation)(TAEASS301B Contribute to assessment

Level 2-Adult Vocational Education

Part (1) Adult Vocational Education Theoretical Subjects

- ED 401 Adult Learning Technology
- ED 202 Curriculum & Design
- ED 205 Teaching & Measuring
- ED 206 Designing Instructions & Assessment
- ED 405 Training Principle
- ED411-Engineering Education (1)

ED220-Part (2) Vocational Education & Training Practice (Diploma in Vocational Education & Training TAE50111)

- ED201P-Advanced Assessment Practice
(TAEASS501A: Provide advanced assessment practice)
- ED202P-Assessment Development
(TAEASS502B: Design and develop assessment tools)
- ED203P-Training Facilitation
(TAEDEL502A: Provide advanced facilitation practice)
- ED204P-Learning Strategies
(TAEDES501A: Design and develop learning strategies)
- ED205P- Language Literacy & Numeracy
(TAEELN401A: Address adult language, literacy and numeracy skills)
- ED206P-Continuing Professional Development
(TAEPPD501A: Maintain and enhance professional practice)
- ED207P Learning Resources Design & Development
(TAEDES502A: Design and develop learning resources)
- ED208P Organizational Training Needs Analysis
(TAETAS501B: Undertake organisational training needs analysis)
- ED 404 Educational Research (Part 1)
(TAERES501A: Apply research to training and assessment practice)
- ED209P- Training Program Evaluation
(TAEDES505A: Evaluate a training program)

Level 3-Training Authorities Accreditation Compliance

Part (1) Educational Leadership Subjects

- ED 402 Educational Leadership
- ED 301 Educational Policy (Myanmar Engineering Council Accreditation Requirements)
- ED 308 Change Management
- ED309 Educational Communication
- ED 407 Learning Environment
- ED311 Outcome based Education
- ED412 Engineering Education (2)

- ED301P- Curriculum design for accreditation compliance
- ED302P-Overall accreditation and compliance practice

Level 4-Specialized Teaching Areas

- ED 308 Computer Supported Learning & Distance Education
- ED 304 Maths Teaching
- ED 305 Science Teaching
- ED 306 Technology Teaching
- ED 404 Educational Research (Part 2)
- ED310 Learning Technology I & II
- ED312 Technology in Classrooms
- ED413 Engineering Education (3)

Diploma in Engineering Education

The following units can be added to Diploma in Technical Teaching to award Diploma in Engineering Education

ED411-Engineering Education Part 1

ED412-Engineering Education Part 2

ED413-Engineering Education Part 3

CURRICULUM

Level 1-Educational Theories , Teaching Pedagogies & Training and Assessment Practice

ED101 Theory of Education

Objective-

This unit provided the concept of education to enable the learners to understand the complex system of education by developing an understanding at different levels, inner workings of the individual learner, thinking processes and motivation & apply in practical teaching

Outcomes

- to understand all the different levels of education at the same time,
- to see personal learning and national legislation
- to build an understanding of education at all of these different levels.

Contents

Education theory, Modelling, Classroom Management, Equality of opportunity, Learning & Teaching, Quality Assurance, Theory into practice.

Instruction Reference Textbook-

Theory of Education.pdf by David A Turner + Lecture slides

Assessment

Assignments = 100% (4 assignments with 25% each)

ED 102 Education Technology

Objective-

This unit provide the knowledge to include reference to the use of technology for instruction, training, learning, or teaching. In practice, definitions serve to focus the interest of associations of individuals by emphasizing a particular scope of interest.

Outcomes

- To design, development, utilization, management, and evaluation
- To provide instructional technology,” “instructional systems design,” and “instructional media
- To do the design and development of instruction and instructional resources using education technologies

Contents

Active Learning, Alternative Assessment, Adult Learners, Analysis, Assistive Technology, Cognitive Apprenticeship, Computer-Assisted Instruction

Instruction Reference Textbook-

Education Technology - An Encyclopedia Edited by Ann Kovalchick and Kara Dawson+ Lecture slides
Assessment

Assignments = 100% (7 assignments)

ED 103 Teaching Practice

Objective-

To use developmental process for reflecting on and improving one's teaching; and as an evaluative product for personnel decisions such as tenure, promotion, or a teaching

Outcomes

- To provide different sources of evidence of teaching performance.
- To contribute important information about teaching performance
- To collect variety of sources of information related to teaching
- To reflect more of teaching's intellectual substance and complexity.
- To make teaching more visible through their demonstration of a variety of teaching-related activities.
- To place the initiative for reflecting on and evaluating teaching in the hands of faculty.
- To give the individual an opportunity to think about own teaching —
- To change priorities or teaching strategies as needed, and to reflect about future

Contents

Meaning of Teaching Portfolio, Why Prepare a Teaching Portfolio? ,How Does One Develop a Teaching Portfolio? ,Preparing Portfolio ,Shaping the Final Portfolio ,Keeping Your Portfolio Up to Date ,Assembling an Electronic Portfolio ,Portfolio evaluation.

Instruction Reference Textbook-

Lecture slides

Teaching-portfolio (University of South Australia)

Assessment

Assignments = 100% Portfolio Assessment

ED 104 Lesson Planning

Objective-

This unit provides the methods to apply thought-stimulating examples teaching & learning techniques to be applied in training design and delivery to apply the various techniques and strategies in training design and presentation, that will stick! Specific strategies.

Outcomes

- To create trainings that are fun and memorable.
- To write learner-based trainings that guarantee success for each learner performance.
- To develop learning activities that match the need, learning style, and level of understanding of the participants.
- To use learning strategies that encourage learners to build on their experiences.
- To plan ongoing training activities that evaluate learner mastery during the entire learning event.
- To design blended and accelerated learning strategies that strengthen learning transfer back on the job.
- To identify methods that accurately measure training results.

Contents

Introducing planning, Needs, aims and objectives ANALYSIS OF NEEDS ,THE RATIONALE OF OBJECTIVES ,WRITING YOUR LEARNING OBJECTIVES ,SETTING A VARIETY OF OBJECTIVES , Learning, SKILLS, TECHNIQUES AND METHODS ,JUDGEMENT AND DECISION-MAKING,THE PLACE OF EMOTIONAL EDUCATION,PLANNING FOR THEORETICAL LEARNING,PLANNING FOR LEARNING FROM THE CONCRETE,PLANNING FOR REFLECTIVE LEARNING,PLANNING FOR ACTIVE LEARNING,PLANNING PROGRESSION FROM PRIOR LEARNING,PLANNING FUTURE PROGRESSION,CROSS-CURRICULAR LINKS,DIFFERENTIATION,PLANNING LISTENING ACTIVITIES,PLANNING SPEAKING ACTIVITIES,PLANNING WHOLE CLASS DISCUSSION,PLANNING READING,PLANNING TO DEVELOP COMPREHENSION,TEACHING PUPILS TO LEARN FROM WHOLE BOOKS,PLANNING WRITING,TEACHING ABOUT SUBJECT DISCOURSE ,Pedagogy, TASK ANALYSIS ,A SUCCESSFUL LESSON STRUCTURE ,PLANNING PRACTICE SESSIONS

Instruction Reference Textbook-

Lecture slides

Instructional Design for Action Learning By GERI M C ARDLE

100 Ideas for Lesson Planning – By Anthony Haynes

Read the above textbooks and prepare three lesson plans

Assessment

Assignments = 100% (Assessment of three lesson plans)

ED 105 Principle of Learning

Objective-

To understand the memory concept & apply it in effective teaching and learning.

Outcomes

- To demonstrate the principle of learning
- To understand the principle of control memory
- To understand the principle of Inhibition
- To apply the Principle of Adaptive Specialization as It Applies to Learning and Memory

Contents

FORMATION OF MEMORIES, ORGANIZATION OF MEMORIES, CONSOLIDATION OF MEMORIES, CONTROL OF MEMORIES, ADAPTIVE SPECIALIZATION OF MEMORIES

Instruction Reference Textbook-

Lecture slides

Principle of learning & memory Edited by Rainer H. Kluwe, Gerd Liier and Frank Räsler

Assessment

Assignments = 100% (5 Assignments of 20% each)

ED 106 Interpreting Curriculums

Objective-

To interpret the curriculum & develop the detailed lesson plans in teaching process.

Outcomes

- To interpret the curriculum presented to teachers;
- To adopt the curriculum;

- To understand the curriculum assimilated by learners; and
- To evaluate curriculum.

Contents

KINDS OF CURRICULUM, ORIENTATIONS TO CURRICULUM, ORIENTATIONS TO CURRICULUM, TYPES OF CURRICULUM, Competency Curriculum, LEVELS OF CURRICULUM, STAGES OF THE PROCESS, CURRICULUM PLANNING, CURRICULUM DESIGN, CURRICULUM DEVELOPMENT- PHASES, CURRICULUM DEVELOPMENT. IMPLEMENTATION OF THE CURRICULUM, CURRICULUM EVALUATION, CURRICULAR CHANGES

Instruction Reference Textbook-

Lecture slides

CURRICULUM DESIGN AND DEVELOPMENT-1.pdf

THE CURRICULUM by Cecilia Braslavsky 1

Assessment

Assessment = 100% (Assess as part of Learning outcomes & curriculum development tasks in Residential Workshop session)

ED 107 Teaching & Learning

Objective-

This unit provides new and experienced faculty in all disciplines with practical, tested strategies for addressing all major aspects of college and university teaching, from planning a course through assigning final grades. Graduate student instructors and teaching assistants will also benefit from the foundational knowledge and research findings described in this unit.

Outcomes

- To addresses planning: designing a new course or revising an existing one, creating a syllabus, preparing for the class, and managing classroom conduct and decorum.
- To respond to a Changing Student Body,
- To do “ Discussion Strategies, ” provides ideas for leading a productive discussion, framing challenging questions, and encouraging student participation, both in class and online.
- To explore aspects of the lecture in the Large-Enrolment Course, ” method: preparing and delivering effective lectures, engaging students and providing for student participation, and maintaining instructional quality with limited resources.
- To find the Alternatives and Supplements to Lectures and Discussion,
- To Enhance Students ’ Learning and Motivation, ” provides research -based approaches to helping students become more confident, independent, and self - motivated learners. Informal ways to assess learning and the use of mobile

- To Strengthen Students ' Writing and Problem-Solving Skills, ”

Contents

RESPONDING TO A CHANGING STUDENT BODY ,DISCUSSION STRATEGIES ,THE LARGE-ENROLLMENT COURSE ,Maintaining Instructional Quality with Limited Resources ,ENHANCING STUDENTS' LEARNING AND MOTIVATION ,STRENGTHENING STUDENTS' WRITING AND,PROBLEM-SOLVING SKILLS ,TESTING AND GRADING,PRESENTATION TECHNOLOGIES ,EVALUATION TO IMPROVE TEACHING,TEACHING OUTSIDE THE CLASSROOM ,FINISHING UP

Instruction Reference Textbook-

Lecture slides

Tools for teaching by Barbara Gross Davis

Assessment

Experience Assessment = 100% (Assessed on Formal Teaching experience record for the teachers being employed by Government Technical Colleges & Technological Universities)

Separate assessment system is applied for pre-service teacher trainees.

ED 201 Class Room Management & Teaching

Objective-

To define classroom management, explain the relationship between classroom management and discipline, and describe the concept of “culturally responsive classroom management”

Outcomes

1. To describe the characteristics of an effective teacher
2. To explain why reflection on teaching is so important for teacher growth
3. To describe the reflective decision making model of teaching
4. To identify important factors that affect instructional decision making
- 5.To contrast the characteristics of authoritative, authoritarian, and permissive teachers
- 6.To identify the ongoing tasks involved in classroom management and to explain how each contributes to a well-functioning learning environment

Contents

Instruction Reference Textbook-

Lecture slides

Other Reference

Classroom Management by Deborah Diffily & Charlotte Sassman

Assessment

Experience Assessment = 100% (Assessed on Formal Teaching experience record for the teachers being employed by Government Technical Colleges & Technological Universities)

Separate assessment system is applied for pre-service teacher trainees.

Level 2-Adult Vocational Education

ED 401 Adult Learning Technology

Objective-

This unit provides and skills and the roles of training developers and instructional designers who are responsible for analysing training needs and designing training solutions and products to meet workplace capability requirements, and evaluating the effectiveness of adult training programs.

Outcomes

To provide the guidance and advice to trainers and assessors, promoting innovative practices, e.g. e-learning, and in researching and incorporating best practice in training and assessment into training programs and products.

Contents

- Learner-Centered Teaching and the Use of Technology
- Effective Teaching with Technology in Adult Education
- Adult Learners and Their Development in the Information Society
- Supporting Lifelong Learning and Flexicurity Policies
- Adult Learning Principles as the Foundation for Innovative Technology Applications in Business and Higher Education Venues
- The Role of Learning Styles and Technology
- Innovative Instructional Strategies with the Use of Technology for Adult Learners
- Integrating Adult Learning and Technology for Effective Education:
- Strategic Approaches
- Comparing the Principles of Adult Learning with Traditional Pedagogical Teaching in Relation to the Use of Technology:

- Provide Training through instruction and demonstration of work skills
- Facilitate work-based learning
- Group based delivery
- Design and develop learning programs
- Foster and promote an inclusive learning culture
- Ensure a safe and healthy learning environment
- Individual learning
- Language Literacy & Numeracy

Instruction Reference Textbook-

Lecture Slides

Adult Learning Technology by Victor C.X. Wang

Assessment

Participation in Educational Support Workshop sessions=100%

(Assess as part of Learning outcomes & curriculum development tasks in Residential Workshop session)

ED 202 Curriculum & Design

Objective-

To provide theoretical consideration for the twenty-first century curriculum, & technological and pedagogical innovations influencing curriculum renewal together with sustainable practice in technology-rich environments.

Outcomes

- To address theoretical foundations for the development of curricula.
- To explore the pedagogical options available to higher education instructors
- To explore new ways of accessing and connecting content to multimodal forms
- To examine how curriculum design needs to be influenced by the effective development of virtual collaborative learning environments
- To devise more adaptive, educationally focused teaching and learning

Contents

Curriculum Design for the Twenty-First Century, Online Collaboration: Coordinating Technology, Strategies for Collaborative Learning, Designing a Virtual Collaborative Learning Environment, Curriculum Design as Applied to Virtual Collaborative, Course Evaluation, Creating Curriculum Within the Context of an Enterprise, Teaching Instructional Design, Online education examples.

Instruction Reference Textbook-

Lecture Slides

Curriculum Models for the 21st Century Using Learning Technologies in Higher Education

Assessment

Participation in Educational Support Workshop sessions=100%

(Assess as part of Learning outcomes & curriculum development tasks in Residential Workshop session)

ED 205 Teaching & Measuring

Objective-

To apply adaptive expertise, creative thinking, metacognition, and teamwork in teaching and measuring task

Outcomes

To apply Adaptability, Adaptive expertise, Adaptive problem solving, Communication, Creative thinking , Decision making , Metacognition, Situation awareness & Teamwork

Contents

Cognitive Readiness, A Model for Instruction and Assessment of Cognitive Readiness, The Development and Assessment of Cognitive Readiness: Lessons Learned from K-12 Education, Cognitive Readiness for Solving Equations . Cognitive Readiness Applications, Creative Thinking Abilities: Measures for Various Domains, Using Analogies as a Basis for Teaching Cognitive Readiness . Simulation Assessment of Cognitive Readiness . Assessing Cognitive Readiness in a Simulation- Based Training Environment, Software Support for Teaching and Measuring Cognitive Readiness, Cognitive Readiness for Complex Team Performance, Impact of Individual Game-Based Training on Team Cognitive Readiness

Instruction Reference Textbook-

Teaching and Measuring Cognitive Readiness by Harold F. O'Neil • Ray S. Perez • Eva L. Baker

Assessment

Participation in Educational Support Workshop sessions=100%

(Assess as part of Learning outcomes & curriculum development tasks in Residential Workshop session)

ED 206 Designing Instructions & Assessment

Objective-

To deconstruct the broad-sweeping goals of the standards and transform them into unit plan objectives (more specific) and daily instructional objectives

Outcomes

To entails a logical progression from (1) content area standards to (2) modified standards to

(3) unit plan objectives to (4) daily instructional objectives in an understandable sequence of increasing specificity

Contents

Deconstructing the Standards ,Writing Unit and Daily Instructional Objectives , Writing True–False and Completion, Items and Matching Exercises ,Writing Multiple-Choice Items ,Writing Short-Answer and Essay Items .Performance-Based Assessment ,Portfolios

Instruction Reference Textbook-

Lecture Slides

Designing Elementary Instructions & Assessments

By John L. Badgett Edwin P . Christmann

Assessment

Participation in Educational Support Workshop sessions=100%

(Assess as part of Learning outcomes & curriculum development tasks in Residential Workshop session)

ED 405 Training Principle

Objective-

To provide numerous techniques, designs, case examples, and tips for designing and facilitating training that is participant centred, brain-friendly, and experiential

Outcomes

- To explore all aspects of training.
- To promote an active approach to training
- To provide a practical handbook of techniques

Contents

INTRODUCING ACTIVE TRAINING, DESIGNING AN ACTIVE TRAINING PROGRAM, Assessing Training Needs, Developing Active Training Objectives, Creating Opening Exercises, Preparing Brain-Friendly Lectures, Using

Experiential Learning Approach, Designing Active Training Activities, Sequencing Active Training Activities, Planning Active Training Programs, Blending Technology into Active Training, CONDUCTING AN ACTIVE TRAINING PROGRAM, Beginning an Active Training Program, Gaining Leadership of the Training Group, Giving Presentations and Leading Discussions, facilitating Structured Activities and Promoting Team Learning, Concluding an Active Training Program, EXTENDING THE VALUE OF AN ACTIVE TRAINING PROGRAM, Evaluating an Active Training Program

Instruction Reference Textbook-

Lecture Slides

Active Training by Mel Silberman

Assessment

Participation in Educational Support Workshop sessions=100%

(Assess as part of Learning outcomes & curriculum development tasks in Residential Workshop session)

ED411-Engineering Education (1)

Objective-

To design the engineering educational programs and teaching programs by applying multi disciplinary approaches by combining technological aspects

Outcomes

- To attain the strategies to promote the engineering education
- To apply technological concepts in engineering teaching support system
- To develop the quality work-based learning system
- To write Sociological Rationale of a design curriculum
- To find the strategies to improve the communication skills of engineers
- To design the computer server for engineering education program

Contents

- Pre-university Outreach: Encouraging Students to Consider Engineering Careers
- The ASTutE Tutorial Assistant: Efficient, Accessible and Interactive
- Learning at Work within the Ford Motor Company
- Using Rubrics to Assess the Development of CDIO
- Syllabus Personal and Professional Skills and Attributes at the 2.x.x Level*
- Quality Assurance Issues Relating to the Delivery of Work Based Learning Programmes*

- The Role of Work-Based Learning Methodologies in the 21 st Century
- Development of Life-Long Engineering Education in the 21 st Century
- Traits Analysis and Influences on High Performing Students in Mechanical Education
- The Construction of an Instructional Quality System for Industrial Technology Education
- Design Hegemony: an Exploration of Hegemony in the Curriculum and Instruction of Industrial Design Education
- The Engineering Mechanics Interactive Lecture Series: Oligomedia Resources for Computer-Based Learning
- The Sociological Rationale of the Industrial Design Curriculum
- Achieving Advances and New Developments in Engineering and Technological Education
- Important Considerations in Improving the Acquisition of Communication Skills by Engineers
- Client-Server and Gateway Systems for Remote Control in Engineering Education
- The Development of Online Conference Management Tools as a Student Project*
- Co-operation across Disciplines in Engineering Education Using Technical and Scientific Computing Environments

Instruction Reference Textbook-

Lecture Slides

ED411 folder, read the following files

- AndersonGilbride.pdf
- austin.pdf
- barlow.pdf
- BodenGrays.pdf
- Burns&Chisholm.pdf
- BurnsChisholm1.pdf
- ChaoHuang.pdf
- Chaos.pdf
- ChengHsiao.pdf
- chapman.pdf
- ChengLiao.pdf
- Chisholm1.pdf

- DanilovaZJPs.pdf
- Dulevicius.pdf
- EwaldPage.pdf
- GolNafalskiNguynTran.pdf
- grunwald1.pdf

Assessment

Questions & answers

Level 3-Training Authorities Accreditation Compliance

ED 402 Educational Leadership

Objective-

This course provides the educators with skills to take an active and creative approach to their personal and professional development. While it may be of most interest to those in middle or senior education management, it is also designed to help teachers, governors and those in organizations allied with education.

Outcomes

To attain the competencies in

- Leading and managing
- Changing and learning
- Undertake Tasks and responsibilities

Instruction Reference Textbook-

**Educational leadership and learning Practice, policy and research
by Sue Law and Derek Glover**

Contents

- The context for educational leadership
- Developing leadership and management effectiveness
- Managing ourselves and leading others
- Motivating and managing others
- Leading effective teams
- Effective communication
- Organizational cultures

- Managing change and creating opportunities
- Educational improvement, inspection and effectiveness
- Leading and managing in learning organizations
- Managing staff and promoting quality
- Managing resources and finance
- Managing stakeholder relationships and partnerships
- Leading and managing for professional development

Assessment

Assignments = 100%

ED 301 Educational Policy (Myanmar Engineering Council Accreditation Requirements)

Objective-

This course provides the educators with Myanmar Engineering Council Laws, Rules, Regulations, Accreditation Requirements, Accreditation Practices, procedures related to accreditation of engineering courses and engineering professionals in Myanmar to enable them to design, develop and teach the engineering programs accredited by Myanmar Engineering Council.

Outcomes

- To understand Myanmar Engineering Council Accreditation Rules & Regulations related to accreditation of Government Technical Colleges & Technological Universities in Myanmar.
- Get the information & knowledge on Current issues related to international & Myanmar Engineering profession.
- Participate in hand on practice workshop focussing on curriculum development & collecting and preparing the materials for accreditation by Myanmar Engineering Council Engineering Accreditation Committee & taking part in mock accreditation sessions.

Contents

- Overview of Myanmar Engineering Council Law, Regulation, Accreditation Principles
- Examples of marine engineers competency assessment in Myanmar/ in line with International Certification standards & explore the way to apply the similar competency based training in other engineering areas
- Requirement of Myanmar Engineering Council & how to design the curriculum to address the learning outcomes
- Discussing the programme structure and course contents(MEng C)
- Discussing the programme delivery and assessment methods

- Assessment Validation Guide of Myanmar Engineering Council
- Educational Resources Development in line with Myanmar Engineering Council Requirements
- Curriculum design for accreditation compliance
- Overall accreditation and compliance practice
- Preparation for self accreditation report
- Engineering Accreditation Plan

Instruction Reference Textbook-

1. Accreditation Manual
2. Graduate Attributes & Terminology.pptx
3. SAR.pptx
4. EngineerCoulcilRegulation
5. Policy - Qualifications Policy POL11 v4
6. Myanmar Engineering Council Law
7. Policies for Accreditation of Programs
8. Time line,EAC Code,Guidelines,Fees

Assessment

Assignments = Participation in workshop sessions

ED 308 Change Management

Objective-

The unit involves candidates in leading a complete cycle of the change process. This process falls into three phases that correspond broadly to the elements of competency.

- i. Preparing for change
- ii. Planning for change
- iii. Implementing and evaluating change

Outcomes

- To provide leadership and support to others within the organization
- To manage change more effectively
- To develop educational business skills
- To analyse work practice and context, and make improvements
- To contribute to innovation and capacity building in the organization.

Contents

- Leadership issues Raising achievement
- The Leadership of Change
- A shift from management to leadership
- How not to do change management
- Managing change and transition

Instruction Reference Textbook-

Lecture Slides

Leadership+ Change Management DVD

Assessment Assignment-100%

ED309 Educational Communication

Objective-

This program uses methods of the social sciences, encompassing both qualitative and quantitative approaches to the study of communication and education. It asks in particular how education and other social systems change under the impact of new media

Outcomes

- Reflect on the historical effects of media and on the cultural uses of developments such as face-to-face speech, writing, printing, photography, film, radio, television, computers, and networked multimedia;
- Use anthropological and linguistic methods to study how the diverse forms of communication, literacy, information processing, and cognition condition educational practice; and
- Explore positive and negative effects of media on social relations and develop strategies for using information and communication technologies to improve conditions of education and life.

Contents

- Creating a production that communicates your message
- Digital Design
- Great Looking Presentations
- Planning

- Technical Papers related to effectiveness of ICT in education
- Access and equity issues
- Educational Communication Portfolio Presentation

Instruction Reference Textbook-

Lecture Slides

ED309 Educational Communication Assignment Tasks-806A Modified (Worked Examples)

Assignment

Assignments = Portfolio Assessment- 100%

ED 407 Learning Environment

Objective-

The objective of this unit is to give the candidate an understanding of the conceptualisation, historical development, assessment, determinants and effects of classroom learning environments.

Outcomes

- To review classroom learning environment for effective educational setting
- To prepare effective educational setting for teaching and learning
- To understand the students' behaviour in the classroom and the cause of the behaviour
- To effectively use the teaching and learning strategies for keeping the good learning environment in the class
- To perform educational survey task on learning environment assessment.

Contents

- Background information about the fields of school and classroom environment
- Outcomes and environment; evaluation of educational innovations
- Quantitative and qualitative methods
- Teachers' use of classroom and school environment instruments in practical attempts to improve their own classrooms and schools.
- Current trends and future desirable directions in research on educational environments.

Instruction Reference Textbook-

Lecture Slides

Assessment

Assignments = 100%

Action Research Project

ED311 Outcome based Education

Objective-

At the end of this training, participants will be able to understand:

- ☐ Outcome-Based Education (OBE)
- ☐ Programme Education Objectives (PEO'S),

Outcomes

Programme Outcomes (PO's), Course Outcomes (CO) and Performance Indicators

- ☐ Bloom's Learning Taxonomy
- ☐ Assessment and Evaluation Methods
- ☐ Continual Quality Improvement Process

Contents

- ☐ The Origins of Outcome Based Education
- ☐ *Approaches to OBE*
- ☐ *OBE Process*
- ☐ Educational Process - Stakeholders
- ☐ Educational Process – Lecturers' Roles
- ☐ Educational Process - References
- ☐ OBE Model Hierarchy
- ☐ Characteristics of OBE curricula
- ☐ *Types of Teaching/Learning Delivery Activities*
- ☐ *OBE Delivery*
- ☐ Continual Quality Improvement (CQI)
- ☐ Essentials for OBE's success
- ☐ Essentials Components of OBE

- ☐ Different Levels of Outcomes
- ☐ Development of Programme Education Objectives
- ☐ CHARACTERISTICS OF GOOD OUTCOME STATEMENTS
- ☐ Course Development
- ☐ ENGINEERING EDUCATION
BLOOM'S TAXONOMY
- ☐ DOMAINS of LEARNING OUTCOMES
- ☐ Assessment in OBE
- ☐ Continual Quality Improvement (CQI)

Instruction Reference Textbook-

Lecture Slides

Final OBE Training at Myanmar July 2014. by **Ir. Professor Academician Dato' Dr. HT Chuah**
President of FEIAP

Assessment

Participation in workshop & presenting the portfolios

ED412 Engineering Education (2)

Objective-

To design the international standard engineering education program by applying total quality management

Outcomes

- To have the knowledge and skills in total quality management
- To foster the cross border co-operation
- To interface the school to engineering programs

Contents

- Secondary School-University Interface: Science and Engineering
- The Educational Process
- Quality Engineering Education: Student Skills and Experience
- The Web as a Tool for Supporting Student Learning
- Develop a Long-Term Plan to Overcome Skills Shortage
- Cross border engineering practice

- Cross-cultural Skills for engineers

Instruction Reference Textbook-

Lecture Slides

ED412 File

Assessment

Assignments = 100% (Two assignments of 50% each)

Level 4-Specialized Teaching Areas

ED 308 Computer Supported Learning & Distance Education

Objective-

This unit provides the skills related to contribute to the central questions of how students can learn collaboratively using the new technologies, the problems that can be expected, and the benefits that may ensue. The various ways to examine how computer supported group work differs from face-to-face group work, and the implications for both educators and students are provided.

Outcomes

- ☐ To offer assessment of e-learning with the hope of offering ideas in terms of practical guide and points of good practices, while addressing potential pitfalls to avoid.
- ☐ To be aware of what constitutes good and effective e-learning practices and how to design them for specific contexts and audiences in the global information
- ☐ Innovative uses of e-learning, Addressing various divides in e-learning, user centred focus in e-learning, special considerations in e-learning and development economy.

Contents

- ☐ Computer-Supported Collaborative Learning in Higher Education:
- ☐ An Introduction
- ☐ Online Group Projects: Preparing the Instructors to Prepare the Students
- ☐ Time, Place and Identity in Project Work on the Net
- ☐ The Collective Building of Knowledge in Collaborative Learning Environments
- ☐ Collaboration or Cooperation
- ☐ Analyzing Small Group
- ☐ Interactions in Educational Environments
- ☐ Mapping Perceived Socio-Emotive Quality of Small-Group Functioning
- ☐ A Constructivist Framework for Online Collaborative Learning:
- ☐ Adult Learning and Collaborative Learning Theory
- ☐ The Real Challenge of Computer-Supported Collaborative Learning
- ☐ Use and Mis-Use of Technology for Online, Asynchronous, Collaborative Learning
- ☐ The Personal and Professional Learning Portfolio
- ☐ An Online Environment for Mentoring, Collaboration, and Publication
- ☐ Problems and Opportunities of Learning Together in a Virtual Learning Environment
- ☐ Web-Based Learning by Tele-Collaborative Production in Engineering Education

- ☐ Relational Online Collaborative Learning Model
- ☐ Online, Offline and In-Between: Analyzing Mediated-Action

Instruction Reference Textbook-

Lecture Slides

Computer Supported Learning by Tim S. Roberts

Assessment

Assignments = 100%

ED 304 Maths Teaching

Objective-

This unit provides the skills to the teachers to act as mechanisms for communicating an approach to mathematics education that is eclectic and embracing, respectful and engaging, reflective and, ultimately, educational.

Outcomes

To provide the methods to the educators in class teaching to provide the students with conceptual understanding of mathematics content through modelling or interpretation of representations,

- computational fluency,
- problem solving through application of the content.

Contents

- Strategies for Vocabulary Development
- Strategies for Using Manipulatives
- Strategies for Teaching Procedures
- Strategies for Understanding Problem Solving
- Strategies for Using Mathematical Games
- Strategies for Assessing
- Mathematical Thinking

Instruction Reference Textbook-

Lecture Slides

- ☐ Multiple Perspectives on Mathematics Teaching and Learning Edited by Jo Boaler
- ☐ Strategies for Teaching Mathematics by *Deborah V. Mink*

Assessment

Assignments = 100%

ED 305 Science Teaching

Objective-

This unit provide the teaching pedagogy in science that effectively enable the teacher to transfer what they learn in our courses into their own classroom practices.

Outcomes

- To shine a spotlight on important work that science teacher educators are doing with teachers and youth
- To describe the professional purposes and benefits realized when they, as science teacher educators, arranged opportunities to teach children or adolescents.
- To utilize model teaching lessons in class room practice

Contents

- Pedagogical Content Knowledge
- Teaching & learning Through experience
- Teaching examples

Instruction Reference Textbook-

Lecture Slides

- Understanding and Developing Science Teachers' Pedagogical Content Knowledge
By John Loughran
- Science Teacher Educators as K-12 Teachers edited by Michael Dias • Charles J. Eick, Laurie Brantley-Dias

Assessment

Assignments = 100%

ED 306 Technology Teaching

Objective-

This unit provides the teaching idea for teaching students with unique opportunities to develop a range of process skills such as critical and creative thinking skills in addition to their practical skills, through undertaking authentic tasks of real purpose.

Outcomes

- To link philosophy and educational issues in my daily work
- To help teachers to improve the teaching by means of the insights that philosophy of technology offers.

Contents

- Philosophy of technology:
- Technological artifacts
- Technological knowledge
- Technological processes
- Technology and the nature of humans
- Ethics and aesthetics of technology
- Learners' philosophies of technology
- Reconceptualizing technology through education
- Practical issues in teaching about technology

Instruction Reference Textbook-

Lecture Slides

Teaching about Technology by MARC J. DE VRIES

Assessment

Assignments = 100%

ED 404 Educational Research

Objective-

This unit describes the performance outcomes, skills and knowledge required to undertake research into educational theory and apply this research to improve current training and assessment practice.

This unit typically applies to those who need to develop skills in research in order to apply educational theory to improve current and future training and assessment practice

Outcomes

- Prepare research brief relating to training and assessment practice
- Conduct research in training and assessment practice
- Investigate and apply educational theory to the research
- Report on application of educational theory to training and assessment practice
- Review entire process

Contents

Qualitative Research and Public Policy

- Multilevel Analysis in Higher Education Research: A Multidisciplinary Approach .
- Conducting Multi-paradigm Inquiry in the Study of Higher Education Organization and Governance: Transforming
- Research Perspectives on Colleges and Universities

- Examining Pathways to and Through the Community College for Youth and Adults
- Review of the Theories Developed to Describe the Process of College Persistence and Attainment

Instruction Reference Textbook-

Lecture Slides

Higher Education: Handbook of Theory and Research

Published under the Sponsorship of the Association for Institutional Research (AIR) and the Association for the Study of Higher Education (ASHE)

Assessment

Assignments = 100%

Prepare & submit one educational research paper.

ED310 Learning Technology I & II

Objective-

On completion of this unit you should be able to demonstrate your achievement of the following learning outcomes:

All participants will be competent, confident and professional users of e-Learning system in teaching

Outcomes

To use e-Learning tools to:

- improve their own professional productivity,
- improve their preparation for classes and teaching generally and
- improve their ability to use and integrate IT appropriately within the classroom

Contents

The Syllabus:

The unit consists of five inter-related modules:

- 1. Module 1: Getting Started and IT Empowerment and Teaching**
 - a. Unit Introduction
- 2. Module 2: IT and Education:**
 - a. The Hype and the Reality
 - b. Multimedia in Education

3. Module 3: Ghosts of Schooling Past, Present and Future

- a. Technology and the Whole Curriculum
- b. Technology as a Classroom Tool
- c. Creating an active learning Environment

4. Module 4: Making the World Wide Web Work for You

- a. The Tools of the Trade
- b. Using the internet for information

5. Module 5: Technology in Your Classroom

- a. Classroom Applications of the
- b. WWW
- c. Educational Software
- d. Ideas, Approaches, Tools and Tricks
- e. Integration
- f. Early Learning and Primary

Tuition Pattern:

This unit is provided as an online unit. All tuition is provided through the online course website. The length of the unit is one semester (12 weeks); however, some students will finish sooner, and some may require additional time to complete it. While the weekly time commitment will vary from student to student, most should allow approximately 10 hours per week total study time for the unit.

Instruction Reference Textbook-

Lecture Slides

The CD in the folder Day 7 Session 2/ 5.Learning Technology 1/ index.html

Recommended Texts and Principal References:

- Shelly G. Cashman T.J. Gunter R.E. Gunter G.A. (2002). Teachers discovering computers: A link to the future WWW. Course Technology, Cambridge.

All other materials are supplied on Course CD-ROMS and online.

Assessment

Two assignments= 100%

ED312 Technology in Classrooms

Objective-

To provide use of technology in educational context by combining with teaching and learning principle, educational leadership skills and educational leadership skills.

Outcomes

On completion of this unit you should be able to demonstrate your achievement of the following learning outcomes:

Upon completion, the participant;

1. Through the use of professional based portfolios will design, implement and evaluate the use of IT, multimedia and the Internet in their own classrooms
2. Using the skills and knowledge developed within the unit, conduct research of the use on learning technologies within the areas of;
 - a. Learning technologies and Developing Leadership Skills in Technology
 - b. Assessing and Changing IT Learning EnvironmentsTeaching and Learning Principles for Technology-Rich Classrooms

Contents The unit consists of 2 inter-related sections:

1. **Section 1**
 - a. Conduct independent research in one of the following
 - i. Developing Leadership Skills in Technology
 - ii. Assessing and Changing IT Learning Environments
 - iii. Teaching and Learning Principles for Technology-Rich Classrooms
2. **Section 2**
 - a. The development of two Portfolios
 - i. "Classroom" based portfolio that demonstrates the use and integration of educational technology in your classroom or workplace.
 - ii. "Personal" based portfolio that provides the student with the opportunity to demonstrate the use and educational practice in professional practice.

Instruction Reference Textbook-

Lecture Slides

Day 8 Session 1/ 7. Technology in classroom/ index.html

Assessment

Assignments = 100%

ED413 Engineering Education (3)

Objective-

This unit provides the engineering educators with engineering ethical issues, New pedagogy , Industrial co-operation & Lifelong learning and Strategic Planning skills in engineering education

Outcomes

Design the engineering programs by taking account on emphasizing in engineering ethics & by utilizing innovative new teaching pedagogies

Contents

- Engineering ethics
- Engineering teaching pedagogies
- New training and work-based approach
- Strategies planning in engineering education

Instruction Reference Textbook-

- ED413 Par1 Ethics
- ED413 Part2 New pedagogy , Industrial co-operation & Lifelong learning
- ED413 Part3 Strategic Planning in Engineering Education
- ED413 Part4 Training & Work-based Approach

Assessment

Assignments = Project 100%

RESOURCES

ASSESSMENT FOR THE SUBJECTS IN PART 1 OF THE LEVELS

The students will have to write 20 pages study report for each of the subjects outlined in the Part 1 of any level .

The report general needs to include

- Book review- Review on each chapter of the book highlighting the key concepts, points, key theory & practical application concepts
- Own idea on how to apply those concepts in real practical applications.
- Examples of curriculum designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book

The book references for the subjects can be downloaded from the following links by entering the given password. The detailed instruction will be given in subject study guides. Some of the units can be assessed in residential training workshops.

Password- to be given

ASSESSMENT FOR THE SUBJECTS IN PART 2 OF THE LEVELS

Follow the specific assessment instruction provided for the units in Part 2 of the levels

ED120-Part (2A) Basic Teaching Practicum Preparation

Study Areas & Levels of Training

Level 1-Educational Theories , Teaching Pedagogies & Training and Assessment Practice

Part (1) Educational Theoretical Subjects

- ED 101 Theory of Education

<http://www.filefactory.com/file/4fuby1dpqs9f/ED%20101%20Theory%20of%20Education.zip>

- ED 102 Education Technology

<http://www.filefactory.com/file/1ghlzng7e0n3/ED%20102%20Education%20Technology.zip>

- ED 103 Teaching Practice

<http://www.filefactory.com/file/1o732n0j46mf/ED%20103%20Teaching%20Practice.zip>

- ED 104 Lesson Planning

<http://www.filefactory.com/file/4m30ym0ez37r/ED%20104%20Lesson%20Planning.zip>

- ED 105 Principle of Learning

<http://www.filefactory.com/file/7660l6kjr8sx/ED%20105%20Principle%20of%20Learning.zip>

- ED 106 Interpreting Curriculums

<http://www.filefactory.com/file/1h141zxbov8z/ED%20106%20Interpreting%20Curriculums.zip>

- ED 107 Teaching & Learning

<http://www.filefactory.com/file/6u5o455lyqj7/ED%20107%20Teaching%20%26amp%3B%20Learning.zip>

- ED 201 Class Room Management & Teaching

<http://www.filefactory.com/file/48gvqykksgiz/ED%20201%20Class%20Room%20Mgt%20%26amp%3B%20Teaching.zip>

Part (2A) Basic Teaching Practicum Preparation

Follow the specific assessment instruction provided for the units in Part 2 of the levels

ED101P-Teaching Support

ED102P- Application of Information Technology in School /Vocational Education

ED103P- Classroom Management

ED104P- Teaching Portfolio

ED105P- Inclusive Teaching

ED106P- Subject Area Knowledge

[Certificate in Teaching Support+ Diploma in Teaching Practice+ Bachelor of Teaching+ Bachelor of Education \(School & Vocational\)](http://www.filefactory.com/file/4a5o50idxqvr/Diploma%20in%20Teaching%20Practice.pdf)

<http://www.filefactory.com/file/4a5o50idxqvr/Diploma%20in%20Teaching%20Practice.pdf>

ED107P- Theory of Education, Educational Technology & Teaching Practice

ED107PA-Theory of Education

ED107PB-Education Technology

ED107PC-Teaching Practice

ED107PD-Lesson Planning

ED108P- Curriculum Study , Teaching & Learning

ED108PA-Principle of Learning

ED108PB-Interpreting Curriculums

ED108PC-Teaching & Learning

ED 107 Lesson Slide 1 to 20 Mod.pdf (4.71MB)

http://www.filefactory.com/file/1w4faybri0p9/n/ED_107_Lesson_Slide_1_to_20_Mod.pdf

Download now by clicking the above link!

ED107 Lesson Slide 21 to 40.pdf (3.06MB)

http://www.filefactory.com/file/1ae111n3e1gl/n/ED107_Lesson_Slide_21_to_40.pdf

[Download now!](#)

ED107 Lesson Slide 41 to 60.pdf (3.27MB)

http://www.filefactory.com/file/4slgwynziwxz/n/ED107_Lesson_Slide_41_to_60.pdf

[Download now!](#)

ED107 Lesson Slide 61 to 80.pdf (3.22MB)

http://www.filefactory.com/file/1txrj08z5329/n/ED107_Lesson_Slide_61_to_80.pdf

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ED107 Lesson Slide 81 to 100.pdf (2.97MB)

http://www.filefactory.com/file/15p9vb74rljl/n/ED107_Lesson_Slide_81_to_100.pdf

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ED107 Lesson Slide 101 to 120.pdf (3.07MB)

http://www.filefactory.com/file/lxvcg3369i9/n/ED107_Lesson_Slide_101_to_120.pdf

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ED107 Lesson Slide 121 to 140.pdf (2.69MB)

http://www.filefactory.com/file/6h7bu8dsq7q7/n/ED107_Lesson_Slide_121_to_140.pdf

[Download now!](#)

ED107 Lesson Slide 141 to 160.pdf (2.57MB)

http://www.filefactory.com/file/6pxq45urnfyn/n/ED107_Lesson_Slide_141_to_160.pdf

[Download now!](#)

ED107 Lesson Slide 161 to 180.pdf (2.99MB)

http://www.filefactory.com/file/6srxl6iwl2o3/n/ED107_Lesson_Slide_161_to_180.pdf

[Download now!](#)

ED107 Lesson Slide 181 to 200.pdf (2.76MB)

http://www.filefactory.com/file/10d9wna6jr4r/n/ED107_Lesson_Slide_181_to_200.pdf

[Download now!](#)

ED107 Lesson Slide 201 to 220.pdf (2.86MB)

http://www.filefactory.com/file/3o4wea6j5uof/n/ED107_Lesson_Slide_201_to_220.pdf

[Download now!](#)

ED107 Lesson Slide 221 to 240.pdf (3.27MB)

http://www.filefactory.com/file/32bcquqzs1ll/n/ED107_Lesson_Slide_221_to_240.pdf

[Download now!](#)

ED107 Lesson Slide 241 to 260.pdf (2.83MB)

http://www.filefactory.com/file/p0y76lkvkjd/n/ED107_Lesson_Slide_241_to_260.pdf

[Download now!](#)

ED107 Lesson Slide 261 to 280.pdf (2.84MB)

http://www.filefactory.com/file/2kdx8ty4uj1d/n/ED107_Lesson_Slide_261_to_280.pdf

[Download now!](#)

ED107 Lesson Slide 281 to 304.pdf (3.78MB)

http://www.filefactory.com/file/1y06uzz0iaq1/n/ED107_Lesson_Slide_281_to_304.pdf

[Download now!](#)

ED 107 Exercises.pdf (2.3MB)

http://www.filefactory.com/file/1isf2cao4gxx/n/ED_107_Exercises.pdf

[Download now!](#)

ED 108 Curriculum Study , Teaching & Learning Lessons

ED108 Lesson Slide 1 to 20.pdf (2.37MB)

http://www.filefactory.com/file/6r5rg8bucgkx/n/ED108_Lesson_Slide_1_to_20.pdf

[Download now!](#)

ED108 Lesson Slide 21 to 40.pdf (2.69MB)

http://www.filefactory.com/file/1wxu981xeel/n/ED108_Lesson_Slide_21_to_40.pdf

[Download now!](#)

ED108 Lesson Slide 41 to 60.pdf (2.27MB)

http://www.filefactory.com/file/71av1by59uit/n/ED108_Lesson_Slide_41_to_60.pdf

[Download now!](#)

ED108 Lesson Slide 61 to 80.pdf (2.12MB)

http://www.filefactory.com/file/4qghmt89g2zr/n/ED108_Lesson_Slide_61_to_80.pdf

[Download now!](#)

ED108 Lesson Slide 81 to 100.pdf (2.22MB)

http://www.filefactory.com/file/11jmlg5ax3e1/n/ED108_Lesson_Slide_81_to_100.pdf

[Download now!](#)

ED108 Lesson Slide 101 to 120.pdf (2.57MB)

http://www.filefactory.com/file/67air98a9wpz/n/ED108_Lesson_Slide_101_to_120.pdf

[Download now!](#)

ED108 Lesson Slide 121 to 140.pdf (2.32MB)

http://www.filefactory.com/file/2fw5kwlelb03/n/ED108_Lesson_Slide_121_to_140.pdf

[Download now!](#)

ED108 Lesson Slide 141 to 168.pdf (2.7MB)

http://www.filefactory.com/file/5foiol6m9rwx/n/ED108_Lesson_Slide_141_to_168.pdf

[Download now!](#)

ED 108 Exercises.pdf (1.22MB)

http://www.filefactory.com/file/5o110j6pg6dz/n/ED_108_Exercises.pdf

[Download now!](#)

Follow the specific assessment instruction provided for the units in Part 2 of the levels

- ED111P Learning Program Design & Development Practice
(TAEDES401A Design and develop learning programs)
- ED112P Assessing the needs of trainees
(TAEDES402A Use training packages and accredited courses to meet client needs Delivery)
- ED113P Group based learning
(TAEDEL401A Plan, organise and deliver group-based learning)
- ED114P Workplace Assessment
(TAEDEL402A Plan, organise and facilitate learning in the workplace Assessment)
- ED115P Assessment Planning
(TAEASS401B Plan assessment activities and processes)
- ED116P Competency Assessment
(TAEASS402B Assess competence)
- ED117P Assessment Validation
(TAEASS403B Participate in assessment validation)
- ED118P Work skills Instruction
(TAEDEL301A Provide work skill instruction)
- ED119P Educational Presentation
(BSBCMM401A Make a presentation)(TAEASS301B Contribute to assessment

RESOURCES FOR ABOVE UNITS

Working in Vocational Education & Assessment

http://www.filefactory.com/file/136bwooflstr/n/3_Assessment_Working_in_VET_zip

Preparing vocational teaching portfolios

http://www.filefactory.com/file/2l9iu8ptfk0t/n/8_Guides_for_preparing_VET_portfolios_zip

Learning , Facilitation & Teaching in Vocational Education and Training

http://www.filefactory.com/file/3b1d9kdudz515/n/4_Learning_Facilitation_Teaching_in_VET_zip

Work-based Learning & Assessment

http://www.filefactory.com/file/5pef2h8dhav9/n/10_Workbased_Learning_amp_Assessment_2_zip

Learning Environment

http://www.filefactory.com/file/5l12qji9s67j/n/12_Learning_Environment_zip

Level 2-Adult Vocational Education

ED220-Part (2) Vocational Education & Training Practice (Diploma in Vocational Education & Training TAE50111)

Part (1) Adult Vocational Education Theoretical Subjects

Password- to be given

- ED 401 Adult Learning Technology

<http://www.filefactory.com/file/68y4bd94ianb/ED%20401%20Adult%20Learning%20Technology.zip>

- ED 202 Curriculum & Design

<http://www.filefactory.com/file/1jotv5d428j1/ED%20202%20Curriculum%20%26amp%3B%20Design.zip>

- ED 205 Teaching & Measuring

<http://www.filefactory.com/file/4eu01ck2awl/ED%20205%20Teaching%20%26amp%3B%20Measuring.zip>

- ED 206 Designing Instructions & Assessment

<http://www.filefactory.com/file/4dnh3r8wsd9t/ED%20206%20Designing%20Instructions%20%26amp%3B%20Assessment.zip>

- ED 405 Training Principle

<http://www.filefactory.com/file/5qupttpxznn/ED%20405%20Training%20Principle.zip>

Part (2) Vocational Education & Training Practice (Diploma in Vocational Education & Training TAE50111)

Follow the specific assessment instruction provided for the units in Part 2 of the levels

- ED201P-Advanced Assessment Practice
(TAEASS501A: Provide advanced assessment practice)
- ED202P-Assessment Development
(TAEASS502B: Design and develop assessment tools)
- ED203P-Training Facilitation
(TAEDEL502A: Provide advanced facilitation practice)
- ED204P-Learning Strategies
(TAEDES501A: Design and develop learning strategies)

- ED205P- Language Literacy & Numeracy
(TAELLN401A: Address adult language, literacy and numeracy skills)
- ED206P-Continuing Professional Development
(TAEPDD501A: Maintain and enhance professional practice)
- ED207P Learning Resources Design & Development
(TAEDES502A: Design and develop learning resources)
- ED208P Organizational Training Needs Analysis
(TAETAS501B: Undertake organisational training needs analysis)
- ED 404 Educational Research (Part 1)
(TAERES501A: Apply research to training and assessment practice)
- ED209P- Training Program Evaluation
(TAEDES505A: Evaluate a training program)

Vocational Education & Training Practice (Diploma in Vocational Education & Training TAE50111) Portfolio Guide

<http://www.filefactory.com/file/rh0eb9n4sfm/TAE50111PortfolioGuide.pdf>

SAMPLE PORTFOLIOS

Please note that the reference & example documents contained in the link of the portfolio can not be downloaded from the internet, they can only be available in DVDs that can be sent upon request.

The document is password protected. Password is needed and can be given upon request.

http://www.filefactory.com/file/3i8k0ls9peup/TAE50110_Diploma%20RPL%20Submission%20U%20Kyaw%20Naing.pdf

Level 3-Training Authorities Accreditation Compliances

ED320-Part (2) Myanmar Engineering Council's Accreditation Compliance Practice

Part (1) Educational Leadership Subjects

- ED 402 Educational Leadership
<http://www.filefactory.com/file/68h2rewfq7jx/ED%20402%20Educational%20Leadership.zip>
- ED 301 Educational Policy (Myanmar Engineering Council Accreditation Requirements)

Registration Rules

<http://www.filefactory.com/file/yzxtm3a7z2b/06.%20Licensing%20%26amp%3B%20Registration%20Rules%20-%20Engineering%20-%20Myanmar%20-%20CCS%2068%20reduced.pdf>

Myanmar Assessment Statement

<http://www.filefactory.com/file/9adocfm4877/06.%20Myanmar%20Assessment%20Statement%20-%20%28ACPECC%2014%29.pdf>

Graduates Attributes

<http://www.filefactory.com/file/4r5z3i9uxw5p/1%20Graduate%20Attributes%20%26amp%3B%20Terminology.pptx>

Qualification Policy

<http://www.filefactory.com/file/69mj6zk64zj5/Policy%20%20Qualifications%20Policy%20POL11%20v4.PDF>

Regulations

<http://www.filefactory.com/file/65cxuftzoxmh/Regulations.pdf>

Engineers Australia References

www.highlightcomputer.com/engineersaustraliareferences.htm

- ED 308 Change Management

http://www.filefactory.com/file/4cxrjx86buot/n/9_Leadership_Change_Management_zip

- ED309 Educational Communication

http://www.filefactory.com/file/6tbjy1omi7kz/n/1_Educational_Communication_zip

- ED 407 Learning Environment

<http://www.filefactory.com/file/31o7fw99ux7l/ED%20407%20Learning%20Environment.zip>

- ED311 Outcome based Education

<http://www.filefactory.com/file/6sq2l3hmac3b/Final%20OBE%20Training%20at%20Myanmar%20July%202014.pptx>

Part (2) Myanmar Engineering Council's Accreditation Compliance Practice

- ED301P- Curriculum design for accreditation compliance

<http://www.filefactory.com/file/2vyvpy64k4w3/Accreditation%20Manual.pdf>

Example

www.highlightcomputer.com/OverallProgramGeneral.pdf

- ED302P-Overall accreditation and compliance practice

<http://www.filefactory.com/file/2vyvpy64k4w3/Accreditation%20Manual.pdf>

<http://www.highlightcomputer.com/Accreditation.htm>

Preparation for self accreditation report

<http://www.filefactory.com/file/43x0yutpx31v/2%20SAR.pptx>

Engineering Accreditation Plan

<http://www.filefactory.com/file/2ynzo3fydckb/2015%20YTU%20First%20Workshop.pptx>

ASSIGNMENT

Prepare the portfolios for your section/ department to comply with Myanmar Engineering Council's Accreditation Requirements.

Level 4-Specialized Teaching Areas

The students will have to write 20 pages study report for each of the subjects outlined in the Part 1 of any level .

The report needs to include

- Book review- Review on each chapter of the book highlighting the key concepts, points, key theory & practical application concepts
- Own idea on how to apply those concepts in real practical applications.
- Examples of curriculum designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book

The book references for the subjects can be downloaded from the following links by entering the given password.

Password- to be given

- ED 308 Computer Supported Learning & Distance Education
<http://www.filefactory.com/file/4mdzrx52kl45/ED%20308%20Computer%20Supported%20Learning%20%26amp%3B%20Distance%20Education.zip>
- ED 304 Maths Teaching
<http://www.filefactory.com/file/60ngdjnse60x/ED%20304%20Maths%20Teaching.zip>
- ED 305 Science Teaching
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http://www.filefactory.com/file/47w1ibhnh9v1/n/ED_105S_Teaching_Portfolios.zip

ED 106S Interpreting Curriculums.zip (2.15MB)

http://www.filefactory.com/file/2rdxksuoxt/n/ED_106S_Interpreting_Curriculums.zip

ED 201S-VET Policy.zip (5.19MB)

http://www.filefactory.com/file/1q8oy93ztpur/n/ED_201S-VET_Policy.zip

ED 202S -Working in School Vocational Education.zip (2.84MB)

http://www.filefactory.com/file/2ufpth2ygy3j/n/ED_202S_-Working_in_School_Vocational_Education.zip

ED 203S -4.Learning+Facilitation+Teaching in VET.zip (13.47MB)

http://www.filefactory.com/file/1dpq4x20hpyb/n/ED_203S_-4.Learning+Facilitation+Teaching_in_VET.zip

ED 204S-Workbased Learning & Assessment Samples.zip (22.83MB)

http://www.filefactory.com/file/6tvk6bf7rhgb/n/ED_204S-Workbased_Learning_&_Assessment_Samples.zip

ED 205S-Guides for preparing teaching & training portfolios.zip (0.28MB)

http://www.filefactory.com/file/6wbht76ud0up/n/ED_205S-Guides_for_preparing_teaching_&_training_portfolios.zip

ED 206S-. Learning Environment.zip (14.53MB)

http://www.filefactory.com/file/7kf9ffq45met/n/ED_206S-. Learning_Environment.zip

TeachingandLearning(LeadershipTraining).pdf (0.12MB)

[http://www.filefactory.com/file/1nncy98dln/n/TeachingandLearning\(LeadershipTraining\).pdf](http://www.filefactory.com/file/1nncy98dln/n/TeachingandLearning(LeadershipTraining).pdf)

St Clements Technological University

Bachelor of Education (School & Vocational Education) Course Resources

BEd Syllabus.pdf (25.57MB)

http://www.filefactory.com/file/47ok3yh0ptdf/n/BEd_Syllabus.pdf

Vocational Education Teacher Education.pdf (0.23MB)

http://www.filefactory.com/file/7dio96wj0fpn/n/Vocational_Education_Teacher_Education.pdf

ED 101M Theory of Education.zip (23.6MB)

http://www.filefactory.com/file/37wny3i62snh/n/ED_101M_Theory_of_Education.zip

ED 102M Education Technology.zip (8.05MB)

http://www.filefactory.com/file/4737kz2hd25v/n/ED_102M_Education_Technology.zip

ED 103M Teaching Practice.zip (3.43MB)

http://www.filefactory.com/file/7j6gqne2vhx/n/ED_103M_Teaching_Practice.zip

ED 104M Lesson Planning.zip (6.36MB)

http://www.filefactory.com/file/1tflgnii2np/n/ED_104M_Lesson_Planning.zip

ED 105M Principle of Learning.zip (22.69MB)

http://www.filefactory.com/file/42ca0fkc9237/n/ED_105M_Principle_of_Learning.zip

ED 106M Interpreting Curriculums.zip (2.15MB)

http://www.filefactory.com/file/3kh03prq42qx/n/ED_106M_Interpreting_Curriculums.zip

ED 106M Reading & Writing to Learn.zip (34.11MB)

http://www.filefactory.com/file/iz7lmx1wmq9/n/ED_106M_Reading_&_Writing_to_Learn.zip

ED 107M Teaching & Learning.zip (46.75MB)

http://www.filefactory.com/file/631987knookb/n/ED_107M_Teaching_&_Learning.zip

ED 108M Teaching Elementary.zip (12.08MB)

http://www.filefactory.com/file/5c6qccz7cucr/n/ED_108M_Teaching_Elementary.zip

ED 109M Reading & Writing to Learn.zip (34.11MB)

http://www.filefactory.com/file/4gj7suey229v/n/ED_109M_Reading_&_Writing_to_Learn.zip

ED 201M Class Room Mgt & Teaching.zip (6.07MB)

http://www.filefactory.com/file/kgrydg3ypwb/n/ED_201M_Class_Room_Mgt_&_Teaching.zip

ED 202M Curriculum & Design.zip (5.3MB)

http://www.filefactory.com/file/7cqhq7j9kwth/n/ED_202M_Curriculum_&_Design.zip

ED 203M K-12 Education.zip (3.17MB)

http://www.filefactory.com/file/4js0izomzttm/n/ED_203M_K-12_Education.zip

ED 204M School & Vocational Education.zip (26.56MB)

http://www.filefactory.com/file/3qmrqiyi582r/n/ED_204M_School_&_Vocational_Education.zip

ED 205M Teaching & Measuring.zip (3.79MB)

http://www.filefactory.com/file/6kf3r9t4h77h/n/ED_205M_Teaching_&_Measuring.zip

ED 206M Designing Instructions & Assessment.zip (21.22MB)

http://www.filefactory.com/file/728astf67jp5/n/ED_206M_Designing_Instructions_&_Assessment.zip

ED 207M Teacher Education.zip (9.65MB)

http://www.filefactory.com/file/7i2ete7opoq1/n/ED_207M_Teacher_Education.zip

ED 208M Inclusive Teaching.zip (5.39MB)

http://www.filefactory.com/file/bn1hae6bi4l/n/ED_208M_Inclusive_Teaching.zip

ED 301M Educational Policy.zip (3.85MB)

http://www.filefactory.com/file/3sxa5wbss6t3/n/ED_301M_Educational_Policy.zip

ED 302M English Teaching.zip (2.53MB)

http://www.filefactory.com/file/2d8pfjz14qip/n/ED_302M_English_Teaching.zip

ED 303M Humanities Teaching.zip (3.11MB)

http://www.filefactory.com/file/3kg8izoj3rt9/n/ED_303M_Humanities_Teaching.zip

ED 304M Maths Teaching.zip (10.03MB)

http://www.filefactory.com/file/66veqfc8j3lz/n/ED_304M_Maths_Teaching.zip

ED 305M Science Teaching.zip (14.87MB)

http://www.filefactory.com/file/5fj9qd094r8l/n/ED_305M_Science_Teaching.zip

ED 306M Technology Teaching.zip (4.63MB)

http://www.filefactory.com/file/4s19f6qglmud/n/ED_306M_Technology_Teaching.zip

ED 307M Business Teaching.zip (12.84MB)

http://www.filefactory.com/file/1p17ptf0vnf9/n/ED_307M_Business_Teaching.zip

ED 308M Computer Supported Learning & Distance Education.zip (44.37MB)

http://www.filefactory.com/file/199w1e2bz4n/n/ED_308M_Computer_Supported_Learning_&_Distance_Education.zip

ED 401M Adult Learning Technology.zip (37.55MB)

http://www.filefactory.com/file/7b0acvxskizv/n/ED_401M_Adult_Learning_Technology.zip

ED 402M Educational Leadership.zip (14.42MB)

http://www.filefactory.com/file/rsofrjay7zf/n/ED_402M_Educational_Leadership.zip

ED 403M School Culture.zip (14.7MB)

http://www.filefactory.com/file/crtcalwa6yx/n/ED_403M_School_Culture.zip

ED 404M Educational Research.zip (10.58MB)

http://www.filefactory.com/file/18hsluxzajyf/n/ED_404M_Educational_Research.zip

ED 405M Training Principle.zip (2.73MB)

http://www.filefactory.com/file/189e26ckyup/n/ED_405M_Training_Principle.zip

ED 406M Educational Policy.zip (9.04MB)

http://www.filefactory.com/file/3xbww7cqc4z9/n/ED_406M_Educational_Policy.zip

ED 407M Learning Environment.zip (29.11MB)

http://www.filefactory.com/file/3t0xpd7mklrl/n/ED_407M_Learning_Environment.zip

ED 408M Middle & High School Teaching.zip (3.66MB)

http://www.filefactory.com/file/efhe9b3ae4p/n/ED_408M_Middle_&_High_School_Teaching.zip

Preparation for Teaching Practice & TVET Teacher Training (Introductory 2 weeks course)

Course Outline

This two weeks course is designed as Technical Teacher Education Professional Development course for teachers working at Government Schools, Private Schools, TVET Centres, Voluntary Schools as well as Government Technological Universities and Technical Colleges to effectively design, teach and assess the quality learning programs at upper secondary, TVET and tertiary technical education sectors..

Aim of the course

To provide the training to the technical education teachers to understand and apply the principles of secondary and adult & vocational education outcome based education, competency based training. compliance with Qualification & Training Authority-such as Ministry of Education/TVET Council etc , Educational Regulations and Standards by taking part in intensive workshop focussing on curriculum development and assessment documents portfolio preparations for meeting the relevant educational standards.

Outcome of the course

After completion of this course, the participant will be able to

- Understand the objective of National Education Strategic Plan 2016 to 2021 of Myanmar.
- Understand and utilize the principle & features of Outcome based education & critical thinking
- Understand the Technical & Vocational Education, Work based Learning and Competency based training & assessments tasks.
- Acquire the knowledge on Competency based education and training and training packages being used in industrialized countries (Examples of Australian Standard Competency based vocational education & training system.
- Get the information & knowledge on Current issues related to international & Myanmar TVET .
- Participate in hand on practice workshop focussing on curriculum development & collecting and preparing the materials for educational quality control tasks.

- Explore the School , Technical ,Adult & Vocational Educational Literatures, Textbooks, References & Resources, e-Learning, Learning Technology & Technology in classroom resources knowledge sharing.
- Certificate/Diploma of Teaching Practice & Certificate/Diploma of Vocational Education & Training will be issued.

Target Group

- TVET Teachers, Voluntary School Teachers, Government & Private Vocational / Engineering Education Teachers.

Arrangement of attendances

- It will be teacher professional development course for various Government & Non Government Schools and Colleges. The attenders should seek the appropriate permission from their employments.

Place of the course

- Appropriate training venue arranged by Myanmar Vocational Training Collaboration and its partnered organization: Welfare Evolvment & Development Organization

Course Duration

12 days (Mondays to Saturdays) (December 2017)(The exact date will be provided)

Requirements

The participants will need to bring the documents related to teaching plan, curriculum, course materials or reference notes that they are using in teaching. Access to laptop/computer will be required for the participants. Teaching aids such as white board , computer & Overhead Projector will be required to show the slides. It will be better to access Internet.

Sessions , trainers and facilitators

Day	Session 1 9 to 10:30AM	Tea break	Session 2 11 to 12:30 Noon	Lunch break 12:30 to 1:30 PM	Session 3 1:30 to 3:30PM (The extended time up to 5PM can be taken up to the duration of workshop & group works)
1	<p>Welcome speech by</p> <ul style="list-style-type: none"> Chairman of Welfare Evolvement & Development Organization Introduction to trainers & facilitators Outline of the program Participants ' self introduction General information and arrangement <p>(detailed time schedule needs to be arranged)</p>	Morning tea and networking	<p>Overview of National Education Strategic Plan</p> <p>Role of TVET</p> <p>For TU/GTC Teachers</p> <p>Overview of Myanmar Engineering Council Law, Regulation, Accreditation Principles</p>	Lunch	<p>Theory of Education+ Curriculum</p> <p>ED107 Theory of Education, Educational Technology & Teaching Practice (15 Credits)</p> <p>ED107A-Theory of Education (ED101) (Slide 1 to 60 Principle of Learning)</p> <p>ED107B-Education Technology (ED102) (Slide 61 to 100)</p> <p>Supporting slides</p> <p>Teacher Training/ Support Lesson Slides/</p> <ul style="list-style-type: none"> ED101-Teaching Support-Fundamental of Education.ppt <p>For TU/GTC Teachers</p> <p>Highlighting 9.2.1 General Information (MEng C)</p> <p>9.2.2 Programme Objectives</p> <p>& writing the objectives of the course by Dr Kyaw Naing</p> <p>Reference Reading (Education theory)</p> <p>ED 106 Interpreting Curriculums</p> <p>E6%20Interpreting%20Curriculums.zip</p> <p>Practical Information</p> <p>Provide the examples of how to set up the program</p>

					<p>Stage 1 Competencies of PEng, Eng Technologists & Eng Associates</p> <p>Engineering job competencies http://www.highlightcomputer.com/EngineeringJobCompetencies.pdf</p> <p>Participants' tasks</p> <p>Write the Lesson objectives of one lesson in teaching/ engineering programs that they are teaching, discussion</p>
2	<p>Teaching Practice</p> <p>ED107C-Teaching Practice (ED103 Classroom Management) (Slide 101 to 140)</p> <p>Supporting slides</p> <ul style="list-style-type: none"> ED103 Classroom Management- bestpracticesinteaching.ppt 	<p>Morning tea and networking</p>	<p>Outcome based Education + Competency based education & training & how the competency based training is important to reach the desired outcome</p> <p>By Dr Kyaw Naing</p> <p>References</p> <p><i>Characteristics of Learning Outcomes</i></p> <p>In Certificate I to Vocational Diploma http://www.filefactory.com/file/32hy8l1za8wz/TAE10_R3.4.doc m Page 36 to 41</p>	Lunch	<p>Critical Thinking</p> <p>National Strategic Plan 2016-2021 Myanmar/ Grad Cert HEd/ ED431-434MP4/ ED431CriticalThinking 24 Slides.pptx</p>

			<p>Provide the level of performances of the students tasks in the curriculums & activities</p> <p>Sample Curriculums</p> <p>Certificate to Advanced Diploma http://www.highlightcomputer.com/detailedcontent.htm</p> <p>Bachelor degrees equivalent level http://highlightcomputer.com/B%20E+B%20App%20Sc(IT)+B%20Bus%20Course%20Detailed%20Contents.htm</p>		
3	<p>Lesson Planning ED107D-Lesson Planning (ED104 Teaching Portfolio)(Slide 241 to 300) ED107E-Teaching& Learning (Slide 141 to 160+ Slide 200 to 240)</p> <p>Supporting slides</p> <ul style="list-style-type: none"> ED104 lesson planning.ppt <p>TU GTC Teachers 9.2.3 Learning Outcomes Requirement of Myanmar Engineering Council</p>	<p>Morning tea and networking</p>	<p>Career Flow Diagram & Vocational Training/ Resources MyanmarVocationalTraining Certificate TVET Lessons MVTCLLevelTraining Mvtccourseresources</p> <p>TU GTC Teachers Engineering Fundamental</p>	<p>Lunch</p>	<p>Curriculum Study Ed108 Supporting slides ED106-Interpreting Curriculum.ppt</p>

	<p>ED 202 Curriculum & Design http://www.filefactory.com/file/1jotv5d428j1/ED%20202%20Curriculum%20%26amp%3B%20Design.Zip</p> <p>Practical Example</p> <p>www.highlightcomputer.com/OverallProgramGeneral.pdf Page 13 to 21</p>				<p><u>Education Theory Reference</u></p> <p>ED 106 Interpreting Curriculums</p> <p>http://www.filefactory.com/file/1h141zxbv8z/ED%20106%20Interpreting%20Curriculums.zip</p>
4	<p><u>School Education</u> Overview of Year 9 to 12 Subjects http://www.highlightcomputer.com/nldschoo.htm http://www.highlightcomputer.com/y712.htm http://www.highlightcomputer.com/y712lessons.htm http://www.highlightcomputer.com/y910.htm</p> <p>TU GTC Teachers</p> <p><u>9.2.4 Academic Curriculum</u> <u>Discuss the programme structure and course contents(MEng C)</u></p>	<p>Morning tea and networking</p>	<p><u>General Knowledge related to overseas programs/ Vocational Training Packages</u> By Dr Kyaw Naing <u>Vocational Education Teacher Education</u> http://www.filefactory.com/file/4yb11lp1x9b/n/Vocatinal_Education_Teacher_Education_pdf</p> <p><u>Sample Training Packages</u> Electrotechnology/ Electronics/ /Communication UEE11_R1.5.docm (13.37MB) http://www.filefactory.com/file/1n283tjamw2p/n/UEE11_R1.5.doc</p>	<p>Lunch</p>	<p><u>Curriculum Development / Individual Teaching Needs Workshop</u></p> <p>Group work on selecting the Contents of curriculums & training packages into teaching curriculums of participants' institutions. Group discussion, feedback</p> <p>Facilitator</p> <p>Dr Kyaw Naing & Other trainers</p> <p><u>Examples</u> www.highlightcomputer.com/OverallProgramGeneral.pdf Page 22 to 43</p>

			<p>Electricity Supply UET12_R2.1.docm (7.86MB) http://www.filefactory.com/file/56saqflqmh41/n/UET12_R2.1.docm</p> <p>Electrical Power Generation UEP12_R2.1.docm (7.79MB) http://www.filefactory.com/file/52pe03hs2xq1/n/UEP12_R2.1.docm</p> <p>Automotive AUR12_R2.1.docm (13.37MB) http://www.filefactory.com/file/4qtgr5i39dzt/n/AUR12_R2.1.docm</p> <p>Manufacturing & Engineering (Mechanical) MEM05_R11.1.docm (9.8MB) http://www.filefactory.com/file/29evfecw9yk9/n/MEM05_R11.1.docm</p> <p>Marine MAR_R2.0.docm (1.78MB) http://www.filefactory.com/file/6sodu2z259j3/n/MAR_R2.0.docm</p>		<p>Samples http://www.highlightcomputer.com/BECurriculum.htm</p> <p>http://www.highlightcomputer.com/DiplomaAdvancedDiplomaCivilEngineeringCurriculum.htm</p> <p>http://www.highlightcomputer.com/DiplomaAdvancedDiplomaElectricalEngineeringCurriculum.htm</p> <p>http://www.highlightcomputer.com/DiplomaAdvancedDiplomaMechanicalEngineeringCurriculum.htm</p> <p>Examples Page 77 to 86 of www.highlightcomputer.com/OverallProgramGeneral.pdf</p>
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			<p>Textile</p> <p>LMT07_R4.1.docm (8.28MB) http://www.filefactory.com/file/6gea7ztqqsq3/n/LMT07_R4.1.docm</p> <p>Construction</p> <p>CPC08_R9.0.docm (9.59MB) http://www.filefactory.com/file/3j1y315nbze7/n/CPC08_R9.0.docm</p> <p>Information Technology</p> <p>ICA11_R2.0.docm (5.27MB) http://www.filefactory.com/file/4e3ioubld73n/n/ICA11_R2.0.docm</p> <p>Chemical</p> <p>PMA02_2.pdf (1.92MB) http://www.filefactory.com/file/2t53b3xj0slr/n/PMA02_2.pdf</p> <p>PMA02_1.pdf (1.65MB) http://www.filefactory.com/file/33ikm94dl8jb/n/PMA02_1.pdf</p> <p>Manufacturing</p> <p>MSA07_R8.4.docm (4.93MB) http://www.filefactory.com/file/4tcjlsetp0rd/n/MSA07_R8.4.docm</p>		
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			<p>TAE10_R3.4.docm (1.87MB) http://www.filefactory.com/file/566jfcvasu5/n/TAE10_R3.4.docm</p> <p>Gas</p> <p>UEG11_R2.0.docm (5.44MB) http://www.filefactory.com/file/6shho87gm1nh/n/UEG11_R2.0.docm</p> <p>Mining</p> <p>MNM05_3.pdf (2.28MB) http://www.filefactory.com/file/78fk485ew98v/n/MNM05_3.pdf</p> <p>MNM05_2.pdf (2.29MB) http://www.filefactory.com/file/72yjazer7njj/n/MNM05_2.pdf</p> <p>MNM05_1.pdf (1.77MB) http://www.filefactory.com/file/6ahwwdwosk8j/n/MNM05_1.pdf</p>		
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<p>5</p>	<p><u>Approach to various learning modes in VET</u></p> <p>By- Dr Kyaw Naing & the speakers from various technological universities</p> <p>Topics & References</p> <p><u>Practical focus</u></p> <p>Group Base learning.pdf (3.25MB) http://www.filefactory.com/file/266najok91o3/n/16.taadel401a_Plan_and_Organize_Group_Base_learning.pdf</p> <p>Facilitate Group based learning.pdf (2.81MB) http://www.filefactory.com/file/1tvk73q17j43/n/18.taadel402a_Facilitate_Group_based_learning.pdf</p> <p>Work based learning.pdf (4.15MB) http://www.filefactory.com/file/24apg5s5n0fx/n/22.taadel404a_Facilitate_work_based_learning.pdf</p> <p>individual learning.pdf (1.94MB) http://www.filefactory.com/file/4nmwy8ldewh1/n/20.taadel403a_Facilitate_individual_learning.pdf</p> <p>Distance based learning (2.56MB) http://www.filefactory.com/file/3w2b2mdy</p>	<p>Morning tea and networking</p>	<p><u>Preparing teaching portfolios</u></p> <p>By Dr Kyaw Naing</p> <p>Teacher Training/ED101106.pdf</p> <p>References Worksheets</p> <p>Teacher Training/ED101106.pdf</p> <p>Provide Training through instruction and demonstration of work skills</p> <p>TAADEL301A.doc (0.03MB) http://www.filefactory.com/file/2ppyhdlqhlsh/n/TAADEL301A.doc</p> <p>Facilitate work-based learning</p> <p>TAADEL404A.doc (0.03MB) http://www.filefactory.com/file/60ojucglvyu3/n/TAADEL404A.doc</p> <p>Group based delivery</p> <p>TAADEL401A.doc (0.03MB) http://www.filefactory.com/file/3i5scp12gkdn/n/TAADEL401A.doc</p> <p>Use Training Packages to meet client needs TAADES401A.doc (0.03MB)</p>	<p>Lunch</p>	<p>Best Teaching Practice</p> <p>Support Lesson Slides ED103/ ED105 Inclusive Teaching</p> <p>TU GTC Teachers</p> <p>Develop teaching and learning strategies in the curriculum for the courses that are taught by the participants</p> <p>Group work, group discussions</p> <p><u>Example</u></p> <p>Page 44 to 49 of www.highlightcomputer.com/OverallProgramGeneral.pdf</p> <p><u>Facilitator</u> Dr Kyaw Naing & Other trainers</p> <p>Contents Research http://www.filefactory.com/file/eovzqp6gd1/assessment%20strategies.pdf</p> <p>http://www.filefactory.com/file/7jfakka1vpfx/G015BWor%20performance%20report.doc</p>
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	<p>cbx1/n/24.taadel405a_Coordinate_7_facilitate_distance_based_learnin.pdf</p> <p><u>Educational Theory Resources</u></p> <p>ED 103 Teaching Practice</p> <p>http://www.filefactory.com/file/1o732n0j46mf/ED%20103%20Teaching%20Practice.zip</p> <p>ED 105 Principle of Learning</p> <p>http://www.filefactory.com/file/7660l6kjr8sx/ED%20105%20Principle%20of%20Learning.zip</p> <p>ED 107 Teaching & Learning</p> <p>http://www.filefactory.com/file/6u5o455lyqj7/ED%20107%20Teaching%20%26amp%3B%20Learning.zip</p> <p><u>Myanmar Engineering Council References</u></p> <ul style="list-style-type: none"> the choice of the teaching-learning (delivery) methods. 		<p>TAADES402A.doc (0.03MB) http://www.filefactory.com/file/4nhro84kl2nx/n/TAADES402A.doc</p> <p>Work effectively in vocational education and training</p> <p>TAAENV401A.doc (0.03MB) http://www.filefactory.com/file/45zeif6cy5zx/n/TAAENV401A.doc</p> <p>Foster and promote an inclusive learning culture</p> <p>TAAENV402A.doc (0.03MB) http://www.filefactory.com/file/3zoufgaty89n/n/TAAENV402A.doc</p> <p>Ensure a safe and healthy learning environment</p> <p>TAAENV403A.doc (0.03MB) http://www.filefactory.com/file/6ireaw7s5jg9/n/TAAENV403A.doc</p> <p>Individual learning</p> <p>TAADEL403A.doc (0.03MB) http://www.filefactory.com/file/7g3h9iwpodfr/n/TAADEL403A.doc</p> <p>Language Literacy & Numeracy</p>		<p>DELIVERY & ASSESSMENT PLAN SAMPLES http://www.filefactory.com/file/1c03t5k3fp8p/SAMPLE%20ASSESSMENT%20ITEMS.htm</p>
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	<ul style="list-style-type: none"> • A balanced curriculum • The curriculum shall integrate theory with practice through adequate exposure to laboratory work and professional engineering(MEng C) • Time allocation • Credit points <p>ED 401 Adult Learning Technology</p> <p>http://www.filefactory.com/file/68y4bd94ianb/ED%20401%20Adult%20Learning%20Technology.zip</p>		<p>1397606218-taelln411_sample.pdf (0.34MB)</p> <p>http://www.filefactory.com/file/5fh2bd8z3k0r/n/1397606218-taelln411_sample.pdf</p> <p>Report.pdf (0.41MB)</p> <p>http://www.filefactory.com/file/655u3qypqyj3/n/Report.pdf</p> <p>Section 4 Model for core skills analysis.pdf (0.69MB)</p> <p>http://www.filefactory.com/file/6p480mpcelft/n/Section_4_Model_for_core_skills_analysis.pdf</p> <p>ACSF_Document.pdf (1.03MB)</p> <p>http://www.filefactory.com/file/54s5xbe3esdn/n/ACSF_Document.pdf</p> <p>LLN Preparation of students.docx (0.02MB)</p> <p>http://www.filefactory.com/file/77ps5dxgbhpi/n/LLN_Preparation_of_students.docx</p> <p>Australian Core Skills Framework for LLN Level determination.docx (0.02MB)</p> <p>http://www.filefactory.com/file/4q</p>	
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			t7gx24cd9l/n/Australian_Core_Skills_Framework_for_LLN_Level_determination.docx LLN Preparation of students.docx (0.02MB) http://www.filefactory.com/file/1rvd487gxw0j/n/LLN_Preparation_of_students.docx		
6	<p><u>Developing the assessment strategies in VET</u></p> <p>By Dr Kyaw Naing</p> <p>TU GTC Teachers</p> <p><u>Assessment Validation Guide of Myanmar Engineering Council</u></p> <ul style="list-style-type: none"> assessment & evaluation methods for the attainment achievement of the Learning Outcome <p><u>Practical Application Resources</u></p> <p>Participate in assessment validation TAAASS404A.doc (0.03MB) http://www.filefactory.com/file/5zv1ke</p>	Morning tea and networking	<p>Develop teaching and learning strategies in the curriculum for the courses that are taught by the participants</p> <p>By the educators from various technological universities / schools& skills training organizations</p>	Lunch	<p><u>Prepare the sample assessment activities for the courses that the participants are teaching</u></p> <p>Group work, group discussions</p> <p><u>Facilitator</u> Dr Kyaw Naing & Other trainers</p> <p>Page 49 to 76 of www.highlightcomputer.com/OverallProgramGeneral.pdf</p> <p>Sample Assessment validation matrices http://www.filefactory.com/file/617mgi9ir63x/UEENEEEO46B.zip</p> <p>http://www.filefactory.com/file/333wtizbok0n/UEENEEEO02.zip</p>

	<p>TAAASS403A.doc (0.03MB) http://www.filefactory.com/file/5rxw2igqk7rx/n/TAAASS403A.doc</p> <p>Plan and organise assessment</p> <p>TAAASS401A.doc (0.03MB) http://www.filefactory.com/file/1tpnwpwxgxgv/n/TAAASS401A.doc</p> <p>Assess competence</p> <p>TAAASS402A.doc (0.03MB) http://www.filefactory.com/file/48yye4zmmxt7/n/TAAASS402A.doc</p> <p><u>Reference Textbooks (Theory aspect)</u></p> <p>ED 205 Teaching & Measuring http://www.filefactory.com/file/4eu01ck2awl/ED%20205%20Teaching%20%26amp%3B%20Measuring.zip</p> <p>ED 206 Designing Instructions & Assessment http://www.filefactory.com/file/4dnh3r8wsd9t/ED%20206%20Designing%20Instructions%20%26amp%3B%20Assessment.zip</p>				<p>Sample delivery & assessment schedules http://www.filefactory.com/file/5k19ps1z6xj9/20222%20Sequence%20%28V1%29%20%28001%200861%29%2020120726.pdf</p> <p>Self assessment journal/ Reflection http://www.filefactory.com/file/1c0jfwumb27p/Self%20Assessment%20Journal%20Reflection.doc</p> <p>Sample-Student Assessment Guide.doc (0.09MB) http://www.filefactory.com/file/10m1ja7dnha3/n/UEENEEE101A_Student_Assessment_Guide.doc</p> <p>Sample- RPL Tool Validation Record.pdf (0.08MB) http://www.filefactory.com/file/34muh9bkgpk9/n/UEENEE101A_RPL_Tool_Validation_Record.pdf</p> <p>Sample- Assessment Cover sheet.doc (0.08MB) http://www.filefactory.com/file/n6s0sk8izqj/n/UEENEEE101A_Assessment_Cover_sheet.doc</p> <p>Sample-Assessment Feedback Sheet.docx (0.05MB) http://www.filefactory.com/file/3soxroqt927j/n/UEENEEE101A_Assessment_Feedback_Sheet.docx</p> <p>Evaluation check list http://www.filefactory.com/file/6jslcpuborkx/Evaluation%20Check%20List%20General%2BOnline%20Survey.docx</p> <p>http://www.filefactory.com/file/4crkqpqke02z/Evaluation.docx</p>
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	ED 405 Training Principle http://www.filefactory.com/file/5qupttpxznn/ED%20405%20Training%20Principle.zip				Recognition of Prior Learning Tools-Sample http://www.filefactory.com/file/2gtq6nqjag03/20278%20RPL form WV L 2014 V1 multi.xlsm http://www.filefactory.com/file/4phu09gmmy89/20281%20RPL form WV L 2014 V1 multi.xlsm http://www.filefactory.com/file/6qtg6w4uh3fh/20282%20RPL form WV L 2014 V1 multi.xlsm
7	<u>Educational Resources Development</u> <u>9.2.7 Facilities</u> By- Myanmar Engineering Council Engineering Accreditation Committee <u>Overviews of Professional Development Programs provided by Myanmar Engineering Society</u> By- Myanmar Engineering Society	Morning tea and networking	<u>Integration of Learning Technology in Teaching & Learning Part 1</u> Support Lesson Slides/ ED102 Computer Application in Teaching-techclass By Dr Kyaw Naing <u>Resources</u> http://www.filefactory.com/file/3bsfz0ehba7z/n/5_Learning_Technology_1_zip http://www.filefactory.com/file/cvavvr9gonr/n/6_Learning_Technology_2_zip Due to the big file size, the	Lunch	<u>On line & offline e-Learning systems Part 1</u> By Dr Kyaw Naing <u>Samples</u> Learning Platform example http://www.highlightcomputer.com/onlineteaching1.htm Using multimedia & videos in teaching & Learning http://www.highlightcomputer.com/videos1.htm Using Youtube in teaching & learning http://www.highlightcomputer.com/videos2.htm Practice Use of DVD recorder, Digital note takers to record the lessons and prepare the multimedia power point lectures, PDF-JPG format conversion softwares

8	<p><u>Technology in Classroom</u> By Dr Kyaw Naing</p> <p>Resources ED312 Technology in Classrooms http://www.filefactory.com/file/7jciyu232opx/n/7_Technology_in_classroom_zip</p> <p>D 308 Computer Supported Learning & Distance Education http://www.filefactory.com/file/4mdzrx52kl45/ED%20308%20Computer%20Supported%20Learning%20%26amp%3B%20Distance%20Education.zip</p>		<p><u>Integration of Learning Technology in Teaching & Learning Part 2</u> By Dr Kyaw Naing</p> <p>Sharing the e-Learning work experience utilized in TAFE-NSW Australian Classroom</p> <ul style="list-style-type: none"> • Resources development • Computer assisted test • Use of online test/online survey • Online simulated practicals <p>www.easytestmaker.com http://www.emailmeform.com/</p>		<p><u>On line & offline e-Learning systems Part 2</u></p> <p><u>Development of e-Learning Resources Practice workshop</u> Development of learning support website & contents placement Sample www.electricaldiploma2013.zoomshare.com Use of online documents sharing sites</p> <p>www.filefactory.com www.uploading.com www.zoomshare.com www.webs.com</p>
9	<p>8.5.2 Programme Quality Management and Planning 8.5.4 Quality Assurance 9.2.8 Quality Management System</p> <p>Preparation of self accreditation report Requirements of Myanmar Engineering Council By -Myanmar Engineering Council</p>	Morning tea and networking	<p><u>Preparing the documents to comply with Educational Quality Control Authorities</u></p> <p>TU GTC Teachers</p> <p><u>Myanmar Engineering Council Requirement</u></p>	Lunch	<p><u>Quality Assurance Compliance Documentation preparation workshop</u></p> <p>The participants to prepare the quality assurance documents for the courses that they are teaching to comply with the requirements of Educational Quality Control Authorities</p> <p>TU GTC Teachers Myanmar Engineering Council</p>

	References Curriculum design for accreditation compliance http://www.filefactory.com/file/2vvy64k4w3/Accreditation%20Manual.pdf Overall accreditation and compliance practice http://www.filefactory.com/file/2vvy64k4w3/Accreditation%20Manual.pdf Preparation for self accreditation report http://www.filefactory.com/file/43x0yutpx31v/2%20SAR.pptx Engineering Accreditation Plan http://www.filefactory.com/file/2ynzo3fydckb/2015%20YTU%20First%20Workshop.pptx		Quality Assurance http://www.highlightcomputer.com/QualityAssurance.htm		Reference Page 92 to 96 of www.highlightcomputer.com/OverallProgramGeneral.pdf
10	Learning Environment By- Dr Kyaw Naing Reference ED 407 Learning Environment http://www.filefactory.com/file/31o	Morning tea and networking	Change Management By- Daw Hla Myat Mon References University of Technology Master of Business Change Management References	Lunch	Educational Leadership work experience knowledge By- Daw Hla Myat Mon Textbook ED 308 Change Management http://www.filefactory.com/file/4cxrjx86buot/n/9_Leade

	7fw99ux7l/ED%20407%20Learning%20Environment.zip		& experience in University of Technology Sydney		rship_Change_Management.zip ED309 Educational Communication http://www.filefactory.com/file/6tbjy1omi7kz/n/1_Educational_Communication.zip ED 402 Educational Leadership http://www.filefactory.com/file/68h2rewfq7jx/ED%20402%20Educational%20Leadership.zip
11	Practice Teaching	Morning tea and networking	Practice Teaching	Lunch	<u>Performance Evaluation</u>
12	National Strategic Plan 2016-2021 Myanmar/ Grad Cert HEd/ ED435 Governance of University.pptx	Morning tea and networking	General Discussion		Conclusion of the training.

Objective of the course

This Diploma in Engineering Education/Professional Diploma in Technical Teaching (Training, Assessment & Learning Management) is designed as Teachers Education Professional Development for teachers in Government Technical Colleges , Technological Universities and other Vocational Education and Training Institutions in Myanmar to upgrade their skills and knowledge in training and assessment, curriculum design and development, management of technical training institutions, adult and vocational education and training ,assessment validation and current accreditation rules and requirements of Myanmar Engineering Council as well as current training and assessment practices of overseas industrialized countries.

Learning Outcomes

After completion of the levels of the training programs, the students should be able to

- Understand adult learning principles in technical education and training contexts
- Apply the skills in training, assessment, course development, curriculum development, learning management and management of technical training institutions.
- Understand the accreditation requirements of Myanmar Engineering Council in accredited engineer, technologist and technician education & prepare for the compliance processes.
- Understand the technology, science and mathematics teaching & educational pedagogies principles of outcome based education and effectively utilize them in the workplace
- Provide effective work-based learning & career development for the working people in industries and apply the various ways of assessing the competences

Components of the course

- Educational theories ,educational technology, teaching and learning, teaching and measuring.
- Lesson planning, interpreting curriculums, class room management, instruction and assessment design, training principle, competency based training and assessment integrated the competencies of Australian Training and Assessment (TAE40110) course
- Management of educational establishment in line with the accreditation requirements of Myanmar Engineering Council by customizing the competencies in Australian Vocational Education and Training Diploma (TAE50111) to be relevant to the requirements of Myanmar Vocational Education and Training .
- Postgraduate level educational knowledge related to Learning Technology, Technology in classrooms, educational leadership, leadership and change management , computer supported learning and distance education,

- Teaching practicum preparation at different levels of training

Study Areas & Levels of Training

Level 1-Educational Theories , Teaching Pedagogies & Training and Assessment Practice

Part (1) Educational Theoretical Subjects

- ED 101 Theory of Education
- ED 102 Education Technology
- ED 103 Teaching Practice
- ED 104 Lesson Planning
- ED 105 Principle of Learning
- ED 106 Interpreting Curriculums
- ED 107 Teaching & Learning
- ED 201 Class Room Management & Teaching

ED120-Part (2A) Basic Teaching Practicum Preparation

ED101P-Teaching Support

ED102P- Application of Information Technology in School /Vocational Education

ED103P- Classroom Management

ED104P- Teaching Portfolio

ED105P- Inclusive Teaching

ED106P- Subject Area Knowledge

ED107P- Theory of Education, Educational Technology & Teaching Practice

ED107PA-Theory of Education

ED107PB-Education Technology

ED107PC-Teaching Practice

ED107PD-Lesson Planning

ED108P- Curriculum Study , Teaching & Learning

ED108PA-Principle of Learning

ED108PB-Interpreting Curriculums

ED108PC-Teaching & Learning

ED121-Part (2B) Training & Assessment Practice

(Certificate IV in Training & Assessment TAE40110)

- ED111P Learning Program Design & Development Practice
(TAEDES401A Design and develop learning programs)
- ED112P Assessing the needs of trainees
(TAEDES402A Use training packages and accredited courses to meet client needs Delivery)
- ED113P Group based learning
(TAEDEL401A Plan, organise and deliver group-based learning)
- ED114P Workplace Assessment
(TAEDEL402A Plan, organise and facilitate learning in the workplace Assessment)
- ED115P Assessment Planning
(TAEASS401B Plan assessment activities and processes)
- ED116P Competency Assessment
(TAEASS402B Assess competence)
- ED117P Assessment Validation
(TAEASS403B Participate in assessment validation)
- ED118P Work skills Instruction
(TAEDEL301A Provide work skill instruction)
- ED119P Educational Presentation
(BSBCM401A Make a presentation)(TAEASS301B Contribute to assessment

Level 2-Adult Vocational Education

Part (1) Adult Vocational Education Theoretical Subjects

- ED 401 Adult Learning Technology
- ED 202 Curriculum & Design
- ED 205 Teaching & Measuring
- ED 206 Designing Instructions & Assessment
- ED 405 Training Principle
- **ED411-Engineering Education (1)**

ED220-Part (2) Vocational Education & Training Practice (Diploma in Vocational Education & Training TAE50111)

- ED201P-Advanced Assessment Practice
(TAEASS501A: Provide advanced assessment practice)
- ED202P-Assessment Development
(TAEASS502B: Design and develop assessment tools)
- ED203P-Training Facilitation
(TAEDEL502A: Provide advanced facilitation practice)
- ED204P-Learning Strategies
(TAEDES501A: Design and develop learning strategies)
- ED205P- Language Literacy & Numeracy
(TAEELN401A: Address adult language, literacy and numeracy skills)
- ED206P-Continuing Professional Development
(TAEPPD501A: Maintain and enhance professional practice)
- ED207P Learning Resources Design & Development
(TAEDES502A: Design and develop learning resources)
- ED208P Organizational Training Needs Analysis
(TAETAS501B: Undertake organisational training needs analysis)
- ED 404 Educational Research (Part 1)
(TAERES501A: Apply research to training and assessment practice)
- ED209P- Training Program Evaluation
(TAEDES505A: Evaluate a training program)

Level 3-Training Authorities Accreditation Compliance

Part (1) Educational Leadership Subjects

- ED 402 Educational Leadership
- ED 301 Educational Policy (Myanmar Engineering Council Accreditation Requirements)
- ED 308 Change Management
- **ED309 Educational Communication**
- ED 407 Learning Environment
- ED311 Outcome based Education
- **ED412 Engineering Education (2)**

- ED301P- Curriculum design for accreditation compliance
- ED302P-Overall accreditation and compliance practice

Level 4-Specialized Teaching Areas

- ED 313 Computer Supported Learning & Distance Education
- ED 304 Maths Teaching
- ED 305 Science Teaching
- ED 306 Technology Teaching
- ED 404 Educational Research (Part 2)
- ED310 Learning Technology I & II
- ED312 Technology in Classrooms
- ED413 Engineering Education (3)

RESOURCES

ASSESSMENT FOR THE SUBJECTS IN PART 1 OF THE LEVELS

The students will have to write 20 pages study report for each of the subjects outlined in the Part 1 of any level .

The report general needs to include

- Book review- Review on each chapter of the book highlighting the key concepts, points, key theory & practical application concepts
- Own idea on how to apply those concepts in real practical applications.
- Examples of curriculum designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book

The book references for the subjects can be downloaded from the following links by entering the given password. The detailed instruction will be given in subject study guides. Some of the units can be assessed in residential training workshops.

Password- to be given

ASSESSMENT FOR THE SUBJECTS IN PART 2 OF THE LEVELS

Follow the specific assessment instruction provided for the units in Part 2 of the levels

Study Areas & Levels of Training

Level 1-Educational Theories , Teaching Pedagogies & Training and Assessment Practice

Part (1) Educational Theoretical Subjects

The students will have to write 20 pages study report for each of the subjects outlined in the Part 1 of any level .

The report needs to include

- Book review- Review on each chapter of the book highlighting the key concepts, points, key theory & practical application concepts
- Own idea on how to apply those concepts in real practical applications.
- Examples of curriculum designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book

The book references for the subjects can be downloaded from the following links by entering the given password.

Password- to be given

- ED 101 Theory of Education
<http://www.filefactory.com/file/4fuby1dpqs9f/ED%20101%20Theory%20of%20Education.zip>
- ED 102 Education Technology
<http://www.filefactory.com/file/1ghlzng7e0n3/ED%20102%20Education%20Technology.zip>
- ED 103 Teaching Practice
<http://www.filefactory.com/file/1o732n0j46mf/ED%20103%20Teaching%20Practice.zip>
- ED 104 Lesson Planning
<http://www.filefactory.com/file/4m30ym0ez37r/ED%20104%20Lesson%20Planning.zip>
- ED 105 Principle of Learning
<http://www.filefactory.com/file/7660l6kjr8sx/ED%20105%20Principle%20of%20Learning.zip>
- ED 106 Interpreting Curriculums
<http://www.filefactory.com/file/1h141zxb0v8z/ED%20106%20Interpreting%20Curriculums.zip>
- ED 107 Teaching & Learning
<http://www.filefactory.com/file/6u5o455lyqj7/ED%20107%20Teaching%20%26amp%3B%20Learning.zip>

- ED 201 Class Room Management & Teaching

<http://www.filefactory.com/file/48gvqykkgiz/ED%20201%20Class%20Room%20Mgt%20%26amp%3B%20Teaching.zip>

Part (2A) Basic Teaching Practicum Preparation

Follow the specific assessment instruction provided for the units in Part 2 of the levels

ED101P-Teaching Support

ED102P- Application of Information Technology in School /Vocational Education

ED103P- Classroom Management

ED104P- Teaching Portfolio

ED105P- Inclusive Teaching

ED106P- Subject Area Knowledge

Certificate in Teaching Support+ Diploma in Teaching Practice+ Bachelor of Teaching+ Bachelor of Education (School & Vocational)

<http://www.filefactory.com/file/4a5o50idxgvr/Diploma%20in%20Teaching%20Practice.pdf>

ED107P- Theory of Education, Educational Technology & Teaching Practice

ED107PA-Theory of Education

ED107PB-Education Technology

ED107PC-Teaching Practice

ED107PD-Lesson Planning

ED108P- Curriculum Study , Teaching & Learning

ED108PA-Principle of Learning

ED108PB-Interpreting Curriculums

ED108PC-Teaching & Learning

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ED107 Lesson Slide 61 to 80.pdf (3.22MB)

http://www.filefactory.com/file/1txrj08z5329/n/ED107_Lesson_Slide_61_to_80.pdf

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ED107 Lesson Slide 221 to 240.pdf (3.27MB)

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ED 107 Exercises.pdf (2.3MB)

http://www.filefactory.com/file/1isf2cao4gxx/n/ED_107_Exercises.pdf

[Download now!](#)

ED 108 Curriculum Study , Teaching & Learning Lessons

ED108 Lesson Slide 1 to 20.pdf (2.37MB)

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[Download now!](http://www.filefactory.com/file/5foiol6m9rwx/n/ED108_Lesson_Slide_141_to_168.pdf)

ED 108 Exercises.pdf (1.22MB)

http://www.filefactory.com/file/5o110j6pg6dz/n/ED_108_Exercises.pdf

[Download now!](http://www.filefactory.com/file/5o110j6pg6dz/n/ED_108_Exercises.pdf)

Follow the specific assessment instruction provided for the units in Part 2 of the levels

- ED111P Learning Program Design & Development Practice
(TAEDES401A Design and develop learning programs)
- ED112P Assessing the needs of trainees
(TAEDES402A Use training packages and accredited courses to meet client needs Delivery)
- ED113P Group based learning
(TAEDEL401A Plan, organise and deliver group-based learning)
- ED114P Workplace Assessment
(TAEDEL402A Plan, organise and facilitate learning in the workplace Assessment)
- ED115P Assessment Planning
(TAEASS401B Plan assessment activities and processes)
- ED116P Competency Assessment
(TAEASS402B Assess competence)
- ED117P Assessment Validation
(TAEASS403B Participate in assessment validation)
- ED118P Work skills Instruction
(TAEDEL301A Provide work skill instruction)
- ED119P Educational Presentation
(BSBCM401A Make a presentation)(TAEASS301B Contribute to assessment

RESOURCES FOR ABOVE UNITS

Working in Vocational Education & Assessment

http://www.filefactory.com/file/136bwooflstr/n/3_Assessment_Working_in_VET_zip

Preparing vocational teaching portfolios

http://www.filefactory.com/file/2l9iu8ptfk0t/n/8_Guides_for_preparing_VET_portfolios_zip

Learning , Facilitation & Teaching in Vocational Education and Training

http://www.filefactory.com/file/3b1d9kdudz515/n/4_Learning_Facilitation_Teaching_in_VET_zip

Work-based Learning & Assessment

http://www.filefactory.com/file/5pef2h8dhav9/n/10_Workbased_Learning_amp_Assessment_2_zip

Learning Environment

http://www.filefactory.com/file/5l12qij9s67j/n/12_Learning_Environment_zip

Level 2-Adult Vocational Education

[ED220-Part \(2\) Vocational Education & Training Practice \(Diploma in Vocational Education & Training TAE50111\)](#)

[Part \(1\) Adult Vocational Education Theoretical Subjects](#)

The students will have to write 20 pages study report for each of the subjects outlined in the Part 1 of any level OR perform the tasks given in residential session.

The report needs to include

- Book review- Review on each chapter of the book highlighting the key concepts, points, key theory & practical application concepts
- Own idea on how to apply those concepts in real practical applications.
- Examples of curriculum designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book

The book references for the subjects can be downloaded from the following links by entering the given password.

Password- to be given

- ED 401 Adult Learning Technology
<http://www.filefactory.com/file/68y4bd94ianb/ED%20401%20Adult%20Learning%20Technology.zip>
- ED 202 Curriculum & Design
<http://www.filefactory.com/file/1jotv5d428j1/ED%20202%20Curriculum%20%26amp%3B%20Design.zip>
- ED 205 Teaching & Measuring
<http://www.filefactory.com/file/4eu01ck2awl/ED%20205%20Teaching%20%26amp%3B%20Measuring.zip>
- ED 206 Designing Instructions & Assessment
<http://www.filefactory.com/file/4dnh3r8wsd9t/ED%20206%20Designing%20Instructions%20%26amp%3B%20Assessment.zip>
- ED 405 Training Principle
<http://www.filefactory.com/file/5qupttpxznin/ED%20405%20Training%20Principle.zip>

Follow the specific assessment instruction provided for the units in Part 2 of the levels

- ED201P-Advanced Assessment Practice
(TAEASS501A: Provide advanced assessment practice)
- ED202P-Assessment Development
(TAEASS502B: Design and develop assessment tools)
- ED203P-Training Facilitation
(TAEDEL502A: Provide advanced facilitation practice)
- ED204P-Learning Strategies
(TAEDES501A: Design and develop learning strategies)
- ED205P- Language Literacy & Numeracy
(TAEELN401A: Address adult language, literacy and numeracy skills)
- ED206P-Continuing Professional Development
(TAEPPD501A: Maintain and enhance professional practice)
- ED207P Learning Resources Design & Development
(TAEDES502A: Design and develop learning resources)
- ED208P Organizational Training Needs Analysis
(TAETAS501B: Undertake organisational training needs analysis)
- ED 404 Educational Research (Part 1)
(TAERES501A: Apply research to training and assessment practice)
- ED209P- Training Program Evaluation
(TAEDES505A: Evaluate a training program)

Vocational Education & Training Practice (Diploma in Vocational Education & Training TAE50111) Portfolio Guide

<http://www.filefactory.com/file/rh0eb9n4sfm/TAE50111PortfolioGuide.pdf>

SAMPLE PORTFOLIOS

Please note that the reference & example documents contained in the link of the portfolio can not be downloaded from the internet, they can only be available in DVDs that can be sent upon request.

The document is password protected. Password is needed and can be given upon request.

Level 3-Training Authorities Accreditation Compliances

ED320-Part (2) Myanmar Engineering Council's Accreditation Compliance Practice

Part (1) Educational Leadership Subjects

The students will have to write 20 pages study report for each of the subjects outlined in the Part 1 of any level .

The report needs to include

- Book review- Review on each chapter of the book highlighting the key concepts, points, key theory & practical application concepts
- Own idea on how to apply those concepts in real practical applications.
- Examples of curriculum designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book

The book references for the subjects can be downloaded from the following links by entering the given password.

Password- to be given

- ED 402 Educational Leadership
<http://www.filefactory.com/file/68h2rewfq7jx/ED%20402%20Educational%20Leadership.zip>
- ED 301 Educational Policy (Myanmar Engineering Council Accreditation Requirements)

Registration Rules

<http://www.filefactory.com/file/yzxtm3a7z2b/06.%20Licensing%20%26amp%3B%20Registration%20Rules%20-%20Engineering%20-%20Myanmar%20-%20CCS%2068%20reduced.pdf>

Myanmar Assessment Statement

<http://www.filefactory.com/file/9adocfm4877/06.%20Myanmar%20Assessment%20Statement%20-%20%28ACPECC%2014%29.pdf>

Graduates Attributes

<http://www.filefactory.com/file/4r5z3i9uxw5p/1%20Graduate%20Attributes%20%26amp%3B%20Terminology.pptx>

Qualification Policy

<http://www.filefactory.com/file/69mj6zk64zj5/Policy%20%20Qualifications%20Policy%20POL11%20v4.PDF>

Regulations

<http://www.filefactory.com/file/65cxuftzoxmh/Regulations.pdf>

Engineers Australia References

www.highlightcomputer.com/engineersaustraliareferences.htm

- ED 308 Change Management

http://www.filefactory.com/file/4cxrx86buot/n/9_Leadership_Change_Management_zip

- ED309 Educational Communication

http://www.filefactory.com/file/6tbjy1omi7kz/n/1_Educational_Communication_zip

- ED 407 Learning Environment

<http://www.filefactory.com/file/31o7fw99ux7l/ED%20407%20Learning%20Environment.zip>

- ED311 Outcome based Education

<http://www.filefactory.com/file/6sq2l3hmac3b/Final%20OBE%20Training%20at%20Myanmar%20July%202014.pptx>

[Part \(2\) Myanmar Engineering Council's Accreditation Compliance Practice](#)

- ED301P- Curriculum design for accreditation compliance

<http://www.filefactory.com/file/2vyvpy64k4w3/Accreditation%20Manual.pdf>

Example

www.highlightcomputer.com/OverallProgramGeneral.pdf

- ED302P-Overall accreditation and compliance practice

<http://www.filefactory.com/file/2vyvpy64k4w3/Accreditation%20Manual.pdf>

<http://www.highlightcomputer.com/Accreditation.htm>

Preparation for self accreditation report

<http://www.filefactory.com/file/43x0yutpx31v/2%20SAR.pptx>

Engineering Accreditation Plan

<http://www.filefactory.com/file/2ynzo3fydckb/2015%20YTU%20First%20Workshop.pptx>

ASSIGNMENT

Prepare the portfolios for your section/ department to comply with Myanmar Engineering Council's Accreditation Requirements.

Level 4-Specialized Teaching Areas

The students will have to write 20 pages study report for each of the subjects outlined in the Part 1 of any level .

The report needs to include

- Book review- Review on each chapter of the book highlighting the key concepts, points, key theory & practical application concepts
- Own idea on how to apply those concepts in real practical applications.
- Examples of curriculum designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book

The book references for the subjects can be downloaded from the following links by entering the given password.

Password- to be given

- ED 308 Computer Supported Learning & Distance Education
<http://www.filefactory.com/file/4mdzrx52kl45/ED%20308%20Computer%20Supported%20Learning%20%26amp%3B%20Distance%20Education.zip>
- ED 304 Maths Teaching
<http://www.filefactory.com/file/60ngdjnse60x/ED%20304%20Maths%20Teaching.zip>
- ED 305 Science Teaching
<http://www.filefactory.com/file/4hqlf7r16xyf/ED%20305%20Science%20Teaching.zip>
- ED 306 Technology Teaching
<http://www.filefactory.com/file/3crwj4pdyt7b/ED%20306%20Techology%20Teaching.zip>
- ED 404 Educational Research (Part 2)
<http://www.filefactory.com/file/42pl9c8013ab/ED%20404%20Educational%20Research.zip>
- ED310 Learning Technology I & II
http://www.filefactory.com/file/3bsfz0ehba7z/n/5_Learning_Technology_1_zip
http://www.filefactory.com/file/cvavvr9gonr/n/6_Learning_Technology_2_zip
- ED312 Technology in Classrooms
http://www.filefactory.com/file/7jcivu232opx/n/7_Technology_in_classroom_zip

Diploma in Engineering Education

The following units can be added to Diploma in Technical Teaching to award Diploma in Engineering Education

ED409-Engineering Education Part 1

ED410-Engineering Education Part 2

ED411-Engineering Education Part 3

ED412-Engineering Education Part 4

ED101 Theory of Education

Objective-

This unit provided the concept of education to enable the learners to understand the complex system of education by developing an understanding at different levels, inner workings of the individual learner, thinking processes and motivation & apply in practical teaching

Outcomes

- to understand all the different levels of education at the same time,
- to see personal learning and national legislation
- to build an understanding of education at all of these different levels.

Contents

Education theory, Modelling, Classroom Management, Equality of opportunity, Learning & Teaching, Quality Assurance, Theory into practice.

Assessment

Assignments = 100% (4 assignments with 25% each)

Instruction Reference Textbook- Theory of Education.pdf by David A Turner

Education theory

Education studies are full of attempts to develop this kind of explanation. The search for intelligence, either general intelligence, *g*, or multifaceted factors of intelligence, whether inherited from parents or learned from teachers, have been identified as ways of explaining different levels of performance. Those who have this magic quality do well at school, those who lack it do not. Even emotional intelligence, which at least represents a branching-out into less tangible fields of development, is couched in terms of the dominant discourse of intelligence, the mystery factor which explains school performance.

Whatever cannot be explained by intelligence might be explained by the wealth of the child's father, the upward social aspirations of its mother, the number of siblings, the presence of books in the home, the language patterns of significant adults, the qualifications of its teachers, birth-weight, the parents' smoking habits or a telephone at home, to name but a few candidates which have been tried. Each failure simply stimulates the next attempted explanation.

If this approach worked, then using a multidimensional array we would be able to identify a group of young people identical on all of these variables and any others we chose to add, and we would expect all members of a homogeneous group to perform equally well in school, and differently from the members of any other group.

Read Page 24 to 36 (Chapter 2 As Simple as Possible)

Lecture Slides

Educ 101- power point PHILOSOPHICAL FOUNDATIONS.ppt (0.15MB)

http://www.filefactory.com/file/4hs52fe8ctdt/n/Educ_101-_power_point_PHILOSOPHICAL_FOUNDATIONS.ppt

Assignment (1)

How should education be understood? Provide your argument with the references provided in this reading section.

Modelling

The topic of the preceding three chapters has been modelling; constructing explicit and specific models from game theory and chaos (or complexity) theory, and holding them up as patterns for understanding and explaining naturalistic, everyday phenomena. The purpose is to develop theory in order to build better models, so that a wider range of events can be researched, understood and eventually made subject to effective policy.

The modelling must be explicit because otherwise the model can achieve too much significance.

The model may assume the stature of a description of real life, or worse yet it may be understood as 'reality'. There is a difference between a model as a description of reality, and the model as a lens through which to view 'reality'.

Read Page 51 to 59 (Chapter 4 Modelling)

Assignment (2)

If you choose a particular model in education/ teaching/ learning, what factors are needed to be considered. Provide the reasons by referring this section of reading.

Classroom Management

Classroom management concerns policy at the microlevel, with teachers setting standards of behaviour, classroom rules, patterns of interaction, and so on, which all set the policy framework within which pupil behaviour takes place.

Considerable emphasis is placed upon the idea that education research should examine the behaviour of groups rather than individuals, and that research models should be able to take into account the ways in which the behaviour of some members of the group may have repercussions on other members of the group.

At its very simplest, every teacher will watch those pupils who head for the back row of the classroom as the pupils enter the classroom. In the classroom, the key features of multi-centred approaches can be seen where the actions of each member of the group have an instant and sometimes powerful effect on the choices of others, and the possibility that behaviours can be amplified or attenuated.

Read Page 64 to 81 (Chapter 5 Classroom Management)

Assignment (3)

What are the important aspects in classroom management. Provide the facts from this section of reading.

Just read through Chapter 7 Equality of Opportunity (From Page 104 to 120)

Learning & Teaching

Do people learn better in small groups or large? Do people learn best with individualized tuition? Is reading best taught through phonics or look-and-say?

The child is born with certain animal responses, the ability or necessity to respond to certain stimuli in particular ways. For example, loud noises will startle a young child and draw his or her attention immediately. But, as Pavlov had shown, the response can be transferred to a conditioned stimulus by repetition, as when the mother first calls the child's attention by the (relative) loudness of her voice, but later the quality and tone of voice, or even the speaking of the name of the child, is enough to attract his or her attention. By progressive stages stimuli of greater and greater cultural content, and less and less directly linked to a loud noise, can be used to direct the child's attention. A bright red sign, a written instruction, even an exclamation mark can eventually be used to focus the individual's attention. At some point in this process the child will recognize that he can substitute his own stimuli and give them specific meaning in relation to the response, and can therefore control his own behaviour.

The individuals can use the laws that govern lower mental functions in order to transcend them, and create a form of mental activity that is qualitatively different .

The teacher can and should manage and manipulate the inter-mental sequence, and should structure this experience in such a way as to maximize the opportunities for the learner to engage with the concepts that are being used.

Read Page 121 to 139 Chapter 8 Learning & Teaching

Assignment 4

How does learning relate to different levels of educational activities. Explain by providing the examples that you get from this section of reading

Just read through Page140 to 156 Chapter 9 Quality Assurance

Objective-

This unit provide the knowledge to include reference to the use of technology for instruction, training, learning, or teaching. In practice, definitions serve to focus the interest of associations of individuals by emphasizing a particular scope of interest.

Outcomes

- To design, development, utilization, management, and evaluation
- To provide instructional technology," "instructional systems design," and "instructional media
- To do the design and development of instruction and instructional resources using education technologies

Contents

Active Learning, Alternative Assessment, Adult Learners, Analysis, Assistive Technology, Cognitive Apprenticeship, Computer-Assisted Instruction

Instruction Reference Textbook- Education Technology - An Encyclopedia Edited by

Ann Kovalchick and Kara Dawson

Lecture Slides

<http://www.filefactory.com/file/664usozq3w6b/admin2.ppt>

<http://www.filefactory.com/file/12bhhc0ioc4d/ascd.pps>

<http://www.filefactory.com/file/389t9qbK542p/chapt1.ppt>

<http://www.filefactory.com/file/7bplt5x3l9bl/techclass.ppt>

Assessment

Assignments = 100% (7 assignments)

Active Learning

Active learning constitutes learning that helps students to think critically, analyze, synthesize, and evaluate information, work efficiently and effectively in groups, and solve problems within a variety of different disciplines. Active learning is an attempt to counter traditional instructional models that primarily consist of knowledge transmission and development of inert knowledge (Whitehead 1929). Inert knowledge refers to knowledge learned out of context that is not readily transferable to novel situations. For example, students may learn the formula for determining distance but be unable to apply this information within the context of an interdisciplinary scenario.

Read Page 37 to 42

Assignment 1

Describe the features of active learning & provide the factors that assist the active learning.

Alternative Assessment

Alternative assessment refers to non-traditional assessment methods. Such assessment methods are often applied to complex knowledge and performances and engage students in higher-level thinking and authentic performances while simultaneously permitting reliable scoring and manageable record-keeping. Most frequently, alternative assessment is used as a complement to rather than a replacement for traditional objective tests. Objective tests are an efficient way to assess students' knowledge of rote facts, whereas alternative assessment strategies move beyond such testing and meet the learning styles of more students.

Alternative assessment is closely linked to curriculum planning and instructional methods. Thus the push for constructivist learning environments, authentic learning experiences, collaboration, and facilitation of higher-order thinking skills has fueled interest in alternative assessment.

Read Page 51 to 53

Assignment 2

Write the ways of alternative assessment

Adult Learners

Adult learners are people over the age of eighteen in an instructional situation, whether formal or informal. Lifelong learning is now a common expectation of society, but in the field of educational technology most adult learners undertake their studies in employee education and training programs. This stems from the fact that since the 1980s the preponderance of instructional design practice has occurred within the private sector, primarily in business and industrial settings. This coincides with the steady growth of employee training as an integral part of most organizations. This growth reflects the emphasis on producing a more knowledgeable workforce and, increasingly, on improving employee on-the-job performance and solving organizational problems.

Read Page 47 to 50 Adult Learners

Assignment 3

Write the characteristics of adult learners & provide the suitable kinds of learning assessment.

Analysis

Analysis represents the planning phase critical to the effective use of educational technology. It is what educational technology professionals undertake when determining what action should be taken. Whether called "analysis," "assessment," "needs analysis," or "performance analysis," the focus is on making decisions regarding the design and use of technologies toward achieving educational outcomes by examining and considering many viewpoints and data elements rather than by habit, intuition, or fiat. Through analysis, it is possible to cultivate an analytical point of view rather than a view that favors technology or formal classroom instructional strategies. Similar to the diagnostic activities carried out by doctors, architects, and consultants, analysis is a data-driven process that helps educational technologists identify key problems to design effective solutions.

During analysis, many sources, questions, instruments, work products, and approaches are used to plan a solution.

Read Page 53 to 60 Analysis

Assignment 4

Write the strategies for increasing support for analysis

Assistive Technology

Assistive technology plays a key role in allowing students with disabilities to interact with instructional technology products and bypass barriers associated with physical, sensory, or cognitive limitations. Beyond simply enabling equal access to educational tools, assistive technology contributes to the individual's full participation in the learning environment and enhances potential vocational and continuing education opportunities. In some circumstances, educational technology that increases or improves learning outcomes can serve the dual purposes of assistive technology that increases, maintains, or improves functional capabilities. A typical example would be the use of a word-processing program by a student who cannot complete handwritten work due to paralysis of the dominant hand. The word- processing program represents assistive technology because it offers a functional way for written work to be completed.

Read Page 82 to 89 Assistive Technology

Assignment 5

How does Effective assistive technology implementation enhance?

Cognitive Apprenticeship

Cognitive apprenticeships are modelled after traditional apprenticeships. Whereas traditional apprenticeships involve learning a visible activity or skill, cognitive apprenticeships involve using mentors to model processes that are often invisible, such as problem-solving, comprehension, and computation. Apprenticeships can be distinguished from traditional instructional methods because they provide opportunities for practice rather than specifications for practices (Berryman 1991).

Read Page 173 to 177

Assignment 6

Describe the relationship between Educational Technology and Cognitive Apprenticeships.

Computer-Assisted Instruction

Computer-assisted instruction occurs when an instructional program is delivered to a learner using a computer. CAI is sometimes considered a type of computer-based instruction (CBI), which refers to any form of computer use in an educational setting, including instructional programs, tutorials, simulations, instructional management, supplementary exercises, programming, and productivity software applications such as word processing and spreadsheets. CAI and CBI are often synonymous, the former sometimes in a more restrictive sense to refer to drill-and-practice, tutorial, or simulation software used for stand-alone learning activities or as supplements to teacher-directed instruction.

CAI may also describe the instructional program itself or the delivery of the instructional program by a computer.

CAI is sometimes known as educational software and courseware when packaged as a comprehensive curriculum with management and assessment features. In a typical CAI session the student sits in front of a computer, which presents information on the screen. The student reacts to the information presented by working with the mouse and/or keyboard. The pace of instruction may be controlled by the student, who may have control over the sequence of instruction. At certain points in the program, the student responds to questions posed, and the program notifies the student whether the response was correct or incorrect. In more complex CAI settings, the program may also keep track of the number of correct and incorrect responses and adapt the sequence of instruction according to performance throughout the program.

Read Page 217 to 220

Assignment 7

In your teaching area, outline your idea to utilize computer assisted learning system.

Objective-

To use developmental process for reflecting on and improving one's teaching; and as an evaluative product for personnel decisions such as tenure, promotion, or a teaching

Outcomes

- To provide different sources of evidence of teaching performance.
- To contribute important information about teaching performance
- To collect variety of sources of information related to teaching
- To reflect more of teaching's intellectual substance and complexity.
- To make teaching more visible through their demonstration of a variety of teaching-related activities.
- To place the initiative for reflecting on and evaluating teaching in the hands of faculty.
- To give the individual an opportunity to think about own teaching —
- To change priorities or teaching strategies as needed, and to reflect about future

Contents

Meaning of Teaching Portfolio, Why Prepare a Teaching Portfolio? ,How Does One Develop a Teaching Portfolio? ,Preparing Portfolio ,Shaping the Final Portfolio ,Keeping Your Portfolio Up to Date ,Assembling an Electronic Portfolio ,Portfolio evaluation

[Instruction Reference Textbook- teaching-portfolio.pdf](#) (University of South Australia)

[Reference- Preparing a Teaching Portfolio by Fran Mues and Mary Deane Sorcinelli](#) The Center for Teaching University of Massachusetts Amherst

A teaching portfolio is an essential part of your professional development. It is a document that records your achievements, allows you to reflect on your teaching and supports your applications for tenure and promotion.

A teaching portfolio is a living document; it will change over time as you evaluate your teaching, reflect and act on the results, and develop different approaches to teaching.

Teaching portfolios are usually 6–12 pages in length, and may contain supplementary material in appendices.

They provide a summary of your major teaching accomplishments with selected examples that substantiate your commentary. The portfolio is usually written as a scholarly reflection of your teaching and the principles that you have used to inform your approach to academic work. The document will highlight any changes you have made to your teaching on the basis of reading the

educational literature, student and peer evaluations, research you have conducted on learning and teaching and participation in professional development programs.

There is no prescribed way to write a teaching portfolio; it is your document. You are not expected to reach some hypothetical standard; the document is a commentary on reflection and development. It is quite acceptable to reflect on teaching activities that did not have the desired effect of improving student learning, as well as those activities that were successful. Portfolios usually develop in stages, from the collection of information, to exploring new methods of teaching through to scholarly reflection and informed action.

Those reading your portfolio for tenure or promotion will be seeking evidence you have:

- a scholarly approach to teaching
- obtained student and peer feedback of your teaching and that you have acted on the results
- reflected on how your teaching has influenced student learning
- made an impact on student learning

[Read](#)

Preparing a Teaching Portfolio by Fran Mues and Mary Deane Sorcinelli The Center for

Teaching University of Massachusetts Amherst

&

[Instruction Reference Textbook- teaching-portfolio.pdf](#) (University of South Australia)

Lecture Slides

Day5Session1.ppt (20.26MB)

<http://www.filefactory.com/file/b7m0w90g5iv/n/Day5Session1.ppt>

<http://www.filefactory.com/file/5zvxfxbm5ag3/46031.ppt>

<http://www.filefactory.com/file/4jcykt15qn7l/bestpreacticesinteaching.ppt>

<http://www.filefactory.com/file/3czrbnzo9a1b/Good-practice-strategies-for-inclusive-teaching.ppt>

http://www.filefactory.com/file/2fc5ug6fq4j/Good_teaching_practices.pptx

<http://www.filefactory.com/file/xqybdx3f4rh/goodteachingpractice.ppt>

POWER POINT

Day5Session1.ppt (20.26MB)

<http://www.filefactory.com/file/b7m0w90g5iv/n/Day5Session1.ppt>

AUDIO

<http://yourlisten.com/Kyaw.Naing/day-5-session-1b>

Day 5 Session 1A.zip (77.86MB)

http://www.filefactory.com/file/75isx2vnk5dv/n/Day_5_Session_1A.zip

Assessment

Assignments = 100% Portfolio Assessment

There is no prescribed proforma for a teaching portfolio. Each portfolio is unique, but usually contains most of the following information:

- personal details, including name, department, contact details
 - a list of contents, so it is easy for the reader to find items
 - an introduction containing your teaching and administrative duties
 - a summary of your teaching philosophy, including reference to University learning and teaching plans
 - a critical reflection of your teaching activities and their impact on students and your school. This could include a description of the approach you adopted for a particular activity, including the context and rationale for the approach. You could comment on any difficulties or unexpected results from the activity, discuss any student and peer evaluations, and add a reflective summary of the positive aspects resulting from the activity and any changes you would make if you repeated the activity.
 - a summary of professional development activity
 - a summary of any future developments you would like to undertake and a timeframe for their implementation
 - a plan of action for improvements in your teaching
 - conference presentations, publications, awards and grants related to learning and teaching
 - appendices with documentary evidence in support of your details listed above
-

Objective-

This unit provides the methods to apply thought-stimulating examples teaching & learning techniques to be applied in training design and delivery to apply the various techniques and strategies in training design and presentation, that will stick! Specific strategies.

Outcomes

- To create trainings that are fun and memorable.
- To write learner-based trainings that guarantee success for each learner performance.
- To develop learning activities that match the need, learning style, and level of understanding of the participants.
- To use learning strategies that encourage learners to build on their experiences.
- To plan ongoing training activities that evaluate learner mastery during the entire learning event.
- To design blended and accelerated learning strategies that strengthen learning transfer back on the job.
- To identify methods that accurately measure training results.

Contents

Introducing planning, Needs, aims and objectives ANALYSIS OF NEEDS ,THE RATIONALE OF OBJECTIVES ,WRITING YOUR LEARNING OBJECTIVES ,SETTING A VARIETY OF OBJECTIVES , Learning, SKILLS, TECHNIQUES AND METHODS ,JUDGEMENT AND DECISION-MAKING,THE PLACE OF EMOTIONAL EDUCATION,PLANNING FOR THEORETICAL LEARNING,PLANNING FOR LEARNING FROM THE CONCRETE,PLANNING FOR REFLECTIVE LEARNING,PLANNING FOR ACTIVE LEARNING,PLANNING PROGRESSION FROM PRIOR LEARNING,PLANNING FUTURE PROGRESSION,CROSS-CURRICULAR LINKS,DIFFERENTIATION,PLANNING LISTENING ACTIVITIES,PLANNING SPEAKING ACTIVITIES,PLANNING WHOLE CLASS DISCUSSION,PLANNING READING,PLANNING TO DEVELOP COMPREHENSION,TEACHING PUPILS TO LEARN FROM WHOLE BOOKS,PLANNING WRITING,TEACHING ABOUT SUBJECT DISCOURSE ,Pedagogy, TASK ANALYSIS ,A SUCCESSFUL LESSON STRUCTURE ,PLANNING PRACTICE SESSIONS

Lesson Planning

Planning gives you something you can communicate - to pupils ('In this lesson you will learn . . .') and to colleagues, especially support staff (see Idea 77). The provision of teaching assistants is a major item in most schools' budget, yet some teachers fail to make best use of them by not explaining lessons beforehand. Lack of planning wastes, and demotivates, support staff.

The most important point, however, is that lesson planning enables you to optimize things. Without planning, you may find you're able to get by or even produce an adequate lesson, but you'll not be teaching with maximum effect. When planning lessons, therefore, ask yourself not 'What can I teach

them?' but 'What's the best thing I can teach them?', not 'How can I teach this?' but 'What's the best way I can teach it?'

It is natural when one first goes into teaching to think in terms of the following sequence:

After you have planned and taught the lesson and then assessed your pupils' work, you need to use the , information that you have gained from assessment to inform your planning of the next lesson that you teach that class , You need to:

- 1 Consider what the assessment data tell you in general about the lesson that you have just taught. Are there, for example, points that have not been well understood and which you need to cover again?
- 2 Decide how you will give marked work back to pupils and encourage them to learn from your assessment.
- 3 Consider whether the assessment information on particular pupils suggests you need to give special consideration to the way you teach them

Lecture Slides

Day2Session2.ppt (10.52MB)

<http://www.filefactory.com/file/g1s8vs9ex71/n/Day2Session2.ppt>

<http://www.filefactory.com/file/78rre8saj2vz/cssession3.ppt>

<http://www.filefactory.com/file/5kyt4z7b3y9/effective%20lesson%20planning.ppt>

<http://www.filefactory.com/file/4annbwojdll5/lesson%20planning.ppt>

POWER POINT

Day2Session2.ppt (10.52MB)

<http://www.filefactory.com/file/g1s8vs9ex71/n/Day2Session2.ppt>

AUDIO

<http://yourlisten.com/Kyaw.Naing/day-2-session-2>

Day 2 Session 2A.zip (45.42MB)

http://www.filefactory.com/file/4a3s8ywvb39n/n/Day_2_Session_2A.zip

Instruction Reference Textbook-

Instructional Design for Action Learning By GERI M C ARDLE

100 Ideas for Lesson Planning – By Anthony Haynes

Read the above textbooks and prepare three lesson plans

Assessment

Assignments = 100% (Assessment of three lesson plans))

Objective-

To understand the memory concept & apply it in effective teaching and learning.

Outcomes

- To demonstrate the principle of learning
- To understand the principle of control memory
- To understand the principle of Inhibition
- To apply the Principle of Adaptive Specialization as It Applies to Learning and Memory

Contents

FORMATION OF MEMORIES, ORGANIZATION OF MEMORIES, CONSOLIDATION OF MEMORIES, CONTROL OF MEMORIES, ADAPTIVE SPECIALIZATION OF MEMORIES

Lecture Slides

Day5Session1.ppt (20.26MB)

<http://www.filefactory.com/file/b7m0w90g5iv/n/Day5Session1.ppt>

http://www.filefactory.com/file/66j4vuq1i8mz/lahey9e_06.ppt

<http://www.filefactory.com/file/3t7gfptgra6n/poltoverview2007v2.ppt>

http://www.filefactory.com/file/3yyfeipoj2c1/TandDUnit_3_Final.ppt

POWER POINT

Day5Session1.ppt (20.26MB)

<http://www.filefactory.com/file/b7m0w90g5iv/n/Day5Session1.ppt>

AUDIO

<http://yourlisten.com/Kyaw.Naing/day-5-session-1b>

Day 5 Session 1A.zip (77.86MB)

http://www.filefactory.com/file/75isx2vnk5dv/n/Day_5_Session_1A.zip

Instruction Reference Textbook- Principle of learning & memory Edited by Rainer H. Kluwe, Gerd Liier and Frank Räsler

Learning & Memory

Research on learning and memory is performed at different levels of analysis ranging from the cell to observable behavior. The breadth of research methodologies raises the challenge of integrating the different approaches. In order to answer questions about the brain structures and systems that enable human cognitive activity, it is necessary to relate approaches and results from experimental psychology to those provided by biology, neuroanatomy, or neuroscience.

The former are concerned with the systems level of behavior, the latter with more elementary levels of neurons and neuronal networks. It is only through a synthesis of the disciplines that cover the whole hierarchy of analysis, that researchers can develop a better understanding of the system, its components, its constituting elements, and, last but not least, its interaction with the environment

The emphasis of the chapters in this volume is on the interconnections between the level of behavior and the level of neural activities and structures. The goal is to overcome the traditional borders separating different fields of research in order to present an integrated pattern of results that enables a broader, interdisciplinary view and a deeper understanding of human learning and memory.

The large amount of research and the broad range of phenomena require us to focus on selected topics. We selected phenomena that are central to human learning and memory, and that are studied from different perspectives in cognitive psychology, in neuroscience, and in biology.

By analyzing the literature fifteen principles were delineated which seem to be most central for research on learning and memory and which are currently being investigated through an interdisciplinary approach. These principles can be subsumed under five main themes:

- (A) Formation of memories;
- (B) Organization of memories during encoding, storage and retrieval;
- (C) Consolidation of memories;
- (D) Control of memories during information processing; and
- (E) Adaptive specialization of memories.

A. Formation of memories:

The human cognitive system is able to learn and to change, to improve and to adapt performance based on experience and changes in the environment. How does the brain enable learning and memory? The first four chapters by Lachnit, by Kress and Daum, by Roder and Rosier, and by Roth focus on the mechanisms and underlying brain structures that participate in the formation of new memories, i.e. on the processes that lead to the acquisition of knowledge. The chapters discuss results from animal and human research that point to four basic principles: spatio-temporal contiguity, multiple brain structures underlying experience-related changes, brain plasticity, and emotional learning.

B. Organization of memories:

How are processes of encoding, storage and retrieval related to brain structures and neural processes? Probably one of the most important insights gained through recent research is that these processes are based on highly organized and specialized structures of the brain (e.g., Damasio, 1989; Squire, Knowlton, & Musen, 1993).

Functional modularity of the brain is now one of the key concepts of neuroscience. Data obtained from experimental analyses of human cognitive performance as well as a theoretical analysis of memory phenomena suggest that specialized subsystems perform specific tasks like encoding,

storage, retrieval, and modification of information. These systems are defined by structural and functional criteria, in particular by the type of information representation that is available to them. The goal of research is to identify such specialized subsystems and to understand their functional intricacies. This is the central issue addressed by Rosier and Heil, by Buchner and Brandt, and by Jonides, Sylvester, Lacey, Wager, Nichols and Awh.

C. Consolidation of memories:

The flexible acquisition of new information is essential for systems that have to interact with a changing world. Equally important is the ability of the system to transform this new information into stable memories that can reliably guide behaviour later. Mechanisms and processes that support the consolidation of newly acquired knowledge and provide for enduring memories. These authors cover the principle of memory consolidation and its pharmacological modulation, the principle of cross-cortical consolidation of episodic memories, and the principle of bottleneck structures necessary for consolidation and retrieval.

D. Control of memories:

The chapters in this section all deal with the basic mechanisms

of how information is represented and how information transfer is controlled in the nervous system. The chapter of Munk discusses the principle of transient binding in the CNS, which is a powerful, empirically based hypothesis that explains how the brain can find its equilibrium between two seemingly antagonistic processing modes: cortical adaptivity versus consolidation, or rapid reorganization versus the generation of stabilized representations. The principle of inhibition is another basic mechanism, which regulates activation processes on both the neuronal and behavioral levels of memory representations. Dagenbach & Kubat-Silman review several inhibitory mechanisms, derived from cognitive psychology, that are relevant to working memory and long-term memory control. They relate these mechanisms to possible neural correlates. Mayr's chapter draws on recent evidence from behavioral, brain imaging, and single-cell recording work to sketch out an integrated view of the neurocognitive basis of executive control.

E. Adaptive specialization of memories:

Pinker (1997), referring to Darwin's claim that future psychological research will be performed on new foundations, stated that the process of relating psychological and biological research has been slow except for the important development of evolutionary psychology, as initiated by Cosmides and colleagues (e.g. Barkow, Cosmides, & Tooby, 1992). Evolutionary psychology has engendered an unusually strong combination of approaches that includes cognitive psychology's analysis of information processing and evolutionary biology's analysis of complex, adaptive behavior of species. Giinterkiin and Durstewitz and of Gal/istel continue this fruitful collaboration in their chapters, which cover the principle of species independent learning phenomena and the principle of adaptive specialization

Part 1

Read Page 3 to 11

Assignment 1

Explain Significance of Contiguity for Learning

Part 3

Read Page 15 to 26

Assignment 2

How does the brain perform the Complex Conditioning?

Part 3

Read Page 71 to 91

Assignment 3

Explain Spatial and Object Working Memory

Explain Long-term Memory for Verbal, Spatial, Color, and Motor Associations

Part 4

Read Page 93 to 107

Assignment 4

Explain working memory

Explain long term memory

Part 5

Read Page 188 to 191

Read Page 207

Read Page 224 to 226

Read Page 231 to 235

Read Page 243 to 246

Read Page 251+252

Assignment 5

The teacher needs to refresh the memories of students in particular lesson, how can memory retrieval methods be applied in teaching and learning. Explain details by referring the relevant references.

Assessment

Assignments = 100% (5 Assignments of 20% each)

Objective-

To interpret the curriculum & develop the detailed lesson plans in teaching process.

Outcomes

- To interpret the curriculum presented to teachers;
- To adopt the curriculum;
- To understand the curriculum assimilated by learners; and
- To evaluate curriculum.

Contents

KINDS OF CURRICULUM, ORIENTATIONS TO CURRICULUM, ORIENTATIONS TO CURRICULUM, TYPES OF CURRICULUM, Competency Curriculum, LEVELS OF CURRICULUM, STAGES OF THE PROCESS, CURRICULUM PLANNING, CURRICULUM DESIGN, CURRICULUM DEVELOPMENT- PHASES, CURRICULUM DEVELOPMENT. IMPLEMENTATION OF THE CURRICULUM, CURRICULUM EVALUATION, CURRICULAR CHANGES

Instruction Reference Textbook-

CURRICULUM DESIGN AND DEVELOPMENT-1.pdf

THE CURRICULUM by Cecilia Braslavsky 1

Lecture Slides

Day1Session3.ppt (0.28MB)

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Assessment

Assessment = 100% (Assess as part of Learning outcomes & curriculum development tasks in Residential Workshop session)

Objective-

This unit provides new and experienced faculty in all disciplines with practical, tested strategies for addressing all major aspects of college and university teaching, from planning a course through assigning final grades. Graduate student instructors and teaching assistants will also benefit from the foundational knowledge and research findings described in this unit.

Outcomes

- To addresses planning: designing a new course or revising an existing one, creating a syllabus, preparing for the class, and managing classroom conduct and decorum.
- To respond to a Changing Student Body,
- To do “ Discussion Strategies, ” provides ideas for leading a productive discussion, framing challenging questions, and encouraging student participation, both in class and online.
- To explore aspects of the lecture in the Large-Enrollment Course, ” method: preparing and delivering effective lectures, engaging students and pro-viding for student participation, and maintaining instructional quality with limited resources.
- To find the Alternatives and Supplements to Lectures and Discussion,
- To Enhance Students ’ Learning and Motivation, ” provides research -based approaches to helping students become more confi dent, independent, and self - motivated learners. Informal ways to assess learning and the use of mobile
- To Strengthen Students ’ Writing and Problem-Solving Skills, ”

Contents

RESPONDING TO A CHANGING STUDENT BODY ,DISCUSSION STRATEGIES ,THE LARGE-ENROLLMENT COURSE ,Maintaining Instructional Quality with Limited Resources ,ENHANCING STUDENTS’ LEARNING AND MOTIVATION ,STRENGTHENING STUDENTS’ WRITING AND,PROBLEM-SOLVING SKILLS ,TESTING AND GRADING,PRESENTATION TECHNOLOGIES ,EVALUATION TO IMPROVE TEACHING,TEACHING OUTSIDE THE CLASSROOM ,FINISHING UP

Instruction Reference Textbook-

Tools for teaching by Barbara Gross Davis

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Assessment

Experience Assessment = 100% (Assessed on Formal Teaching experience record for the teachers being employed by Government Technical Colleges & Technological Universities)

Separate assessment system is applied for pre-service teacher trainees.

Objective-

To define classroom management, explain the relationship between classroom management and discipline, and describe the concept of “culturally responsive classroom management”

Outcomes

1. To describe the characteristics of an effective teacher
2. To explain why reflection on teaching is so important for teacher growth
3. To describe the reflective decision making model of teaching
4. To identify important factors that affect instructional decision making
5. To contrast the characteristics of authoritative, authoritarian, and permissive teachers
6. To identify the ongoing tasks involved in classroom management and to explain how each contributes to a well-functioning learning environment

Contents

Effective teacher, understanding students, Involving students in learning, Questioning skills, Responding to diversity, Co-operative learning, Classroom management

Lesson Slides

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<http://www.filefactory.com/file/3e7kr37syy1d/Classroom%20Management%20Presentation%20Nov%2020th.ppt>

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Instruction Reference Textbook-

Classroom Teaching Skills by James M. Cooper

Other Reference

Assessment

Experience Assessment = 100% (Assessed on Formal Teaching experience record for the teachers being employed by Government Technical Colleges & Technological Universities)

Separate assessment system is applied for pre-service teacher trainees.

Level 2-Adult Vocational Education

ED 401 Adult Learning Technology

Objective-

This unit provides and skills and the roles of training developers and instructional designers who are responsible for analysing training needs and designing training solutions and products to meet workplace capability requirements, and evaluating the effectiveness of adult training programs.

Outcomes

To provide the guidance and advice to trainers and assessors, promoting innovative practices, e.g. e-learning, and in researching and incorporating best practice in training and assessment into training programs and products.

Contents

- Learner-Centered Teaching and the Use of Technology
- Effective Teaching with Technology in Adult Education
- Adult Learners and Their Development in the Information Society
- Supporting Lifelong Learning and Flexicurity Policies
- Adult Learning Principles as the Foundation for Innovative Technology Applications in Business and Higher Education Venues
- The Role of Learning Styles and Technology
- Innovative Instructional Strategies with the Use of Technology for Adult Learners
- Integrating Adult Learning and Technology for Effective Education:
- Strategic Approaches
- Comparing the Principles of Adult Learning with Traditional Pedagogical Teaching in Relation to the Use of Technology:
- Provide Training through instruction and demonstration of work skills
- Facilitate work-based learning
- Group based delivery
- Design and develop learning programs
- Foster and promote an inclusive learning culture
- Ensure a safe and healthy learning environment
- Individual learning
- Language Literacy & Numeracy

Lecture slides

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<http://www.filefactory.com/file/24elwruio26l/SYCDW%202010%20Adult%20Learning%20Theory.ppt>

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Instruction Reference Textbook-

Adult Learning Technology by Victor C.X. Wang &

Provide Training through instruction and demonstration of work skills

TAADEL301A.doc (0.03MB)

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Facilitate work-based learning

TAADEL404A.doc (0.03MB)

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Group based delivery

TAADEL401A.doc (0.03MB)

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Use Training Packages to meet client needs

TAADES401A.doc (0.03MB)

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Design and develop learning programs

TAADES402A.doc (0.03MB)

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Work effectively in vocational education and training

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Foster and promote an inclusive learning culture

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Ensure a safe and healthy learning environment

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Assessment

Participation in Educational Support Workshop sessions=100%

(Assess as part of Learning outcomes & curriculum development tasks in Residential Workshop session)

Objective-

To provide theoretical consideration for the twenty-first century curriculum, & technological and pedagogical innovations influencing curriculum renewal together with sustainable practice in technology-rich environments.

Outcomes

- To address theoretical foundations for the development of curricula.
- To explore the pedagogical options available to higher education instructors
- To explore new ways of accessing and connecting content to multimodal forms
- To examine how curriculum design needs to be influenced by the effective development of virtual collaborative learning environments
- To devise more adaptive, educationally focused teaching and learning

Contents

Curriculum Design for the Twenty-First Century, Online Collaboration: Coordinating Technology, Strategies for Collaborative Learning, Designing a Virtual Collaborative Learning Environment, Curriculum Design as Applied to Virtual Collaborative, Course Evaluation, Creating Curriculum Within the Context of an Enterprise, Teaching Instructional Design, Online education examples.

Learning Practice

Instruction Reference Textbook-

Curriculum Models for the 21st Century Using Learning Technologies in Higher Education

Lecture Slides

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Assessment

Participation in Educational Support Workshop sessions=100%(Assess as part of Learning outcomes & curriculum development tasks in Residential Workshop session)

ED 205 Teaching & Measuring

Objective-

To apply adaptive expertise, creative thinking, metacognition, and teamwork in teaching and measuring task

Outcomes

To apply Adaptability, Adaptive expertise, Adaptive problem solving, Communication, Creative thinking , Decision making , Metacognition, Situation awareness & Teamwork

Contents

Cognitive Readiness, A Model for Instruction and Assessment of Cognitive Readiness, The Development and Assessment of Cognitive Readiness: Lessons Learned from K-12 Education, Cognitive Readiness for Solving Equations . Cognitive Readiness Applications, Creative Thinking Abilities: Measures for Various Domains, Using Analogies as a Basis for Teaching Cognitive Readiness . Simulation Assessment of Cognitive Readiness . Assessing Cognitive Readiness in a Simulation-Based Training Environment, Software Support for Teaching and Measuring Cognitive Readiness, Cognitive Readiness for Complex Team Performance, Impact of Individual Game-Based Training on Team Cognitive Readiness

Lecture Slides

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Instruction Reference Textbook-

Teaching and Measuring Cognitive Readiness by Harold F. O'Neil • Ray S. Perez • Eva L. Baker

Assessment

Participation in Educational Support Workshop sessions=100%

(Assess as part of Learning outcomes & curriculum development tasks in Residential Workshop session)

ED 206 Designing Instructions & Assessment

Objective-

To deconstruct the broad-sweeping goals of the standards and transform them into unit plan objectives (more specific) and daily instructional objectives

Outcomes

To entails a logical progression from (1) content area standards to (2) modified standards to (3) unit plan objectives to (4) daily instructional objectives in an understandable sequence of increasing specificity

Contents

Deconstructing the Standards ,Writing Unit and Daily Instructional Objectives , Writing True–False and Completion, Items and Matching Exercises ,Writing Multiple-Choice Items ,Writing Short-Answer and Essay Items .Performance-Based Assessment ,Portfolios

Instruction Reference Textbook-

Designing Elementary Instructions & Assessments

By John L. Badgett Edwin P . Christmann

Lecture Slides

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Assessment

Participation in Educational Support Workshop sessions=100%

(Assess as part of Learning outcomes & curriculum development tasks in Residential Workshop session)

ED 405 Training Principle

Objective-

To provide numerous techniques, designs, case examples, and tips for designing and facilitating training that is participant-centered, brain-friendly, and experiential

Outcomes

- To explore all aspects of training.
- To promote an active approach to training
- To provide a practical handbook of techniques

Contents

INTRODUCING ACTIVE TRAINING, DESIGNING AN ACTIVE TRAINING PROGRAM, Assessing Training Needs, Developing Active Training Objectives, Creating Opening Exercises, Preparing Brain-Friendly Lectures, Using Experiential Learning Approach, Designing Active Training Activities, Sequencing Active Training Activities, Planning Active Training Programs, Blending Technology into Active Training, CONDUCTING AN ACTIVE TRAINING PROGRAM, Beginning an Active Training Program, Gaining Leadership of the Training Group, Giving Presentations and Leading Discussions, facilitating Structured Activities and Promoting Team Learning, Concluding an Active Training Program, EXTENDING THE VALUE OF AN ACTIVE TRAINING PROGRAM, Evaluating an Active Training Program

Instruction Reference Textbook-

Active Training by Mel Silberman

Lecture Slides

Day5Session1.ppt (20.26MB)

<http://www.filefactory.com/file/b7m0w90g5iv/n/Day5Session1.ppt>

<http://www.filefactory.com/file/55ngvgzhw1qj/%28Mr.%20CHENG%201%29Principles%20of%20Exercise%20Prescription.ppt>

<http://www.filefactory.com/file/1kuzo3ftj07n/10.%20Principles%20of%20Training.ppt>

<http://www.filefactory.com/file/1tviz8goakpt/Chapter%201%20Basic%20concepts%20of%20training%20theory.ppt>

<http://www.filefactory.com/file/6a5bl6kpryz1/lecture8.ppt>

http://www.filefactory.com/file/4ug93kfr6tzh/Principles_of_Training.ppt

<http://www.filefactory.com/file/3fl4hd556o0d/Week%205%20-%20Training%20Principles.ppt>

POWER POINT

Day2Session2.ppt (10.52MB)

<http://www.filefactory.com/file/g1s8vs9ex71/n/Day2Session2.ppt>

AUDIO

<http://yourlisten.com/Kyaw.Naing/day-2-session-2>

Day 2 Session 2A.zip (45.42MB)

http://www.filefactory.com/file/4a3s8ywvb39n/n/Day_2_Session_2A.zip

POWER POINT

Day5Session1.ppt (20.26MB)

<http://www.filefactory.com/file/b7m0w90g5iv/n/Day5Session1.ppt>

AUDIO

<http://yourlisten.com/Kyaw.Naing/day-5-session-1b>

Day 5 Session 1A.zip (77.86MB)

http://www.filefactory.com/file/75isx2vnk5dv/n/Day_5_Session_1A.zip

Assessment

Participation in Educational Support Workshop sessions=100%

(Assess as part of Learning outcomes & curriculum development tasks in Residential Workshop session)

Objective-

To design the engineering educational programs and teaching programs by applying multi-disciplinary approaches by combining technological aspects

Outcomes

- To attain the strategies to promote the engineering education
- To apply technological concepts in engineering teaching support system
- To develop the quality work-based learning system
- To write Sociological Rationale of a design curriculum
- To find the strategies to improve the communication skills of engineers
- To design the computer server for engineering education program

Contents

- Pre-university Outreach: Encouraging Students to Consider Engineering Careers
- The ASTutE Tutorial Assistant: Efficient, Accessible and Interactive
- Learning at Work within the Ford Motor Company
- Using Rubrics to Assess the Development of CDIO
- Syllabus Personal and Professional Skills and Attributes at the 2.x.x Level*
- Quality Assurance Issues Relating to the Delivery of Work Based Learning Programmes*
- The Role of Work-Based Learning Methodologies in the
- Development of Life-Long Engineering Education in the 21st Century
- Traits Analysis and Influences on High Performing Students in Mechanical Education
- The Construction of an Instructional Quality System for Industrial Technology Education
- Design Hegemony: an Exploration of Hegemony in the Curriculum and Instruction of Industrial Design Education
- The Engineering Mechanics Interactive Lecture Series: Oligomedia Resources for Computer-Based Learning
- The Sociological Rationale of the Industrial Design Curriculum
- Achieving Advances and New Developments in Engineering and Technological Education
- Important Considerations in Improving the Acquisition of Communication Skills by Engineers
- Client-Server and Gateway Systems for Remote Control in Engineering Education

- The Development of Online Conference Management Tools as a Student Project*
- Co-operation across Disciplines in Engineering Education Using Technical and Scientific Computing Environments

Instruction Reference Textbook-

ED411 folder, read the following files

- AndersonGilbride.pdf
- austin.pdf
- barlow.pdf
- BodenGrays.pdf
- Burns&Chisholm.pdf
- BurnsChisholm1.pdf
- ChaoHuang.pdf
- Chaos.pdf
- ChengHsiao.pdf
- chapman.pdf
- ChengLiao.pdf
- Chisholm1.pdf
- DanilovaZJPs.pdf
- Dulevicius.pdf
- EwaldPage.pdf
- GolNafalskiNguynTran.pdf
- grunwald1.pdf

Lecture Slides

<http://www.filefactory.com/file/2ct7a658phwd/4s-presentation.ppt>

<http://www.filefactory.com/file/1e24k1r5bwb3/BringingEngineeringintoMiddleSchools.ppt>

http://www.filefactory.com/file/cc0dnw0roet/CDIO_ReadyToEngineer.ppt

http://www.filefactory.com/file/36xe4mtuu06j/DSE_presentatie_ontwerpnetwerk.ppt

<http://www.filefactory.com/file/4kouel44lpwh/Educating%20Engineers%2021stCentury.ppt>

<http://www.filefactory.com/file/75ez7mru60lr/HSU1EngineeringProfessionAB.ppt>

http://www.filefactory.com/file/6izguczmg7f/Instruct_Dev%28JEEv100%29.pdf

<http://www.filefactory.com/file/7hzt2326cch9/TERCBeginner.ppt>

http://www.filefactory.com/file/36nn9rsl1ho9/Transfroming%20Engineering%20Edcuation%20Summary_1.ppt

<http://www.filefactory.com/file/29t373bexqep/UM%20Eng%20Future.ppt>

http://www.filefactory.com/file/6knmoz46zhy5/Why_K12_Engineering.ppt

<http://www.filefactory.com/file/75z9gh13k56h/womenandminoritiesinscience.ppt>

Assessment

Questions

- 1.To encourage the students to take the engineering career, which aspects should be concerned?
 - 2.Outline the facts to design the interactive tutorial assistance program
 - 3.Express the Personal and Professional Skills and Attributes required for Year 2 Engineering programs.
 - 4.To design the work-based learning program, what are to be considered for quality assurance.?
 - 5.Write Sociological Rationale of a design curriculum
 - 6.Express the examples of Advances and New Developments in Engineering and Technological Education.
 - 7.To improve the communication skills of engineers, what are to be emphasized in training program?
 - 8.To design the computer server for engineering education program, what are to be aware of?
 - 9.How can online system be utilized in students project management?
 - 10.By using Technical and Scientific Computing Environments, how can the different disciplines be co-operated?
-

Objective-

This course provides the educators with skills to take an active and creative approach to their personal and professional development. While it may be of most interest to those in middle or senior education management, it is also designed to help teachers, governors and those in organizations allied with education.

Outcomes

To attain the competencies in

- Leading and managing
- Changing and learning
- Undertake Tasks and responsibilities

Instruction Reference Textbook-

**Educational leadership and learning Practice, policy and research
by Sue Law and Derek Glover**

Contents

- The context for educational leadership
- Developing leadership and management effectiveness
- Managing ourselves and leading others
- Motivating and managing others
- Leading effective teams
- Effective communication
- Organizational cultures
- Managing change and creating opportunities
- Educational improvement, inspection and effectiveness
- Leading and managing in learning organizations
- Managing staff and promoting quality
- Managing resources and finance
- Managing stakeholder relationships and partnerships
- Leading and managing for professional development

Leadership

• Management has its start point in the organisation. It is taken to involve the conduct and evolutionary development of an institution and its staff by means of rational decisions and performance monitoring underpinned by information systems, policies, procedures and plans. • Leadership has a start point in the people within the organisation. It is concerned with getting their

willing cooperation and contribution towards organisational goals and with meeting their needs as individuals.

- Just as 'managers' exist at all levels of the organisation so, too, can leaders be found at all levels. The latter do not necessarily depend on a formal role position.
- Both activities, leading and managing, are required. The balance between each activity varies both from time to time and also from the position of an individual within an organisation.

Both activities, leading and managing, are required. The balance between each activity varies both from time to time and also from the position of an individual within an organisation. 2 Leadership issues: raising achievement

- Whether one activity subsumes the other or whether management and leadership exist as poles of activity along a continuum does not have any bearing on the argument presented.
- Incorporation and the essential need to run an efficient and effective organisation have made it inevitable that there has been an emphasis on the top levels of colleges and upon the managerial activities of senior management. Leadership has always been required at that level. Our interest lies in improving the impact of leadership activity at lower levels in colleges.
- These lower levels are those at which course organisation and delivery by a group of staff is the key activity. If leadership is to have a more direct impact on student achievement than is the case with the mediated leadership activity of senior post-holders, then this lower level may be the one level to examine in more detail.

Leadership in further education

- clarification of what we mean by leadership, particularly within an educational context
- an outline of a number of models of, or approaches to, leadership
- a description of the key behaviours which are associated with effective leadership
- leadership roles within organisations
- how leadership impacts on student outcomes

Lecture Slides

Day10Session2+3.ppt

(0.57MB)

<http://www.filefactory.com/file/3fuyvsmvol7f/n/Day10Session2+3.ppt>

<http://www.filefactory.com/file/5k2kz82v0mdx/Chapter15.ppt>

http://www.filefactory.com/file/7i2nurohue9f/DISPROP._SUMMIT_-_LEADERSHIP.ppt

<http://www.filefactory.com/file/1xwdnv38b9vl/educational-leadership.ppt>

<http://www.filefactory.com/file/4k8snf7x513t/PedroNoguera.ppt>

http://www.filefactory.com/file/4xeb8nwtndwj/School_Leadership.ppt

POWER POINT

Day10Session2+3.ppt (0.57MB)

<http://www.filefactory.com/file/1ryzba7f66c7/Day10Session2+3.ppt>

AUDIO

<http://yourlisten.com/Kyaw.Naing/day-10-session-23>

Day 10 Session 23A

http://www.filefactory.com/file/2au2d9n4837f/Day_10_Session_23A.zip

Assignment

Write 20 pages report on your leadership role at your section/department/ organization. Your report should include the followings.

- Your understanding of leadership
- How do you develop leadership and effective management?
- How do you lead others?
- How do you motivate others?
- How do you lead the effective teams
- Your effective communication?
- Your organizational cultures
- You do you perform managing change and creating opportunities
- Your participation in educational improvement, inspection and effectiveness
- Your activities in leading and managing in learning organizations
- Your responsibility in managing staff and promoting quality
- Your activities in managing resources and finance

- Your activities in managing stakeholder relationships and partnerships

- Your leadership in managing for professional development of your staff.

Assessment

Assignments = 100%

ED 301 Educational Policy (Myanmar Engineering Council Accreditation Requirements)

Objective-

This course provides the educators with Myanmar Engineering Council Laws, Rules, Regulations, Accreditation Requirements, Accreditation Practices , procedures related to accreditation of engineering courses and engineering professionals in Myanmar to enable them to design, develop and teach the engineering programs accredited by Myanmar Engineering Council.

Outcomes

- To understand Myanmar Engineering Council Accreditation Rules & Regulations related to accreditation of Government Technical Colleges & Technological Universities in Myanmar.

- Get the information & knowledge on Current issues related to international & Myanmar Engineering profession.
- Participate in hand on practice workshop focussing on curriculum development & collecting and preparing the materials for accreditation by Myanmar Engineering Council Engineering Accreditation Committee & taking part in mock accreditation sessions.

Contents

- Overview of Myanmar Engineering Council Law, Regulation, Accreditation Principles
- Examples of marine engineers competency assessment in Myanmar/ in line with International Certification standards & explore the way to apply the similar competency based training in other engineering areas
- Requirement of Myanmar Engineering Council & how to design the curriculum to address the learning outcomes
- Discussing the programme structure and course contents(MEng C)
- Discussing the programme delivery and assessment methods
- Assessment Validation Guide of Myanmar Engineering Council
- Educational Resources Development in line with Myanmar Engineering Council Requirements
- Curriculum design for accreditation compliance
- Overall accreditation and compliance practice
- Preparation for self accreditation report
- Engineering Accreditation Plan

Lecture Slides

Day9Session2+3.ppt (0.51MB)

<http://www.filefactory.com/file/6bn1bijhuz/n/Day9Session2+3.ppt>

SAR.pptx (0.51MB)

http://www.filefactory.com/file/6xc65tx9j9z/n/2_SAR.pptx

Regulations.pdf (0.29MB)

<http://www.filefactory.com/file/10tvhg6phwx9/n/Regulations.pdf>

Policy - Qualifications Policy POL11 v4.PDF (0.15MB)

http://www.filefactory.com/file/6zsqu8y1j0ft/n/Policy_-_Qualifications_Policy_POL11_v4.PDF

pe-path.pdf (0.9MB)

<http://www.filefactory.com/file/6y5kfs0gk2tv/n/pe-path.pdf>

pe-req.pdf (0.94MB)

<http://www.filefactory.com/file/6435sdbkdnjv/n/pe-req.pdf>

Myanmar Engineering Council Law.pdf (0.26MB)

http://www.filefactory.com/file/4dz1it17ieer/n/Myanmar_Engineering_Council_Law.pdf

2015 YTU First Workshop.pptx (1.81MB)

http://www.filefactory.com/file/18qq8rbizwj5/n/2015_YTU_First_Workshop.pptx

EngineerCoulcilRegulation.pdf (0.8MB)

<http://www.filefactory.com/file/15zrtdybgs2f/n/EngineerCoulcilRegulation.pdf>

Accreditation Manual.pdf (0.71MB)

http://www.filefactory.com/file/4pqmsxcbbrr5/n/Accreditation_Manual.pdf

POWER POINT

Day9Session2+3.ppt (0.51MB)

<http://www.filefactory.com/file/6bn1bijhuz/n/Day9Session2+3.ppt>

AUDIO

<http://yourlisten.com/Kyaw.Naing/day-9-session-23>

Day 9 Session 23A.zip (32.47MB)

http://www.filefactory.com/file/3mbbwvsilt7x/n/Day_9_Session_23A.zip

Instruction Reference Textbook-

1. Accreditation Manual
2. Graduate Attributes & Terminology.pptx
3. SAR.pptx
4. Engineer Council Regulation
5. Policy - Qualifications Policy POL11 v4
6. Myanmar Engineering Council Law
7. Policies for Accreditation of Programs
8. Time line,EAC Code,Guidelines,Fees

Assessment

Assignments = Participation in workshop sessions

Objective-

The unit involves candidates in leading a complete cycle of the change process. This process falls into three phases that correspond broadly to the elements of competency.

- i. Preparing for change
- ii. Planning for change
- iii. Implementing and evaluating change

Outcomes

- To provide leadership and support to others within the organization
- To manage change more effectively
- To develop educational business skills
- To analyse work practice and context, and make improvements
- To contribute to innovation and capacity building in the organization.

Contents

- Leadership issues Raising achievement
- The Leadership of Change
- A shift from management to leadership
- How not to do change management
- Managing change and transition

Lecture Slides

Day10Session2+3.ppt (0.57MB)

<http://www.filefactory.com/file/3fuyvsmvol7f/n/Day10Session2+3.ppt>

<http://www.filefactory.com/file/mm4yicc1rld/10.ppt>

<http://www.filefactory.com/file/2tdzqfr8xvj3/brkprspadulo.ppt>

<http://www.filefactory.com/file/3o2d7j1n1asp/Change%20Management%20Fundamentals%20-%20Presentation.pptx>

<http://www.filefactory.com/file/4p8smbmtfv01/Change.ppt>

http://www.filefactory.com/file/46ddvn2xhz0j/Change_Management.ppt

<http://www.filefactory.com/file/7dtczwm3cdoj/ChangeManagementTraining.ppt>

<http://www.filefactory.com/file/um1lrrx766v/igltcchangemgmt.pptx>

<http://www.filefactory.com/file/4lgwofgtgx7x/Leading%20Change%20Full%20Presentation.ppt>

http://www.filefactory.com/file/xm5rd3g2lw7/OrgChgMgt_PPT95.ppt

POWER POINT

Day10Session2+3.ppt (0.57MB)

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AUDIO

<http://yourlisten.com/Kyaw.Naing/day-10-session-23>

Day 10 Session 23A

http://www.filefactory.com/file/2au2d9n4837f/Day_10_Session_23A.zip

Brief Notes

Why do so many people resist change (initially at least)? How do you personally respond to change? Marvin Weisbord has written extensively about organizational change and in his book, *Productive workplaces: organizing and managing for dignity, meaning and community*, he draws on a fascinating visual model to aid understanding of people's capacity to change.

According to this representation, we all move from room to room depending on our perceptions, feelings or aspirations triggered by external events. How much energy we have for change depends on what room we're in at the time. In Contentment, we like the status quo and feel calm and satisfied. Any prospect of change can move us into Denial where we stay until we acknowledge our own fear or anxiety. We then move into the Confusion room where we feel unsure and scattered. As we stumble about in Confusion, trying to sort things out, we eventually open the door to Renewal where we feel open and willing to take risks.

This perspective does not see anxiety as a state to be avoided; rather, anxiety is the place we store energy while deciding whether to invest it. Every new project or major change requires a certain amount of anxiety. If there's too much, we're paralysed, while if there's too little, we're unmotivated.

As Weisbord (p268-9) observes, *"People in Contentment or Denial are not frozen. Events will move them soon enough. ... The urge to hold on - to old habits, familiar patterns, relationships and structures (whether they satisfy or not) - is as old as human history. ... We can help by giving people a chance to come together, to experience their mutual dilemmas more fully, to make their own choices about when and how to move. ... Feelings and perceptions can block task accomplishment as surely as lack of money, time or tools."*

- leadership is a process of influencing
- leadership can be exercised by people in organizations who do not possess formal authority
- leadership implies followers
- leadership involves the achievement of goals and objectives

- leadership may best be seen as the exercise of influence to move an organization forward, whereas management is concerned largely with the maintenance of existing systems and structures.

To conclude this section, you could dip into a book that takes a radically different approach to change and leadership. In contrast to most management texts, the authors of *Presence*, like Weisbord, acknowledge the emotional as well as the intellectual aspects of change. They emphasise the connectedness of all things and argue for a synergy between the personal and the collective. Senge et al explain why change is necessary and suggest an almost spiritual approach to learning the profound transformations that are required.

Instruction Reference Textbook-

Leadership+ Change Management DVD

Read

- 811A.pdf
- Reading1.pdf
- Reading2.pdf
- Reading3.pdf
- Reading4.pdf
- Reading5.pdf

Assignment

PATHWAYS AND RESOURCES

OPTION 1

Prepare an annotated bibliography or brief literature review (maximum five pages) demonstrating your familiarity with current thinking about leadership styles and change management strategies.

Plus

Select relevant entries from the reflective journal to illustrate your developing skills and knowledge in relation to leadership and change management.

Plus

Present a fully developed action plan for the proposed change.

OPTION 2

Prepare a formal report or case study which includes detailed information about how you prepared for this project, planned and implemented the change, and evaluated both the outcomes and your own performance as leader.

Plus

Provide a statement from your supervisor or manager, confirming your role and attesting to your leadership development.

OPTION 3

Present a portfolio of workplace documents that tracks progress of the change project and demonstrates your leadership role at every stage of the change process.

Plus

Select reflective journal entries that show the ways in which interaction with your mentor contributed to your growth as a leader.

Assessment

Assignments = 100%

ED309 Educational Communication

Objective-

This program uses methods of the social sciences, encompassing both qualitative and quantitative approaches to the study of communication and education. It asks in particular how education and other social systems change under the impact of new media

Outcomes

- Reflect on the historical effects of media and on the cultural uses of developments such as face-to-face speech, writing, printing, photography, film, radio, television, computers, and networked multimedia;
- Use anthropological and linguistic methods to study how the diverse forms of communication, literacy, information processing, and cognition condition educational practice; and
- Explore positive and negative effects of media on social relations and develop strategies for using information and communication technologies to improve conditions of education and life.

Contents

- Creating a production that communicates your message
- Digital Design
- Great Looking Presentations
- Planning
- Technical Papers related to effectiveness of ICT in education

- Access and equity issues
- Educational Communication Portfolio Presentation

Lecture Slides

Day10Session2+3.ppt (0.57MB)

<http://www.filefactory.com/file/3fuyvsmvol7f/n/Day10Session2+3.ppt>

POWER POINT

Day10Session2+3.ppt (0.57MB)

<http://www.filefactory.com/file/1ryzba7f66c7/Day10Session2+3.ppt>

AUDIO

<http://yourlisten.com/Kyaw.Naing/day-10-session-23>

Day 10 Session 23A

http://www.filefactory.com/file/2au2d9n4837f/Day_10_Session_23A.zip

Instruction Reference Textbook-

ED309 Educational Communication Assignment Tasks-806A Modified (Work Examples)

Assignment

Prepare the educational communication portfolio based on your workplace tasks. Your portfolio should demonstrate the following criterias

- At least two substantial written texts such as a submission , project plan, evaluative report, professional journal article or web site contribution to the project
- Planning documents and evidence of consultation and evaluation relating to the above texts.This could be in the form of e-mail correspondences or meeting notes
- A video taped presentation delivered as part of the project OR presentation notes and visual aids eg powerpoint , overhead transparencies)used in your presentation together with audience feedback commenting on the effectiveness of presentation.
- Planning , problem solving , decision making and evaluating tools that you have developed for facilitating group processes as part of the project
- Samples from strategies you developed to enhance communication between participants in the project such as newsletters, facilitated online forums, e-mail group correspondences , web blogs , teleconference minutes

PLUS

- Write a reflective essay discussing how the project developed workplace relationships and evaluating your role as a facilitator and the strategies that you used
- OTHER RELATED EVIDENCES

Assessment

Assignments = Portfolio Assessment- 100%

Objective-

The objective of this unit is to give the candidate an understanding of the conceptualisation, historical development, assessment, determinants and effects of classroom learning environments.

Outcomes

- To review classroom learning environment for effective educational setting
- To prepare effective educational setting for teaching and learning
- To understand the students' behaviour in the classroom and the cause of the behaviour
- To effectively use the teaching and learning strategies for keeping the good learning environment in the class
- To perform educational survey task on learning environment assessment.

Contents

- Background information about the fields of school and classroom environment
- Outcomes and environment; evaluation of educational innovations
- Quantitative and qualitative methods
- Teachers' use of classroom and school environment instruments in practical attempts to improve their own classrooms and schools.
- Current trends and future desirable directions in research on educational environments.

Lecture Slides

Day10Session1.ppt

(11.78MB)

<http://www.filefactory.com/file/x9ykida5cqvn/Day10Session1.ppt>

<http://www.filefactory.com/file/178grnzyj73b/20211.ppt>

<http://www.filefactory.com/file/40gf00iwpowz/ClassroomEnvironment.ppt>

<http://www.filefactory.com/file/6rpof3wnms5v/Creating%20a%20Learning%20Environment.ppt>

<http://www.filefactory.com/file/4x9hq68kx6jf/Creating%20Productive%20Learning%20Environments.ppt>

<http://www.filefactory.com/file/4yycfcc6xis3/Environment%20and%20Classroom%20Culture.pptx>

http://www.filefactory.com/file/28gk83lkaitv/Kellough_4.ppt

<http://www.filefactory.com/file/4pnkjb9sc6b/LLW-Unit3.ppt>

POWER POINT

Day10Session1.ppt (11.78MB)

<http://www.filefactory.com/file/10mfxaxufq4r/Day10Session1.ppt>

AUDIO

<http://yourlisten.com/Kyaw.Naing/day-10-session-1>

Day 10 Session 1A

http://www.filefactory.com/file/1pub28vgql41/Day_10_Session_1A.zip

Instruction Reference Textbook-

Learning Environment Reader

Brief Lesson

Educators often speak of a classroom's or school's climate, environment, atmosphere, tone, ethos, or ambience; they consider it to be both important in its own right and influential in terms of student learning. Despite the fact that the educational climate or environment is a somewhat subtle concept, remarkable progress has been made over the last two decades in conceptualising it, assessing it, and researching its determinants and effects. Although important educational learning environment work has been undertaken by researchers interested in a variety of school subject areas, clearly science education researchers have led the world in terms of developing, validating, and applying environment assessment instruments.

The learning environment focuses on the research on classroom learning environments in technology, science and mathematics. Topics include the history of learning environment research; questionnaires for assessing classroom environments; relations between type of learning environment and learning outcomes; and practical attempts to improve educational environments.

History of Learning Environment Research

Begin your study with Reading No. 1, Science learning environments: Assessment, effects and determinants. (B. J. Fraser). You will observe that this monograph falls into seven main parts:

1. Background information about the fields of school and classroom environment including alternative assessment approaches, a historical perspective on past work, the distinction between school and classroom environment and the unit-of-analysis question.
2. Instruments for assessing perceptions of classroom environment.
3. Assessment instruments for school environment.
4. An overview of several lines of past research involving environment including:
 - i. associations between student outcomes and environment; evaluation of educational innovations;
 - ii. investigations of differences between students' and teachers' perceptions of the same classroom;
 - iii. and investigations of whether students achieve better when in their preferred environments.
5. Recent research in which quantitative and qualitative methods were combined in the same study.
6. Teachers' use of classroom and school environment instruments in practical attempts to improve their own classrooms and schools.

7. Current trends and future desirable directions in research on educational environments.

Instruments for Assessing the Classroom Learning Environment

Refer to the Table on page 531 of Reading 1. This table contains, in summary form, some of the instruments that are used in studies of learning environments.

Complete Readings 2 to 8. These readings will provide further information about the development and application of instruments used in the quantitative assessment of learning environments. After completing these readings you should be able to select an appropriate instrument that you can use in your own teaching situation.

Assessment

Assignments = 100%

In this assignment you are required to complete an action research project incorporating the use of a learning environment measure. Use one of the learning environment instruments with a class, colleagues, or others in your own teaching situation. You could use more than one form of the instrument. Use the following guide in presenting this assignment.

Title

The title should be brief and accurately describe the nature of the project.

Context of the study

Discuss the background to the central problem. Explain why the problem is significant to your teaching or professional activities and educational research.

Selection of instrument

Briefly describe the development of the questionnaire and your reasons for its selection.

Data sources

Describe the target population (i.e., the class or other group).

Role of participants

Describe your role in the action research and any other persons involved the study (e.g., other teachers, principal, students).

Data collection

Describe and explain the types of data you collected, and how they were obtained and recorded.

Data analysis & interpretation

Present your results and explain the methods you used to analyse and interpret the data. Use tabular and graphical forms to enhance your presentation.

Significance

Explain your results and reflect on what they mean. Discuss the importance of both the results and the process.

References

Every reference you cite must be included in a list of references at the end of the assignment. Do not include any reference which is not explicitly cited in your report. Use *APA Format. This is covered in the "I Hate to Write Guide to Writing a Report" under the section "Citing Sources and References".

Sample Report

Assessing the Effectiveness of Information & Communication Technology in Senior Students' Learning Environment at Niue High School

ED311 Outcome based Education

Objective-

At the end of this training, participants will be able to understand:

- ☐ Outcome-Based Education (OBE)
- ☐ Programme Education Objectives (PEO'S),

Outcomes

Programme Outcomes (PO's), Course Outcomes (CO) and Performance Indicators

- ☐ Bloom's Learning Taxonomy
- ☐ Assessment and Evaluation Methods
- ☐ Continual Quality Improvement Process

Contents

- ☐ The Origins of Outcome Based Education
- ☐ *Approaches to OBE*
- ☐ *OBE Process*
- ☐ Educational Process - Stakeholders
- ☐ Educational Process – Lecturers' Roles
- ☐ Educational Process - References
- ☐ OBE Model Hierarchy
- ☐ Characteristics of OBE curricula
- ☐ *Types of Teaching/Learning Delivery Activities*
- ☐ *OBE Delivery*
- ☐ Continual Quality Improvement (CQI)
- ☐ Essentials for OBE's success

- ☐ Essentials Components of OBE
- ☐ Different Levels of Outcomes
- ☐ Development of Programme Education Objectives
- ☐ CHARACTERISTICS OF GOOD OUTCOME STATEMENTS
- ☐ Course Development
- ☐ ENGINEERING EDUCATION
- ☐ and
BLOOM'S TAXONOMY
- ☐ DOMAINS of LEARNING OUTCOMES
- ☐ Assessment in OBE
- ☐ Continual Quality Improvement (CQI)

Lecture Slides

Final OBE Training at Myanmar July 2014.pptx (1.02MB)

http://www.filefactory.com/file/6k4t7x3wkew1/n/Final_OBE_Training_at_Myanmar_July_2014.pptx

Graduate Attributes & Terminology.pptx (0.7MB)

http://www.filefactory.com/file/3o2bl46ad7/n/1_Graduate_Attributes_&_Terminology.pptx

http://www.filefactory.com/file/1998dikzrhxl/10_ml.pdf.ppt

<http://www.filefactory.com/file/1sy2g924wohr/Bezinovic%20-%20Learning%20outcomes%20based%20education.ppt>

<http://www.filefactory.com/file/cyyidy2i3yt/OBE.pdf>

http://www.filefactory.com/file/3zgrw09aa22z/OBL%20Presentation_Wang%20Lixun_20120210%20final_6%20Feb%202012_.pdf

<http://www.filefactory.com/file/6swi9degtfqi/OBTL%20seminar%2020-2-08-Tony%20Hung.ppt>

http://www.filefactory.com/file/2o5jpany0rd9/Outcome_Based_Education.pptx

<http://www.filefactory.com/file/5tyfokyanbvz/Three%20days%20workshop%20-%20Outcome%20based%20education.pdf>

Instruction Reference Textbook-

Final OBE Training at Myanmar July 2014. by **Ir. Professor Academician Dato' Dr. HT Chuah**
President of FEIAP

Assessment

Participation in workshop & presenting the portfolios

Objective-

To design the international standard engineering education program by applying total quality management

Outcomes

- To have the knowledge and skills in total quality management
- To foster the cross border co-operation
- To interface the school to engineering programs

Contents

- Secondary School-University Interface: Science and Engineering
- The Educational Process
- Quality Engineering Education: Student Skills and Experience
- The Web as a Tool for Supporting Student Learning
- Develop a Long-Term Plan to Overcome Skills Shortage
- Cross border engineering practice
- Cross-cultural Skills for engineers

Instruction Reference Textbook-

ED412 File

Assessment

Assignments = 100% (Two assignments of 50% each)

Describe total quality management in engineering education by outlining the important concepts.

Explore the rationales to prepare the global engineering program by cross border co-operation

Level 4-Specialized Teaching Areas

ED 313 Computer Supported Learning & Distance Education

Objective-

This unit provides the skills related to contribute to the central questions of how students can learn collaboratively using the new technologies, the problems that can be expected, and the benefits that may ensue. The various ways to examine how computer supported group work differs from face-to-face group work, and the implications for both educators and students are provided.

Outcomes

- ☐ To offer assessment of e-learning with the hope of offering ideas in terms of practical guide and points of good practices, while addressing potential pitfalls to avoid.
- ☐ To be aware of what constitutes good and effective e-learning practices and how to design them for specific contexts and audiences in the global information
- ☐ Innovative uses of e-learning, Addressing various divides in e-learning, user centered focus in e-learning, special considerations in e-learning and development economy.

Contents

- ☐ Computer-Supported Collaborative Learning in Higher Education:
- ☐ An Introduction
- ☐ Online Group Projects: Preparing the Instructors to Prepare the Students
- ☐ Time, Place and Identity in Project Work on the Net
- ☐ The Collective Building of Knowledge in Collaborative Learning Environments
- ☐ Collaboration or Cooperation
- ☐ Analyzing Small Group
- ☐ Interactions in Educational Environments
- ☐ Mapping Perceived Socio-Emotive Quality of Small-Group Functioning
- ☐ A Constructivist Framework for Online Collaborative Learning:
- ☐ Adult Learning and Collaborative Learning Theory
- ☐ The Real Challenge of Computer-Supported Collaborative Learning
- ☐ Use and Mis-Use of Technology for Online, Asynchronous, Collaborative Learning
- ☐ The Personal and Professional Learning Portfolio
- ☐ An Online Environment for Mentoring, Collaboration, and Publication
- ☐ Problems and Opportunities of Learning Together in a Virtual Learning Environment
- ☐ Web-Based Learning by Tele-Collaborative Production in Engineering Education
- ☐ Relational Online Collaborative Learning Model
- ☐ Online, Offline and In-Between: Analyzing Mediated-Action

Lecture Slides

Day7Session2+3Mod.pdf (42.53MB)

<http://www.filefactory.com/file/1ikpltc7rck9/n/Day7Session2+3Mod.pdf>

<http://www.filefactory.com/file/195p31unxf15/11.pdf>

<http://www.filefactory.com/file/6zopnrirqimf/1b7%20quality%20control.ppt>

<http://www.filefactory.com/file/5e9cws9b5qyb/Ch02%20Total%20Quality%20Management.ppt>

<http://www.filefactory.com/file/33yh6id7gwyn/Falade.ppt>

<http://www.filefactory.com/file/3ipsnhabsvd9/ijee959.pdf>

<http://www.filefactory.com/file/7dy03es1yphp/Krajewski%20Chapter%2006.ppt>

http://www.filefactory.com/file/773qpW0dm7tp/MGS3100_Slides15a.ppt

<http://www.filefactory.com/file/og4l0o6gfp5/Trial%20lecture%20%2845%20min%29.ppt>

<http://www.filefactory.com/file/1qhriz2ndywx/VC-UNIMA-Presentation.ppt>

POWER POINT

Day7Session2+3Mod.pdf (42.53MB)

<http://www.filefactory.com/file/1ikpltc7rck9/n/Day7Session2+3Mod.pdf>

AUDIO

<http://yourlisten.com/Kyaw.Naing/day-7-session23>

Day 7 Session 23A.zip (226.17MB)

http://www.filefactory.com/file/38t5wd7eancf/n/Day_7_Session_23A.zip

Instruction Reference Textbook-

Computer Supported Learning by Tim S. Roberts

Assessment

Assignments = 100%

The students will have to write 20 pages study report The report needs to include

- Book review- Review on each chapter of the book highlighting the key concepts, points, key theory & practical application concepts
- Own idea on how to apply those concepts in real practical applications.
- Examples of curriculum designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book

The book references for the subjects can be downloaded from the following links by entering the given password.

Objective-

This unit provides the skills to the teachers to act as mechanisms for communicating an approach to mathematics education that is eclectic and embracing, respectful and engaging, reflective and, ultimately, educational.

Outcomes

To provide the methods to the educators in class teaching to provide the students with conceptual understanding of mathematics content through modelling or interpretation of representations,

- computational fluency,
- problem solving through application of the content.

Contents

- Strategies for Vocabulary Development
- Strategies for Using Manipulatives
- Strategies for Teaching Procedures
- Strategies for Understanding Problem Solving
- Strategies for Using Mathematical Games
- Strategies for Assessing
- Mathematical Thinking

Lecture slides

<http://www.filefactory.com/file/6tbhmh30w0of/Mar29ProblemSolving.ppt>

<http://www.filefactory.com/file/6kv55mbui4mr/Math%20So%20Hard%20Redux.ppt>

<http://www.filefactory.com/file/5jeon81ds41b/mathematics0107.ppt>

<http://www.filefactory.com/file/4wz2vhgix1mp/ModelsofMathematicsTeachingrevised.ppt>

Instruction Reference Textbook-

- Multiple Perspectives on Mathematics Teaching and Learning Edited by Jo Boaler
- Strategies for Teaching Mathematics by *Deborah V. Mink*

Assessment

Assignments = 100%

The students will have to write 20 pages study report The report needs to include

- Book review- Review on each chapter of the book highlighting the key concepts, points, key theory & practical application concepts
- Own idea on how to apply those concepts in real practical applications.
- Examples of curriculum designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book

Objective-

This unit provide the teaching pedagogy in science that effectively enable the teacher to transfer what they learn in our courses into their own classroom practices.

Outcomes

- To shine a spotlight on important work that science teacher educators are doing with teachers and youth
- To describe the professional purposes and benefits realized when they, as science teacher educators, arranged opportunities to teach children or adolescents.
- To utilize model teaching lessons in class room practice

Contents

- Pedagogical Content Knowledge
- Teaching & learning Through experience
- Teaching examples

Instruction Reference Textbook-

- Understanding and Developing Science Teachers' Pedagogical Content Knowledge
By John Loughran
- Science Teacher Educators as K-12 Teachers edited by Michael Dias • Charles J. Eick, Laurie Brantley-Dias

Assessment

Assignments = 100%

The students will have to write 20 pages study report The report needs to include

- Book review- Review on each chapter of the book highlighting the key concepts, points, key theory & practical application concepts
- Own idea on how to apply those concepts in real practical applications.
- Examples of curriculum designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book

The book references for the subjects can be downloaded from the following links by entering the given password.

Objective-

This unit provides the teaching idea for teaching students with unique opportunities to develop a range of process skills such as critical and creative thinking skills in addition to their practical skills, through undertaking authentic tasks of real purpose.

Outcomes

- To link philosophy and educational issues in my daily work
- To help teachers to improve the teaching by means of the insights that philosophy of technology offers.

Contents

- Philosophy of technology:
- Technological artifacts
- Technological knowledge
- Technological processes
- Technology and the nature of humans
- Ethics and aesthetics of technology
- Learners' philosophies of technology
- Reconceptualizing technology through education
- Practical issues in teaching about technology

Lecture Slides

<http://www.filefactory.com/file/uwbo3217ot3/41707663.ppt>

<http://www.filefactory.com/file/26f4xtj03xcz/5EEarthCentral.ppt>

<http://www.filefactory.com/file/uvj663k6bvd/GCPresentation.ppt>

<http://www.filefactory.com/file/1c39jez2vn9n/intro.ppt>

<http://www.filefactory.com/file/1kc8i94lvy3/Introduction.ppt>

http://www.filefactory.com/file/17gyj694fojh/TSELA_Irene_4_24_07.ppt

<http://www.filefactory.com/file/6u1984w4ua7/wieman.ppt>

POWER POINT

Day 4 Session 2

<http://www.filefactory.com/file/20f4rg477rll/Day4Session2.ppt>

AUDIO

<http://yourlisten.com/Kyaw.Naing/day-4-session-2>

Day 4 Session 2A.zip (66.62MB)

http://www.filefactory.com/file/565rmb1n39op/n/Day_4_Session_2A.zip

Instruction Reference Textbook-

Teaching about Technology by MARC J. DE VRIES

Assessment

Assignments = 100%

The students will have to write 20 pages study report The report needs to include

- Book review- Review on each chapter of the book highlighting the key concepts, points, key theory & practical application concepts
- Own idea on how to apply those concepts in real practical applications.
- Examples of curriculum designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book

The book references for the subjects can be downloaded from the following links by entering the given password.

Objective-

This unit describes the performance outcomes, skills and knowledge required to undertake research into educational theory and apply this research to improve current training and assessment practice.

This unit typically applies to those who need to develop skills in research in order to apply educational theory to improve current and future training and assessment practice

Outcomes

- Prepare research brief relating to training and assessment practice
- Conduct research in training and assessment practice
- Investigate and apply educational theory to the research
- Report on application of educational theory to training and assessment practice
- Review entire process

Contents

Qualitative Research and Public Policy

- Multilevel Analysis in Higher Education Research: A Multidisciplinary Approach .
- Conducting Multi-paradigm Inquiry in the Study of Higher Education Organization and Governance: Transforming
- Research Perspectives on Colleges and Universities
- Examining Pathways to and Through the Community College for Youth and Adults
- Review of the Theories Developed to Describe the Process of College Persistence and Attainment

Lecture Slides

<http://www.filefactory.com/file/389zd7wa8vqj/CH01.ppt>

<http://www.filefactory.com/file/4tf5a56ilflt/Chapter7.ppt>

http://www.filefactory.com/file/6jitg79g21h1/EDUC8631_Slides-Day_1-Sessions_1_2_3_and_4.ppt

http://www.filefactory.com/file/3e1ch8ep4j6n/McM_Ch1.ppt

http://www.filefactory.com/file/48e7ed04z7uz/STEM_PedR_jane.ppt

Instruction Reference Textbook-

Higher Education: Handbook of Theory and Research

Published under the Sponsorship of the Association for Institutional Research (AIR)
and the Association for the Study of Higher Education (ASHE)

Assessment

Assignments = 100%

Prepare & submit one educational research paper.

Objective-

On completion of this unit you should be able to demonstrate your achievement of the following learning outcomes:

All participants will be competent, confident and professional users of e-Learning system in teaching

Outcomes

To use e-Learning tools to:

- improve their own professional productivity,
- improve their preparation for classes and teaching generally and
- improve their ability to use and integrate IT appropriately within the classroom

Contents

The Syllabus:

The unit consists of five inter-related modules:

- 1. Module 1: Getting Started and IT Empowerment and Teaching**
 - a. Unit Introduction
- 2. Module 2: IT and Education:**
 - a. The Hype and the Reality
 - b. Multimedia in Education
- 3. Module 3: Ghosts of Schooling Past, Present and Future**
 - a. Technology and the Whole Curriculum
 - b. Technology as a Classroom Tool
 - c. Creating an active learning Environment
- 4. Module 4: Making the World Wide Web Work for You**
 - a. The Tools of the Trade
 - b. Using the internet for information
- 5. Module 5: Technology in Your Classroom**
 - a. Classroom Applications of the
 - b. WWW
 - c. Educational Software
 - d. Ideas, Approaches, Tools and Tricks
 - e. Integration
 - f. Early Learning and Primary

Tuition Pattern:

This unit is provided as an online unit. All tuition is provided through the online course website. The length of the unit is one semester (12 weeks); however, some students will finish sooner, and some may require additional time to complete it. While the weekly time commitment will vary from student to student, most should allow approximately 10 hours per week total study time for the unit.

Instruction Reference Textbook-

The CD in the folder Day 7 Session 2/ 5.Learning Technology 1/ index.html

Recommended Texts and Principal References:

- Shelly G. Cashman T.J. Gunter R.E. Gunter G.A. (2002). Teachers discovering computers: A link to the future WWW. Course Technology, Cambridge.

All other materials are supplied on Course CD-ROMS and online.

Lecture Slides**Day7Session2+3Mod.pdf (42.53MB)**

<http://www.filefactory.com/file/1ikpltc7rck9/n/Day7Session2+3Mod.pdf>

<http://www.filefactory.com/file/j7sexmbn9g9/brainbasedlearning.ppt>

http://www.filefactory.com/file/3hn7zaj2dn81/Draft_v3_cb_160310.ppt

http://www.filefactory.com/file/4h6d9ka6f0xx/integrating_internet-based-technology_into_teaching_and_learning.ppt

<http://www.filefactory.com/file/743yjlpoq5b7/SteveHiggins.ppt>

<http://www.filefactory.com/file/2vhkfro7l8l3/technology-pbl2004.ppt>

<http://www.filefactory.com/file/1vd8xmt4ema9/Technology.ppt>

<http://www.filefactory.com/file/1dvrtc984yhl/using%20technology%20to%20enhance%20classroom%20learning.ppt>

Day 7 Session 23A.zip (226.17MB)

http://www.filefactory.com/file/38t5wd7eancf/n/Day_7_Session_23A.zip

Assessment**Assignment One: Your Portfolio**

Due progressively, by installments, see unit outline.

50% of final mark.

Each student is expected to keep a personal portfolio / diary / reading log, which will be assessed at the completion of the subject. Students will record -- in an outline / notes / diary style -- their reactions to and reflections upon their reading and other study: from the modules of this course, from assigned and optional readings, from what is happening at their school -- whatever is relevant. This is a reflective record of your journey through the course

and the development of your ideas, skills and professional practice. As your skills and knowledge develop so to will your portfolio

Assignment Two: Educational and Multimedia Review

. 50% of final mark.

Students will gather material on educational multimedia -- both WWW sites and self-contained packages (such as CD-ROMs) -- that are relevant to the age group(s) and learning area(s) they teach. Midway through Module 5, they will be required to submit a formal report reviewing these materials from the perspective of: educational merit, overall quality, appropriate uses, and deficiencies / room for improvement. In developing your evaluation and report you are required to your own evaluation mechanism, based upon the readings and course notes. In addition you are to indicate the rational for the evaluation design and how you would use your review template in your teaching

ED312 Technology in Classrooms

Objective-

To provide use of technology in educational context by combining with teaching and learning principle, educational leadership skills and educational leadership skills.

Outcomes

On completion of this unit you should be able to demonstrate your achievement of the following learning outcomes:

Upon completion, the participant;

1. Through the use of professional based portfolios will design, implement and evaluate the use of IT, multimedia and the Internet in their own classrooms
2. Using the skills and knowledge developed within the unit, conduct research of the use on learning technologies within the areas of;
 - a. Learning technologies and Developing Leadership Skills in Technology
 - b. Assessing and Changing IT Learning EnvironmentsTeaching and Learning Principles for Technology-Rich Classrooms

Contents The unit consists of 2 inter-related sections:

1. **Section 1**
 - a. Conduct independent research in one of the following
 - i. Developing Leadership Skills in Technology
 - ii. Assessing and Changing IT Learning Environments
 - iii. Teaching and Learning Principles for Technology-Rich Classrooms
2. **Section 2**
 - a. The development of two Portfolios
 - i. "Classroom" based portfolio that demonstrates the use and integration of educational technology in your classroom or workplace.
 - ii. "Personal" based portfolio that provides the student with the opportunity to demonstrate the use and educational practice in professional practice.

Lecture Slides

Day8Session1.ppt (1.15MB)

<http://www.filefactory.com/file/5fv0twznzs5cv/n/Day8Session1.ppt>

Day8Session2+3.pdf (17.25MB)

<http://www.filefactory.com/file/3r6chs9kqc9h/n/Day8Session2+3.pdf>

<http://www.filefactory.com/file/47d2sny7w8o9/21st%20Century%20Learning%20Presentation.ppt>

<http://www.filefactory.com/file/1v4l7mnni7op/grouppowerpoint.ppt>

<http://www.filefactory.com/file/mtrfcohsy6h/innovation-technology-tl.ppt>

<http://www.filefactory.com/file/j9yeffoyoip/peter-apricot.ppt>

<http://www.filefactory.com/file/69szal7jfkj7/using%20technology%20to%20enhance%20classroom%20learning.ppt>

POWER POINT

Day8Session1.ppt (1.15MB)

<http://www.filefactory.com/file/5fv0twznzs5cv/n/Day8Session1.ppt>

AUDIO

<http://yourlisten.com/Kyaw.Naing/day-8-session-1a>

POWER POINT

Day8Session2+3.pdf (17.25MB)

<http://www.filefactory.com/file/3r6chs9kqc9h/n/Day8Session2+3.pdf>

AUDIO

<http://yourlisten.com/Kyaw.Naing/day-8-session-23>

Day 8 Session 1A.zip (86.47MB)

http://www.filefactory.com/file/55q1g6ol05gv/n/Day_8_Session_1A.zip

Day 8 Session 23A

http://www.filefactory.com/file/7edyewwtzfvd/Day_8_Session_23A.zip

Instruction Reference Textbook-

Day 8 Session 1/ 7. Technology in classroom/ index.html

Assessment

Assignments = 100%

Prepare e-Learning portfolio that include

- Digitized notes , Powerpoint lectures , Online test

- Folders for lessons & students' work , Web-based online teaching documents & study support website
-

ED413 Engineering Education (3)

Objective-

This unit provides the engineering educators with engineering ethical issues, New pedagogy , Industrial co-operation & Lifelong learning and Strategic Planning skills in engineering education

Outcomes

Design the engineering programs by taking account on emphasizing in engineering ethics & by utilizing innovative new teaching pedagogies

Contents

- Engineering ethics
- Engineering teaching pedagogies
- New training and work-based approach
- Strategies planning in engineering education

ED413 Par1 Ethics Lecture Slides

<http://www.filefactory.com/file/1y1uqzcykoi1/COE390F011.ppt>

<http://www.filefactory.com/file/63pm1qtkz0y5/Engineering%20Ethics.ppt>

<http://www.filefactory.com/file/4d1i3m7geoln/engineeringethics.ppt>

http://www.filefactory.com/file/2ppq0y0a072p/Ethics_in_Engineering.ppt

http://www.filefactory.com/file/4o9zpk6gm8wf/ETHICS_talk.ppt

http://www.filefactory.com/file/5h9ev9t1p02j/Lecture%20Slides_Chapter%20Ethics.ppt

http://www.filefactory.com/file/4per6fvqkrab/osu_ethics.ppt

ED413 Part2 New pedagogy , Industrial co-operation & Lifelong learning Lecture Slides

<http://www.filefactory.com/file/sx8tjtdzkmp/11152005.ppt>

http://www.filefactory.com/file/6fkfqiluc0br/21_Learning_Summit.ppt

<http://www.filefactory.com/file/2q3ebf4pusx5/4s-presentation.ppt>

http://www.filefactory.com/file/6n81fnwf7d35/benefits_elearning_pedagogy_eassessments.pdf

http://www.filefactory.com/file/4jhgxcpayajn/CSTS-UB-Smith-Pedagogies_of_Engagement-2.ppt

http://www.filefactory.com/file/65qkbf7ibiuj/engineering_design_thinking_teachingandlearning.pdf

http://www.filefactory.com/file/720xaxqg4t15/ETL_project_NJE.ppt

http://www.filefactory.com/file/2l6r0f2ii8bd/teaching_and_learning_symposium_2011_faculty_eng_16414.ppt

<http://www.filefactory.com/file/5y391hyhpm6d/tools.ppt>

ED413 Part3 Strategic Planning in Engineering Education Lecture Slides

<http://www.filefactory.com/file/3s2hb4ir6pkp/entrepreneurship.ppt>

<http://www.filefactory.com/file/5j9zk9pczu4n/ingenierieFPTang.ppt>

http://www.filefactory.com/file/6yoiirjxfrwn/Malaysian_Qualifications_Agency_.ppt

<http://www.filefactory.com/file/c69fv90a5mr/Planning%20Process.ppt>

http://www.filefactory.com/file/1gxv5ekox4kz/situation_assessment_supplement_1_of_2.ppt

http://www.filefactory.com/file/2yiglzxr5ivf/stem_presentation_may_15_2013.ppt

ED413 Part 4 New training and work-based approach Lecture Slides

<http://www.filefactory.com/file/75vys0detojr/070224%20Visit%20Managers%20Workshop%20Presentation.ppt>

<http://www.filefactory.com/file/15jgogw9hl4r/Elena%20Helerea%20Paris.ppt>

<http://www.filefactory.com/file/72efunbvma2j/pbl-aust.ppt>

Instruction Reference Textbook-

- ED413 Par1 Ethics
- ED413 Part2 New pedagogy , Industrial co-operation & Lifelong learning
- ED413 Part3 Strategic Planning in Engg Education

Assessment

Assignments = Project 100%

Design an engineering program. The program

- Address the ethical issues
- Contains various innovative pedagogies & co-operation with industry & other disciplinary areas.
- Cover the future strategies for next 5 to 10 years

Level	Course	Abbreviation	Pre-requisite	Target Group
1	Diploma in Vocational Education & Training (Certificate in Vocational Education & Training for completion of certain subjects)	Dip VET	Degree/Diploma /Certificate In relevant professional/ vocational areas	Vocational Education Teachers in various training courses
2	Diploma in Technical Teaching	Dip Tech Tchg	Diploma in Vocational Education & Training	Government Technical College Teachers
3	Diploma in Engineering Education	Dip Engg Ed	Diploma in Technical Teaching	Technological University Teachers
4	Diploma in Engineering Education (Specialist Discipline)	Dip Engg Ed (Specialist Area)	Diploma in Engineering Education	Technological University Teachers with specialized teaching in specific area of study.

Training & Assessment System Overview

Level	Course	2 weeks workshop (Assessment based on participation in workshop sessions)	Teaching Experience Assessment +Teaching Portfolio Assessment (Individual Assessment- During/After two weeks workshop) (The candidates can submit their portfolios)	Self study & Assignment Assessment (Individual Assessment)
1	Diploma in Vocational Education & Training (Certificate in Vocational Education & Training for completion of certain subjects)	ED120-Part (2A) Basic Teaching Practicum Preparation ED121-Part (2B) Training & Assessment Practice (Day 1 to 6 Session 3 s)	ED 103 Teaching Practice ED 104 Lesson Planning ED 106 Interpreting Curriculums ED 107 Teaching & Learning ED 201 Class Room Management & Teaching	ED 101 Theory of Education ED 102 Education Technology

Level	Course	2 weeks workshop (Assessment based on participation in workshop sessions)	Teaching Experience Assessment +Teaching Portfolio Assessment (Individual Assessment- During/After two weeks workshop)	Self study & Assignment Assessment (Individual Assessment)
2	Diploma in Technical Teaching	ED 202 Curriculum & Design ED 405 Training Principle ED220-Part (2) Vocational Education & Training Practice (Diploma in Vocational Education & Training TAE50111) (All session 3s)	ED 206 Designing Instructions & Assessment	ED 401 Adult Learning Technology ED 205 Teaching & Measuring ED411-Engineering Education (1)
3	Diploma in Engineering Education	ED 301 Educational Policy (Myanmar Engineering Council Accreditation Requirements) ED309 Educational Communication ED311 Outcome based Education ED320-Part (2) Myanmar Engineering Council's Accreditation Compliance Practice (All Sessions 1/2/3)	ED301P- Curriculum design for accreditation compliance ED302P-Overall accreditation and compliance practice	ED 402 Educational Leadership ED 308 Change Management ED 407 Learning Environment ED412 Engineering Education (2)

Level	Course	2 weeks workshop (Assessment based on participation in workshop sessions)	Teaching Experience Assessment +Teaching Portfolio Assessment (Individual Assessment- During/After two weeks workshop)	Self study & Assignment Assessment (Individual Assessment)
4	Diploma in Engineering Education (Specialist Discipline)		ED 308 Computer Supported Learning & Distance Education ED310 Learning Technology I & II ED312 Technology in Classrooms	ED 304 Maths Teaching ED 305 Science Teaching ED 306 Technology Teaching ED 404 Educational Research (Part 2) ED413 Engineering Education (3)

Dip Teaching +BEd Videos

IQY Teacher Education Course Video in Myanmar

<https://youtu.be/nAeLtVKTsGA>

30 May 2021 Zoom Lesson—BEd+DipTchg

https://youtu.be/_fXPYsZQpDc

6 June 2021 Zoom Lesson-- BEd+DipTchg

https://youtu.be/ti8OYkB4j_U

13 June 2021 Zoom Lesson-- BEd+DipTchg

<https://youtu.be/yskNfqSs0as>

20 June 2021 Lesson BEd +Teach Tchg

<https://youtu.be/sxbDkua6DhE>

27 June 2021 Lesson BEd+Tchg

<https://youtu.be/74A7PZPZGOQ>

<https://youtu.be/d8MsTfCILpM>

28 June 2021 Lesson BEd+Tchg

<https://youtu.be/5bfm2TARgnw>

29 June 2021

<https://youtu.be/OnfnyQQNIDE>

30 June 2021

BEd Program

<https://youtu.be/gBVpHV7OCDE>

Diploma in Higher Education Teaching

Study Instruction

Overview

The course helps students to reflect critically on their teaching in ways which are underpinned by their own experiences and those of their students and colleagues, and by the research on learning and teaching in higher education.

Course aims

The course aims to encourage students to develop:

- an understanding of different ways of thinking about university teaching, and the consequences for student learning, to enable them to make informed decisions about their approaches to teaching, subject design and assessment in a variety of contexts and with a diversity of students (relates to professional and intellectual attributes)
- an ability to reflect critically on and evaluate their own teaching and subjects and make changes aimed at improving their students' learning (relates to professional and intellectual attributes)
- a commitment to scholarship in teaching and to self-directed continuing teaching development (relates to professional and personal attributes), and
- a broader awareness of the higher education, university and academic career contexts in which they work, to assist them to develop their academic potential more effectively (relates to professional and personal attributes).

Course duration and attendance

2 weeks Intensive Course OR Online Plus Self study & assignments.

Course structure

The course consists of 60 credit points of study, comprising four subjects which must be completed to be eligible for the award.

Course completion requirements

ED431 Student Learning and Teaching Approaches	15 cp
ED432 Course Design and Assessment	15 cp
ED433 Scholarly Teaching and Learning Project	15 cp
ED434 Reflective Academic Practice	15 cp
Total	60 cp

ED431 Student Learning and Teaching Approaches

Description

Participants in this subject develop their understanding of key ideas from research on student learning and teaching in higher education to enable them to reflect on and review their teaching from the perspective of this research. They develop their understanding of a model that relates teaching to student learning and is underpinned by empirical research on student learning and teaching in higher education, so that they become more aware of students' approaches to their learning, the influences of the learning environment on students' approaches to learning, and relations between learning approaches and the quality of the learning outcome. Participants relate this to their approaches to teaching, the nature of good teaching and teaching strategies which encourage high quality student learning. They seek feedback on their own teaching from students and peers and make use of this feedback and the research to plan changes to their teaching to improve the learning environment for students.

Subject learning objectives (SLOs)

explain how key ideas from higher education research on approaches to student

- a. learning and teaching could be applied to their students and teaching contexts

analyse the effects of their teaching on students' experiences of learning, using

- b. feedback from reflection, students, peers and other sources

evaluate the potential of different teaching strategies to encourage student

- c. understanding

reflect on the perspectives offered by research and feedback and use this to

- d. propose changes to their teaching to improve student learning

Contribution to the development of graduate attributes

The subject aims to encourage participants to develop:

- an understanding of different ways of thinking about university teaching, and the consequences for student learning, to enable them to make informed decisions about their approaches to teaching, subject design and assessment in a variety of contexts and with a diversity of students (relates to professional and intellectual attributes)

- an ability to reflect critically on and evaluate their own teaching and subjects and make changes aimed at improving their students' learning (relates to professional and intellectual attributes)
- a commitment to scholarship in teaching and to self-directed continuing teaching development (relates to professional and personal attributes), and
- a broader awareness of the higher education and academic career contexts in which they work, to assist them to develop their academic potential more effectively (relates to professional and personal attributes).

This subject makes a major contribution to the first and second of these aims and a minor contribution to the third.

Teaching and learning strategies

Learning in the subject involves students in engaging in, inquiring into and reflecting on their teaching practice in ways which are informed by perspectives from the literature on teaching and learning, course lecturers, peers, students and personal experiences.

Learning the key concepts of the subject occurs through a combination of interactive face to face workshops, online activities and discussion and independent reading and reflection.

Learning to analyse and evaluate teaching strategies and feedback on teaching occurs through a combination of interactive face to face workshops, online activities, collection and analysis of feedback from students and peers, peer discussion and independent reading. Suggestions for changes occur through independent reflection and negotiation with a teacher

Content (topics)

- students' approaches to learning in different contexts and cultures, the influences of teaching and the learning environment on students' approaches to learning, and relations between learning approaches and the quality of the learning outcome
- the nature of good teaching and teaching strategies for encouraging understanding in a variety of teaching and learning contexts, including face-to-face classes and online. The subject builds upon the extensive literature on what constitutes good teaching, including videos of teachers at UTS teaching and reflecting on their teaching
- ways of gaining feedback on teaching and on students approaches to learning, in particular through student interviews, questionnaires, classroom assessment techniques and peer observation and review.

Lessons

Down load and study the following power point slides and answer the questions

ED431-Critical Thinking (Day 1)

www.highlightcomputer.com/ED431CriticalThinking.pptx

VIDEOS

<https://youtu.be/Cekuc04E2xM>

Assessment

Assignment

Refer your textbooks, select one chapter and write the followings

- the main purpose, the key question, the most important information, the main references or conclusions, the key idea, the main assumptions of the material, the implications, and the main point of view.
- Prepare one assessment requiring critical thinking by the students.
- Do internet research by using www.google.com and type Socratic questioning then submit the examples of Socratic questions.

Lessons

Down load and study the following power point slides and answer the questions

ED431-Higher education and academic career contexts (Day 2)

www.highlightcomputer.com/ED431highereducationacademiccareercontexts.pptx

VIDEOS

<https://youtu.be/KpLG8ud5bf8>

Assessment

Assignment

Prepare your own career development plan.

To improve sustainability of your university, what tasks should be planned. Present your idea.

Lessons

Down load and study the following power point slides and answer the questions

ED431-Reflection & Evaluation (Day 2)

www.highlightcomputer.com/ED431ReflectionEvaluation.pptx

VIDEO

https://youtu.be/Ezre_83QIfE

Assessment

Assignment

Write the lesson plan on how will you provide Problem Based Learning & Self Reflection for a group of students

Write one significant event in your class teaching and write down your own plan how to improve your teaching.

Lessons

Down load and study the following power point slides and answer the questions

ED431-Self-directed continuing teaching development (Day 3)

www.highlightcomputer.com/ED431selfdirectedcontinuingteachingdevelopment.pptx

VIDEO

<https://youtu.be/YpnGt3NISyk>

Assessment

Assignment

Prepare your own professional development record over 2 years

Write your own professional development for next two years

Lessons

Down load and study the following power point slides and answer the questions

ED431-Teaching and learning strategies (Day 3)

www.highlightcomputer.com/ED431Teachinglearningstrategies.pptx

VIDEO

https://youtu.be/gMJi_3CSDq0

Assessment

Assignment

- Outline 3 teaching strategies that you prefer to apply in your teaching and discuss the good points and bad points. Also write how to improve them for best teaching and learning.

References

http://www.highlightcomputer.com/ED431-010042_Student_Learning_and_Teaching_Approaches.zip

ED432 Course Design and Assessment

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Description

This subject aims to develop university teachers' ability to design courses and subjects that provide an environment for meaningful student learning in higher education. The subject looks at the context within which subjects and courses are developed and how course design policies shape the development of course goals and subject objectives. Participants in the subject develop an understanding of the principles of constructive alignment (Biggs, 2003) as a method for achieving consistency between objectives assessment and teaching and learning activities. Participants relate the features of effective assessment to their own subject design, with attention to issues of equity, validity, the involvement of students in assessment choices, marking efficiencies, and the provision of effective feedback on student work. This subject enables university teachers to explore a range of methods for improving courses and subjects in order to ensure an effective learning environment for students.

Subject learning objectives (SLOs)

- describe the principles used in designing courses and subjects with a particular
- a. focus on student learning
- analyse the design or redesign of subject or course components in ways that enable
- b. students to develop relevant graduate attributes
- explain the relationship between assessment, learning objectives
- c. and student learning in higher education
- discriminate between assessment for feedback and assessment for grading or
- d. certification, and relate how this informs the design of assessment activities
- evaluate subjects and make suggestions for improvements consistent with the
- e. findings from evaluation

Contribution to the development of graduate attributes

This subject makes a major contribution to the students capacity to:

- an understanding of different ways of thinking about university teaching, and the consequences for student learning, to enable them to make informed decisions about their approaches to teaching, subject design and assessment in a variety of contexts and with a diversity of students (relates to professional and intellectual attributes)
- an ability to reflect critically on and evaluate their own teaching and subjects and make changes aimed at improving their students' learning (relates to professional and intellectual attributes).

Teaching and learning strategies

Learning in the course involves you in reflecting on your practice and your teaching and learning context. Your reflections will be informed by perspectives drawn from the literature on teaching and learning, conversations with peers and students, and from personal experiences. Specific learning experiences involve a combination of interactive face-to-face workshops, online activities and discussion and independent reading.

Content (topics)

The principal topics covered in this subject are:

- choosing appropriate graduate attributes, course goals and subject objectives
- aligning teaching and learning activities and outcomes through course and subject design

- understanding assessment principles, criteria and standards
- enhancing student learning with constructive feedback
- evaluating courses and subjects.

Minimum requirements

Participants in this subject are required to participate in 24 hours of concurrent teaching in higher education. Participants will provide evidence of participation in educational design activities and reflections related to course design and assessment issues. Participants who do not provide evidence of participation in work experience will not have their assignments assessed.

ED432-aligning teaching and learning activities and outcomes

Lessons

Down load and study the following power point slides and answer the questions

www.highlightcomputer.com/ED432-AligningTeachingAndLearningActivitiesAndOutcomes.pptx

Assessment

Assignment

Write your teaching plan on one selected lesson and explain how will you utilize Constructive Alignment method for your students

ED432A-assessment principles+ED432B-constructive feedback+ ED432C-relationship between assessment, learning objectives and student learning in higher education

Lessons

Down load and study the following power point slides and answer the questions

www.highlightcomputer.com/ED432ABC.pptx

VIDEO

<https://youtu.be/Cli1k4NECoQ>

Assessment

Assignment

ED432A-assessment principles

Provide three assessment evidences that you use in teaching.

ED432B-constructive feedback

Provide three assessment feedbacks that you provide to your students.

ED432C-relationship between assessment, learning objectives and student learning in higher education

Provide three examples that you link assessments to learning objectives of the subject which you are teaching.

ED432D-Course Design Reflection+ED432E-course goals+ED432F-curriculum design+ED432G-graduate attributes

Lessons

Down load and study the following power point slides and answer the questions

www.highlightcomputer.com/ED432DEFG.pptx

VIDEO

<https://youtu.be/SvugZrFGO60>

Assessment

Assignment

Design a one course that include the aspects and components indicated in the lecture slide.

Lessons

Down load and study the following power point slides and answer the questions

ED432H-Subject Evaluation Plan+ ED432I-subject objectives+ ED432J-Subject Outline Analysis

Lessons

Down load and study the following power point slides and answer the questions

www.highlightcomputer.com/ED432HIJ.pptx

VIDEO

<https://youtu.be/kwOPA2e1XDo>

Assessment

Assignment

Evaluate one syllabus that you are teaching

Write objective of a subject that you are teaching

Write three objective and relevant assessment questions for the course that you are teaching.

Read the following outlines

- CBAPPREP
- FINS3641_Security_Analysis_and_Valuation_S12014
- MS110-Business-Systems-Analysis-Course-Outline-2011-12

Then write the analysis of the contents for one of your subject that you are teaching

References

[http://www.highlightcomputer.com/ED432-010043
Course Design and Assessment.zip](http://www.highlightcomputer.com/ED432-010043Course%20Design%20and%20Assessment.zip)

ED433 Scholarly Teaching and Learning Project

Description

This subject draws together and builds on what participants have learned in other course subjects and their previous teaching experience. It involves participants in undertaking a scholarly project focused on understanding and improving selected aspects of their teaching and learning. Participants choose an area that they would like to investigate, and undertake one plan-act-observe-reflect cycle in which they plan a change to their teaching or subject, implement the change, collect information about its effects, and reflect on the information. The project is informed by scholarly literature related to higher education in general and/or to teaching and learning in the participant's discipline. Participants may choose to develop their project further and communicate it to achieve publishable outcomes.

Subject learning objectives (SLOs)

- identify problems and issues for investigation in their own higher education teaching and learning

- b. change aspects of their teaching and learning practice
- c. analyse stakeholder responses to change using at least two forms of evidence
- d. synthesise findings for presentation to peers
- e. justify the practical significance of the change for their own practice

Contribution to the development of graduate attributes

The course aims to encourage students to develop:

- an understanding of different ways of thinking about university teaching, and the consequences for student learning, to enable them to make informed decisions about their approaches to teaching, subject design and assessment in a variety of contexts and with a diversity of students (relates to professional and intellectual attributes)
- an ability to reflect critically on and evaluate their own teaching and subjects and make changes aimed at improving their students' learning (relates to professional and intellectual attributes)
- a commitment to scholarship in teaching and to self-directed continuing teaching development (relates to professional and personal attributes)
- a broader awareness of the higher education and academic career contexts in which they work, to assist them to develop their academic potential more effectively (relates to professional and personal attributes).

Teaching and learning strategies

Learning in the subject involves subject participants in engaging in and reflecting on their practice in ways which are informed by perspectives from the literature on teaching and learning, course lecturers, peers, students and their learning and from personal experiences. Specific learning experiences in this subject involve identifying problems and issues in higher education teaching and learning through independent reading and online discussion, topics on project management monthly lunchtime seminars on topics of interest to the group and wider UTS scholarly learning community, undertaking the project with individual project advice and online group support and a requirement that you present your project to others, either in a presentation workshop within the course or in the UTS Teaching Forum.

Content (topics)

ED 404 Educational Research (Part 1)

Planning scholarly teaching and learning projects

What is a research topic?

Choosing a research methodology

Data collection

Getting Scholarship of Teaching published

Presenting your findings

ED 404 Educational Research (Part 1)

ED433A-scholarly literature related to higher education+ED433B-scholarly project+ED433C-commitment to scholarship in teaching

Lessons

Down load and study the following power point slides and answer the questions

www.highlightcomputer.com/ED433ABC.pptx

VIDEO

<https://youtu.be/7gluHVcRFJU>

Assessment

Assignment

Write your opinion and suggestion on how do you prefer the professional development activities for your teaching at university.

From internet research, provide an example of Scholarly project and analyze it in terms of important aspects of scholarly project

ED433D-analyse stakeholder responses to change+ED433E-plan a change to teaching+ED433F-change aspects of their teaching and learning practice+ED433G-justify the practical significance of the change

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Lessons

Down load and study the following power point slides and answer the questions

www.highlightcomputer.com/ED433DEFG.pptx

VIDEO

<https://youtu.be/e-YYfZWwfbE>

Assessment

Assignment

Prepare a change management plan for your department to implement the change eg change of curriculum or teaching system or educational management etc.

ED433H-consequences for student learning+ED433I-improving students learning+ED433J-different ways of thinking about university teaching+ED433K-identify problems and issues

Lessons

Down load and study the following power point slides and answer the questions

www.highlightcomputer.com/ED433HIJK.pptx

VIDEO

<https://youtu.be/F2gUlg4qBho>

Assessment

Assignment

Provide one task that you want your students to do critical thinking.

Write one learning outcome of the lesson that you are teaching & provide your plan how to teach, facilitate & assess the students to reach that outcome.

Write a plan how will you assist Year 1 students to effectively get involved in your university learning system.

Write a problem based learning plan in the subject that you are teaching for students.

Prepare quality audit & control plan for teaching and assessment of the subject that you are teaching.

ED433L-one plan-act-observe-reflect cycle+ED433M-perspectives from the literature on teaching and learning+ED433N-reflect critically on and evaluate teaching+ED433O-self-directed continuing teaching development+ED433P-synthesise findings for presentation

Lessons

Down load and study the following power point slides and answer the questions

www.highlightcomputer.com/ED433L.ppt

www.highlightcomputer.com/ED433LMNOP.pptx

www.highlightcomputer.com/ED433P1.pptx
www.highlightcomputer.com/ED433P2.pptx

VIDEO

<https://youtu.be/l6sgd32OiOY>

Assessment

Assignment

Write down action research plan for Laboratory task that you are teaching.

Prepare a plan how to give the reflective practice task to the students after they have done one laboratory practical.

Write one systematic review procedure for laboratory observation of the subject that you are teaching

References

http://www.highlightcomputer.com/ED433-010044_Scholarly_Teaching_and_Learning_Project.zip

ED434 Reflective Academic Practice

Description

This subject enables participants to extend their awareness of the broader context of academic work in a practice-oriented university. Participants have the choice of exploring a wide range of topics relevant to their academic work, including research supervision or research-led teaching in their discipline. Credit can be gained towards subject completion by participating in professional development activities offered in the University such as the LEAP modules on entrepreneurship or project management. The subject also provides an opportunity for participants to reflect on their learning over the course as a whole and identify practical learning outcomes for their own practice.

Subject learning objectives (SLOs)

- a. identify meaningful dimensions of academic work related to their own work
- b. reflect on an aspect of their scholarly academic work
- c. relate learning to the higher education, university and/or academic contexts in which they work
- d. revise learning from previous subjects

- e. justify the practical significance of learning to their own practice

Contribution to the development of graduate attributes

The course aims to encourage students to develop:

- an understanding of different ways of thinking about university teaching, and the consequences for student learning, to enable them to make informed decisions about their approaches to teaching, subject design and assessment in a variety of contexts and with a diversity of students (relates to professional and intellectual attributes)
- an ability to reflect critically on and evaluate their own teaching and subjects and make changes aimed at improving their students' learning (relates to professional and intellectual attributes)
- a commitment to scholarship in teaching and to self-directed continuing teaching development (relates to professional and personal attributes)
- broader awareness of the higher education and academic career contexts in which they work, to assist them to develop their academic potential more effectively (relates to professional and personal attributes).

Teaching and learning strategies

This subject entails undertaking scholarly learning activity that may focus on any aspect of the subject participants' academic work. The scholarly learning activity is negotiated with a project adviser. Activities could include participating in and reflecting on learning from formal learning programs, or engaging in an aspect of academic practice which is relatively new to you and reflecting on what you have learned from your engagement.

Content (topics)

This subject includes core and negotiated components. The core component focuses on the different types of scholarship in academic work, following Boyer (1990) and Sandmann (2002), and reflection on the implications of these kinds of scholarship for academic work in different disciplines. The negotiated content varies depending on the focus of the scholarly learning activity.

Minimum requirements

Participants in this subject are required to participate in 24 hours of concurrent teaching in higher education. Participants will provide evidence of participation in teaching and learning action learning project. Participants who do not provide evidence of participation in work experience will not have their assignments assessed.

ED434A-academic work in a practice oriented university+ED434B-broader awareness of the higher education and academic career contexts+ED434C-develop academic potential+ED434D-different types of scholarship in academic work

Lessons

Down load and study the following power point slides and answer the questions

www.highlightcomputer.com/ED434ABCD.pptx

VIDEO

<https://youtu.be/w30INcZXvKk>

Assessment

Assignment

Prepare the plan to provide work based learning program for your students.

ED434E-engaging in an aspect of academic practice+ ED434F-justify the practical significance of learning+ ED434G-meaningful dimensions of academic work

Lessons

Down load and study the following power point slides and answer the questions

www.highlightcomputer.com/ED434EFG.pptx

VIDEO

https://youtu.be/aHbfNqb_1xl

Assessment

Assignment

Write one assessment task for your students to develop higher order thinking skill.

Provide two examples of feedback that you have provided to your students.

Provide teaching methodologies that you applied and discuss effectiveness and any limitations.

Provide one lesson and student assessment task that you applied constructivism.

Express of one lessons that you apply ***Explicit Teaching and*** one lessons that you apply ***Implicit Teaching***.

ED434H-reflect critically on and evaluate own teaching+ ED434I-reflect on an aspect of scholarly academic work+ ED434J-reflecting on learning from formal learning programs,+ ED434K-reflection on the implications of these kinds of scholarship for academic work

Lessons

Down load and study the following power point slides and answer the questions

www.highlightcomputer.com/ED434HIJK.pptx

VIDEO

<https://youtu.be/wlbNCUXxIMI>

Assessment

Assignment

Write a plan how will you maximize the effectiveness of teaching & learning for your students.

ED434L-research supervision+ ED434M-research-led teaching+ ED434N-revise learning

Lessons

Down load and study the following power point slides and answer the questions

www.highlightcomputer.com/ED434LMN.pptx

www.highlightcomputer.com/ED434M2.pdf

www.highlightcomputer.com/ED434M3.pdf

VIDEO

<https://youtu.be/fGcpxlEUndo>

Assessment

Assignment

Write your experience in

- Master/ Doctoral Research Candidature
OR

- Supervising a research student

ED434O-scholarship in teaching+ED434P-self-directed continuing teaching development

Lessons

Down load and study the following power point slides and answer the questions

www.highlightcomputer.com/ED434O1.ppt

www.highlightcomputer.com/ED434OP.pptx

VIDEO

<https://youtu.be/XsT9ffc3Df4>

Assessment

.Assignment

To update your professional competency in teaching, write your plan to

- Assess your self
- Regulate your development in both discipline knowledge and teaching pedagogy.

References

**[http://www.highlightcomputer.com/ED434-010045
Reflective Academic Practice.zip](http://www.highlightcomputer.com/ED434-010045Reflective Academic Practice.zip)**

Diploma in Education Management (60 Credit Points)

www.highlightcomputer.com/dipedmgt.htm

Diploma in Higher Education Teaching (60 Credit Points)+ Diploma in Education Management (60 Credit Points) = Bachelor of Education (Higher Education) (120 Credit points)

Diploma in Engineering Education (120 credits points)

**[www.highlightcomputer.com/dipenggedinstruction
.htm](http://www.highlightcomputer.com/dipenggedinstruction.htm)**

Diploma in Doctorate Studies (DDS)

IQY Diploma in Doctorate Studies is an academic award consisting of Research Studies and Writing Thesis Dissertation at 360 Credit points in which 240 Credit points are allocated for Masters Degree level academic qualifications and / or comparable professional experiences.

The candidates who have completed MAE 601 Research Method (30 Points) and their thesis proposal are accepted will be awarded IQY Master Diploma in Research Studies (270 Credit Points).

The candidates who have completed MAE602 Thesis (30 Points) but have not submitted it to St Clements University will be awarded IQY Diploma in Doctorate Studies (300 Credit Points)

Only St Clements University will confer the Doctoral Degree while IQY Technical College will provide the facilitation and successful candidates will be issued with BAE801 Thesis Dissertation Assessment and Defence (60 Points) when the success is notified by St Clements University. In the case of failure to meet the quality of dissertation, St Clements University's Diploma in Doctorate Studies or other relevant award can be issued and Doctorate degree award fees will not be charged.

IQY Technical College will issue Letter of Congratulation for having been successful in PhD.

Doctoral Research Studies

IQY Master Diploma in Research Studies

<http://www.highlightcomputer.com/iQYDDS.pdf>

Dissertation for Doctorate

MAE 601 Research Method (30 Points)

MAE602 Thesis (30 Points)

[http://www.filefactory.com/file/111r1k0ftawt/n/11.Research+Thesis_\(ICT_605\).zip](http://www.filefactory.com/file/111r1k0ftawt/n/11.Research+Thesis_(ICT_605).zip)

BAE801 Thesis Dissertation Assessment and Defence (60 Points)

MAE601 Research Method

This course guides the student, step by step, through the research process, from problem selection through writing up results. It provides all of the basics necessary to complete a research project in any discipline.

Outline. The following aspects are reflected in this course:

What is research?

Tools of research

The problem: the heart of the research process

Review of the related literature

Planning your research design

Writing the research proposal

Qualitative research

Historical research

Descriptive research

Experimental and causal - comparative designs

Statistical techniques for analyzing quantitative data

Technical details: style, format, and organization of the research report

Doctoral Research Proposal

Synopsis: Research students are expected to present a written research proposal within three months after commencement. The proposal is handed in to the study leader.

Assessors of this proposal are selected by the faculty for their understanding of the field and the research involved. The purpose of a research is to set out a plan for conducting the research and writing the dissertation within the available time. It should take account of the availability and guidance of the study leader.

The starting point for a research proposal is the topic, which is the field of interest in which the research is to be carried out. In introducing the topic, the proposal should clarify the field that it falls into and the specific part that field which the research will explore.

It should clarify why the topic is of interest and importance, and how the proposed research will contribute to the field of knowledge or profession. The proposal should clarify the research questions, ensuring that these are specific and answerable.

It is important to show how these questions relate to the topic are, and how they will advance the student's contribution. The proposal should detail the research to be carried out, and clarify the research methods, the timeframe and the reasons for selecting particular methods.

Where a period of literature review or research should precede any empirical research, this should be factored in as part of the research. It is important to estimate any periods of field research and to flag their duration and cost in your research proposal.

MAE 602 Thesis

Thesis Dissertation for Doctorate

Candidates need to complete a 60000-words dissertation (in Myanmar or English) and a 3000-words executive portfolio (in English).

This program requires the candidates to complete a thesis as part of the assessment for the Doctorate

Doing a thesis / dissertation means that instead of knowledge and information being presented and following a prescribed route for answering questions, candidates are thrust into an active role of managing an investigation into a topic area. This means researching and

discovering things for themselves.

They will have to set their own targets and parameters, pose their own central research questions and decide on the appropriate sources of information to support the research. It therefore requires the use of the higher-level cognitive skills of analysis, synthesis and evaluation. Candidates may choose an area of particular interest to them within the scope of course title.

BAE801 Thesis Dissertation Assessment and Defence (60 Points)

Doctoral dissertation

A dissertation is an individual effort and the candidate, academic tutor and the course professor will work together on constructing an approved topic (research question) and methodologies.

Dissertation Defence for doctorate

It is expected of Doctoral candidates to defend their thesis by means of a colloquium (academic discussion). The purpose of the meeting is for the candidates to convince a panel of experts in the field of the dissertation how well they have done in the conducting of their research study and the preparation of their dissertation

Candidates need to complete all course assessments with the results of Grade B+ or above.

Master Diploma in Education/ Master of Education

IQY Technical College/ St Clements University/

STC Technological University

www.highlightcomputer.com/medcourse.htm

Course Overview

This program is designed to develop and support the careers of teachers who are teaching professionals, educational administrators, researchers and policymakers.

The students can choose to complete your course with units of study that suit your interests from our field offerings which are engineering education and school and vocational education.

Graduate Attributes

Demonstrate expert, specialised and technical knowledge in broad educational areas of pedagogy, assessment and curriculum designed to address the needs of diverse learners across a range of educational contexts related to engineering education or school and vocational education.

Demonstrate an advanced understanding of theory and practice in specialised disciplines within the field of education in national and/or international contexts in engineering education or school and vocational education.

Analyse critically, reflect on and synthesise information to solve complex problems in the educational field

Conduct independent research and inquiry, involving theoretical conceptualisation, innovative ideas and personal initiative in engineering education or school and vocational education

Demonstrate professional leadership through interpreting and communicating pedagogical knowledge and professional skills to specialist and non-specialist audiences in engineering education or school and vocational education.

Admission requirement

Admission to candidature for the Master of Education requires:

- a Bachelor of Education , or Bachelor degree and working as teacher or equivalent qualification or the completion of postgraduate studies, or professional experience .

Course Structure

The course consists of 240 credit points in which 120 credit points is given for Bachelors degree

Stream 1- Engineering Education

ED431 Student Learning and Teaching Approaches(15 cp)

ED432 Course Design and Assessment(15 cp)

ED433 Scholarly Teaching and Learning Project(15 cp)

ED434 Reflective Academic Practice(15 cp)

ED436 Management for Education(15 cp)

ED413 Engineering Education Part 3 (15 cp)

ED404 Educational Research(15 cp)

ED435 Governance of University (15 cp)

Total	120 cp
Bachelors degree	120 cp
TOTAL	240 cp

Stream 2-School and Vocational Education

ED431 Student Learning and Teaching Approaches(15 cp)

ED432 Course Design and Assessment(15 cp)

[ED433](#) Scholarly Teaching and Learning Project(15
cp)

[ED434](#) Reflective Academic Practice(15
cp)

ED436 Management for Education (15 cp)

ED404 Educational Research(15 cp)

Any Two Electives

ED304 Maths Teaching (15 cp)

ED305 Science Teaching (15 cp)

ED306 Technology Teaching(15 cp)

ED308 Computer Supported Learning Distance Education (15
cp)

Total	120 cp
Bachelors degree	120 cp
TOTAL	240 cp

Preparation for Myanmar Engineering Council Accreditation Course

Course Outline

This two weeks course is designed as Technical Teacher Education Professional Development course for teachers working at Government Technical Colleges and Technological Universities to design the curriculums and teaching resources to meet the accreditation requirements of Myanmar Engineering Council.

Aim of the course

To provide the training to the technical education teachers to understand and apply the principles of adult & vocational education outcome based education, competency based training. compliance with Qualification & Training Authority-Myanmar Engineering Council's Rules, Regulations and Standards for accreditation by taking part in intensive workshop focussing on curriculum development and assessment documents portfolio preparations for Myanmar Engineering Council Accreditation

Outcome of the course

After completion of this course, the participant will be able to

- Understand Myanmar Engineering Council Accreditation Rules & Regulations related to accreditation of Government Technical Colleges & Technological Universities in Myanmar.
- Understand and utilize the principle & features of Outcome based education.
- Understand the Adult & Vocational Education, Work based Learning and Competency based training & assessments tasks.
- Acquire the knowledge on Competency based education and training and training packages being used in industrialized countries (Examples of Australian Standard Competency based vocational education & training system.
- Get the information & knowledge on Current issues related to international & Myanmar Engineering profession.
- Participate in hand on practice workshop focussing on curriculum development & collecting and preparing the materials for accreditation by Myanmar Engineering Council Engineering Accreditation Committee & taking part in mock accreditation sessions.
- Explore the Adult & Vocational Educational Literatures, Textbooks, References & Resources, e-Learning, Learning Technology & Technology in classroom resources knowledge sharing.
- Certificate of Training will be issued by Myanmar Engineering Council as well as by the trainer's educational institution.

Target Group

- Course leaders who are responsible for development of teaching curriculums and learning resources for teaching of engineering programs.

Arrangement of attendances

- It will be an official course development and accreditation workshop in accordance with Myanmar Engineering Councils' Rules , Regulations and Accreditation system, the attendance of this course is part of the official duty and appropriate duty release arrangement may be required under the procedures of the Ministry of Science & Technology.

Place of the course

- Appropriate training venue arranged by Myanmar Engineering Council or Myanmar Engineering Society.

Course Duration

12 days (Mondays to Saturdays) (December 2015)(The exact date will be provided)

Requirements

The participants will need to bring the documents related to teaching plan, curriculum, course materials or reference notes that they are using in teaching
Access to laptop/computer will be required for the participants. Teaching aids such as white board , computer & Overhead Projector will be required to show the slides. It will be better to access Internet.

Sessions, Trainers and Facilitators

Session 1 9 to 10:30AM	Tea break	Session 2 11 to 12:30 Noon
<p>Welcome speech by</p> <ul style="list-style-type: none">• Chairman of Myanmar Engineering Council• President of Myanmar Engineering Society• Chairman of Engineering Accreditation Committee <p>Introduction to trainers & facilitators</p> <p>Outline of the program</p> <p>Participants ' self introduction</p> <p>General information and arrangement (detailed time schedule needs to be arranged)</p>	<p>Morning tea and networking</p>	<p>Overview of Myanmar Engineering Council Law, Regulation, Accreditation</p> <p>By -Trainer from Myanmar Engineering Council</p> <p>Delivery mode-Lecture</p>

<p>Outcome Based Education</p> <p>By Myanmar Engineering Council or Myanmar Engineering Society</p> <p>Delivery mode-Lecture</p>	<p>Morning tea and networking</p>	<p>Competency based education & training & how the competency based outcome</p> <p>By Dr Kyaw Naing</p> <p>References</p> <p><i>Characteristics of Learning Outcomes</i></p> <p>Delivery mode-Lecture 30 min + Demonstration 60 min</p> <p>VIDEO</p> <p>Day 2 Session 2(1)-Competency based education and training http://youtu.be/k00tStQk7NA</p> <p>Day 2 Session 2(2)-Outcome based education and competency ba: http://youtu.be/sqBmP7N1Kms</p> <p>Day 2 Session 2(3)-Assessment Methods http://youtu.be/GvJac8yy-4s</p> <p>Day 2 Session 2(4)-BE course competencies http://youtu.be/TLAsivfd69o</p> <p>Day 2 Session 2(5)-BE Curriculum Objectives & Learning outcomes http://youtu.be/C02lhMzcQ8k</p> <p>Day 2 Session 2(6)- Day 2 Session 2(5)-BE Curriculum Objectives & http://youtu.be/jUggt-eG6N4</p> <p>AUDIO http://yourlisten.com/Kyaw.Naing/day-2-session-2</p> <p>In Certificate I to Vocational Diploma http://www.filefactory.com/file/32hy8l1za8wz/TAE10_R3.4.docm Page 36 to 41</p> <p>Provide the level of performances of the students tasks in the curriculur</p> <p>Sample Curriculums</p> <p>Certificate to Advanced Diploma http://www.highlightcomputer.com/detailedcontent.htm</p> <p>Bachelor degrees equivalent level http://highlightcomputer.com/B%20E+B%20App%20Sc(IT)+B%20Bus%20</p>
<p>9.2.3 Learning Outcomes</p> <p><u>Requirement of Myanmar Engineering Council & how to design the curriculum to address the learning outcomes</u></p> <p>By Dr Kyaw Naing</p> <p>Delivery mode-Lecture</p> <p>VIDEO</p> <p>Day 3 Session 1(1) Motivation of adult learning http://youtu.be/fX1E8GBKJKo</p> <p>Day 3 Session 2(2) Course evaluation http://youtu.be/plfr_KaAHDQ</p> <p>Day 3 Session 1(3)-Experimental Learning http://youtu.be/NxfczPA1J1I</p> <p>Day 3 Session 1(4)-Relating Learning Outcomes to Program Objectives</p>	<p>Morning tea and networking</p>	<p><u>Engineering Fundamental</u></p> <p><u>Current Engineering Fundamental Assessment in Myanmar</u></p> <p>By Myanmar Engineering Society</p> <p>Delivery mode-Lecture</p> <p>Engineering Fundamental Assessments</p> <p>By Myanmar Engineering Society</p> <p><u>Engineering Fundamental Assessment in UK Engineering Council Exam</u></p> <p>By Dr Sam Man Keong President of Singapore Institute of Engineering Technologists</p>

<p>http://youtu.be/cCkgLOkKaKY</p> <p>AUDIO http://yourlisten.com/Kyaw.Naing/day-3-session-1</p> <p>Educational Theoretical Readings ED 104 Lesson Planning http://www.filefactory.com/file/4m30ym0ez37r/ED%20104%20Lesson%20Planning.zip</p> <p>ED 202 Curriculum & Design http://www.filefactory.com/file/1jotv5d428j1/ED%20202%20Curriculum%20%26amp%3B%20Design.Zip</p> <p>Practical Example www.highlightcomputer.com/OverallProgramGeneral.pdf Page 13 to 21</p>		<p>Delivery mode-Lecture</p>
<p><u>9.2.4 Academic Curriculum</u> Discuss the programme structure and course contents(MEng C) Discuss the programme delivery and assessment methods</p> <p>By Myanmar Engineering Council Delivery mode-Lecture</p>	<p>Morning tea and networking</p>	<p>General Knowledge related to overseas programs By Dr Kyaw Naing Vocational Education Teacher Education</p> <p>VIDEO http://youtu.be/qI9IYGPWaZM</p> <p>Delivery mode-Lecture 45 min AUDIO http://yourlisten.com/Kyaw.Naing/day-4-session-2 http://www.filefactory.com/file/4yb11jp1x9b/n/Vocational_Education_Teacher_Educatio</p> <p><u>Sample Training Packages</u> Electrotechnology/ Electronics/ /Communication UEE11_R1.5.docm (13.37MB) http://www.filefactory.com/file/1n283tjamw2p/n/UEE11_R1.5.docm</p> <p>Electricity Supply UET12_R2.1.docm (7.86MB) http://www.filefactory.com/file/56saqf1gmh41/n/UET12_R2.1.docm</p> <p>Electrical Power Generation UEP12_R2.1.docm (7.79MB) http://www.filefactory.com/file/52pe03hs2xq1/n/UEP12_R2.1.docm Automotive AUR12_R2.1.docm (13.37MB) http://www.filefactory.com/file/4qtgr5i39dzl/n/AUR12_R2.1.docm</p>

		<p>Manufacturing & Engineering (Mechanical)</p> <p>MEM05_R11.1.docm (9.8MB) http://www.filefactory.com/file/29evfecw9yk9/n/MEM05_R11.1.docm</p> <p>Marine</p> <p>MAR_R2.0.docm (1.78MB) http://www.filefactory.com/file/6sodu2z259j3/n/MAR_R2.0.docm</p> <p>Textile</p> <p>LMT07_R4.1.docm (8.28MB) http://www.filefactory.com/file/6gea7ztqgsq3/n/LMT07_R4.1.docm</p> <p>Construction</p> <p>CPC08_R9.0.docm (9.59MB) http://www.filefactory.com/file/3j1y315nbze7/n/CPC08_R9.0.docm</p> <p>Information Technology</p> <p>ICA11_R2.0.docm (5.27MB) http://www.filefactory.com/file/4e3ioubld73n/n/ICA11_R2.0.docm</p> <p>Chemical</p> <p>PMA02_2.pdf (1.92MB) http://www.filefactory.com/file/2t53b3xj0sir/n/PMA02_2.pdf</p> <p>PMA02_1.pdf (1.65MB) http://www.filefactory.com/file/33ikm94dl8j/n/PMA02_1.pdf</p> <p>Manufacturing</p> <p>MSA07_R8.4.docm (4.93MB) http://www.filefactory.com/file/4tcjlsetp0rd/n/MSA07_R8.4.docm</p> <p>TAE10_R3.4.docm (1.87MB) http://www.filefactory.com/file/566jfcevasu5/n/TAE10_R3.4.docm</p> <p>Gas</p> <p>UEG11_R2.0.docm (5.44MB) http://www.filefactory.com/file/6shho87gm1nh/n/UEG11_R2.0.docm</p> <p>Mining</p> <p>MNM05_3.pdf (2.28MB) http://www.filefactory.com/file/78fk485ew98v/n/MNM05_3.pdf</p> <p>MNM05_2.pdf (2.29MB) http://www.filefactory.com/file/72yjazer7nj/n/MNM05_2.pdf</p> <p>MNM05_1.pdf (1.77MB) http://www.filefactory.com/file/6ahwwdwosk8j/n/MNM05_1.pdf</p>
<p><u>Approach to various learning modes in VET</u></p> <p>By- Dr Kyaw Naing & the speakers from various technological universities</p> <p>Delivery mode-Lecture 43 min</p>	<p>Morning tea and networking</p>	<p><u>Preparing vocational teaching portfolios</u></p> <p>By Dr Kyaw Naing</p> <p>Delivery mode-Lecture 48 min</p> <p>References</p> <p>Worksheets</p>

VIDEO

<http://youtu.be/NVgAAT7Muv0>

AUDIO

<http://yourlisten.com/Kyaw.Naing/day-5-session-1b>

Topics & References

Practical focus

Group Base learning.pdf (3.25MB)

http://www.filefactory.com/file/266najtgy91o3/n/16.taadel401a_Plan_&_Organize_Group_Base_learning.pdf

Facilitate Group based learning.pdf (2.81MB)

http://www.filefactory.com/file/1tyk73g17j43/n/18.taadel402a_Facilitate_Group_based_learning.pdf

Work based learning.pdf (4.15MB)

http://www.filefactory.com/file/24apg5s5n0fx/n/22.taadel404a_Facilitate_work_based_learning.pdf

Individual learning.pdf (1.94MB)

http://www.filefactory.com/file/4nmwy8ldewh1/n/20.taadel403a_Facilitate_individual_learning.pdf

Distance based learning (2.56MB)

http://www.filefactory.com/file/3w2b2mdycbx1/n/24.taadel405a_Coordinate_7_facilitate_distance_based_learnin.pdf

Educational Theory Resources

ED 103 Teaching Practice

<http://www.filefactory.com/file/1o732n0j46mf/ED%20103%20Teaching%20Practice.zip>

ED 105 Principle of Learning

<http://www.filefactory.com/file/7660l6kjr8sx/ED%20105%20Principle%20of%20Learning.zip>

ED 107 Teaching & Learning

<http://www.filefactory.com/file/6u5o455lygj7/ED%20107%20Teaching%20%26amp%3B%20Learning.zip>

Myanmar Engineering Council References

- the choice of the teaching-learning (delivery) methods.
- A balanced curriculum
- The curriculum shall integrate theory with practice through adequate exposure to laboratory work and professional engineering(MEng C)
- Time allocation
- Credit points

ED 401 Adult Learning Technology

<http://www.filefactory.com/file/68y4bd94ianb/ED%20401%20Adult%20Learning%20Technology.zip>

VIDEO

<http://youtu.be/cc-xLKjz3J8>

AUDIO

<http://yourlisten.com/Kyaw.Naing/day-5-session-23>

Provide Training through instruction and demonstration of work skills

TAADEL301A.doc (0.03MB)

<http://www.filefactory.com/file/2pptyhdlqhlsh/n/TAADEL301A.doc>

Facilitate work-based learning

TAADEL404A.doc (0.03MB)

<http://www.filefactory.com/file/60ojucglvyu3/n/TAADEL404A.doc>

Group based delivery

TAADEL401A.doc (0.03MB)

<http://www.filefactory.com/file/3i5scp12gkdn/n/TAADEL401A.doc>

Use Training Packages to meet client needs

TAADES401A.doc (0.03MB)

<http://www.filefactory.com/file/32bofyyl82wfn/TAADES401A.doc>

Design and develop learning programs

TAADES402A.doc (0.03MB)

<http://www.filefactory.com/file/4nhro84kl2nx/n/TAADES402A.doc>

Work effectively in vocational education and training

TAAENV401A.doc (0.03MB)

<http://www.filefactory.com/file/45zeif6cy5zx/n/TAAENV401A.doc>

Foster and promote an inclusive learning culture

TAAENV402A.doc (0.03MB)

<http://www.filefactory.com/file/3zoufgaty89n/n/TAAENV402A.doc>

Ensure a safe and healthy learning environment

TAAENV403A.doc (0.03MB)

<http://www.filefactory.com/file/6ireaw7s5jg9/n/TAAENV403A.doc>

Individual learning

TAADEL403A.doc (0.03MB)

<http://www.filefactory.com/file/7g3h9iwpodfr/n/TAADEL403A.doc>

Language Literacy & Numeracy

1397606218-taelln411_sample.pdf (0.34MB)

http://www.filefactory.com/file/5fh2bd8z3k0r/n/1397606218-taelln411_sar

Report.pdf (0.41MB)

<http://www.filefactory.com/file/655u3qypgyj3/n/Report.pdf>

Section 4 Model for core skills analysis.pdf (0.69MB)

http://www.filefactory.com/file/6p480mpcelft/n/Section_4_Model_for_core

		<p>ACSF_Document.pdf (1.03MB) http://www.filefactory.com/file/54s5xbe3esdn/n/ACSF_Document.pdf</p> <p>LLN Preparation of students.docx (0.02MB) http://www.filefactory.com/file/77ps5dxgbhpi/n/LLN_Preparation_of_students.docx</p> <p>Australian Core Skills Framework for LLN Level determination.docx http://www.filefactory.com/file/4qt7gx24cd9/n/Australian_Core_Skills_Framework_for_LLN_Level_determination.docx</p> <p>LLN Preparation of students.docx (0.02MB) http://www.filefactory.com/file/1rvd487gxw0j/n/LLN_Preparation_of_students.docx</p>
<p>Assessment Validation Guide of Myanmar Engineering Council</p> <ul style="list-style-type: none"> assessment & evaluation methods for the attainment achievement of the Learning Outcome <p><u>Developing the assessment strategies in VET</u></p> <p>- VIDEO http://youtu.be/qwNZHPBn6DQ</p> <p>- By Dr Kyaw Naing Delivery mode-Lecture 60 min AUDIO http://yourlisten.com/Kyaw.Naing/day-6-session-1</p> <p><u>Practical Application Resources</u></p> <p>Participate in assessment validation</p> <p>TAAASS404A.doc (0.03MB) http://www.filefactory.com/file/5zv1ke0eh2dj/n/TAAASS404A.doc</p> <p>Develop assessment tools</p> <p>TAAASS403A.doc (0.03MB) http://www.filefactory.com/file/5rxw2igqk7rx/n/TAAASS403A.doc</p> <p>Plan and organise assessment</p> <p>TAAASS401A.doc (0.03MB) http://www.filefactory.com/file/1tpnwpxgxqv/n/TAAASS401A.doc</p> <p>Assess competence</p> <p>TAAASS402A.doc (0.03MB) http://www.filefactory.com/file/48yye4zmmxt7/n/TAAASS402A.doc</p> <p><u>Reference Textbooks (Theory aspect)</u></p> <p>ED 205 Teaching & Measuring http://www.filefactory.com/file/4eu01ck2aw/ED%20205%20Teaching%20%26amp%3B%20Measuring.zip</p> <p>ED 206 Designing Instructions & Assessment http://www.filefactory.com/file/4dnh3r8wsd9t/ED%20206%20Designing%20Instructions%20%26amp%3B%20Assessment.zip</p>	<p>Morning tea and networking</p>	<p>Examination & Assessment Strategies & Experiences talks</p> <p>By the educators from various technological universities & skills training</p>

<p>ED 405 Training Principle</p> <p>http://www.filefactory.com/file/5guptpxznin/ED%20405%20Training%20Principle.zip</p>		
<p><u>Educational Resources Development in line with Myanmar Engineering Council Requirements</u></p> <p><u>9.2.7 Facilities</u></p> <p>By- Myanmar Engineering Council Engineering Accreditation Committee Delivery mode-Lecture <u>Overviews of Professional Development Programs provided by Myanmar Engineering Society</u></p> <p>- By- Myanmar Engineering Society Delivery mode-Lecture</p>	<p>Morning tea and networking</p>	<p><u>Integration of Learning Technology in Teaching & Learning Part 1</u></p> <p>By Dr Kyaw Naing Delivery mode-Lecture VIDEO http://youtu.be/bV_CJdY7fs0</p> <p>AUDIO http://yourlisten.com/Kyaw.Naing/day-7-session23</p> <p>- <u>Resources</u> http://www.filefactory.com/file/3bsfz0ehba7z/n/5_Learning_Technology_1.zip http://www.filefactory.com/file/cvavvr9gonr/n/6_Learning_Technology_2.zip</p> <p>Due to the big file size, the resources will be given in CD</p>
<p><u>Technology in Classroom</u> By Dr Kyaw Naing Delivery mode-Lecture 1 Hr VIDEO http://youtu.be/rzLQq6D6-OU</p> <p>AUDIO http://yourlisten.com/Kyaw.Naing/day-8-session-1a</p> <p>Resources ED312 Technology in Classrooms http://www.filefactory.com/file/7jcvu232qpx/n/7_Technology_in_classroom.zip ED 308 Computer Supported Learning & Distance Education http://www.filefactory.com/file/4mdzrx52kl45/ED%20308%20Computer%20Supported%20Learning%20%26amp%3B%20Distance%20Education.zip</p>		<p><u>Integration of Learning Technology in Teaching & Learning Part 2</u> Delivery mode-Lecture+ Tutorial</p> <p>VIDEO</p> <p>http://youtu.be/Katbr8IIPnk</p> <p>AUDIO http://yourlisten.com/Kyaw.Naing/day-8-session-23</p> <p>By Dr Kyaw Naing</p> <p>Sharing the e-Learning work experience utilized in TAFE-NSW Australian</p> <ul style="list-style-type: none"> • Resources development • Computer assisted test • Use of online test/online survey • Online simulated practicals <p>www.easytestmaker.com</p> <p>http://www.emailmeform.com/</p>

<p>8.5.2 Programme Quality Management and Planning 8.5.4 Quality Assurance 9.2.8 Quality Management System</p> <p>Preparation of self accreditation report Requirements of Myanmar Engineering Council By -Myanmar Engineering Council Delivery mode-Lecture</p> <p>References</p> <p>Curriculum design for accreditation compliance http://www.filefactory.com/file/2vyvpy64k4w3/Accreditation%20Manual.pdf Overall accreditation and compliance practice http://www.filefactory.com/file/2vyvpy64k4w3/Accreditation%20Manual.pdf</p> <p>Preparation for self accreditation report http://www.filefactory.com/file/43xQyutpx31v/2%20SAR.pptx Engineering Accreditation Plan http://www.filefactory.com/file/2ynzo3fydckb/2015%20YTU%20First%20Workshop.pptx</p>	Morning tea and networking	<p>Preparing the documents to comply with Myanmar Engineering Council Delivery mode-Lecture 25 min</p> <p>VIDEO</p> <p>http://youtu.be/vKGO69ZBKAU</p> <p>AUDIO http://yourlisten.com/Kyaw.Naing/day-9-session-23 By Dr Kyaw Naing</p> <p>Sample www.highlightcomputer.com/assessment.htm</p> <p>Quality Assurance http://www.highlightcomputer.com/QualityAssurance.htm</p>
<p>Learning Environment By- Dr Kyaw Naing Delivery mode-Lecture 48min</p> <p>VIDEO</p> <p>http://youtu.be/3Lzk27pAQBk</p> <p>AUDIO http://yourlisten.com/Kyaw.Naing/day-10-session-1</p> <p>-</p> <p>Reference ED 407 Learning Environment http://www.filefactory.com/file/31o7fw99ux7l/ED%20407%20Learning%20Environment.zip</p>	Morning tea and networking	<p>Change Management By- Daw Hla Myat Mon Delivery mode-Lecture 38min</p> <p>VIDEO</p> <p>http://youtu.be/ynkcUcKr8tQ</p> <p>AUDIO http://yourlisten.com/Kyaw.Naing/day-10-session-23</p> <p>-</p> <p>References University of Technology Master of Business Change Management Refer & experience in University of Technology Sydney</p>
<p>Preparation and finalisation of full documentations for Myanmar Engineering Council Accreditation Delivery mode-Tutorial Facilitators Dr Kyaw Naing Prof Dr Charlie Than & other trainers of MEng C</p>	Morning tea and networking	<p>Preparation and finalisation of full documentations for Myanmar Engin Delivery mode-Tutorial Dr Kyaw Naing Prof Dr Charlie Than & other trainers of MEng C</p>
Mock Accreditation Sessions Practice	Morning tea and networking	Mock Accreditation Sessions Practice

Remark

Depending on the resources & facilities availabilities, Session 2 & 3 of Day 7 & 8 may need to be replaced with other activities

Preparation for Myanmar Engineering Council Accreditation Course

Course Outline

This two weeks course is designed as Technical Teacher Education Professional Development course for teachers working at Government Technical Colleges and Technological Universities to design the curriculums and teaching resources to meet the accreditation requirements of Myanmar Engineering Council.

Aim of the course

To provide the training to the technical education teachers to understand and apply the principles of adult & vocational education outcome based education, competency based training. compliance with Qualification & Training Authority-Myanmar Engineering Council's Rules, Regulations and Standards for accreditation by taking part in intensive workshop focussing on curriculum development and assessment documents portfolio preparations for Myanmar Engineering Council Accreditation

Outcome of the course

After completion of this course, the participant will be able to

- Understand Myanmar Engineering Council Accreditation Rules & Regulations related to accreditation of Government Technical Colleges & Technological Universities in Myanmar.
- Understand and utilize the principle & features of Outcome based education.
- Understand the Adult & Vocational Education, Work based Learning and Competency based training & assessments tasks.
- Acquire the knowledge on Competency based education and training and training packages being used in industrialized countries (Examples of Australian Standard Competency based vocational education & training system.
- Get the information & knowledge on Current issues related to international & Myanmar Engineering profession.
- Participate in hand on practice workshop focussing on curriculum development & collecting and preparing the materials for accreditation by Myanmar Engineering Council Engineering Accreditation Committee & taking part in mock accreditation sessions.

- Explore the Adult & Vocational Educational Literatures, Textbooks, References & Resources, e-Learning, Learning Technology & Technology in classroom resources knowledge sharing.
- Certificate of Training will be issued by Myanmar Engineering Council as well as by the trainer's educational institution.

Target Group

- Course leaders who are responsible for development of teaching curriculums and learning resources for teaching of engineering programs.

Arrangement of attendances

- It will be an official course development and accreditation workshop in accordance with Myanmar Engineering Councils' Rules, Regulations and Accreditation system, the attendance of this course is part of the official duty and appropriate duty release arrangement may be required under the procedures of the Ministry of Science & Technology.

Place of the course

- Appropriate training venue arranged by Myanmar Engineering Council or Myanmar Engineering Society.

Course Duration

12 days (Mondays to Saturdays) (December 2015)(The exact date will be provided)

Requirements

The participants will need to bring the documents related to teaching plan, curriculum, course materials or reference notes that they are using in teaching. Access to laptop/computer will be required for the participants. Teaching aids such as white board, computer & Overhead Projector will be required to show the slides. It will be better to access Internet.

Sessions , Trainers and Facilitators

Day	Session 1 9 to 10:30AM	Tea break	Session 2 11 to 12:30 Noon	Lunch break 12:30 to 1:30 PM	Session 3 1:30 to 3:30PM (The extended time up to 5PM can be taken up to the duration of workshop & group works)
1 17 Dec 2015	<p>Welcome speech by</p> <ul style="list-style-type: none"> Chairman of Myanmar Engineering Council President of Myanmar Engineering Society Chairman of Engineering Accreditation Committee <p>Introduction to trainers & facilitators</p> <p>Outline of the program</p> <p>Participants ' self introduction</p> <p>General information and arrangement (detailed time schedule needs to be arranged)</p>	<p>Morning tea and networking</p>	<p>Overview of Myanmar Engineering Council Law, Regulation, Accreditation Principles</p> <p>By -Trainer from Myanmar Engineering Council</p> <p>Delivery mode-Lecture</p>	<p>Lunch</p>	<p>Highlighting 9.2.1 General Information (MEng C) 9.2.2 Programme Objectives & writing the objectives of the course by Dr Kyaw Naing</p> <p>Delivery mode-Lecture 30 min + Tutorial 90 min Audio http://yourlisten.com/Kyawnaing2524/day-1-session-3</p> <p>Reference Reading (Education theory) ED 106 Interpreting Curriculums http://www.filefactory.com/file/1h141zxbv8z/ED%20106%20Interpreting%20Curriculums.zip</p> <p>Practical Information Provide the examples of how to set up the program objectives for Professional Engineer, Engineering Technologists and Engineering Associates levels www.highlightcomputer.com/OverallProgramGeneral.pdf</p> <p>Page 4 to 11</p> <p>References</p>

					<p>Engineers Australia References www.highlightcomputer.com/engineersaustraliareferences.htm</p> <p>Stage 1 Competencies of PEng, Eng Technologists & Eng Associates</p> <p>Engineering job competencies http://www.highlightcomputer.com/EngineeringJobCompetencies.pdf</p> <p><u>Participants' tasks</u></p> <p>Write the course objectives of the engineering programs that they are teaching, discussion & feedback</p>
<p>2 18 Dec 2015</p>	<p>Outcome Based Education</p> <p>By Myanmar Engineering Council or Myanmar Engineering Society</p> <p>Delivery mode-Lecture</p>	<p>Morning tea and networking</p>	<p>Competency based education & training & how the competency based training is important to reach the desired outcome</p> <p>By Dr Kyaw Naing</p> <p>References</p> <p><i>Characteristics of Learning Outcomes</i></p> <p>Delivery mode-Lecture 30 min + Demonstration 60 min</p> <p>AUDIO http://yourlisten.com/Kyaw.Naing/day-2-session-2</p>	<p>Lunch</p>	<p>1:30 to 3:30PM</p> <p><u>Example of Singapore Professional Engineers Assessment Programs</u></p> <p>By Dr Sam Man Keong President of Singapore Institute of Engineering Technologists</p> <p>Delivery mode-Lecture</p> <p>3:45 to 5PM</p> <p><u>Sample of Competency based training widely used in Myanmar</u></p> <p>Examples of marine engineers competency assessment in Myanmar/ in line with International Certification standards & explore the way to apply the similar competency based training in other engineering areas</p>

			<p>In Certificate I to Vocational Diploma http://www.filefactory.com/file/32hy8l1za8wz/TAE10_R3.4.docm Page 36 to 41</p> <p>Provide the level of performances of the students tasks in the curriculums & activities</p> <p>Sample Curriculums</p> <p>Certificate to Advanced Diploma http://www.highlightcomputer.com/detailedcontent.htm</p> <p>Bachelor degrees equivalent level http://highlightcomputer.com/B%20E+B%20App%20Sc(IT)+B%20Bus%20Course%20Detailed%20Contents.htm</p>		<p>By- Dr Charlie Than</p> <p>Delivery mode-Lecture</p>
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3 19 Dec 2015	<p><u>9.2.3 Learning Outcomes Requirement of Myanmar Engineering Council & how to design the curriculum to address the learning outcomes</u></p> <p>By Dr Kyaw Naing</p> <p>Delivery mode-Lecture AUDIO</p> <p>http://yourlisten.com/KyawNaing/day-3-session-1</p> <p>Educational Theoretical Readings ED 104 Lesson Planning http://www.filefactory.com/file/4m30ym0ez37r/ED%20104%20Lesson%20Planning.zip</p> <p>ED 202 Curriculum & Design http://www.filefactory.com/file/1jotv5d428j1/ED%20202%20Curriculum%20%26amp%3B%20Design.Zip</p> <p>Practical Example</p> <p>www.highlightcomputer.com/OverallProgramGeneral.pdf Page 13 to 21</p>	Morning tea and networking	<p><u>Engineering Fundamental</u></p> <p><u>Current Engineering Fundamental Assessment in Myanmar</u></p> <p>By Myanmar Engineering Society</p> <p>Delivery mode-Lecture</p> <p>Engineering Fundamental Assessments</p> <p>By Myanmar Engineering Society</p> <p><u>Engineering Fundamental Assessment in UK Engineering Council Examinations</u></p> <p>By Dr Sam Man Keong President of Singapore Institute of Engineering Technologists</p> <p>Delivery mode-Lecture</p>	Lunch	<p><u>Curriculum Development Workshop Part 1</u></p> <p>The participants need to make the samples of the plans to provide the competency based training in their teaching and training areas</p> <p>Delivery mode-Tutorial 120 min</p> <p><u>Facilitator</u>- Dr Kyaw Naing & other trainers</p> <p>How to put the topics to meet the learning outcomes and how to include the engineering fundamentals concepts into curriculum contents</p> <p>Group development task & discussions</p> <p><u>Facilitators</u></p> <p>Dr Kyaw Naing & other trainers</p> <p>Dr Sam Man Keong will also contribute his views & advices.</p> <p><u>Education Theory Reference</u></p> <p>ED 106 Interpreting Curriculums</p> <p>http://www.filefactory.com/file/1h141zxbov8z/ED%20106%20Interpreting%20Curriculums.zip</p> <p>Delivery mode-Tutorial 120 min</p>
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<p>4 21 Dec 2015</p>	<p><u>9.2.4 Academic Curriculum</u> <u>Discuss the programme structure and course contents(MEng C)</u> <u>Discuss the programme delivery and assessment methods</u></p> <p>By Myanmar Engineering Council Delivery mode-Lecture</p>	<p>Morning tea and networking</p>	<p><u>General Knowledge related to overseas programs</u> By Dr Kyaw Naing <u>Vocational Education Teacher Education</u> Delivery mode-Lecture 45 min AUDIO <u>http://yourlisten.com/KyawNaing/day-4-session-2</u> <u>http://www.filefactory.com/file/4yb11p1x9b/n/Vocatinal_Education_Teacher_Education_pdf</u> <u>Sample Training Packages</u> Electrotechnology/ Electronics/ /Communication UEE11_R1.5.docm (13.37MB) <u>http://www.filefactory.com/file/1n283tjamw2p/n/UEE11_R1.5.docm</u> Electricity Supply UET12_R2.1.docm (7.86MB) <u>http://www.filefactory.com/file/56saqflqmh41/n/UET12_R2.1.docm</u></p>	<p>Lunch</p>	<p><u>Curriculum Development Workshop Part 2</u></p> <p>Group work on selecting the Contents of curriculums & training packages into teaching curriculums of participants' institutions. Group discussion, feedback</p> <p>Facilitator</p> <p>Dr Kyaw Naing & Other trainers Delivery mode-Tutorial 120 min</p> <p><u>Examples</u> <u>www.highlightcomputer.com/OverallProgramGeneral.pdf</u> Page 22 to 43</p> <p><u>Samples</u> <u>http://www.highlightcomputer.com/BECurriculum.htm</u> <u>http://www.highlightcomputer.com/DiplomaAdvancedDiplomaCivilEngineeringCurriculum.htm</u> <u>http://www.highlightcomputer.com/DiplomaAdvancedDiplomaElectricalEngineeringCurriculum.htm</u> <u>http://www.highlightcomputer.com/DiplomaAdvancedDiplomaMechanicalEngineeringCurriculum.htm</u></p>
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			<p>Electrical Power Generation UEP12_R2.1.docm (7.79MB) http://www.filefactory.com/file/52pe03hs2xq1/n/UEP12_R2.1.docm</p> <p>Automotive AUR12_R2.1.docm (13.37MB) http://www.filefactory.com/file/4gtgr5i39dzt/n/AUR12_R2.1.docm</p> <p>Manufacturing & Engineering (Mechanical)</p> <p>MEM05_R11.1.docm (9.8MB) http://www.filefactory.com/file/29evfecw9yk9/n/MEM05_R11.1.docm</p> <p>Marine MAR_R2.0.docm (1.78MB) http://www.filefactory.com/file/6sodu2z259j3/n/MAR_R2.0.docm</p> <p>Textile LMT07_R4.1.docm (8.28MB) http://www.filefactory.com/file/6gea7ztqgsq3/n/LMT07_R4.1.docm</p>		<p>Examples Page 77 to 86 of www.highlightcomputer.com/OverallProgramGeneral.pdf</p>
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			<p>Construction</p> <p>CPC08_R9.0.docm (9.59MB) http://www.filefactory.com/file/3j1y315nbze7/n/CPC08_R9.0.docm</p> <p>Information Technology</p> <p>ICA11_R2.0.docm (5.27MB) http://www.filefactory.com/file/4e3ioubld73n/n/ICA11_R2.0.docm</p> <p>Chemical</p> <p>PMA02_2.pdf (1.92MB) http://www.filefactory.com/file/2t53b3xi0slr/n/PMA02_2.pdf</p> <p>PMA02_1.pdf (1.65MB) http://www.filefactory.com/file/33ikm94dl8jb/n/PMA02_1.pdf</p> <p>Manufacturing</p> <p>MSA07_R8.4.docm (4.93MB) http://www.filefactory.com/file/4tcjlsetp0rd/n/MSA07_R8.4.docm</p> <p>TAE10_R3.4.docm (1.87MB)</p>		
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			http://www.filefactory.com/file/566jfcvasu5/n/TAE10_R3.4.docm Gas UEG11_R2.0.docm (5.44MB) http://www.filefactory.com/file/6shho87gm1nh/n/UEG11_R2.0.docm Mining MNM05_3.pdf (2.28MB) http://www.filefactory.com/file/78fk485ew98v/n/MNM05_3.pdf MNM05_2.pdf (2.29MB) http://www.filefactory.com/file/72vjazer7njj/n/MNM05_2.pdf MNM05_1.pdf (1.77MB) http://www.filefactory.com/file/6ahwwdwosk8j/n/MNM05_1.pdf		
5 22 Dec 2015	<u>Approach to various learning modes in VET</u> By- Dr Kyaw Naing & the speakers from various technological universities Delivery mode-Lecture 43 min AUDIO http://yourlisten.com/Kyaw.Naing/day-5-session-1b	Morning tea and networking	<u>Preparing vocational teaching portfolios</u> By Dr Kyaw Naing Delivery mode-Lecture 48 min References Worksheets AUDIO http://yourlisten.com/Kyaw.Naing/day-5-session-23	Lunch	<u>Learning outcomes & Teaching / Training Strategies workshop</u> Develop teaching and learning strategies in the curriculum for the courses that are taught by the participants Group work, group discussions <u>Example</u>

<p>Topics & References</p> <p>Practical focus Group Base learning.pdf (3.25MB) http://www.filefactory.com/file/266najo91o3/n/16.taadel401a_Plan_&_Organize_Group_Base_learning.pdf</p> <p>Facilitate Group based learning.pdf (2.81MB) http://www.filefactory.com/file/1tvk73q17i43/n/18.taadel402a_Facilitate_Group_based_learning.pdf</p> <p>Work based learning.pdf (4.15MB) http://www.filefactory.com/file/24apg5s5n0fx/n/22.taadel404a_Facilitate_work_based_learning.pdf</p> <p>individual learning.pdf (1.94MB) http://www.filefactory.com/file/4nmwy8ldewh1/n/20.taadel403a_Facilitate_individual_learning.pdf</p> <p>Distance based learning (2.56MB) http://www.filefactory.com/file/3w2b2mdycbx1/n/24.taadel405a_Coordinate_7_facilitate_distance_based_learnin.pdf</p> <p>Educational Theory Resources ED 103 Teaching Practice http://www.filefactory.com/file/1o732n0j46mf/ED%20103%20Teaching%20P</p>	<p>Provide Training through instruction and demonstration of work skills</p> <p>TAADEL301A.doc (0.03MB) http://www.filefactory.com/file/2ppyhdlqhlsh/n/TAADEL301A.doc</p> <p>Facilitate work-based learning</p> <p>TAADEL404A.doc (0.03MB) http://www.filefactory.com/file/60ojucglvyu3/n/TAADEL404A.doc</p> <p>Group based delivery</p> <p>TAADEL401A.doc (0.03MB) http://www.filefactory.com/file/3i5scp12gkdn/n/TAADEL401A.doc</p> <p>Use Training Packages to meet client needs</p> <p>TAADES401A.doc (0.03MB) http://www.filefactory.com/file/32bofyyl82wf/n/TAADES401A.doc</p> <p>Design and develop learning programs</p> <p>TAADES402A.doc (0.03MB) http://www.filefactory.com/file/4nhro84kl2nx/n/TAADES402A.doc</p>	<p>Page 44 to 49 of www.highlightcomputer.com/OverallProgramGeneral.pdf</p> <p>Facilitator Dr Kyaw Naing & Other trainers</p> <p>Contents Research http://www.filefactory.com/file/eovzqp6gd1/assessment%20strategies.pdf</p> <p>http://www.filefactory.com/file/7jfakka1vpfx/G015BWor k%20performance%20report.doc</p> <p>http://www.filefactory.com/file/3ymfd2ekdn11/UFE11%20V1acessguidelines%5B1%5D.pdf</p> <p>DELIVERY & ASSESSMENT PLAN SAMPLES http://www.filefactory.com/file/1c03t5k3fp8p/SAMPLE%20ASSESSMENT%20ITEMS.htm</p>
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	<p>ractice.zip</p> <p>ED 105 Principle of Learning</p> <p>http://www.filefactory.com/file/7660l6kjr8sx/ED%20105%20Principle%20of%20Learning.zip</p> <p>ED 107 Teaching & Learning</p> <p>http://www.filefactory.com/file/6u5o455lyqj7/ED%20107%20Teaching%20%26amp%3B%20Learning.zip</p> <p><u>Myanmar Engineering Council</u> <u>References</u></p> <ul style="list-style-type: none"> the choice of the teaching-learning (delivery) methods. A balanced curriculum The curriculum shall integrate theory with practice through adequate exposure to laboratory work and professional engineering(MEng C) 		<p>Work effectively in vocational education and training</p> <p>TAAENV401A.doc (0.03MB) http://www.filefactory.com/file/45zeif6cy5zx/n/TAAENV401A.doc</p> <p>Foster and promote an inclusive learning culture</p> <p>TAAENV402A.doc (0.03MB) http://www.filefactory.com/file/3zoufgaty89n/n/TAAENV402A.doc</p> <p>Ensure a safe and healthy learning environment</p> <p>TAAENV403A.doc (0.03MB) http://www.filefactory.com/file/6ireaw7s5jg9/n/TAAENV403A.doc</p> <p>Individual learning</p> <p>TAADEL403A.doc (0.03MB) http://www.filefactory.com/file/7g3h9iwpodfr/n/TAADEL403A.doc</p> <p>Language Literacy &</p>		
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	<ul style="list-style-type: none"> • Time allocation • Credit points <p>ED 401 Adult Learning Technology</p> <p>http://www.filefactory.com/file/68y4bd94ianb/ED%20401%20Adult%20Learning%20Technology.zip</p>		<p>Numeracy</p> <p>1397606218-taelln411_sample.pdf (0.34MB) http://www.filefactory.com/file/5fh2bd8z3k0r/n/1397606218-taelln411_sample.pdf</p> <p>Report.pdf (0.41MB) http://www.filefactory.com/file/655u3qypqyj3/n/Report.pdf</p> <p>Section 4 Model for core skills analysis.pdf (0.69MB) http://www.filefactory.com/file/6p480mpcelft/n/Section_4_Model_for_core_skills_analysis.pdf</p> <p>ACSF_Document.pdf (1.03MB) http://www.filefactory.com/file/54s5xbe3esdn/n/ACSF_Document.pdf</p> <p>LLN Preparation of students.docx (0.02MB) http://www.filefactory.com/file/77ps5dxgbhbj/n/LLN_Preparation_of_students.docx</p> <p>Australian Core Skills Framework for LLN Level</p>	
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			<p>determination.docx (0.02MB) http://www.filefactory.com/file/4qt7gx24cd9l/n/Australian_Core_Skills_Framework_for_LLN_Level_determination.docx</p> <p>LLN Preparation of students.docx (0.02MB) http://www.filefactory.com/file/1rvd487gxw0j/n/LLN_Preparation_of_students.docx</p>		
<p>6 23 Dec 2015</p>	<p><u>Assessment Validation Guide of Myanmar Engineering Council</u></p> <ul style="list-style-type: none"> assessment & evaluation methods for the attainment achievement of the Learning Outcome <p><u>Developing the assessment strategies in VET</u></p> <p>By Dr Kyaw Naing</p> <p>Delivery mode-Lecture 60 min</p> <p>AUDIO http://yourlisten.com/Kyaw.Naing/day-6-session-1</p>	<p>Morning tea and networking</p>	<p><u>Examination & Assessment Strategies & Experiences talks</u></p> <p>By the educators from various technological universities & skills training organizations</p>	<p>Lunch</p>	<p><u>Prepare the sample assessment activities for the courses that the participants are teaching</u></p> <p>Delivery mode-Lecture 41min + Tutorial 80 min</p> <p>AUDIO http://yourlisten.com/Kyaw.Naing/day-6-session-23</p> <p><u>Facilitator</u> Dr Kyaw Naing & Other trainers</p> <p>Page 49 to 76 of www.highlightcomputer.com/OverallProgramGeneral.pdf</p> <p>Sample Assessment validation matrices http://www.filefactory.com/file/617mgi9ir63x/UEENEEE046B.zip</p>

	<p><u>Practical Application Resources</u></p> <p>Participate in assessment validation</p> <p>TAAASS404A.doc (0.03MB) http://www.filefactory.com/file/5zv1ke0eh2dj/n/TAAASS404A.doc</p> <p>Develop assessment tools</p> <p>TAAASS403A.doc (0.03MB) http://www.filefactory.com/file/5rxw2igqk7rx/n/TAAASS403A.doc</p> <p>Plan and organise assessment</p> <p>TAAASS401A.doc (0.03MB) http://www.filefactory.com/file/1tpnwpxgvgv/n/TAAASS401A.doc</p> <p>Assess competence</p> <p>TAAASS402A.doc (0.03MB) http://www.filefactory.com/file/48yye4zmmxt7/n/TAAASS402A.doc</p> <p><u>Reference Textbooks (Theory aspect)</u></p> <p>ED 205 Teaching & Measuring http://www.filefactory.com/file/4eu01</p>				<p>http://www.filefactory.com/file/333wtizbok0n/UEENEEG002.zip</p> <p>http://www.filefactory.com/file/11tkbwlf04jt/UEENEEG015B.zip</p> <p>Sample delivery & assessment schedules http://www.filefactory.com/file/5k19ps1z6xj9/20222%20Sequence%20%28V1%29%20%28001%200861%29%2020120726.pdf</p> <p>Self assessment journal/ Reflection http://www.filefactory.com/file/1c0jfwumb27p/Self%20Assessment%20Journal%20Reflection.doc</p> <p>Sample-Student Assessment Guide.doc (0.09MB) http://www.filefactory.com/file/10m1ja7dnha3/n/UEENEE101A_Student_Assessment_Guide.doc</p> <p>Sample- RPL Tool Validation Record.pdf (0.08MB) http://www.filefactory.com/file/34muh9bkgpk9/n/UEENEE101A_RPL_Tool_Validation_Record.pdf</p> <p>Sample- Assessment Cover sheet.doc (0.08MB) http://www.filefactory.com/file/n6s0sk8izqj/n/UEENEE101A_Assessment_Cover_sheet.doc</p> <p>Sample-Assessment Feedback Sheet.docx (0.05MB) http://www.filefactory.com/file/3soxroqt927j/n/UEENEE101A_Assessment_Feedback_Sheet.docx</p>
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	ck2awl/ED%20205%20Teaching%20%26amp%3B%20Measuring.zip ED 206 Designing Instructions & Assessment http://www.filefactory.com/file/4dnh3r8wsd9t/ED%20206%20Designing%20Instructions%20%26amp%3B%20Assessment.zip ED 405 Training Principle http://www.filefactory.com/file/5guptpxznin/ED%20405%20Training%20Principle.zip				Evaluation check list http://www.filefactory.com/file/6jslcpuborkx/Evaluation%20Check%20List%20General%2BOnline%20Survey.docx http://www.filefactory.com/file/4crkqpgke02z/Evaluation.docx Recognition of Prior Learning Tools-Sample http://www.filefactory.com/file/2gtq6nqjag03/20278%20ORPL_form_WVL_2014_V1_multi.xlsm http://www.filefactory.com/file/4phu09qmmmy89/20281%20ORPL_form_WVL_2014_V1_multi.xlsm http://www.filefactory.com/file/6qtg6w4uh3fh/20282%20ORPL_form_WVL_2014_V1_multi.xlsm
7 24 Dec 2015	<u>Educational Resources Development in line with Myanmar Engineering Council Requirements</u> <u>9.2.7 Facilities</u> By- Myanmar Engineering Council Engineering Accreditation Committee Delivery mode-Lecture	Morning tea and networking	<u>Integration of Learning Technology in Teaching & Learning Part 1</u> By Dr Kyaw Naing Delivery mode-Lecture AUDIO http://yourlisten.com/KyawNaing/day-7-session23	Lunch	<u>On line & offline e-Learning systems Part 1</u> By Dr Kyaw Naing Delivery mode-Tutorial 120 min Samples Learning Platform example http://www.highlightcomputer.com/onlineteaching1.htm Using multimedia & videos in teaching & Learning http://www.highlightcomputer.com/videos1.htm

	<p><u>Overviews of Professional Development Programs provided by Myanmar Engineering Society</u></p> <p>By- Myanmar Engineering Society</p> <p>Delivery mode-Lecture</p>		<p><u>Resources</u></p> <p>http://www.filefactory.com/file/3bsfz0ehba7z/n/5_Learning_Technology_1_zip</p> <p>http://www.filefactory.com/file/cvavvr9gonr/n/6_Learning_Technology_2_zip</p> <p>Due to the big file size, the resources will be given in CD</p>		<p>Using Youtube in teaching & learning http://www.highlightcomputer.com/videos2.htm</p> <p>Practice</p> <p>Use of DVD recorder, Digital note takers to record the lessons and prepare the multimedia power point lectures, PDF-JPG format conversion softwares</p>
<p>8 26 Dec 2015</p>	<p><u>Technology in Classroom</u></p> <p>By Dr Kyaw Naing</p> <p>Delivery mode-Lecture 1 Hr</p> <p>AUDIO</p> <p>http://yourlisten.com/Kyaw.Naing/day-8-session-1a</p> <p>Resources</p> <p>ED312 Technology in Classrooms http://www.filefactory.com/file/7j-civu232opx/n/7_Technology_in_classroom_zip</p> <p>ED 308 Computer Supported Learning & Distance Education http://www.filefactory.com/file/4mdzrx52kl45/ED%20308%20Computer%20Supported%20Learning%20%26amp%3B%20Distance%20Education.zip</p>		<p><u>Integration of Learning Technology in Teaching & Learning Part 2</u></p> <p>Delivery mode-Lecture+ Tutorial</p> <p>AUDIO</p> <p>http://yourlisten.com/Kyaw.Naing/day-8-session-23</p> <p>By Dr Kyaw Naing</p> <p>Sharing the e-Learning work experience utilized in TAFE-NSW Australian Classroom</p> <ul style="list-style-type: none"> Resources development Computer assisted test 		<p>On line & offline e-Learning systems Part 2</p> <p>Delivery mode-Tutorial 120 min</p> <p>Development of e-Learning Resources Practice workshop</p> <p>Development of learning support website & contents placement</p> <p>Sample</p> <p>www.electricaldiploma2013.zoomshare.com</p> <p>Use of online documents sharing sites</p> <p>www.filefactory.com</p> <p>www.uploading.com</p> <p>www.zoomshare.com</p> <p>www.webs.com</p>

			<ul style="list-style-type: none"> • Use of online test/online survey • Online simulated practicals www.easytestmaker.com http://www.emailmeform.com/		
9 28 Dec 2015	8.5.2 Programme Quality Management and Planning 8.5.4 Quality Assurance 9.2.8 Quality Management System Preparation of self accreditation report Requirements of Myanmar Engineering Council By -Myanmar Engineering Council Delivery mode-Lecture <u>References</u> Curriculum design for accreditation compliance http://www.filefactory.com/file/2vyvpy64k4w3/Accredition%20Manual.pdf Overall accreditation and	Morning tea and networking	<u>Preparing the documents to comply with Myanmar Engineering Council Requirement</u> Delivery mode-Lecture 25 min AUDIO http://yourlisten.com/KyawNaing/day-9-session-23 By Dr Kyaw Naing Sample www.highlightcomputer.com/assessment.htm Quality Assurance http://www.highlightcomputer.com/QualityAssurance.htm	Lunch	<u>Quality Assurance Compliance Documentation preparation workshop</u> Delivery mode-Tutorial 120 min The participants to prepare the quality assurance documents for the courses that they are teaching to comply with the requirements of Myanmar Engineering Council <u>Facilitator</u> Dr Kyaw Naing & Other trainers <u>Reference</u> Page 92 to 96 of www.highlightcomputer.com/OverallProgramGeneral.pdf

	<p>compliance practice http://www.filefactory.com/file/2vyvpy64k4w3/Accreditation%20Manual.pdf</p> <p>Preparation for self accreditation report http://www.filefactory.com/file/43x0yutpx31v/2%20SAR.pptx</p> <p>Engineering Accreditation Plan http://www.filefactory.com/file/2ynzo3fydckb/2015%20YTU%20First%20Workshop.pptx</p>				
<p>10 29 Dec 2015</p>	<p>Learning Environment By- Dr Kyaw Naing Delivery mode-Lecture 48min</p> <p>AUDIO http://yourlisten.com/Kyaw.Naing/day-10-session-1</p> <p>Reference ED 407 Learning Environment http://www.filefactory.com/file/31o7fw99ux7l/ED%20407%20Learning%20Environment.zip</p>	<p>Morning tea and networking</p>	<p>Change Management By- Daw Hla Myat Mon Delivery mode-Lecture 38min</p> <p>AUDIO http://yourlisten.com/Kyaw.Naing/day-10-session-23</p> <p>References University of Technology Master of Business Change Management References & experience in University of Technology Sydney</p>	<p>Lunch</p>	<p>Educational Leadership work experience knowledge By Invited Educational Leaders of Myanmar Education Delivery mode-Lecture</p> <p>Textbook ED 308 Change Management http://www.filefactory.com/file/4cxrjx86buot/n/9_Leadership_Change_Management.zip</p> <p>ED309 Educational Communication http://www.filefactory.com/file/6tbjy1omi7kz/n/1_Educational_Communication.zip</p> <p>ED 402 Educational Leadership http://www.filefactory.com/file/68h2rewfq7jx/ED%20402%20Educational%20Leadership.zip</p>

11 30 Dec 2015	<u>Preparation and finalisation of full documentations for Myanmar Engineering Council Accreditation</u> Delivery mode-Tutorial Facilitators Dr Kyaw Naing Prof Dr Charlie Than & other trainers of MEng C	Morning tea and networking	<u>Preparation and finalisation of full documentations for Myanmar Engineering Council Accreditation</u> Delivery mode-Tutorial Dr Kyaw Naing Prof Dr Charlie Than & other trainers of MEng C	Lunch	<u>Preparation and finalisation of full documentations for Myanmar Engineering Council Accreditation</u> Delivery mode-Tutorial Dr Kyaw Naing Prof Dr Charlie Than & other trainers of MEng C
12 31 Dec 2015	Mock Accreditation Sessions Practice	Morning tea and networking	Mock Accreditation Sessions Practice		Conclusion of the training.

Remark

Depending on the resources & facilities availabilities, Session 2 & 3 of Day 7 & 8 may need to be replaced with other activities

Objective of the course

This Professional Diploma in Technical Teaching (Training, Assessment & Learning Management) is designed as Teachers Education Professional Development for teachers in Government Technical Colleges, Technological Universities and other Vocational Education and Training Institutions in Myanmar to upgrade their skills and knowledge in training and assessment, curriculum design and development, management of technical training institutions, adult and vocational education and training, assessment validation and current accreditation rules and requirements of Myanmar Engineering Council as well as current training and assessment practices of overseas industrialized countries.

Learning Outcomes

After completion of the levels of the training programs, the students should be able to

- Understand adult learning principles in technical education and training contexts
- Apply the skills in training, assessment, course development, curriculum development, learning management and management of technical training institutions.
- Understand the accreditation requirements of Myanmar Engineering Council in accredited engineer, technologist and technician education & prepare for the compliance processes.
- Understand the technology, science and mathematics teaching & educational pedagogies principles of outcome based education and effectively utilize them in the workplace
- Provide effective work-based learning & career development for the working people in industries and apply the various ways of assessing the competences

Components of the course

- Educational theories, educational technology, teaching and learning, teaching and measuring.
- Lesson planning, interpreting curriculums, class room management, instruction and assessment design, training principle, competency based training and assessment integrated the competencies of Australian Training and Assessment (TAE40110) course
- Management of educational establishment in line with the accreditation requirements of Myanmar Engineering Council by customizing the competencies in Australian Vocational Education and Training Diploma (TAE50111) to be relevant to the requirements of Myanmar Vocational Education and Training.
- Postgraduate level educational knowledge related to Learning Technology, Technology in classrooms, educational leadership, leadership and change management, computer supported learning and distance education,
- Teaching practicum preparation at different levels of training

Study Areas & Levels of Training

Level 1-Educational Theories , Teaching Pedagogies & Training and Assessment Practice

Part (1) Educational Theoretical Subjects

- ED 101 Theory of Education
- ED 102 Education Technology
- ED 103 Teaching Practice
- ED 104 Lesson Planning
- ED 105 Principle of Learning
- ED 106 Interpreting Curriculums
- ED 107 Teaching & Learning
- ED 201 Class Room Management & Teaching

Part (2A) Basic Teaching Practicum Preparation

ED101P-Teaching Support

ED102P- Application of Information Technology in School /Vocational Education

ED103P- Classroom Management

ED104P- Teaching Portfolio

ED105P- Inclusive Teaching

ED106P- Subject Area Knowledge

ED107P- Theory of Education, Educational Technology & Teaching Practice

ED107PA-Theory of Education

ED107PB-Education Technology

ED107PC-Teaching Practice

ED107PD-Lesson Planning

ED108P- Curriculum Study , Teaching & Learning

ED108PA-Principle of Learning

ED108PB-Interpreting Curriculums

ED108PC-Teaching & Learning

Part (2B) Training &Assessment Practice (Certificate IV in Training & Assessment TAE40110)

- ED111P Learning Program Design & Development Practice
(TAEDES401A Design and develop learning programs)
- ED112P Assessing the needs of trainees
(TAEDES402A Use training packages and accredited courses to meet client needs Delivery)
- ED113P Group based learning
(TAEDEL401A Plan, organise and deliver group-based learning)
- ED114P Workplace Assessment
(TAEDEL402A Plan, organise and facilitate learning in the workplace Assessment)
- ED115P Assessment Planning
(TAEASS401B Plan assessment activities and processes)
- ED116P Competency Assessment
(TAEASS402B Assess competence)
- ED117P Assessment Validation
(TAEASS403B Participate in assessment validation)
- ED118P Work skills Instruction
(TAEDEL301A Provide work skill instruction)
- ED119P Educational Presentation
(BSBCM401A Make a presentation)(TAEASS301B Contribute to assessment

Level 2-Adult Vocational Education

Part (1) Adult Vocational Education Theoretical Subjects

- ED 401 Adult Learning Technology
- ED 202 Curriculum & Design
- ED 205 Teaching & Measuring
- ED 206 Designing Instructions & Assessment
- ED 405 Training Principle

Part (2) Vocational Education & Training Practice (Diploma in Vocational Education & Training TAE50111)

- ED201P-Advanced Assessment Practice
(TAEASS501A: Provide advanced assessment practice)

- ED202P-Assessment Development
(TAEASS502B: Design and develop assessment tools)
- ED203P-Training Facilitation
(TAEDEL502A: Provide advanced facilitation practice)
- ED204P-Learning Strategies
(TAEDES501A: Design and develop learning strategies)
- ED205P- Language Literacy & Numeracy
(TAEELN401A: Address adult language, literacy and numeracy skills)
- ED206P-Continuing Professional Development
(TAEPPD501A: Maintain and enhance professional practice)
- ED207P Learning Resources Design & Development
(TAEDES502A: Design and develop learning resources)
- ED208P Organizational Training Needs Analysis
(TAETAS501B: Undertake organisational training needs analysis)
- ED 404 Educational Research (Part 1)
(TAERES501A: Apply research to training and assessment practice)
- ED209P- Training Program Evaluation
(TAEDES505A: Evaluate a training program)

Level 3-Training Authorities Accreditation Compliances

Part (1) Educational Leadership Subjects

- ED 402 Educational Leadership
- ED 301 Educational Policy (Myanmar Engineering Council Accreditation Requirements)
- ED 308 Change Management
- ED309 Educational Communication
- ED 407 Learning Environment
- ED311 Outcome based Education

Part (2) Myanmar Engineering Council's Accreditation Compliance Practice

- ED301P- Curriculum design for accreditation compliance
- ED302P-Overall accreditation and compliance practice

Level 4-Specialized Teaching Areas

- ED 308 Computer Supported Learning & Distance Education
- ED 304 Maths Teaching
- ED 305 Science Teaching
- ED 306 Technology Teaching
- ED 404 Educational Research (Part 2)
- ED310 Learning Technology I & II
- ED312 Technology in Classrooms

RESOURCES

ASSESSMENT FOR THE SUBJECTS IN PART 1 OF THE LEVELS

The students will have to write 20 pages study report for each of the subjects outlined in the Part 1 of any level .

The report needs to include

- Book review- Review on each chapter of the book highlighting the key concepts, points, key theory & practical application concepts
- Own idea on how to apply those concepts in real practical applications.
- Examples of curriculum designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book

The book references for the subjects can be downloaded from the following links by entering the given password.

Password- to be given

ASSESSMENT FOR THE SUBJECTS IN PART 2 OF THE LEVELS

Follow the specific assessment instruction provided for the units in Part 2 of the levels

Study Areas & Levels of Training

Level 1-Educational Theories , Teaching Pedagogies & Training and Assessment Practice

Part (1) Educational Theoretical Subjects

The students will have to write 20 pages study report for each of the subjects outlined in the Part 1 of any level .

The report needs to include

- Book review- Review on each chapter of the book highlighting the key concepts, points, key theory & practical application concepts
- Own idea on how to apply those concepts in real practical applications.
- Examples of curriculum designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book

The book references for the subjects can be downloaded from the following links by entering the given password.

Password- to be given

- ED 101 Theory of Education
<http://www.filefactory.com/file/4fuby1dpqs9f/ED%20101%20Theory%20of%20Education.zip>
- ED 102 Education Technology
<http://www.filefactory.com/file/1ghlzng7e0n3/ED%20102%20Education%20Technology.zip>
- ED 103 Teaching Practice
<http://www.filefactory.com/file/1o732n0j46mf/ED%20103%20Teaching%20Practice.zip>
- ED 104 Lesson Planning
<http://www.filefactory.com/file/4m30ym0ez37r/ED%20104%20Lesson%20Planning.zip>
- ED 105 Principle of Learning
<http://www.filefactory.com/file/7660l6kjr8sx/ED%20105%20Principle%20of%20Learning.zip>
- ED 106 Interpreting Curriculums
<http://www.filefactory.com/file/1h141zxbv8z/ED%20106%20Interpreting%20Curriculums.zip>
- ED 107 Teaching & Learning
<http://www.filefactory.com/file/6u5o455lyqj7/ED%20107%20Teaching%20%26amp%3B%20Learning.zip>
- ED 201 Class Room Management & Teaching
<http://www.filefactory.com/file/48gvqykksqiz/ED%20201%20Class%20Room%20Mgt%20%26amp%3B%20Teaching.zip>

[Part \(2A\) Basic Teaching Practicum Preparation](#)

Follow the specific assessment instruction provided for the units in Part 2 of the levels

ED101P-Teaching Support

ED102P- Application of Information Technology in School /Vocational Education

ED103P- Classroom Management

ED104P- Teaching Portfolio

ED105P- Inclusive Teaching

ED106P- Subject Area Knowledge

[Certificate in Teaching Support+ Diploma in Teaching Practice+ Bachelor of Teaching+ Bachelor of Education \(School & Vocational\)](http://www.filefactory.com/file/4a5o50idxqvr/Diploma%20in%20Teaching%20Practice.pdf)
<http://www.filefactory.com/file/4a5o50idxqvr/Diploma%20in%20Teaching%20Practice.pdf>

ED107P- Theory of Education, Educational Technology & Teaching Practice

ED107PA-Theory of Education

ED107PB-Education Technology

ED107PC-Teaching Practice

ED107PD-Lesson Planning

ED108P- Curriculum Study , Teaching & Learning

ED108PA-Principle of Learning

ED108PB-Interpreting Curriculums

ED108PC-Teaching & Learning

ED 107 Lesson Slide 1 to 20 Mod.pdf (4.71MB)

http://www.filefactory.com/file/1w4faybri0p9/n/ED_107_Lesson_Slide_1_to_20_Mod.pdf

Download now by clicking the above link!

ED107 Lesson Slide 21 to 40.pdf (3.06MB)

http://www.filefactory.com/file/1ae111n3e1gl/n/ED107_Lesson_Slide_21_to_40.pdf

[Download now!](#)

ED107 Lesson Slide 41 to 60.pdf (3.27MB)

http://www.filefactory.com/file/4slgwynziwxz/n/ED107_Lesson_Slide_41_to_60.pdf

[Download now!](#)

ED107 Lesson Slide 61 to 80.pdf (3.22MB)

http://www.filefactory.com/file/1txrj08z5329/n/ED107_Lesson_Slide_61_to_80.pdf

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ED107 Lesson Slide 81 to 100.pdf (2.97MB)

http://www.filefactory.com/file/15p9vb74rljl/n/ED107_Lesson_Slide_81_to_100.pdf

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ED107 Lesson Slide 101 to 120.pdf (3.07MB)

http://www.filefactory.com/file/lxvcg3369i9/n/ED107_Lesson_Slide_101_to_120.pdf

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ED107 Lesson Slide 121 to 140.pdf (2.69MB)

http://www.filefactory.com/file/6h7bu8dsq7q7/n/ED107_Lesson_Slide_121_to_140.pdf

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ED107 Lesson Slide 141 to 160.pdf (2.57MB)

http://www.filefactory.com/file/6pxq45urnfyn/n/ED107_Lesson_Slide_141_to_160.pdf

[Download now!](#)

ED107 Lesson Slide 161 to 180.pdf (2.99MB)

http://www.filefactory.com/file/6srxl6iwl2o3/n/ED107_Lesson_Slide_161_to_180.pdf

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ED107 Lesson Slide 181 to 200.pdf (2.76MB)

http://www.filefactory.com/file/10d9wna6jr4r/n/ED107_Lesson_Slide_181_to_200.pdf

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ED107 Lesson Slide 201 to 220.pdf (2.86MB)

http://www.filefactory.com/file/3o4wea6j5uof/n/ED107_Lesson_Slide_201_to_220.pdf

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ED107 Lesson Slide 221 to 240.pdf (3.27MB)

http://www.filefactory.com/file/32bcquqzs1ll/n/ED107_Lesson_Slide_221_to_240.pdf

[Download now!](#)

ED107 Lesson Slide 241 to 260.pdf (2.83MB)

http://www.filefactory.com/file/p0y76lkvkjd/n/ED107_Lesson_Slide_241_to_260.pdf

[Download now!](#)

ED107 Lesson Slide 261 to 280.pdf (2.84MB)

http://www.filefactory.com/file/2kdx8ty4uj1d/n/ED107_Lesson_Slide_261_to_280.pdf

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ED107 Lesson Slide 281 to 304.pdf (3.78MB)

http://www.filefactory.com/file/1y06uzz0iaq1/n/ED107_Lesson_Slide_281_to_304.pdf

[Download now!](#)

ED 107 Exercises.pdf (2.3MB)

http://www.filefactory.com/file/1isf2cao4gxx/n/ED_107_Exercises.pdf

[Download now!](#)

ED 108 Curriculum Study , Teaching & Learning Lessons**ED108 Lesson Slide 1 to 20.pdf (2.37MB)**

http://www.filefactory.com/file/6r5rg8bucgkx/n/ED108_Lesson_Slide_1_to_20.pdf

[Download now!](#)

ED108 Lesson Slide 21 to 40.pdf (2.69MB)

http://www.filefactory.com/file/1wxu981xeel/n/ED108_Lesson_Slide_21_to_40.pdf

[Download now!](http://www.filefactory.com/file/1wxu981xeel/n/ED108_Lesson_Slide_21_to_40.pdf)

ED108 Lesson Slide 41 to 60.pdf (2.27MB)

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[Download now!](http://www.filefactory.com/file/4qghmt89g2zr/n/ED108_Lesson_Slide_61_to_80.pdf)

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[Download now!](http://www.filefactory.com/file/67air98a9wpz/n/ED108_Lesson_Slide_101_to_120.pdf)

ED108 Lesson Slide 121 to 140.pdf (2.32MB)

http://www.filefactory.com/file/2fw5kwlelb03/n/ED108_Lesson_Slide_121_to_140.pdf

[Download now!](http://www.filefactory.com/file/2fw5kwlelb03/n/ED108_Lesson_Slide_121_to_140.pdf)

ED108 Lesson Slide 141 to 168.pdf (2.7MB)

http://www.filefactory.com/file/5foiol6m9rwx/n/ED108_Lesson_Slide_141_to_168.pdf

[Download now!](http://www.filefactory.com/file/5foiol6m9rwx/n/ED108_Lesson_Slide_141_to_168.pdf)

ED 108 Exercises.pdf (1.22MB)

http://www.filefactory.com/file/5o110j6pg6dz/n/ED_108_Exercises.pdf

[Download now!](http://www.filefactory.com/file/5o110j6pg6dz/n/ED_108_Exercises.pdf)

[Part \(2B\) Training & Assessment Practice \(Certificate IV in Training & Assessment TAE40110\)](#)

Follow the specific assessment instruction provided for the units in Part 2 of the levels

- ED111P Learning Program Design & Development Practice
(TAEDES401A Design and develop learning programs)
- ED112P Assessing the needs of trainees
(TAEDES402A Use training packages and accredited courses to meet client needs Delivery)
- ED113P Group based learning
(TAEDEL401A Plan, organise and deliver group-based learning)
- ED114P Workplace Assessment
(TAEDEL402A Plan, organise and facilitate learning in the workplace Assessment)

- ED115P Assessment Planning
(TAEASS401B Plan assessment activities and processes)
- ED116P Competency Assessment
(TAEASS402B Assess competence)
- ED117P Assessment Validation
(TAEASS403B Participate in assessment validation)
- ED118P Work skills Instruction
(TAEDEL301A Provide work skill instruction)
- ED119P Educational Presentation
(BSBCMM401A Make a presentation)(TAEASS301B Contribute to assessment

RESOURCES FOR ABOVE UNITS

Working in Vocational Education & Assessment

http://www.filefactory.com/file/136bwooflstr/n/3_Assessment_Working_in_VET_zip

Preparing vocational teaching portfolios

http://www.filefactory.com/file/2l9iu8ptfk0t/n/8_Guides_for_preparing_VET_portfolios_zip

Learning , Facilitation & Teaching in Vocational Education and Training

http://www.filefactory.com/file/3b1d9kduz515/n/4_Learning_Facilitation_Teaching_in_VET_zip

Work-based Learning & Assessment

http://www.filefactory.com/file/5pef2h8dhav9/n/10_Workbased_Learning_amp_Assessment_2_zip

Learning Environment

http://www.filefactory.com/file/5l12qij9s67j/n/12_Learning_Environment_zip

Level 2-Adult Vocational Education

Part (1) Adult Vocational Education Theoretical Subjects

The students will have to write 20 pages study report for each of the subjects outlined in the Part 1 of any level .

The report needs to include

- Book review- Review on each chapter of the book highlighting the key concepts, points, key theory & practical application concepts

- Own idea on how to apply those concepts in real practical applications.
- Examples of curriculum designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book

The book references for the subjects can be downloaded from the following links by entering the given password.

Password- to be given

- ED 401 Adult Learning Technology
<http://www.filefactory.com/file/68y4bd94ianb/ED%20401%20Adult%20Learning%20Technology.zip>
- ED 202 Curriculum & Design
<http://www.filefactory.com/file/1jotv5d428j1/ED%20202%20Curriculum%20%26amp%3B%20Design.zip>
- ED 205 Teaching & Measuring
<http://www.filefactory.com/file/4eu01ck2awl/ED%20205%20Teaching%20%26amp%3B%20Measuring.zip>
- ED 206 Designing Instructions & Assessment
<http://www.filefactory.com/file/4dnh3r8wsd9t/ED%20206%20Designing%20Instructions%20%26amp%3B%20Assessment.zip>
- ED 405 Training Principle
<http://www.filefactory.com/file/5qupttpxznn/ED%20405%20Training%20Principle.zip>

Part (2) Vocational Education & Training Practice (Diploma in Vocational Education & Training TAE50111)

Follow the specific assessment instruction provided for the units in Part 2 of the levels

- ED201P-Advanced Assessment Practice
(TAEASS501A: Provide advanced assessment practice)
- ED202P-Assessment Development
(TAEASS502B: Design and develop assessment tools)
- ED203P-Training Facilitation
(TAEDEL502A: Provide advanced facilitation practice)
- ED204P-Learning Strategies

(TAED501A: Design and develop learning strategies)

- ED205P- Language Literacy & Numeracy

(TAELLN401A: Address adult language, literacy and numeracy skills)

- ED206P-Continuing Professional Development
(TAEPDD501A: Maintain and enhance professional practice)

- ED207P Learning Resources Design & Development

(TAED502A: Design and develop learning resources)

- ED208P Organizational Training Needs Analysis

(TAETAS501B: Undertake organisational training needs analysis)

- ED 404 Educational Research (Part 1)

(TAERES501A: Apply research to training and assessment practice)

- ED209P- Training Program Evaluation

(TAED505A: Evaluate a training program)

Vocational Education & Training Practice (Diploma in Vocational Education & Training TAE50111) Portfolio Guide

<http://www.filefactory.com/file/rh0eb9n4sfn/TAE50111PortfolioGuide.pdf>

SAMPLE PORTFOLIOS

Please note that the reference & example documents contained in the link of the portfolio can not be downloaded from the internet, they can only be available in DVDs that can be sent upon request.

The document is password protected. Password is needed and can be given upon request.

http://www.filefactory.com/file/3i8k0ls9peup/TAE50110_Diploma%20RPL%20Submission%20U%20Kyaw%20Naing.pdf

Level 3-Training Authorities Accreditation Compliances

Part (1) Educational Leadership Subjects

The students will have to write 20 pages study report for each of the subjects outlined in the Part 1 of any level .

The report needs to include

- Book review- Review on each chapter of the book highlighting the key concepts, points, key theory & practical application concepts
- Own idea on how to apply those concepts in real practical applications.

- Examples of curriculum designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book

The book references for the subjects can be downloaded from the following links by entering the given password.

Password- to be given

- ED 402 Educational Leadership
<http://www.filefactory.com/file/68h2rewfq7jx/ED%20402%20Educational%20Leadership.zip>
- ED 301 Educational Policy (Myanmar Engineering Council Accreditation Requirements)

Registration Rules

<http://www.filefactory.com/file/yzxtm3a7z2b/06.%20Licensing%20%26amp%3B%20Registration%20Rules%20-%20Engineering%20-%20Myanmar%20-%20CCS%2068%20reduced.pdf>

Myanmar Assessment Statement

<http://www.filefactory.com/file/9adocfm4877/06.%20Myanmar%20Assessment%20Statement%20-%20%28ACPECC%2014%29.pdf>

Graduates Attributes

<http://www.filefactory.com/file/4r5z3i9uxw5p/1%20Graduate%20Attributes%20%26amp%3B%20Terminology.pptx>

Qualification Policy

<http://www.filefactory.com/file/69mj6zk64zj5/Policy%20%20Qualifications%20Policy%20POL11%20v4.PDF>

Regulations

<http://www.filefactory.com/file/65cxuftzoxmh/Regulations.pdf>

Engineers Australia References

www.highlightcomputer.com/engineersaustraliareferences.htm

- ED 308 Change Management
http://www.filefactory.com/file/4cxrjx86buot/n/9_Leadership_Change_Management_zip
- ED309 Educational Communication
http://www.filefactory.com/file/6tbjy1omi7kz/n/1_Educational_Communication_zip
- ED 407 Learning Environment
<http://www.filefactory.com/file/31o7fw99ux7l/ED%20407%20Learning%20Environment.zip>

- ED311 Outcome based Education

<http://www.filefactory.com/file/6sq2l3hmac3b/Final%20OBE%20Training%20at%20Myanmar%20July%202014.pptx>

[Part \(2\) Myanmar Engineering Council's Accreditation Compliance Practice](#)

- ED301P- Curriculum design for accreditation compliance

<http://www.filefactory.com/file/2vyvpy64k4w3/Accreditation%20Manual.pdf>

[Example](#)

www.highlightcomputer.com/OverallProgramGeneral.pdf

- ED302P-Overall accreditation and compliance practice

<http://www.filefactory.com/file/2vyvpy64k4w3/Accreditation%20Manual.pdf>

<http://www.highlightcomputer.com/Accreditation.htm>

Preparation for self accreditation report

<http://www.filefactory.com/file/43x0yutpx31v/2%20SAR.pptx>

Engineering Accreditation Plan

<http://www.filefactory.com/file/2ynzo3fydckb/2015%20YTU%20First%20Workshop.pptx>

ASSIGNMENT

Prepare the portfolios for your section/ department to comply with Myanmar Engineering Council's Accreditation Requirements.

Level 4-Specialized Teaching Areas

The students will have to write 20 pages study report for each of the subjects outlined in the Part 1 of any level .

The report needs to include

- Book review- Review on each chapter of the book highlighting the key concepts, points, key theory & practical application concepts
- Own idea on how to apply those concepts in real practical applications.
- Examples of curriculum designs that use the concepts & knowledge expressed in those books (If any)
- Your comment on each book

The book references for the subjects can be downloaded from the following links by entering the given password.

Password- to be given

- ED 308 Computer Supported Learning & Distance Education
<http://www.filefactory.com/file/4mdzrx52kl45/ED%20308%20Computer%20Supported%20Learning%20%26amp%3B%20Distance%20Education.zip>
- ED 304 Maths Teaching
<http://www.filefactory.com/file/60ngdjnse60x/ED%20304%20Maths%20Teaching.zip>
- ED 305 Science Teaching
<http://www.filefactory.com/file/4hq1f7r16xyf/ED%20305%20Science%20Teaching.zip>
- ED 306 Technology Teaching
<http://www.filefactory.com/file/3crwj4pdyt7b/ED%20306%20Techology%20Teaching.zip>
- ED 404 Educational Research (Part 2)
<http://www.filefactory.com/file/42pl9c8013ab/ED%20404%20Educational%20Research.zip>
- ED310 Learning Technology I & II
http://www.filefactory.com/file/3bsfz0ehba7z/n/5_Learning_Technology_1.zip
http://www.filefactory.com/file/cvavvr9gonr/n/6_Learning_Technology_2.zip
- ED312 Technology in Classrooms
http://www.filefactory.com/file/7jicivu232opx/n/7_Technology_in_classroom.zip

RECORD SHEETS

www.mongroupsydney1.com/recordsheet1.htm

Student Assessment Guide/ Assessment Mapping Assessment Cover Sheet Assesment Feedback Sheet Assessment Validation Documents	Two Weeks Training Course Activity Record Sheets
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Student Assessment Guide/

www.mongroupsydney1.com/StudentAssessmentGuide.pdf

Assessment Mapping

www.mongroupsydney1.com/AssessmentMapping.pdf

Assessment Cover Sheet

www.mongroupsydney1.com/AssessmentCoverSheet.pdf

Assesment Feedback Sheet

www.mongroupsydney1.com/AssessmentFeedbackSheet.pdf

Assessment Validation Documents

www.mongroupsydney1.com/RPLValidation.pdf

Two Weeks Training Course Activity Record Sheets

[Day 1 Session 3-Course Objective Outline.pdf \(2.42MB\)](#)

www.mongroupsydney1.com/Day1Session3CourseObjectiveOutline.pdf

[Day 1 Session 3-Attachment 1a.pdf \(6.17MB\)](#)

www.mongroupsydney1.com/Day1Session3Attachment1a.pdf

[Day 1 Session 3-Attachment 1b.pdf \(5.17MB\)](#)

www.mongroupsydney1.com/Day1Session3Attachment1b.pdf

[Day 3 Session 3-Delivery & Assessment Strategy.pdf \(5.73MB\)](#)

www.mongroupsydney1.com/Day3Session3DeliveryAssessmentStrategy.pdf

[Day 4 Session 3-Assessment Strategy 1.pdf \(3.84MB\)](#)

www.mongroupsydney1.com/Day4Session3AssessmentStrategy1.pdf

[Day 4 Session 3-Assessment Strategy 2.pdf \(5.15MB\)](#)

www.mongroupsydney1.com/Day4Session3AssessmentStrategy2.pdf

[Day 5 Session 3-Workplace Training.pdf \(3.45MB\)](#)

www.mongroupsydney1.com/Day5Session3WorkplaceTraining.pdf

[Day 5 Session 3-Industrial Consultation.pdf \(4.1MB\)](#)

www.mongroupsydney1.com/Day5Session3IndustrialConsultation.pdf

[Day 5 Session 3-Attachment 1c.pdf \(5.65MB\)](#)

www.mongroupsydney1.com/Day5Session3Attachment1c.pdf

[Day 6 Session 3-Validation & Review.pdf \(1.64MB\)](#)

www.mongroupsydney1.com/Day6Session3ValidationReview.pdf

[Day 7 Session 3-Online Teaching.pdf \(3.08MB\)](#)

www.mongroupsydney1.com/Day7Session3OnlineTeaching.pdf

[Day 8 Session 3-Project.pdf \(4.92MB\)](#)

www.mongroupsydney1.com/Day8Session3Project.pdf

[Day 9 Session 3-Overall Review.pdf \(1.47MB\)](#)

www.mongroupsydney1.com/Day9Session3OverallReview.pdf

[General Reference-Attachment 2a.pdf \(4.09MB\)](#)

www.mongroupsydney1.com/GeneralReferenceAttachment2a.pdf

[General ReferenceAttachment 2b.pdf \(3.29MB\)](#)

www.mongroupsydney1.com/GeneralReferenceAttachment2b.pdf

Diploma in Teaching Practice

jointly taught by (St Clements Technological University/

Singapore Institute of Engineering Technologists/ IQY Technical College)

ENROLMENT LINK

Click the following link & fill the form.

<http://www.emailmeform.com/builder/form/tq48xQ6acb>

REFERENCE SITE

www.highlightcomputer.com/bedschoolvet.htm

List of Subjects for Teaching Practice

ED101P Teaching Support

ED102P Application of Information Technology in School Education

ED103P Classroom Management

ED104P Teaching Portfolio

ED105P Inclusive Teaching

ED106P Subject Area Knowledge

ED107 Theory of Education, Educational Technology & Teaching Practice

ED107A-Theory of Education (ED101) (Slide 1 to 60 Principle of Learning)

ED107B-Education Technology (ED102) (Slide 61 to 100)

ED107C-Teaching Practice (ED103 Classroom Management) (Slide 101 to 140)

ED107D-Lesson Planning (ED104 Teaching Portfolio)(Slide 241 to 300)

ED107E-Teaching & Learning (Slide 141 to 160+ Slide 200 to 240)

ED107F-Inclusive Teaching (ED105 Inclusive Teaching Slide 161 to 200)
ED107G-Evaluation & Assessment (Slide 301 to 320)

ED108 Curriculum Study, Teaching & Learning
Interpreting Curriculums

Study Sequence for Graduates

ED106 Subject Area Knowledge (Present Degree)

Part (1) Theory Training & Assignment (Certificate in Teaching Practice).

ED107 Theory of Education, Educational Technology & Teaching Practice

ED108 Curriculum Study , Teaching & Learning

Part (2) Teaching Practice Portfolio Presentation (Diploma in Teaching Practice).

ED101P Teaching Support

ED102P Application of Information Technology in School Education

ED103P Classroom Management

ED104P Teaching Portfolio

ED105P Inclusive Teaching

Study Sequence for Experienced Teachers

ED106 Subject Area Knowledge (Present Degree)

Part (1) Theory Training & Assignment (Certificate in Teaching Practice).

ED107 Theory of Education, Educational Technology & Teaching Practice

ED108 Curriculum Study , Teaching & Learning

Part (2) Teaching Practice Portfolio Presentation (Diploma in Teaching Practice).

The following subjects can be exempted by presenting the reference letter from the school.

ED101 Teaching Support

ED103 Classroom Management

ED105 Inclusive Teaching

The following subject needs to be studied

ED102 Application of Information Technology in School Education

Teaching portfolio needs to be presented for the following subject

ED104 Teaching Portfolio

REFERENCE EDUCATION THEORIES

ED 101 Theory of Education

ED 102 Education Technology

ED 103 Teaching Practice

ED 104 Lesson Planning

ED 105 Principle of Learning

ED 106 Interpreting Curriculums

VIDEOS

IQY Teacher Training 1

<https://youtu.be/CHqmQ1Ifwa4>

IQY Teacher Training 2

<https://youtu.be/i-VpgngRumw>

IQY Teacher Training 3

<https://youtu.be/eYujIkvdPYw>

IQY Teacher Training 4

<https://youtu.be/n9y49b5qO8g>

TEACHER TRAINING- IQY-AUDIO Download Links

VN860195.zip (96.74MB)

<http://www.filefactory.com/file/6s4a0e57kz25/n/VN860195.zip>

VN860197.zip (98.04MB)

<http://www.filefactory.com/file/19yvgu2vqrdl/n/VN860197.zip>

VN860196.zip (39.01MB)

<http://www.filefactory.com/file/5ukezf8qmmb3/n/VN860196.zip>

VN860136 (147MB)

<http://www.filefactory.com/file/3wbq5wqon6zn/VN860136.zip>

STUDY GUIDES & LESSONS

ED101 to ED106

www.highlightcomputer.com/ED101106.pdf

ED107 Lessons

ED107 Exercises

www.highlightcomputer.com/ED107Exercises.pdf

ED107 Part 1 (Slide 1 to 20) ED107A-Theory of Education (ED101) (Slide 1 to 60 Principle of Learning)

www.highlightcomputer.com/ED1071.pdf

ED107 Part 2 (Slide 21 to 40) ED107A-Theory of Education (ED101) (Slide 1 to 60 Principle of Learning)

www.highlightcomputer.com/ED1072.pdf

ED107 Part 3 (Slide 41 to 60) ED107A-Theory of Education (ED101) (Slide 1 to 60 Principle of Learning)

www.highlightcomputer.com/ED1073.pdf

ED107 Part 4 (Slide 61 to 80) ED107B-Education Technology (ED102) (Slide 61 to 100)

www.highlightcomputer.com/ED1074.pdf

ED107 Part 5 (Slide 81 to 120) ED107B-Education Technology (ED102) (Slide 61 to 100)+ ED107C-Teaching Practice (ED103 Classroom Management) (Slide 101 to 140)

www.highlightcomputer.com/ED1075.pdf

ED107 Part 6 (Slide 121 to 140) ED107C-Teaching Practice (ED103 Classroom Management) (Slide 101 to 140)

www.highlightcomputer.com/ED1076.pdf

ED107 Part 7 (Slide 141 to 160) ED107E-Teaching & Learning (Slide 141 to 160)

www.highlightcomputer.com/ED1077.pdf

ED107 Part 8 (Slide 161 to 180) (ED105 Inclusive Teaching Slide 161 to 200)

www.highlightcomputer.com/ED1078.pdf

ED107 Part 9 (Slide 181 to 200) (ED105 Inclusive Teaching Slide 161 to 200)

www.highlightcomputer.com/ED1079.pdf

ED107 Part 10 (Slide 201 to 220) (ED107E-Teaching & Learning Slide 200 to 240)

www.highlightcomputer.com/ED10710.pdf

ED107 Part 11 (Slide 221 to 240) (ED107E-Teaching & Learning Slide 200 to 240)

www.highlightcomputer.com/ED10711.pdf

ED107 Part 12 (Slide 241 to 260) ED107D-Lesson Planning (ED104 Teaching Portfolio)(Slide 241 to 300)

www.highlightcomputer.com/ED10712.pdf

ED107 Part 13 (Slide 261 to 280) - ED107D Lesson Planning (ED104 Teaching Portfolio)(Slide 241 to 300)

www.highlightcomputer.com/ED10713.pdf

ED107 Part 14 (Slide 261 to 300) - ED107D Lesson Planning (ED104 Teaching Portfolio)(Slide 241 to 300)

www.highlightcomputer.com/ED10714.pdf

ED107 Part 15 (Slide 301 to 320)- ED107G-Evaluation & Assessment (Slide 301 to 320)

www.highlightcomputer.com/ED10715.pdf

ED108 Lessons

ED108 Exercises

www.highlightcomputer.com/ED108Exercises.pdf

ED108 Part 1 (Slide 1 to 20)

www.highlightcomputer.com/ED1081.pdf

ED108 Part 2 (Slide 21 to 40)

www.highlightcomputer.com/ED1082.pdf

ED108 Part 3 (Slide 41 to 60)

www.highlightcomputer.com/ED1083.pdf

ED108 Part 4 (Slide 61 to 80)

www.highlightcomputer.com/ED1084.pdf

ED108 Part 5 (Slide 81 to 100)

www.highlightcomputer.com/ED1085.pdf

ED108 Part 6 (Slide 101 to 120)

www.highlightcomputer.com/ED1086.pdf

ED108 Part 7 (Slide 121 to 140)

www.highlightcomputer.com/ED1087.pdf

ED108 Part 8 (Slide 141 to 160)

www.highlightcomputer.com/ED1088.pdf

OPTIONAL

(Certificate in Vocational Education & Training-Engineering Technology Teaching)

Online training & assignment

<http://www.highlightcomputer.com/gtc.htm>

ADDITIONAL REFERENCES FOR ED107 LESSONS

ED 101 Theory of Education

www.highlightcomputer.com/ED101.ppt

ED 102 Education Technology

www.highlightcomputer.com/ED102.ppt

Integration of Learning Technology in Teaching & Learning Part 1

http://youtu.be/bV_CJdY7fs0

Technology in Classroom

<http://youtu.be/rzLQq6D6-OU>

ED 103 Teaching Practice

www.highlightcomputer.com/ED103Part1.ppt

www.highlightcomputer.com/ED103Part2.ppt

ED 104 Lesson Planning

www.highlightcomputer.com/ED104.ppt

ED 105 Principle of Learning

www.highlightcomputer.com/ED105.ppt

ED 106 Interpreting Curriculums

www.highlightcomputer.com/ED106.ppt

ED101 to ED106 ASSIGNMENTS

www.highlightcomputer.com/ED101106.pdf

B.Ed (Primary Education) Children Serevice

<http://www.iqytechnicalcollege.com/Form222BWSChildrenService.htm>

(30 Credits)

Teaching Practice as above

PLUS

www.highlightcomputer.com/bedschoolvet.htm

Study

Professional Diploma in School & Vocational Education

60 credits in the following subjects

ED437 Teaching Skills (5 Credits)

ED438 Assessment & Feedback (5 Credits)

ED439 Fostering Students' Learning (5 Credits)

ED 402A Educational Leadership & Change Management in School Education

(10 Credits)

ED407A Learning Environment in School Education (10 Credits)

PLUS

Nursing Studies (5 Credits)

Nursing

www.iqytechnicalcollege.com/Community_Health_Worker.pdf

www.iqytechnicalcollege.com/Health_Care.pdf

www.iqytechnicalcollege.com/Protection.pdf

www.iqytechnicalcollege.com/First_Aids.pdf

Diploma in Teaching Practice

DAY 1

Day1-1 Vocational Education

<https://youtu.be/AJJYBI781wY>

Day1-2 Training system

https://youtu.be/Fa9mcnsbn_Q

Day1-3 Learning Support

<https://youtu.be/61U1UdZcljM>

Day1-4 E Learning

<https://youtu.be/iSlGcqBQZx4>

Day1-5 A Teaching

Theory of Education+ Curriculum

ED107 Theory of Education, Educational Technology & Teaching Practice
(15 Credits)

ED107A-Theory of Education (ED101) (Slide 1 to 60 Principle of Learning)

ED107B-Education Technology (ED102) (Slide 61 to 100)

Supporting slides

Teacher Training/ Support Lesson Slides/

- ED101-Teaching Support-Fundamental of Education.ppt

- Video

ED1071 Class Participation+ED1072 Memory

ED1073 Developing Students Interest

ED1074 Teaching Methods

ED1075 Students Teacher Relation and Classroom Management

<https://youtu.be/7MBR3--iLI8>

Course Notes- (Myanmar)

www.highlightcomputer.com/ED107Notes.pdf

Teaching Practice

ED107C-Teaching Practice (ED103 Classroom Management) (Slide 101 to 140)

Supporting slides

ED103 Classroom Management-best practices in teaching.ppt

Videos

ED1076 Students Behaviour Management
ED1077 Class Management & Disciplining
ED1078 Maintaining Students Interest
ED1079 Students Motivation
ED10710 Teaching Activities

<https://youtu.be/gafUNZVo48U>

Lesson Planning

ED107D-Lesson Planning (ED104 Teaching Portfolio)(Slide 241 to 300)
ED107E-Teaching & Learning (Slide 141 to 160+ Slide 200 to 240)

Video

ED 10711 Critical Reflective Teaching
ED 10712 Using Teaching Aids
ED 10713 Lesson Planning
ED 10714 Evaluation and Assessment
ED 10715 Critical Review

<https://youtu.be/JJhDD0vNk0g>

DAY 2

Day1-5 Effective Teaching & Learning Environment

<https://youtu.be/XybWGEEA-1U>

Day1-6 Critical Thinking in Teaching

<https://youtu.be/TwdxbBsXuQo>

Critical Thinking

National Strategic Plan 2016-2021 Myanmar/ Grad Cert HEd/ ED431-434MP4/ ED431CriticalThinking 24 Slides.pptx

VIDEOS

<https://youtu.be/Cekuc04E2xM>

Day1-7 Class Management

<https://youtu.be/69Y9FvTKxzw>

Day1-8Curriculum

Curriculum Study

Ed108

Video

- ED 1081 Meaning of Curriculum
- ED 1082 Teaching Concepts and Curriculum
- ED 1083 Types of Curriculums
- ED 1084 Curriculum Development
- ED 1085 Curriculum Writing
- ED 1086 Curriculum Review
- ED 1087 Curriculum Evaluation
- ED 1088 Curriculum Change Process

<https://youtu.be/JyVwDtlcD7w>

DAY 3

Day1-9 Teaching Portfolio

<https://youtu.be/agfWW31J7YE>

UPDATED COURSES

Click the following link to view the updated courses

<http://iqycoursesupdate.blogspot.com.au/>

VIDEO (MYANMAR) FOR THE OFFERED COURSES

www.iqytechnicalcollege.com/IQYIPEMCourseInformation.htm

[IQY Technical College Programs and Career](#)

Offered Courses

<u>Self Study CPD Online Courses</u>
<u>Engineering Trades Practical Courses</u>
<u>Vocational Education Certificate Courses (Non Engineering)</u>
<u>Diploma/Advanced Diploma and Bachelor of Work Studies</u>
<u>IQY Technical College Rural Development Engineering Program</u>
<u>Myanmar Vocational Training Certificate Courses</u>
<u>Certificate II, III, IV in Workplace English + Engineering & Diploma to Associate Degree in Engineering Practice Course</u>
<u>International Vocational Education Courses</u>
<u>Language</u>
<u>Medical Courses</u>

[IQY Construction and Civil Specialist Skills Courses](#)

Self Study CPD Online Courses

[Self study online CPD Courses \(12111/13111\)](#)

[Open Public Courses and Continuing Professional Development Courses](#)

Myanmar Vocational Training Collaboration +IQY+ STCTU+ St Clements University Myanmar College

The following courses highlighted in this area are combined with Certificate in Tertiary Preparation (Year 11+12) General Education

[Diploma in Work Studies \(106689\)/ Advanced Diploma in Work Studies \(206689\)/ Bachelor of Work Studies/ Bachelor of Occupation Studies \(406689\).](#)

[Bachelor of Work Studies \(Vocational\) in Myanmar Language](#)

[Bachelor of Work Studies in Vocational Studies \(456678A/556678A\)](#)

[Work Studies Career](#)

[Professional Diploma in Work Studies-Engineering/ Professional Diploma in Engineering science/ Bachelor of Work Studies/ Bachelor of Science-Engineering/ \(Course 5066689\) Associate Degree in Work Studies-Engineering \(Course 332256\).](#)

Engineering Trades Practical Courses

[Practical Courses \(Certificate of Attendance\).](#) (10515)

[Vocational Education Certificate Courses \(Non Engineering\)](#)

[General Vocational Courses](#)

(10615)

IQY Technical College Rural Development Engineering Program

[Diploma in Intermediate Science \(10777\).](#)

[Diploma in Intermediate Science with Certificate/Advanced Certificate in Biology \(10777A\).](#)

[Advanced Diploma in Rural Development Engineering](#)

Course MVTC 301/401/501/601)

[BE \(Rural Development Engineering\).](#)

[BE \(Agricultural Engineering\) 67433321](#)

Myanmar Vocational Training Certificate Courses

<http://www.highlightcomputer.com/mvtc.htm>

[General Vocational Courses](#)

(10615)

Myanmar Vocational Training Certificate (Level 1 to 3) for various courses of engineering and non engineering (Course 10615/20615/30615) including short courses

[IQY THS INSTRUCTION](#)

[Year 7 to 12 Study Support](#)

Certificate II, III, IV in Workplace English + Engineering & Diploma to Associate Degree in Engineering Practice Course

[Certificate II, III, IV in Workplace English + Engineering & Diploma to Associate Degree in Engineering Practice Course Outline](#)

(11114/21114/21214/50115/50215/50315/50715)

International Engineering & Engineering Trades Support Program

[INTERNATIONAL ELECTRICIAN TRAINING](#) (41108/51413)

Physical Education-Fitness Program

[Fitness Training](#)

Bachelor of Work Studies-Nutrition, Dietitian and Myanmar Traditional Medicine (3077782)

(Reading the books and submission of mini thesis)

To enrol, contact the college

Engineering Design Course

www.iqytechnicalcollege.com/engineeringdesign1.htm

International Vocational Education Courses

www.iqytechnicalcollege.com/ivtc.htm

Diploma in Work Studies (International Vocational and Professional Studies) (3077783)

(This course includes the support for skills recognition, migration applicants and advice on continuing education and training to be undertaken at the accredited institutions)

Bachelor of Work Studies-Nutrition Dietitian and Traditional Medicine (3077781)

(Reading the books and submission of mini thesis)

Medical Studies

The medical studies courses in Bachelor of Work Studies do not train to become Medical Doctor or Nurse or Pharmacist but they are designed to provide medical knowledge to general public and to train healthcare assistants for Medical Doctors, Nurses and Pharmacists .

[Bachelor of Work Studies-Medicine \(65544321\).](#)

[Bachelor of Work Studies-Nursing \(5544321\).](#)

[Bachelor of Work Studies-Pharmacy \(5544322\).](#)

[Bachelor of Applied Science \(Radiology\) \(6544322\).](#)

[Bachelor of Science \(Sexology\) \(5544323\)](#)

[Bachelor of Veterinary Science Outline\(6632121\).](#)

[Bachelor of Agriculture \(67788932\).](#)

Bachelor of Work Studies (Sign writing Screen Printing Book Binding)

Bachelor of Work Studies—Avonics (5544325)

Bachelor of Work Studies (Aviation) (5544326)

Bachelor of Work Studies (Shipping) (5544327)

Bachelor of Work Studies-Basic Construction-Mason Roof Plastering
(5544326)

Bachelor of Work Studies-Carpentry (5544327)

Bachelor of Work Studies-Elevator (5544328)

Bachelor of Work Studies -Metal Trade-(Forging AutoBody Spray Paininting,Black Smithing, Fabrication Welding Engraving)
(5544329)

Bachelor of Work Studies-Shoe Making (5544330)

Bachelor of Work Studies-Tayloring (5544331)

Bachelor of Work Studies-Real Estate (5544332)

Bachelor of Work Studies-Library Operation (5544333)

Bachelor of Work Studies-Postal Operation (5544334)
Bachelor of Work Studies-Mobile Plant Operation (5544335)

Certificate in Work Studies (Insurance)((1544324)

Diploma in Optometry (3344323)

Diploma in Dental Surgery (3344324)

Bachelor of Work Studies (Medical and Nursing)(Myanmar Version)
(5544323)

[IQY Technical College Unit Coding](#)

Language

www.iqytechnicalcollege.com/Language1.pdf

HAND BOOKS

[IQY Milestones and recognitions](#)

Advanced Diploma of Rural Development Engineering

www.highlightcomputer.com/adrde.htm

www.highlightcomputer.com/adrde.pdf

Objective of the course

This course aims to provide the necessary skills required for people in rural areas to perform the followings

- Agricultural Foods Production and Animal Handling
- Building Construction, Drawing, Water Supply, Road and Bridge Construction, Irrigation
- Electrical Supply & Solar Electrical Supply System
- Hydraulics
- Machine Repair, Welding and Machining
- Water Chemical Treatment
- Transportation & Logistics

Course Structure

The course consists of Civil, Electrical and Mechanical Engineering principle together with Transportation, Logistics and Agricultural Foods Production.

Outcome of the course

After having completed this course, the attenders can perform rural developmental engineering basic works in their regions.

Detailed Structure of the course

Credit Points- 60 points to complete Advanced Diploma of Rural Development. Diploma and Certificate in Rural Development can be awarded upon completion of the specific units.

List of Subjects

Advanced Certificate in Rural Development Engineering (16 Credits)

(MVTC Level (3) (Course Number MVTC301)

CE106 Brick Laying, Sprouting and Gutter Construction (4 Points)

CE104 Construction Drawing (4 Points)

CE110 Building Construction (4 Points)

CE107 Water Supply (4 Points)

Diploma in Rural Development (32 Credits)

(MVTC Level (4) (Course Number MVTC401)

All units in Certificate in Rural Development (16 Credits)

CE111 Road Bridge and Irrigation System Construction (4 Points)

MVTC13PC9 Electrical Wiring (4 Points)

MVTC201Agriculture+MVTC202Animal Handling(4 Points)

MVTC204 Water Chemical Treatment (4 Points)

Advanced Diploma in Rural Development (60Credits)

(MVTC Level (5) (Course Number MVTC501)

All units in Diploma in Rural Development

RE002 Grid Connected Power System (4 Points) together with EE101 DC Circuits+EE112 AC Circuits

EE118 Electrical Supply System (4 Points)

ME108 Principle of Engine+MVTC13PC7 Engine Repairs (4 Points)

ME201 Hydraulics (4 Points)

MVTC13PC6 Welding+MVTC13PC5FittingMachining (4 Points)

MVTC209 Transport Logistics (4 Points)

Mgt101 Management Studies (4 Points)

ADVANCED STUDY

The candidates who have successfully completed Advanced Diploma of Rural Development Engineering can continue the study in Professional Diploma/ Bachelor of Applied Engineering/ Bachelor of Engineering Technology in Electrical Engineering or Civil Engineering or Mechanical Engineering or Mechatronics Engineering or Renewable Energy Engineering and Bachelor of Management Programs at St Clements University or STC Technological University.

LESSONS

MVTC301-Advanced Certificate in Rural Development (16 Credits)

CE104 Construction Drawing (4 Points)

www.iqytechnicalcollege.com/CECertDip.zip

VIDEO

Lesson 1

<https://youtu.be/PLu5G9xNMtE>

Lesson 2

<https://youtu.be/g9tCFIR9HzE>

Lesson 3

<https://youtu.be/YhgQEaUbaxQ>

Lesson 4

<https://youtu.be/PK4g9r8sNhw>

www.iqytechnicalcollege.com/CECertDip.zip

Study CE104A

Exercises Download Link

www.highlightcomputer.com/DipCivilEnggAssignments.pdf

Page 4 to 7

CE110 Building Construction (4 Points)

www.iqytechnicalcollege.com/CECertDip.zip

VIDEOS



Lesson 1

<https://youtu.be/luvLYjbuGWQ>

Lesson 2

https://youtu.be/YFKdn_EJyX8

Lesson 3

<https://youtu.be/HdpiNwnuos4>

Lesson 4

<https://youtu.be/uyg6AQc5WtE>

Lesson 5

<https://youtu.be/V7C5r7lQGdE>

Lesson 6

<https://youtu.be/TZCwHVCsj0g>

Lesson 7

<https://youtu.be/-984GNIF1b0>

Lesson 8

<https://youtu.be/yzm8vB6mXBk>

Lesson 9

https://youtu.be/UTsxZ72d_c0

Lesson 10

<https://youtu.be/o6nuV8oRYkg>

Lesson 11

<https://youtu.be/iV1dms6MYrQ>

Lesson 12

https://youtu.be/Upl4_WzeDAE

Lesson 13

<https://youtu.be/Eu2svu0k3kE>

Lesson 14

<https://youtu.be/nQW5bDDsS74>

Lesson 15

https://youtu.be/kAqyl_hTyLg

Lesson 16

https://youtu.be/u7oWgrM3_3Y

Lesson 17

https://youtu.be/Hq4imm_U0W4

Lesson 18

<https://youtu.be/rNMOTo5sZV4>

Lesson 19

<https://youtu.be/EUQzvKhYEhc>

Lesson 20

<https://youtu.be/LZINc2CNDfE>

Lesson 21

<https://youtu.be/tHwd9iVcZUQ>

Lesson 22

https://youtu.be/az4_K8TpPE0

Lesson 23

<https://youtu.be/lKzhftFn4PI>

Lesson 24

<https://youtu.be/A0x24Ue9YIE>

EXERCISE ASSIGNMENTS

<http://highlightcomputergroup4.zoomshare.com/files/pc3assignment.pdf>

Certificate+Diploma Engineering (Civil)

To download, do not click the link, copy the link into address bar of the new browser page and then press “Enter”

www.iqytechnicalcollege.com/CECertDip.zip Study CE110

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Exercises Download Link

www.highlightcomputer.com/DipCivilEnggAssignments.pdf

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Practical

PC 3-Certificate in Building Construction

- **Practical Demonstration Videos(Youtube)**

Construction

<http://youtu.be/oR3Z8ZKesJ0>

<https://v.redd.it/znsmfri7yot41>

<http://youtu.be/a7UYxAY1BbA>

<https://v.redd.it/xnz6fwqvyot41>

http://youtu.be/_47yGGCJ4xk

<https://v.redd.it/r68z0nwezot41>

Roofing

<http://youtu.be/bTOhIWp2A3Y>

<https://v.redd.it/8z66nthqzot41>

<http://youtu.be/myuUPoIHn9U>

<https://v.redd.it/gc9jph670pt41>

Scaffolding

<http://youtu.be/xwvuwdVkFbg>

<https://v.redd.it/jrhf41bi0pt41>

Stair Construction

<http://youtu.be/JB1i8NO2rcA>

<https://v.redd.it/r9gql68t0pt41>

Stone Veneer Building

<http://youtu.be/MmnbA8CrzS0>

<https://v.redd.it/tsek0jj41pt41>

- **Written Lesson Notes in Myanmar+ English**

www.iqytechnicalcollege.com/CECertDip.zip

- **Engineering Drawing—See CE104**
- **Building Construction--See CE106**

PC3BuildingConstruction1.pdf (98.84MB)

www.iqytechnicalcollege.com/PC3BuildingConstruction1.pdf

PC3BuildingConstruction2.pdf (94.66MB)

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PC3BuildingConstruction3.pdf (91.29MB)

www.iqytechnicalcollege.com/PC3BuildingConstruction3.pdf

PC2PlumbingCourse4.pdf (105.12MB)

www.iqytechnicalcollege.com/PC2PlumbingCourse4.pdf

PC3BuildingConstruction6.pdf (112.85MB)

www.iqytechnicalcollege.com/PC3BuildingConstruction6.pdf

PC3BuildingConstruction7.pdf (59.92MB)

<http://www.filefactory.com/file/33hfeo9xxtqz/n/PC3BuildingConstruction7.pdf>

www.iqytechnicalcollege.com/PC3BuildingConstruction7.pdf

Textbooks in Myanmar Language

LMA)Building Estimating.pdf (25.51MB)

www.iqytechnicalcollege.com/LMABuildingEstimating.pdf

LMA)1-Drawing .pdf (33.6MB)

www.iqytechnicalcollege.com/LMA1Drawing.pdf

LMA)Building Engineering Handbook.pdf (9.41MB)

www.iqytechnicalcollege.com/LMABuildingEngineeringHandbook.pdf

Roof +Concrete

www.iqytechnicalcollege.com/RoofConcrete.zip

EXERCISE ASSIGNMENTS



pc3assignment.pdf (13.1MB)

www.iqytechnicalcollege.com/pc3assignment.pdf

Civil Engineer Site Records

www.iqytechnicalcollege.com/CivilSiteEngineerRecords.pdf

EXERCISE ASSIGNMENTS



<http://highlightcomputergroup4.zoomshare.com/files/pc3assignment.pdf>

CE107 Water Supply (4 Points)

www.iqytechnicalcollege.com/CECertDip.zip

VIDEOS

Lesson 1

<https://youtu.be/uet7br9U7vo>

Lesson 2

<https://youtu.be/EZOnxtgpW-g>

Lesson 3

<https://youtu.be/WZ3CPCnuSWY>

Lesson 4

<https://youtu.be/z9g9HwDpjyU>

Lesson 5

<https://youtu.be/sZziW7Jcx3c>

Lesson 6

<https://youtu.be/C1VjCawfeoY>

Lesson 7

https://youtu.be/0ct_ZF52e1U

Lesson 8

https://youtu.be/JYc_cQQLE64

Lesson 9

https://youtu.be/ehZoz58Fq_8

Lesson 10

<https://youtu.be/8UcHyDiYWP8>

Lesson 11

<https://youtu.be/Pw3BBwQw7hI>

Lesson 12

<https://youtu.be/mhoV6eeP9NM>

Lesson 13

<https://youtu.be/eJW-XMexfBk>

Lesson 14

<https://youtu.be/IF3E0PdWMYs>

Lesson 15

https://youtu.be/g_d6CoaZ_TE

Lesson 16

<https://youtu.be/fPMRvSVGXs0>

Lesson 17

<https://youtu.be/ttnzRICRQ9I>

Lesson 18

<https://youtu.be/2cgvnOfAMXY>

Lesson 19

<https://youtu.be/nrTWrs7euN0>

Lesson 20

|

Notes

Certificate+Diploma Engineering (Civil)

To download, do not click the link, copy the link into address bar of the new browser page and then press “Enter”

www.iqytechnicalcollege.com/CECertDip.zip Study CE107

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Exercises Download Link

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Page 14 to 15

Practical

PC 2-Certificate in Plumbing

Pipe Fitting

<https://www.youtube.com/watch?v=-Xk7VYvw5LU>

https://www.youtube.com/watch?v=u_a8Ei3VvMA

Piping Analysis

https://www.youtube.com/watch?v=FH_IA8RO7iM

Pipe Fitting Training

<https://www.youtube.com/watch?v=zHVncv8d1do>

<https://www.youtube.com/watch?v=L29brZtGRJ8>

Water Installation Pipe Fitting

<https://www.youtube.com/watch?v=XojOKJPjEYw>

Steam Pipe Fitting

<https://www.youtube.com/watch?v=ztK01HMG5qs>

How to pipe fitting

<https://www.youtube.com/watch?v=60TDEDI2Ong>

Pipe Fitting Accessories

<https://www.youtube.com/watch?v=t7TeEKQov-c>

Pipe Fitting 101

<https://www.youtube.com/watch?v=X6MgBf7lmt4>

Pipe Fitting

<http://youtu.be/oVo3lpKYdgU>

<https://v.redd.it/vbx6vud8uot41>

<http://youtu.be/BrMDSHEeL6k>

<https://v.redd.it/3v9p6urpuot41>

<http://youtu.be/uUxnWvaNTs0>

<https://v.redd.it/mc3o6jkbvot41>

Plumbing

<http://youtu.be/gypTjOYnFw8>

<https://v.redd.it/beejq4u1wot41>

http://youtu.be/P1Qb_3kvsGM

<https://v.redd.it/95m2yepnwot41>

<http://youtu.be/MfjQfwzQ6mo>

<https://v.redd.it/dyl2r184xot41>

- **Written Lesson Notes in Myanmar+ English**

[_www.iqytechnicalcollege.com/CECertDip.zip](http://www.iqytechnicalcollege.com/CECertDip.zip)

Plumbing-See CE107

PC2PlumbingCourse1.pdf (118.52MB)

www.iqytechnicalcollege.com/PC2PlumbingCourse1.pdf

PC2PlumbingCourse2.pdf (115.91MB)

www.iqytechnicalcollege.com/PC2PlumbingCourse2.pdf

PC2PlumbingCourse3.pdf (119.86MB)

www.iqytechnicalcollege.com/PC2PlumbingCourse3.pdf

Textbooks in Myanmar Language

Cop_SEWERAGE_AND_SANITARY_WORKS_PART-3.pdf (5.14MB)

www.iqytechnicalcollege.com/Cop_SEWERAGE_AND_SANITARY_WORKS_PART-3.pdf

Class Lesson +Audio

www.highlightcomputer.com/mvtcpracticalcourses.htm

See PC2

EXERCISE ASSIGNMENTS

<http://highlightcomputergroup4.zoomshare.com/files/pc2assignment.pdf>

CE106 Brick Laying, Sprouting and Gutter Construction (4 Points)

www.iqytechnicalcollege.com/CECertDip.zip

CE 106 Brick Laying

VIDEO

<https://youtu.be/sKOTNcQXpRM>

Notes

Certificate+Diploma Engineering (Civil)

To download, do not click the link, copy the link into address bar of the new browser page and then press "Enter"

www.iqytechnicalcollege.com/CECertDip.zip

Study CE106

Exercises Download Link

www.highlightcomputer.com/DipCivilEnggAssignments.pdf

Page 2

Practicals

PC 1-Certificate in Bricklaying & Masonry

- **Practical Demonstration Videos (Youtube)**
- Cement Mixing
 - <https://www.youtube.com/watch?v=fbWNtD3kyGk>
 - <https://www.youtube.com/watch?v=SN0aAG-HgD8>
 - <https://www.youtube.com/watch?v=SN0aAG-HgD8>
 -
- Concrete by hand
 - <https://www.youtube.com/watch?v=KNb0IbYrK8E>
 -
- Brick Laying
 - <http://youtu.be/HB9nAUQ402s>
 - <https://v.redd.it/97nkj606mot41>
 - <http://youtu.be/UDrd2B7qRZQ>
 - <https://v.redd.it/261q39y9not41>
 - http://youtu.be/fXiO50LKS_g
 - <https://v.redd.it/v73cjk5lrot41>
- Concrete Stair Building
 - http://youtu.be/d_28wf-r_QM
 - <https://v.redd.it/alaujau6sot41>
 - <http://youtu.be/3Y9-C6392II>
 - <https://v.redd.it/yww69dtisot41>
 - <http://youtu.be/z72SeHNEN-8>
 - <https://v.redd.it/nz8bhqlgtot41>
- **Written Lesson Notes in Myanmar+ English**

- Bricklaying-See CE106 Part ½

PC1BrickLayingCourse1.pdf (64.44MB)

www.iqytechnicalcollege.com/PC1BrickLayingCourse1.pdf

PC1BrickLayingCourse2.pdf (68.98MB)

www.iqytechnicalcollege.com/PC1BrickLayingCourse2.pdf

PC1BrickLayingCourse3.pdf (55.84MB)

www.iqytechnicalcollege.com/PC1BrickLayingCourse3.pdf

Class Lesson +Audio

www.highlightcomputer.com/mvtcpracticalcourses.htm

See PC1

EXERCISE ASSIGNMENTS

<http://highlightcomputergroup4.zoomshare.com/files/pc1assignment.pdf>

PC 4-Certificate in Gutter Construction

- **Practical Demonstration Videos (Youtube)**

Wall Guttering

<http://youtu.be/b-Cdlrcjfis>

- **Written Lesson Notes in Myanmar+ English**

www.iqytechnicalcollege.com/CECertDip.zip

Building Construction (Gutter Construction)--See CE106

PC4GutterConstruction1.pdf (47.37MB)

PC4GutterConstruction1.pdf (47.37MB)

www.iqytechnicalcollege.com/PC4GutterConstruction1.pdf

PC4GutterConstruction2.pdf (42.73MB)

www.iqytechnicalcollege.com/PC4GutterConstruction2.pdf

PC4GutterConstruction3.pdf (40.51MB)

www.iqytechnicalcollege.com/PC4GutterConstruction3.pdf

PC4GutterConstruction4.pdf (56.02MB)

www.iqytechnicalcollege.com/PC4GutterConstruction4.pdf

Contents	Unit Code
Spouting/ Guttering	Building Construction

-

Contents	Unit Code
Drainage pipe, Ventilation	Building services

EXERCISE ASSIGNMENTS

<http://highlightcomputergroup4.zoomshare.com/files/pc4assignment.pdf>

Class Lesson +Audio

www.highlightcomputer.com/mvtpcpracticalcourses.htm

See PC4

MVTC401-Diploma in Rural Development (32 Credits)

CE111 Road Bridge and Irrigation System Construction (4 Points)

<http://www.mongroupsdney1.com/AdvDipCivilEnggCE111114115.zip>

VIDEOS

[Civil Video1](#)

[Civil Video2](#)

[Civil Video3](#)

VIDEO

|

Lesson 1 Stress and strain

<http://youtu.be/u1LyokSxOfQ>

Lesson 2 Centre of mass

<http://youtu.be/EY8rM9MSE1k>

Lesson 3 Equilibrium

<http://youtu.be/YtJmMWJIZql>

Lesson 4 Thermal expansion

<http://youtu.be/EM0DmVWSv8k>

|

Lesson 5 Strength of materials 1

|

<http://youtu.be/j1Cx4gVGSk>

Lesson 6 Structure

[BAE621B1](#)

<http://youtu.be/TNM7KTiWtr0>

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Notes

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www.highlightcomputer.com/CE114.pdf

www.highlightcomputer.com/CE115.pdf

www.highlightcomputer.com/CE115Part2.pdf

www.highlightcomputer.com/CE114StructurePart2Instruction.zip

|

[Exercises Download Link](#)

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Page 29 to 31

|

MVTC13PC9 Electrical Wiring (4 Points)

Electrical workshop

<u>EE102</u>	<u>Basic Electrical Fitting & Wiring</u>
<u>EE103</u>	<u>Basic Electrical Drafting</u>

LESSON VIDEO-MYANMAR+ENGLISH

Lesson 1

<https://youtu.be/zSsvWcnfL8k>

Lesson 2

<https://youtu.be/qzymoBHwc8c>

Lesson 3

<https://youtu.be/iJ7l9WnyRc8>

Lesson 4

<https://youtu.be/DzlyM4QoG7w>

Lesson 5

<https://youtu.be/HVbn9ULdtf8>

Lesson 6

<https://youtu.be/5W-tozOR3r0>

Lesson 7

<https://youtu.be/b13dBzLfYCo>

Lesson 8

<https://youtu.be/ElnP0HKifa4>

Lesson 9

<https://youtu.be/2R7-LA9V0nY>

LESSON VIDEO- ENGLISH

E001+002+005+008+033/ E101+102+105+108+137+G106

Page 128 to 136 of

[www.highlightcomputer.com/Video Lessons.pdf](http://www.highlightcomputer.com/Video%20Lessons.pdf)

Electrical workshop

[Electrical workshop Lesson 1 OHS.zip](#)

(E101)

<https://youtu.be/5A9bw-oxqfl>

[Electrical workshop Lesson 2 Workplace hazard+Fix & secure equipment.zip](#)

(E102)

<http://youtu.be/aVKhYs9ga7Y>

[Electrical workshop Lesson 3 Mechanical fixing.zip](#)

(E105)

http://youtu.be/s0SUSmL_e4E

[Electrical workshop Lesson 4 Basic electrical wiring.zip](#)

(E108)

<http://youtu.be/gTjcE8ssull>

[Electrical workshop Lesson 5 Wiring circuits.zip](#)

(E107)

SUNP0007

<http://youtu.be/m0dN0Wp6LCI>

[Electrical workshop Lesson 6 Electrical safety testing.zip](#)

(E137)

<http://youtu.be/LqRybJxm0tE>

[Electrical workshop Lesson 7 Testing insulation and polarity.zip](#)

(E137)

<http://youtu.be/9j63r3Wz6y8>

<http://youtu.be/e5MjQdEua-U>

[Electrical workshop Lesson 8 Testing lighting polarity.zip](#)

LESSON

www.iqytechnicalcollege.com/EECertDipPart1a.zip

Do EE102

[Exercises Download Link](#)

www.highlightcomputer.com/DipElectEnggAssignments.pdf

LESSON VIDEO-MYANMAR+ENGLISH

Lesson 1

<https://youtu.be/NmC1hRklQBo>

Lesson 2

https://youtu.be/n6ru_boMLZ0

Lesson 3

<https://youtu.be/iXId3EiVmCM>

Lesson 4

<https://youtu.be/LhKv6EuEjs4>

Lesson 5

<https://youtu.be/mMe9S6d8d3w>

Lesson 6

<https://youtu.be/m9jOXnOfY6c>

Lesson 7

<https://youtu.be/HL6vf9G9mFY>

Lesson 8

<https://youtu.be/IGOeWPQ-B0M>

Lesson 9

<https://youtu.be/Qgnz3mFUFB0>

LESSON VIDEO- ENGLISH

www.iqytechnicalcollege.com/EECertDipPart1a.zip

[Exercises Download Link](#)

www.highlightcomputer.com/DipElectEnggAssignments.pdf

ENGLISH LESSONS

<http://www.mongroupsdney1.com/youtubevideos.htm#a>

See EE107

Maximum Demand Calculation & Cable Selection—Thanlyin TU- 5 Jan 2016 Lecture

www.mongroupsdney1.com/CableselectionPPT.pdf

[AS3000](#)

[AS3008](#)

Advanced Electrical Wiring

EE106	Advanced Electrical Wiring

LESSON VIDEO-MYANMAR+ENGLISH

Lesson 1

<https://youtu.be/E5e-Uy6MHEM>

Lesson 2

<https://youtu.be/6LnOUyBWRTs>

Lesson 3

https://youtu.be/jSVZlejrF_w

Lesson 4

<https://youtu.be/SPGR6DnDt-M>

Lesson 5

<https://youtu.be/nT31m6zPcWg>

Lesson 6

<https://youtu.be/FFIXQ1rb4zA>

https://youtu.be/H0BWho_JfLI

Lesson 7

<https://youtu.be/qGbSbHZ21Yc>

https://youtu.be/P2-k_NLqliU

Lesson 8

https://youtu.be/ZPI3-H_MUwA

<https://youtu.be/UrJ9BRTYfoY>

Lesson 9

Lesson

www.iqytechnicalcollege.com/EECertDipPart1a.zip

Do EE105+106

[Exercises Download Link](#)

www.highlightcomputer.com/DipElectEnggAssignments.pdf

PC 9-Certificate in Electrical Wiring

- **Practical Demonstration Videos (Youtube)**

Data Cabling

<http://youtu.be/YkYEX1INbXk>

<https://v.redd.it/r1rmcz193rt41>

Dimmer Light Installation

<http://youtu.be/NONS3PCXjYU>

<https://v.redd.it/pt0d2zrs3rt41>

Install Sub Panel

http://youtu.be/_QaDJoXuVyK

<https://v.redd.it/2kkab3z24rt41>

Installing EMT+MC Cable

<http://youtu.be/wsBCmyQLd30>

<https://v.redd.it/sj2wudgb5rt41>

<http://youtu.be/1gJlzh3YER4>

<https://v.redd.it/4k8ehxgc6rt41>

Installing Feeder Wire from main busbar

<http://youtu.be/9zvRqJ83IVs>

<https://v.redd.it/ibszedss6rt41>

<http://youtu.be/bdKMbezgvrA>

<https://v.redd.it/d7ojv70d7rt41>

Main Switch Board & Socket outlet Installation

<http://youtu.be/WtiTWdZkmoc>

<https://v.redd.it/n07vs1hq7rt41>

<http://youtu.be/deY-tQvgWPM>

<https://v.redd.it/ivrx3up08rt41>

Pulling Cable

<http://youtu.be/qlyxUg8C3LU>

<https://v.redd.it/roaht01a8rt41>

<http://youtu.be/8NS4ZldzBs4>

<https://v.redd.it/9tljudjr8rt41>

Switchboard Circuit Breaker Installation

<http://youtu.be/VcVCiD3oXz8>

Download from the following link

https://mega.nz/file/YQpjhCKZ#JBBSQmSz0tMCCCmOuCOwYnmH4K27cszpuBg1oHT_bZ8

<https://youtu.be/kxKj4myhahE>

<http://youtu.be/rzDMNA2wnns>

<https://v.redd.it/0vkwa8f9rt41>

<http://youtu.be/ksxK4pcUsAw>

<https://v.redd.it/s529upjo9rt41>

UG Conduit Installation

<http://youtu.be/4TU3TePjU5M>

<https://v.redd.it/xsbqpvp9art41>

Use fish tape to pull the cable

<http://youtu.be/gRqgVgmGNmw>

<https://v.redd.it/ef8scginart41>

Wiring Trunking Assembly

<http://youtu.be/jjY6ezSZX1I>

<https://v.redd.it/y5yl7y5abrt41>

Textbooks in Myanmar Language

LMA)Fault Finding.pdf (34.92MB)

www.iqytechnicalcollege.com/LMAFaultFinding.pdf

Product_Safety_by_AyeThwin.pdf (2.71MB)

www.iqytechnicalcollege.com/Product_Safety_by_AyeThwin.pdf

LMA)Home Wiring.pdf (9.37MB)

www.iqytechnicalcollege.com/LMAHomeWiring.pdf

LMA)Electrician Training.pdf (16.06MB)

www.iqytechnicalcollege.com/LMAElectricianTraining.pdf

LMA)Electricity.pdf (2.69MB)

www.iqytechnicalcollege.com/LMAElectricity.pdf

LMA)AC to DC.pdf (13.13MB)

www.iqytechnicalcollege.com/LMAACtoDC.pdf

LMA)Electrical Knowledge).pdf (0.21MB)

www.iqytechnicalcollege.com/LMAElectricalKnowledge.pdf

Design_Electrical_Installation_Systems_by_YanKyawMoe.pdf (8.35MB)

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Electrical_Safety_Basic_by_YanKyawMoe.pdf (1.35MB)

www.iqytechnicalcollege.com/Electrical_Safety_Basic_by_YanKyawMoe.pdf

EXERCISE ASSIGNMENTS

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www.iqytechnicalcollege.com/pc9assignment.pdf

Class Lesson +Audio

www.highlightcomputer.com/mvtpcpracticalcourses.htm

See PC9

MVTC201Agriculture+MVTC202Animal Handling(4 Points)

CERTIFICATE IN AGRICULTURE FOOD PRODUCTION (MVTC201)

www.highlightcomputer.com/AgricultureLesson.pdf

CERTIFICATE IN ANIMALS HANDLING (MVTC202)

www.highlightcomputer.com/Animal1.pdf

MVTC2-4 Water Chemical Treatment (4 Points)

CERTIFICATE IN LABORATORY WATER OPERATIONS (MVTC204)

www.highlightcomputer.com/WaterChemicalNotes.pdf

MVTC501 Advanced Diploma in Rural Development (60Credits)

RE002 Grid Connected Power System (4 Points) together with EE101 DC Circuits+EE112 AC Circuits

RE002- Grid Connected Photovoltaic Power Systems

www.iqytechnicalcollege.com/RE002.zip

EE101 Dc Circuits+EE112 AC Circuits

www.iqytechnicalcollege.com/EECertDipPart1a.zip

[Exercises Download Link](#)

www.highlightcomputer.com/DipElectEnggAssignments.pdf

VIDEOS

RE002- Grid Connected Photovoltaic Power Systems-Electrical

Day 14Part 1

Grid Connected Photovoltaic Power Systems 1(Myanmar+English)

Topics-Sun Geometry, Solar Cell Connection

Grid Connected Photovoltaic Power Systems 2(Myanmar+English)

Topics-Solar Electrical System Installation

Grid Connected Photovoltaic Power Systems 3(Myanmar+English)

Topics-Power Output from solar cell, Grid Connection

Grid Connected Photovoltaic Power Systems 4(Myanmar+English)

Topics-Solar Installation Inspection

Grid Connected Photovoltaic Power Systems 5(Myanmar+English)

Topics-Lightning & Surge Protection, Metering

RE002- Grid Connected Photovoltaic Power Systems-Electrical

www.highlightcomputer.com/Day 14-Part 1-RE002- Grid Connected Photovoltaic Power Systems-Electrical.zip

RE002 Grid Connected PV system

RE 002 Part 1

Sun geometry 1

Daily irradiance 2, 9

Power output calculation 29, 31, 36

Pen circuit voltage 37,40,41,42,44

Inverter diagram 45,46,48,52,53

Grid protection 55, 56, 57, 58, 59

Lightening surge protection 62, 63

Net metering 64, 67, 68, Inspection& testing

73 PV array location 81, 82, 89, 90

PV power system 92,93,

Typical arrays 97,98,100,102,105,

Grid connected inverter 134,135,136,137,139,146

RE002 Part 2
Economy 16,20,23

Mgt101 Management Studies (4 Points)

www.highlightcomputer.com/Mgt101.zip

MVTC13PC6 Welding+MVTC13PC5FittingMachining (4 Points)

PC 7-Certificate in Engine Operation& Basic Servicing

ME 108

Principle of Engines

LESSON

<https://youtu.be/Hz4l27zBg9o>

Notes

<http://www.iqytechnicalcollege.com/MECertDipPart3.zip> Study ME108

[Exercises Download Link](#)

www.highlightcomputer.com/DipMechEnggAssignments.pdf

Page 36 to 38

- **Practical Demonstration Videos (Youtube)**

Engine

PC 7-Certificate in Engine Operation & Basic Servicing

- **Practical Demonstration Videos (Youtube)**

Engine

Engine Operation

http://youtu.be/D2oRi_Ah3Qw

<https://v.redd.it/tmklrwpwipt41>

<https://v.redd.it/lg9dif73jpt41>

<http://youtu.be/134v3KwjfOo>

<https://v.redd.it/xvpi19jijpt41>

<https://v.redd.it/9laqu0zsnpt41>

<http://youtu.be/hX5JsvqQdYY>

<https://v.redd.it/xtf2ddq1ppt41>

Engine Assembly

<http://youtu.be/kSo7QLPWous>

<https://v.redd.it/cdv7famkppt41>

http://youtu.be/873FS9_69XQ

<https://v.redd.it/8gifzwm1qpt41>

<http://youtu.be/6Fe1XoZ2EsM>

<https://v.redd.it/3bxb5gz1spt41>

<http://youtu.be/t4YVfT0zgjc>

<https://v.redd.it/3bt82vzyspt41>

Engine Operation+ Maintenance+ Servicing

<http://youtu.be/NdT6sC8vZoA>

<https://v.redd.it/6oc7rj0avpt41>

<http://youtu.be/Y64KllvgFp0>

<https://v.redd.it/eg3tzzrhvpt41>

<http://youtu.be/UP1hjxiTRqc>

<https://v.redd.it/si4wowr7wpt41>

Gear Box

<http://youtu.be/aEpt5k9StnA>

<https://v.redd.it/ig4j5aoxwpt41>

<http://youtu.be/9cEqWWSFM6w>

<https://v.redd.it/36hqum1xxpt41>

Hydraulic pump

<http://youtu.be/0lUGOJovRr0>

<https://v.redd.it/4tg7a61oypt41>

Ignition

<http://youtu.be/fD3CeDKnDXQ>

<https://v.redd.it/i8inmho30qt41>

Power Steering

<http://youtu.be/aLIDMkLhtgQ>

<https://v.redd.it/faggddiu0qt41>

<http://youtu.be/3xFRPInWxks>

<https://v.redd.it/894fon8p1qt41>

<http://youtu.be/E3JNnE14kOQ>

<https://v.redd.it/hcqelu5q2qt41>

<http://youtu.be/ljk7dFtc6iw>

<https://v.redd.it/bk5vg1a94qt41>

Steering

http://youtu.be/e_fUAoA8_Nk

<https://v.redd.it/2o64a0115qt41>

<http://youtu.be/8wwue7d8LsM>

<https://v.redd.it/uryarbzc5qt41>

<http://youtu.be/FUr6Jlca0jM>

<https://v.redd.it/d0x83c2k5qt41>

<http://youtu.be/AQupRDqe1hU>

<https://v.redd.it/1w1kk9c39qt41>

Oil Pump

<http://youtu.be/yQFeOQPpSI>

<https://v.redd.it/nr2dh59qaqt41>

<http://youtu.be/F1LTndD89Eo>

<https://v.redd.it/lkry58o3cqt41>

Pump assembly

http://youtu.be/9G0Qjf_aPp4

<https://v.redd.it/c4ze5oohvqt41>

<http://youtu.be/4318Rkolnwg>

<https://v.redd.it/hgs6ru3zvqt41>

Compressor

<http://youtu.be/gnHHTX2ybg0>

<https://v.redd.it/ophunjo9wqt41>

http://youtu.be/t8s_LodB3t8

<https://v.redd.it/5jaafjk2xqt41>

- **Written Lesson Notes in Myanmar+ English**

PC7Engine1.pdf (79.88MB)

www.iqytechnicalcollege.com/PC7Engine1.pdf

PC7Engine2.pdf (91.37MB)

www.iqytechnicalcollege.com/PC7Engine2.pdf

PC7Engine3.pdf (96.42MB)

www.iqytechnicalcollege.com/PC7Engine3.pdf

PC7Engine4.pdf (125.64MB)

www.iqytechnicalcollege.com/PC7Engine4.pdf

PC7Engine5.pdf (85.97MB)

www.iqytechnicalcollege.com/PC7Engine5.pdf

PC7Engine6.pdf (54.66MB)

www.iqytechnicalcollege.com/PC7Engine6.pdf

Textbooks in Myanmar Language

LMA)Automotive 1.pdf (63.9MB)

www.iqytechnicalcollege.com/LMAAutomotive1.pdf

LMAAuto EFI .pdf (42.17MB)

www.iqytechnicalcollege.com/LMAAutoEFI.pdf

LMA)AutoElectricity.pdf (80.31MB)

www.iqytechnicalcollege.com/LMAAutoElectricity.pdf

EXERCISE ASSIGNMENTS

pc7assignment.pdf (21.55MB)

www.iqytechnicalcollege.com/pc7assignment.pdf

Class Lesson +Audio

www.highlightcomputer.com/mvtpcpracticalcourses.htm

See PC7

EXERCISE ASSIGNMENTS

<http://highlightcomputergroup4.zoomshare.com/files/pc7assignment.pdf>

MVTC13PC6 Welding+MVTC13PC5FittingMachining (4 Points)

PC 6-Certificate in Welding

- Practical Demonstration Videos (Youtube)

Welding

<http://youtu.be/JQDXMNokDfk>

<https://v.redd.it/ay1aoz7jfpt41>

<http://youtu.be/Br1wBGZpqcc>

<https://v.redd.it/qdcqyv3xhpt41>

- Written Lesson Notes in Myanmar+ English

PC6 Welding Myanmar Notes + Assignment

Notes

www.iqytechnicalcollege.com/PC6WeldingMyanmarNotes.pdf

Assignment

www.iqytechnicalcollege.com/PC6WeldingMyanmarNotesAssignment.pdf

PC6Welding1.pdf (102.44MB)

www.iqytechnicalcollege.com/PC6Welding1.pdf

PC6Welding2.pdf (104.91MB)

www.iqytechnicalcollege.com/PC6Welding2.pdf

PC6Welding3.pdf (110.26MB)

www.iqytechnicalcollege.com/PC6Welding3.pdf

PC6Welding4.pdf (103.43MB)

www.iqytechnicalcollege.com/PC6Welding4.pdf

PC6Welding5.pdf (101.34MB)

www.iqytechnicalcollege.com/PC6Welding5.pdf

EXERCISE ASSIGNMENTS

pc6assignment.pdf (12.98MB)

www.iqytechnicalcollege.com/pc6assignment.pdf

PC 5-Certificate in Fitting & Machining

- **Practical Demonstration Videos (Youtube)**

Workshop

Drilling

<http://youtu.be/7XHyRDCcPO0>

<https://v.redd.it/6jfaoivw1pt41>

<http://youtu.be/xQgHiPkWUT4>

<https://v.redd.it/lqulxv7k2pt41>

Lathe

<http://youtu.be/9ONbdNyK7Rk>

<https://v.redd.it/v7ktj942bpt41>

Milling

http://youtu.be/T3yxKBJ_YQg

<https://v.redd.it/9zvf799ybpt41>

Shaping

<http://youtu.be/aVvEmbzKpyY>

<https://v.redd.it/vsk1668fcpt41>

<http://youtu.be/SKG0SD05Jic>

<https://v.redd.it/z8263aa4ept41>

Written Lesson Notes in Myanmar+ English

PC5FittingMachining1.pdf (115.17MB)

www.iqytechnicalcollege.com/PC5FittingMachining1.pdf

PC5FittingMachining2.pdf (111.92MB)

www.iqytechnicalcollege.com/PC5FittingMachining2.pdf

PC5FittingMachining3.pdf (120.08MB)

www.iqytechnicalcollege.com/PC5FittingMachining3.pdf

PC5FittingMachining4.pdf (115.86MB)

www.iqytechnicalcollege.com/PC5FittingMachining4.pdf

PC5FittingMachining5.pdf (125.88MB)

www.iqytechnicalcollege.com/PC5FittingMachining5.pdf

PC5FittingMachining6.pdf (108.76MB)

www.iqytechnicalcollege.com/PC5FittingMachining6.pdf

PC5FittingMachining7.pdf (51MB)

www.iqytechnicalcollege.com/PC5FittingMachining7.pdf

Class Lesson +Audio

www.highlightcomputer.com/mvtcpracticalcourses.htm

See PC6

EXERCISE ASSIGNMENTS

<http://highlightcomputergroup4.zoomshare.com/files/pc5assignment.pdf>

MVTC209 Transport Logistics (4 Points)

www.highlightcomputer.com/LogisticNotes.pdf

ME201 Hydraulics (4 Points)

ME201 Fluid Mechanics

VIDEO

Lesson 1

<https://youtu.be/EDL0FEp7tS0>

Lesson 2

<https://youtu.be/TfggYG-cSqc>

Lesson 3

<https://youtu.be/F8HYmLYHSQM>

Notes

To download, do not click the link, copy the link into address bar of the new browser page and then press “Enter”

www.iqytechnicalcollege.com/CECertDip.zip Study CE107

ME201 Fluid Mechanics

www.iqytechnicalcollege.com/MECertDip.zip

Study ME201

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www.iqytechnicalcollege.com/MECertDip.zip

[Exercises Download Link](#)

www.highlightcomputer.com/DipMechEnggAssignments.pdf

[Mechanical Video](#)

EE118 Electrical Supply System (4 Points)

EE118	Electrical Energy Supply System
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Lesson 1

<https://youtu.be/fsVjRrMj3fw>

Lesson 2

https://youtu.be/og-n_8RzqQE

Lesson 3

<https://youtu.be/wjAtPNwGKOQ>

Lesson 4

<https://youtu.be/wjAtPNwGKOQ>

Lesson 5

https://youtu.be/-FNsW_NYtp8

Lesson 6

<https://youtu.be/OHFFNtw9X8s>

LESSON

www.iqytechnicalcollege.com/EECertDipPart1b.zip

Do EE118

[Exercises Download Link](#)

www.highlightcomputer.com/DipElectEnggAssignments.pdf

ENGLISH LESSONS

<http://www.mongroupsytdney1.com/youtubevideos.htm#a>

See EE118

www.iqytechnicalcollege.com/EECertDipPart1b.zip

[Exercises Download Link](#)

www.highlightcomputer.com/DipElectEnggAssignments.pdf

ELECTRICAL VIDEOS

[Electrical Video1](#)

[Electrical Video2](#)

[Electrical Video3](#)

[Electrical Video4](#)

Electrical Video5

Electrical Video6

Electrical Video7

MVTC601-Professional Diploma of Rural Development Engineering

(Bachelor of Applied Engineering-Rural Development)

(St Clements University/ STC Technological University)

TOTAL 24 Units at 60 Credit points

BE General Discipline (Total 12 units)

(Each 2 Credit points)

YEAR 2+3

Professional Diploma in Engineering (Year 3)

www.iqytechnicalcollege.com/profdipengg.htm

1 BAE 401 Advanced Engineering Mathematics (2 pt)

2 BAE 402 Calculus (2 pt)

3 BAE 403 Engineering Mechanics (2 pt)

4 BAE 404 Engineering Materials & Thermodynamics (2 pt)

5 RE001- Foundation Studies in Renewable Energy and Sustainability (2 pt)

6.RE003- Solar and Thermal Energy Systems (2 pt)

7.RE004- Energy Storage Systems(2 pt)

10 RE010-Engineering Materials(2 pt)

11 RE012a-Electrical Engineering Part 1(2 pt)

12RE016-Design& Management (2 pt)

Professional Diploma/BE (Rural Development)

(Total 12 units) (Each 2 Credit points)

YEAR 4+5

13.RE013-Electrical Machines (2 pt)

<http://www.iqytechnicalcollege.com/profdipelectengg.htm#z6>

14.BAE 501 Advanced Power Systems & Power Transmission Networks

<http://www.iqytechnicalcollege.com/profdipelectengg.htm#z9>

Rural Electrical Power Supply System

<http://www.iqytechnicalcollege.com/BRDE-BAE501R Rural Power Supply.pdf>

16.BAE 604 Telecommunication Engineering

<http://www.iqytechnicalcollege.com/profdipelectengg.htm#z11>

Rural Telecommunication System

<http://www.iqytechnicalcollege.com/BRDE-BAE604R Rural Telecommunication.pdf>

<http://www.iqytechnicalcollege.com/BRDE-BAE 604 Part 2.pdf>

17.BAE421 Building Construction Engineering (2 pt)

<http://www.iqytechnicalcollege.com/profdipcivilengg.htm#z3>

18. BAE422 Estimating (2 pt)

<http://www.iqytechnicalcollege.com/profdipcivilengg.htm#z7>

19. BAE423 Fluid Mechanics (2 pt)

<http://www.iqytechnicalcollege.com/profdipcivilengg.htm#z6>

20. BAE424 Reinforced Concrete (2 pt)

<http://www.iqytechnicalcollege.com/profdipcivilengg.htm#z8>

22. BAE 523A Environmental Engineering (2 pt)

<http://www.iqytechnicalcollege.com/profdipcivilengg.htm#z10>

23. BAE621 Structural Engineering (2 pt)

<http://www.iqytechnicalcollege.com/profdipcivilengg.htm#z11>

24. BAE511 Air-conditioning & Refrigeration (2 pt)

<http://www.iqytechnicalcollege.com/profdipmechengg.htm#z8>

Solar Powered Refrigeration for Rural Area

<http://www.iqytechnicalcollege.com/BAE511R Solar Refrigeration.pdf>

<http://www.iqytechnicalcollege.com/BAE511RPart 2.pdf>

Engineering Competency Demonstration Report

25. BAE608 Engineering Competency Demonstration Report (2 credit points)

Engineering Handbook Applications

www.iqytechnicalcollege.com/Form185engghandbookapplication.htm

Diploma in Work Studies/ Advanced Diploma in Work Studies/ Bachelor of Occupation Studies and Career

	Employment/ Vocational Training	IQY Course	Dip Work Studies Skilled Worker Level 2/3	Adv Dip Work Studies Skilled Worker Level 1/ Leading Hand	Bachelor of Occupation Studies Work Supervisor Manager
1	Sewing/ Garment Factory work/ Training or Employment	WS101 Vocational Studies (10 credits) Vocational Experience and/ or completion of Vocational Training and studies at other schools and training centres WS102 Safety Training (5 credits) WS103 English (5 credits) ADMEC 203 Design and Technology (Year 12 Equivalent Studies) (10 credits)	Diploma in Work Studies DWS (Garment)	Advanced Diploma in Work Studies Course of study ADWS (Garment)	Bachelor of Occupation Studies Course of study BOS(Garment)
2	Cooking Training or Employment	WS101 Vocational Studies (10 credits) Vocational Experience and/ or completion of Vocational Training and studies at other schools and training centres WS102 Safety Training (5 credits) WS103 English (5 credits) WS104 Myanmar Vocational Training Certificate (10 credits)-- CERTIFICTE IN COMMUNITY SERVICE (MVTC205)	DWS(Food Services)	ADWS(Food Services)	BOS(Food Services)
3	Child Care Training or Employment	WS101 Vocational Studies (10 credits) Vocational Experience and/ or completion of Vocational Training and studies at other schools and training centres WS102 Safety Training (5 credits) WS103 English (5 credits) WS104 Myanmar Vocational Training Certificate (10 credits)-- CERTIFICTE IN COMMUNITY SERVICE (MVTC205)	DWS (Children Services)	ADWS (Children Services)	BOS (Children Services)

		<u>Optional</u> Science (Year 10/11/12)			
4	Aged Care/ Nurse Assistant) Training or Employment	WS101 Vocational Studies (10 credits) Vocational Experience and/ or completion of Vocational Training and studies at other schools and training centres WS102 Safety Training (5 credits) WS103 English (5 credits) WS104 Myanmar Vocational Training Certificate (10 credits)-- CERTIFICATE IN COMMUNITY SERVICE (MVTC205) <u>Optional</u> Science (Year 10/11/12)	DWS (Aged Care/ Nurse Assisting)	ADWS (Aged Care/ Nurse Assisting)	BOS (Aged Care/ Nurse Assisting)
5	Waiter Training or Employment	WS101 Vocational Studies (10 credits) Vocational Experience and/ or completion of Vocational Training and studies at other schools and training centres WS102 Safety Training (5 credits) WS103 English (5 credits) WS104 Myanmar Vocational Training Certificate (10 credits)-- CERTIFICATE IN COMMUNITY SERVICE (MVTC205)	DWS (Customers Service-Waiter)	ADWS (Customers Service-Waiter)	BOS (Customers Service)
6	Security Guard /Fire Fighter Training or Employment	WS101 Vocational Studies (10 credits) Vocational Experience and/ or completion of Vocational Training and studies at other schools and training centres WS102 Safety Training (5 credits) WS103 English (5 credits) WS104 Myanmar Vocational Training Certificate (10 credits)-- CERTIFICATE IN PUBLIC SAFETY (MVTC208)	DWS (Public Safety)	ADWS (Public Safety)	BOS (Safety Industry)
7	Bus Driver/ Bus Spare	WS101 Vocational Studies (10 credits)	DWS (Transport)	ADWS (Transport)	BOS (Transport and Logistics)

	Training or Employment	<p>Vocational Experience and/ or completion of Vocational Training and studies at other schools and training centres</p> <p>WS102 Safety Training (5 credits) WS103 English (5 credits) WS104 Myanmar Vocational Training Certificate (10 credits)--</p> <p>CERTIFICATE IN LOGISTICS (MVTC209)</p>			
8	<p>Farm Assistant or Farmer</p> <p>Training or Employment</p>	<p>WS101 Vocational Studies (10 credits) Vocational Experience and/ or completion of Vocational Training and studies at other schools and training centres</p> <p>WS102 Safety Training (5 credits) WS103 English (5 credits)</p> <p>WS104 Myanmar Vocational Training Certificate (10 credits)--</p> <p>CERTIFICATE IN AGRICULTURE FOOD PRODUCTION (MVTC201)</p> <p><u>Optional</u></p> <p>Science (Year 10/11/12) Chemistry (Year 10/11/12)</p>	DWS (Agri Foods Production)	ADWS (Agri Foods Production)	BOS Agri (Foods Production)
9	<p>Animal Handler</p> <p>Training or Employment</p>	<p>WS101 Vocational Studies (10 credits) Vocational Experience and/ or completion of Vocational Training and studies at other schools and training centres</p> <p>WS102 Safety Training (5 credits) WS103 English (5 credits) WS104 Myanmar Vocational Training Certificate (10 credits)--</p> <p>CERTIFICATE IN ANIMALS HANDLING (MVTC202)</p> <p><u>Optional</u></p>	DWS (Animal Handling)	ADWS (Animal Handling)	BOS (Live Stocks)

		Science (Year 10/11/12) Chemistry (Year 10/11/12)			
10	Shop Attendant Training or Employment	WS101 Vocational Studies (10 credits) Vocational Experience and/ or completion of Vocational Training and studies at other schools and training centres WS102 Safety Training (5 credits) WS103 English (5 credits) WS104 Myanmar Vocational Training Certificate (10 credits)-- CERTIFICATE IN BUSINESS (MVTC203)	DWS (Sales Marketing)	ADWS (Sales Marketing)	BOS (Sales Marketing)
11	Handyman / Training or Employment	WS101 Vocational Studies (10 credits) Vocational Experience and/ or completion of Vocational Training and studies at other schools and training centres WS102 Safety Training (5 credits) WS103 English (5 credits) WS104 Myanmar Vocational Training Certificate (10 credits)-- CERTIFICATE IN PROPERTIES SERVICES (MVTC206) <u>Optional</u> Science (Year 10/11/12) Chemistry (Year 10/11/12) Mathematics (Year 10/11/12) Physics (Year 10/11/12)	DWS (Properties Services)	ADWS (Properties Services)	BOS (Properties Services)
12	Dancer Training or Employment	WS101 Vocational Studies (10 credits) Vocational Experience and/ or completion of Vocational Training and studies at other schools and training centres WS102 Safety Training (5 credits) WS103 English (5 credits) WS104 Myanmar Vocational Training Certificate (10 credits)--	DWS (Performing)	ADWS (Performing)	BOS (Performing)

		CERTIFICATE IN PERFORMING (MVTC207)			
13	Water Supply Worker Training or Employment	<p>WS101 Vocational Studies (10 credits) Vocational Experience and/ or completion of Vocational Training and studies at other schools and training centres</p> <p>WS102 Safety Training (5 credits) WS103 English (5 credits) WS104 Myanmar Vocational Training Certificate (10 credits)--</p> <p>CERTIFICATE IN LABORATORY WATER OPERATIONS (MVTC204)</p> <p><u>Optional</u></p> <p>Science (Year 10/11/12) Chemistry (Year 10/11/12) Mathematics (Year 10/11/12) Physics (Year 10/11/12)</p>	DWS (Water Services)	ADWS (Water Services)	BOS (Water Services)
14	Laundry Worker Training or Employment	<p>WS101 Vocational Studies (10 credits) Vocational Experience and/ or completion of Vocational Training and studies at other schools and training centres</p> <p>WS102 Safety Training (5 credits) WS103 English (5 credits) WS104 Myanmar Vocational Training Certificate (10 credits)--</p> <p>CERTIFICATE IN PROPERTIES SERVICES (MVTC206)</p> <p><u>Optional</u></p> <p>Science (Year 10/11/12) Chemistry (Year 10/11/12)</p>	DWS (Laundry Service)	ADWS (Laundry Service)	BOS (Textile Care)
15	Hair Dressing	WS101 Vocational Studies (10 credits)	DWS (Hair Dressing)	ADWS	BOS (Personal Services)

	Training or Employment	<p>Vocational Experience and/ or completion of Vocational Training and studies at other schools and training centres</p> <p>WS102 Safety Training (5 credits) WS103 English (5 credits)</p> <p>WS104 Myanmar Vocational Training Certificate (10 credits)--</p> <p>CERTIFICATE IN COMMUNITY SERVICE (MVTC205)</p>		(Hair Dressing)	
16	Storeman/ Removalist / Training or Employment	<p>WS101 Vocational Studies (10 credits) Vocational Experience and/ or completion of Vocational Training and studies at other schools and training centres</p> <p>WS102 Safety Training (5 credits) WS103 English (5 credits) WS104 Myanmar Vocational Training Certificate (10 credits)--</p> <p>CERTIFICATE IN PROPERTIES SERVICES (MVTC206)</p> <p><u>Optional</u></p> <p>Mathematics (Year 10/11/12) Chemistry (Year 10/11/12) Physics (Year 10/11/12)</p>	DWS (Store and Materials Handling)	ADWS (Store and Materials Handling)	BOS (Asset Management)
17	Cleaner Training or Employment	<p>WS101 Vocational Studies (10 credits) Vocational Experience and/ or completion of Vocational Training and studies at other schools and training centres</p> <p>WS102 Safety Training (5 credits) WS103 English (5 credits) WS104 Myanmar Vocational Training Certificate (10 credits)--</p> <p>CERTIFICATE IN PROPERTIES SERVICES (MVTC206)</p> <p><u>Optional</u></p>	DWS (Properties Services-Cleaning)	ADWS (Properties Services-Cleaning)	BOS (Properties Maintenance)

		<p>Mathematics (Year 10/11/12)</p> <p>Chemistry (Year 10/11/12)</p> <p>Physics (Year 10/11/12)</p>			
18	<p>Factory / Shop Workers</p> <p>Production</p> <p>Training or Employment</p>	<p>WS101 Vocational Studies (10 credits)</p> <p>Vocational Experience and/ or completion of Vocational Training and studies at other schools and training centres</p> <p>WS102 Safety Training (5 credits)</p> <p>WS103 English (5 credits)</p> <p>WS104 Myanmar Vocational Training Certificate (10 credits)--</p> <p>CERTIFICATE IN ENGINEERING PRODUCTION & MANUFACTURING THEORY (MVTC211)</p> <p>Attend some Electrical/ Civil/ Mechanical Units of Engineering Diploma courses.</p> <p><u>Optional</u></p> <p>ADMEC203 Design and Technology</p> <p>Mathematics (Year 10/11/12)</p> <p>Chemistry (Year 10/11/12)</p> <p>Physics (Year 10/11/12)</p> <p>OR</p> <p>Diploma in General Engineering and then proceed to Advanced Diploma/ BTech and BE/ BE (Industrial Engineering & Manufacturing)</p>	DWS (Production)	ADWS (Production)	BOS (Industry)
19	Carpenter/ Brick Layer/ Plumber/	<p>WS101 Vocational Studies (10 credits)</p> <p>Vocational Experience and/ or completion of Vocational Training and studies at other schools and training centres</p>	DWS (Brick Laying/Plumbing/ Painting/Carpentry)	ADWS (Brick Laying/Plumbing/	BOS (Clerk of Work)

	Painter/ Furniture Maker/Sheet Metal Worker Training or Employment	WS102 Safety Training (5 credits) WS103 English (5 credits) WS104 Myanmar Vocational Training Certificate (10 credits)-- CERTIFICATE IN PROPERTIES SERVICES (MVTC206) OR CERTIFICATE IN ENGINEERING PRODUCTION & MANUFACTURING THEORY (MVTC211) Attend some Civil/ Mechanical Units of Engineering Diploma courses. <u>Optional</u> Mathematics (Year 10/11/12) Chemistry (Year 10/11/12) Physics (Year 10/11/12) OR Diploma in General Engineering and then proceed to Advanced Diploma/ BTech and BE	/Sheet Metal)	Painting/Carpentry /Sheet Metal)	
20	Printing Worker Training or Employment	WS102 Safety Training (5 credits) WS103 English (5 credits) WS104 Myanmar Vocational Training Certificate (10 credits)-- CERTIFICATE IN INFORMATION TECHNOLOGY (MVTC210) Attend some IT Diploma course units. <u>Optional</u> ADMEC203 Design and Technology Mathematics (Year 10/11/12) Chemistry (Year 10/11/12) Physics (Year 10/11/12)	DWS (Printing)	ADWS (Printing)	BOS (Printing)
21	Postal/ Advertising/ Office	WS102 Safety Training (5 credits) WS103 English (5 credits) WS104 Myanmar Vocational Training Certificate (10 credits)--	DWS (Postal Service/ Advertising/	ADWS Postal Service/ Advertising/	BOS (Public Communication)

	Employees Training or Employment	CERTIFICATE IN BUSINESS (MVTC203) Attend some Management or IT units OR CERTIFICATE IN INFORMATION TECHNOLOGY (MVTC210) Attend some IT Diploma course units.	Office Work)	Office Work)	
22	Teacher Aides Training or Employment	WS102 Safety Training (5 credits) WS103 English (5 credits) WS104 Myanmar Vocational Training Certificate (10 credits)-- ED101P Teaching Support CERTIFICATE IN BUSINESS (MVTC203) Attend some Management or IT units OR CERTIFICATE IN INFORMATION TECHNOLOGY (MVTC210) Attend some IT Diploma course units.	DWS (Teacher Aides)	ADWS (Teacher Aides)	BOS (Education Support)
23	Factory Worker /Shop Worker (Production/ Maintenance) Training or Employment	WS101 Vocational Studies (10 credits) Vocational Experience and/ or completion of Vocational Training and studies at other schools and training centres WS102 Safety Training (5 credits) WS103 English (5 credits) WS104 Myanmar Vocational Training Certificate (10 credits)-- CERTIFICATE IN ENGINEERING PRODUCTION & MANUFACTURING THEORY (MVTC211) Attend some Electrical/ Civil/ Mechanical Units of Engineering Diploma courses. <u>Optional</u> ADMEC203 Design and Technology Mathematics (Year 10/11/12)	DWS (Production)	ADWS (Production)	BOS (Industry)

		Chemistry (Year 10/11/12) Physics (Year 10/11/12) OR Diploma in General Engineering and then proceed to Advanced Diploma/ BTech and BE			
24	ALL	Diploma in Management	Diploma in Management (Dip Mgt)	Advanced Diploma in Management (Adv Dip Mgt)	Bachelor of Management (BMgt)
25	ALL	Diploma in Information Technology	Diploma in Information Technology (Dip IT)	Advanced Diploma in Information Technology (Adv Dip IT)	Bachelor of Applied Science (Information Technology) BAppSc(IT)

Diploma in Work Studies/ Advanced Diploma in Work Studies/ Bachelor of Work Studies

This course is structured as linking Skills Recognition and Bridging of work experiences and training in vocational practice other than engineering to academic qualifications at Diploma/ Advanced Diploma and Bachelors degree levels.

This course is prepared and taught by IQY Technical College/ Myanmar Vocational Training Collaboration/ STC Technological University and St Clements University Myanmar College.

အင်ဂျင်နီယာလုပ်ငန်းမဟုတ်သောအခြားအသက်မွေးဝမ်းကျောင်းအလုပ်အကိုင်အကြံပြုနှင့်လေ့ကျင့်သင်ကြားမှုများကိုအထက်တန်းပညာရေးနှင့်တက္ကသိုလ်ပညာရေးပူးပေါင်းပြီး Diploma/ Advanced Diploma/ Bachelors သို့ များရရှိစေရန် IQY Technical College/ Myanmar Vocational Training Collaboration/ STC Technological University/ St Clements University Myanmar College တို့က စီစဉ်သင်ကြားသည်။

Diploma in Work Studies (30 credits)

Outcome

On completion of this course, the candidates will be able to effectively provide vocational work services to the customers.

ဤသင်တန်းပြီးပါကစားသုံးသူတို့ ကိုလိုအပ်သောအလုပ်များလုပ်ပေးနိုင်မည်။

Course Structure (သင်ရိုးဖွဲ့ စည်းပုံ)

It consists of compulsory work-based unit and elective units

WS101 Vocational Studies (10 credits)

- Vocational Experience and/ or completion of Vocational Training and studies at other schools and training centres

WS102 Safety Training (5 credits)

WS103 English (5 credits)

WS104 Myanmar Vocational Training Certificate (10 credits)

Optional

WS105 Myanmar

Advanced Diploma in Work Studies (30 credits)

Outcome

On completion of this course, the candidates will be able to effectively organize and manage the services needed by the customers.

ဤသင်တန်းပြီးပါကစားသုံးသူတို့ ကိုလိုအပ်သောအလုပ်များလုပ်ပေးသောလုပ်ငန်းကိုထိရောက်စွာ စီမံခန့်ခွဲနိုင်မည်။

Course Structure

It consists of credit transfer from Diploma in Work Studies, compulsory work-based unit and compulsory theory studies units.

Credit Transfer Completion of Diploma in Work Studies (30 Credit Points)

Mgt 101 Management (5 Credit points)

Mgt 201 Customer Service Management (5 Credit points)

Mgt 203 Inventory & Budget Management (5 Credit points)

Mgt 208 Safety Management (5 Credit points)

Mgt 211 Leadership in Humanitarian Works (5 Credit points)

WS 201 Business Plan and Work Record (5 Credit points)

Total Credits = 60 (5 Credit points)

Bachelor of Work Studies (60 credits)

Outcome

On completion of this course, the candidates will be able to effectively set up the strategic tasks and judge the nature of humanities services needed by the customers

ဤသင်တန်းပြီးပါကစားသုံးသူတို့ ကိုလိုအပ်သောအလုပ်များလုပ်ပေးသောလုပ်ငန်းကိုထိရောက်စွာ စီမံခန့်ခွဲနိုင်မည်သာမကလုပ်ငန်းမဟာဗျူဟာချမှတ်ရန်ခြံ့ချိန်ကြံဆစွမ်းရည်လဲရရှိမည်။

Course Structure

It consists of credit transfer from Advanced Diploma in work Studies, compulsory self study unit compulsory theory studies units and a Work based project

Credit transfer

Completion of Diploma in Work Studies (60 Credit Points)

Subjects

(English Notes+ Myanmar Explanation)

ED 431-Critical Thinking (10 Credits)

Mgt 303 Management Information System (10 Credits)

Mgt 306 Human Resources Management (10 Credits)

Mgt302 Information Security (10 Credits)

Mgt 307 Marketing Management (10 Credits)

(English)

BWS 401 Advanced Work Studies (Individualized Unit) (10 Credits)

Total Credits 120

Sample Structure (သင်ရိုးဖွဲ့ စည်းပုံနမူနာ)

Garment Factory Worker (အထည်ချုပ်လုပ်ငန်းအလုပ်သမားသို့ မဟုတ်အထည်ချုပ်သင်တန်းဆင်းသူ)

WS101 Vocational Studies (10 credits)

By submitting work experience or Certificate issued by other training school, WS101 will be given credits

အလုပ်အတွေ့ အကြုံတင်ပြခြင်းသို့ မဟုတ်အခြားသင်တန်းဆင်းလက်မှတ်တင်ပြခြင်းဖြင့်

WS101 Vocational Studies (10 credits)ရရှိမည်။

Study at IQY (အောက်ပါတို့ ကို IQY တွင်တက်ရန်

WS102 Safety Training (5 credits), WS103 English (5 credits)

WS104 Myanmar Vocational Training Certificate (10 credits)

ပြီးစီးပါက Diploma in Work Studies (Garment) ရရှိပြီး Advanced Diploma/ Bachelors

Degree ဆက်တက်နိုင်မည်။ When completed, Diploma in Work Studies (Garment) will

be awarded and then can proceed to Advanced Diploma in Work Studies (Garment) and Bachelor of Work Studies (Garment).

WS104 Myanmar Vocational Training Certificate (10 credits)

CERTIFICATE IN AGRICULTURE FOOD PRODUCTION (MVTC201)

CERTIFICATE IN ANIMALS HANDLING (MVTC202)

CERTIFICATE IN BUSINESS (MVTC203)

CERTIFICATE IN LABORATORY WATER OPERATIONS (MVTC204)

CERTIFICATE IN COMMUNITY SERVICE (MVTC205)

CERTIFICATE IN PROPERTIES SERVICES (MVTC206)

CERTIFICATE IN PERFORMING (MVTC207)

CERTIFICATE IN PUBLIC SAFETY (MVTC208)

CERTIFICATE IN LOGISTICS (MVTC209)

As Myanmar Vocational Training Certificate is designed with the study resources for the above vocational areas, the workers who are working in other vocational areas can study ADEMC203-Design and Technology (Year 12 Level) Subjects as tertiary preparation.

မြန်မာ့အသက်မွေးဝမ်းကျောင်းပညာလေ့ကျင့်ရေးလက်မှတ်ကိုအထက်ပါလုပ်ငန်းများအတွက်စီစဉ်ထားသည့်အဆိုပါဘာသာများသည်အလုပ်နှင့်မသက်ဆိုင်ပါက ADEMC203-Design and Technology (Year 12 Level) ကိုအထက်တန်းပညာရေးပေါင်းကူးအဖြစ်သင်နိုင်သည်။

BWS/BSc-Engg /Prof Dip Engg Sc (Course 5066689)

THS/ITC/ Year 10 မှဝင်သူများသည်အောက်ပါအစီအစဉ်အတိုင်းတက်ရမည်။

Year 1

Diploma in General Engineering and Certificate in Tertiary Preparation (First 6 months)

Diploma in Electrical/Mechanical/Civil Engineering (Myanmar Version) (Second 6 months)

Associate Degree in Work Studies-Engineering

Year 2

Advanced Diploma in Electrical/Mechanical/Civil Engineering Part 1+Associate Degree of Work Studies in Engineering (Course 332256)

Year 3

BTech/BE ဆက်မတက်နိုင်ပါက Bachelor of Work Studies-Engineering /Professional Diploma in Work Studies-Engineering ကို Year 3 တွင်အခမဲ့တက်ကာဘွဲ့ရယူနိုင်မည်။

အလုပ်အတွေ့အကြုံတစ်နှစ်ရှိပါက Bachelor of Work Studies-Engineering ကို Bachelor of Science-Engineering (Professional Diploma in Engineering Science) သို့ CV (Curriculum Vitae) တင်ပြပြီးအဆင့်မြှင့်နိုင်သည်။

IQY ကျောင်းသားအားလုံး IQY Technical College website www.iqytechnicalcollege.com

သင်ရိုးများ <http://www.iqytechnicalcollege.com/offeredcourses.htm>

စာရင်းသွင်းခြင်း <http://www.iqytechnicalcollege.com/enrolment.htm>

သင်တန်းကြေးပြန်အမ်းမှုပေါ်လစီ www.highlightcomputer.com/iqyrefundpolicy.pdf

ကိုမလွဲမသွေဖတ်ရှုသိရှိရမည်။

IQY Technical College သည်အင်ဂျင်နီယာသင်တန်းများသာမကအသက်မွေးဝမ်းကျောင်း ပညာမျိုးစုံကိုလည်းလက်မှတ် (Certificate) မှဒီပလိုမာ၊ Bachelors ဒီဂရီဘွဲ့အထိ၁၀၀ရာနှုန်း မြန်မာဘာသာဖြင့်အွန်လိုင်းဖြင့်၂၀၂၀ဇန်နဝါရီမှစတင်၍သင်ပေးမည်။

သင်မည့်သင်တန်းများ၊ဘာသာများမှာအောက်ပါအတိုင်းဖြစ်သည်။

ဘာသာအားလုံးအတွက်မြန်မာဘာသာ e-Book အီလက်ထရောနစ်စာအုပ်များပေးမည်။

1/Sewing Garment အထည်ချုပ်အတတ်ပညာ

2/Cookingအချက်အပြုတ်၊ စားဖိုမှုပညာ

3/Childcare ကလေးထိန်းပညာ

4/Aged Care/Nursingသက်ကြီးရွယ်အိုပြုစုရေးပညာသူနာပြုပညာ

5/Waiter/ Reception / Tourismဧည့်ကြိုပညာ

6/Securityလုံခြုံရေးအစောင့်ဝန်ထမ်းပညာ

7/Logistics သယ်ယူပို့ဆောင်ရေးပညာ

8/Agriculture စိုက်ပျိုးရေးပညာ

9/ Animal Handling & Live Stockမွေးမြူရေးပညာ

10/Shop Attendant & Marketingဈေးဆိုင်ပညာ

11/Handyman and Asset Maintenanceပြုပြင်ထိန်းသိမ်းပညာ

12/Dancerမြန်မာရိုးရာကနည်းပညာ+Zumba

13/Laundry အဝတ်လျှော်လုပ်ငန်းပညာ

14/Hair Dressing ဆံပင်ညှပ်ပညာ

15/Water Operation ရေပေးရေးပညာ

16/Storeသိုလှောင်ရုံလုပ်ငန်းပညာ

17/ Cleaner သန့်ရှင်းရေးပညာ

18/Factory စက်ရုံလုပ်သားပညာ/

19/ Maintenance ပြင်ရေးလုပ်သားပညာ

20/Printing ပုံနှိပ်လုပ်သားပညာ

21/Postal Worker/Library စာပို့လုပ်ငန်းပညာ စာကြည့်တိုက်လုပ်ငန်းပညာ

22/ Teachers Aidesပညာရေးအကူလုပ်သားပညာ

23/Production and Industry ကုန်ထုတ်လုပ်သားပညာ

24/Visual Arts and Crafts လက်မှုအနုပညာ

25/Screen Media သတင်းနှင့်ရုပ်သံပညာ

အသက်မွေးဝမ်းကျောင်း ပညာမျိုးစုံကိုBachelors ဒီဂရီဘွဲ့အထိစီစဉ်ပြီးအဆင့်မြင့်တင်ခြင်းကို

Australia, USA, UK နိုင်ငံများအတိုင်းမြန်မာနိုင်ငံတွင်စတင်ကာမြန်မာလိုသင်မည်။

Australia ၏ TAFE (Technical and Further Education) စံနစ်ကိုမြန်မာနိုင်ငံတွင် IQY

Technical College က၂၀၂၀ဇန်နဝါရီမှမြန်မာဘာသာအွန်လိုင်းဖြင့်စတင်ပြီဖြစ်သည်။

စာရင်းသွင်းရန်လင့်

<https://www.emailmeform.com/builder/form/PXcY6O9gHaafufMf52exs>

Diploma Advanced Diploma and Bachelor of Work Studies -Garment

အထည်ချုပ်အတတ်ပညာ

WS101	Vocational Studies
WS102	Safety Training
WS103	English
ADMEC 203	Design and Technology
WS2001A	Sewing
WS2001B	Garment
WS2001C	Weaving Technology
WS3001A	Management Theory
WS3001B	Project
WS3001C	Work Experience

Diploma Advanced Diploma and Bachelor of Work Studies -Food Services

အချက်အပြုတ်၊ စားဖို့မှူးပညာ

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC205	CERTIFICATE IN COMMUNITY SERVICE
WS2002A	Cooking 1
WS2002B	Cooking 2
WS2002C	Chef
WS3001A	Management Theory
WS3001B	Project
WS3001C	Work Experience

Diploma Advanced Diploma and Bachelor of Work Studies -Children Services

ကလေးထိန်းပညာ

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC205	CERTIFICATE IN COMMUNITY SERVICE
WS2003A	Child studies Unit 1+2
WS2003B	Child studies Unit 3+4
WS2003C	Child studies Unit 5+6
WS3001A	Management Theory
WS3002A	Child Studies Unit 7+8
WS3002B	Child Studies Unit 9+10
WS3002C	Child Studies Unit 11+12
WS3002D	Child Studies Unit 13

**Diploma Advanced Diploma and Bachelor of Work Studies -Aged Care
Services and Nurse assisting**

သက်ကြီးရွယ်အိုပြုစုရေးပညာသူနာပြုပညာ

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC205	CERTIFICATE IN COMMUNITY SERVICE
WS2004A	Aged Care
WS2004B	Caring Protection Support Training
WS2004C	Citizenship Duty and Responsibility
WS2004D	Community Approach for Disaster Protection
WS2004E	Community Work
WS2004F	Democratic Service
WS3004A	Health Care of Displaced People
WS3004B	Home Care Domestic Assistant Support
WS3004C	Mental Health
WS3004D	Nursing Law
WS3004E	Welfare Tasks
WS3004F	Standardized Health Messages

**Diploma Advanced Diploma and Bachelor of Work Studies -Customer
Services, guest House Waiter and Tourism**

ဧည့်ကြိုပညာ

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC205	CERTIFICATE IN COMMUNITY SERVICE
WS2005A	Reception and Guest House Operation
WS2005B	Tourism and Tour Guide
WS3001A	Management Theory
WS3001B	Project
WS3001C	Work Experience

Diploma Advanced Diploma and Bachelor of Work Studies-Public Safety

လိုခြံရေးအစောင့်ဝန်ထမ်းပညာ

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC208	CERTIFICATE IN PUBLIC SAFETY
WS2006A	Civil servant codes
WS2006B	Community Security
WS2006C	Ethics
WS2006D	Freedom of Judges and Lawyers
WS2006E	Human Trafficking Protection
WS2006F	Humanity Works Protection of Violence
WS3006A	Legal Defence
WS3006B	Police Task
WS3006C	Safety in Education Establishment
WS3006D	Safety Protection Training
WS3006E	School Security
WS3006F	Urban Safety
WS3006G	Working at Company

Diploma Advanced Diploma and Bachelor of Work Studies-Transport and Logistics

သယ်ယူပို့ဆောင်ရေးပညာ

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC209	CERTIFICATE IN LOGISTICS
WS2007A	Driver Hand Book and Rules
WS2007B	Driving Laws
WS2007C	Truck Driving System
WS3001A	Management Theory
WS3001B	Project (Planning Cargo Movement)
WS3001C	Work Experience

**Diploma Advanced Diploma and Bachelor of Work Studies—Agri Foods
Production and Bachelor of Agriculture**

စိုက်ပျိုးရေးပညာစာအုပ်

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC201	CERTIFICATE IN AGRICULTURE FOOD PRODUCTION
Y1112SC	Science (Optional)
Y1112Ch	Chemistry (Optional)
WS2008A	Agricultural Law
WS2008B	Agricultural Technology
WS2008C	Coffee and Seasonal Crops
WS2008D	Cotton Production
WS2008E	Crops
WS2008F	Garden Plantation
WS3008A	Long term Crops
WS3008B	Pest Protection
WS3008C	Properties of Crops
WS3008D	Rice Production
WS3008E	Seeds Storage and Usage
WS3001A	Management Theory
WS3001B	Project
WS3001C	Work Experience

Diploma Advanced Diploma and Bachelor of Work Studies-Animal Handling and Live Stock

မွေးမြူရေးပညာ

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC202	CERTIFICATE IN ANIMALS HANDLING
Y1112SC	Science (Optional)
Y1112Ch	Chemistry (Optional)
WS2009A	Animal Diseases
WS2009B	Animal Foods
WS2009C	Community Cooperation
WS2009D	Fish Farming
WS2009E	Live Stock Techniques
WS3009A	Scientific-Terminology
WS3009B	Township Disaster Management
WS3009C	Live Stock Knowledge
WS3001A	Management Theory
WS3001B	Project

Diploma Advanced Diploma and Bachelor of Work Studies-Sales and Marketing

ဈေးဆိုင်ပညာ

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC203	CERTIFICATE IN BUSINESS
WS2010A	Anti Corruption Studies
WS2010B	Company Business Ethics
WS2010C	Employing Person with Disability
WS3010A	Money Management for shopkeepers
WS3010B	Anti Human-Trafficking in Small Businesses
WS3010C	Right and Responsibility in Business Operation

WS3001A	Management Theory
WS3001C	Work Experience

Diploma Advanced Diploma and Bachelor of Work Studies-Handyman Properties Services

ပြုပြင်ထိန်းသိမ်းပညာ

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC206	CERTIFICATE IN PROPERTIES SERVICES
Y1112Sc	Science
Y1112Ph	Physics
Y1112Ch	Chemistry
Y1112M	Mathematics
WS2010A	Concrete Structure
WS2010B	Safety Control
WS2010C	Bridge Maintenance
WS3011A	Bitumen
WS3011B	Cement
WS3011C	Deformed Bars
WS3001B	Project
WS3001C	Work Experience

Diploma Advanced Diploma and Bachelor of Work Studies-Performing

ကနည်းပညာ

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC207	CERTIFICATE IN PERFORMING
WS2012A	Dancing
WS2012B	Zumba
WS2012C	Multilingual Education
WS3001A	Management Theory
WS3001B	Project

WS3001C	Work Experience
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**Diploma Advanced Diploma and Bachelor of Work Studies-Rural
Development and Water Operations**

ရေပေးရေးပညာ

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC204	CERTIFICATE IN LABORATORY WATER OPERATIONS
Y1112Sc	Science
Y1112Ph	Physics
Y1112Ch	Chemistry
Y1112M	Mathematics
WS2013A	Mine Environmental safety
WS2013B	Water Sanitation
WS2013C	Rural Development
WS3001A	Management Theory
WS3001B	Project
WS3013C	Land Management

**Diploma Advanced Diploma and Bachelor of Work Studies-Laundry
Operations and Textile Care**

အဝတ်လျှော်လုပ်ငန်းပညာ

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC206	CERTIFICATE IN PROPERTIES SERVICES
Y1112Sc	Science
Y1112Ch	Chemistry
WS2014A	Laundry Work
WS2014B	Heat Illness

WS2014C	Human Rights and Tourism
WS3001A	Management Theory
WS3014B	Project (Establishing New Laundry)
WS3014C	Work Experience-Laundry

Diploma Advanced Diploma and Bachelor of Work Studies-Hair Dressing and Personal Services

ဆံပင်ညှပ်ပညာ

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC205	CERTIFICATE IN COMMUNITY SERVICE
WS2015A	Hair Dressing Theory at IQY
WS2015B	Hair Dressing Experience
WS2015C	Hair Dressing Training at Workplace
WS3001A	Management Theory
WS3015A	Project (Establishing hair Dressing Business)
WS3015B	Work Experience (Managing Hair dressing Business)

Diploma Advanced Diploma and Bachelor of Work Studies-Store Materials Handling and Assessment Management

သိုလှောင်ရုံလုပ်ငန်းပညာ

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC206	CERTIFICATE IN PROPERTIES SERVICES
WS2016A	Farm Storage
WS2016B	Chemical Storage Law
WS2016C	Fishing Storage
WS3001A	Management Theory
WS3016A	Store Operation
WS3015B	Agricultural Reform and Supply Chain System

Diploma Advanced Diploma and Bachelor of Work Studies-Cleaning Properties Maintenance and Community Health

သန့်ရှင်းရေးပညာ

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC206	CERTIFICATE IN PROPERTIES SERVICES
WS2017A	Cleaning
WS2017B	Community Health
WS2017C	Protection-mainstreaming
WS2017D	Nutrition
WS2017E	Gender-Responsive Programming
WS3001A	Management Theory
WS3017A	National Investment Plan for_ Rural Water Supply Sanitation Hygiene
WS3015B	National Strategy for Rural Water Supply Sanitation Hygiene

Diploma Advanced Diploma and Bachelor of Work Studies-Manufacturing and Industry

စက်ရုံလုပ်သားပညာ

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC211	CERTIFICATE IN ENGINEERING PRODUCTION & MANUFACTURING THEORY
Y1112Sc	Science
Y1112Ph	Physics
Y1112Ch	Chemistry
Y1112M	Mathematics
WS2018A	Amended-Law-for-Leave-and-Holiday-Law
WS2018B	Employment Contract
WS2018C	Equal Employment Right
WS2018D	Factory Work
WS2018E	Factory-Act Amended
WS2018F	Code of Conduct

WS2018G	Human Right
WS3001A	Management Theory
WS3018A	Environmental Assessment
WS3018B	Payment Laws
WS3018BC	Second-Dispute-Settlement-Law
WS3018D	Worker Compensation
WS3018E	Shop and Office Place Law
WS3018F	Social Security Rule

Diploma Advanced Diploma and Bachelor of Work Studies-Clerk of Work

ပြုပြင်ရေးလုပ်သားပညာ

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC211	CERTIFICATE IN ENGINEERING PRODUCTION & MANUFACTURING THEORY OR
MVTC206	CERTIFICATE IN PROPERTIES SERVICES
Y1112Sc	Science
Y1112Ph	Physics
Y1112Ch	Chemistry
Y1112M	Mathematics
WS2018A	Amended-Law-for-Leave-and-Holiday-Law
WS2018B	Employment Contract
WS2018C	Equal Employment Right
WS2018D	Factory Work
WS2018E	Factory-Act Amended
WS2018F	Code of Conduct
WS2018G	Human Right
WS3001A	Management Theory
WS3018A	Environmental Assessment

WS3018B	Payment Laws
WS3018BC	Second-Dispute-Settlement-Law
WS3018D	Worker Compensation
WS3018E	Shop and Office Place Law
WS3018F	Social Security Rule

Diploma Advanced Diploma and Bachelor of Work Studies- Printing and Manufacturing

ပုံနှိပ်လုပ်သားပညာ

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC210	CERTIFICATE IN INFORMATION TECHNOLOGY
ADMEC203	Design and Technology
Y1112Sc	Science
Y1112Ph	Physics
Y1112Ch	Chemistry
Y1112M	Mathematics
WS2018A	Amended-Law-for-Leave-and-Holiday-Law
WS2018B	Employment Contract
WS2018C	Equal Employment Right
WS2018D	Factory Work
WS2018E	Factory-Act Amended
WS2018F	Code of Conduct
WS2018G	Human Right
WS3001A	Management Theory
WS3018A	Environmental Assessment
WS3018B	Payment Laws
WS3018BC	Second-Dispute-Settlement-Law
WS3018D	Worker Compensation

WS3018E	Shop and Office Place Law
WS3018F	Social Security Rule

Diploma Advanced Diploma and Bachelor of Work Studies-Postal and Library Services

စာပို့လုပ်ငန်းပညာ စာကြည့်တိုက်လုပ်ငန်းပညာ

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC203	CERTIFICATE IN BUSINESS
MVTC210	CERTIFICATE IN INFORMATION TECHNOLOGY
WS2021A	Ancient and Modern libraries in Myanmar
WS2021B	Postal and Library Service
WS2021C	Postal Service
WS3001A	Management Theory
WS3001B	Project
WS3001C	Work Experience
WS3021A	Procedural Safeguard

Diploma Advanced Diploma and Bachelor of Work Studies-Teacher Aides and Education Support

ပညာရေးအကူလုပ်သားပညာ

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC203	CERTIFICATE IN BUSINESS
MVTC210	CERTIFICATE IN INFORMATION TECHNOLOGY
WS2022A	Procedural-Safeguard
WS2022B	Continuing Education
WS2022C	Minimum Standard
WS2022D	Teacher Aides School Health Development

WS2022E	Rural Development
WS3022A	Teacher Aides School Safety
WS3022B	Teacher Aides School Students Support
WS3022C	Water Sanitation
WS3022AD	Minimum standard Part 2
WS3001A	Management Theory

Diploma Advanced Diploma and Bachelor of Work Studies-Production and Industry

ကုန်ထုတ်လုပ်သားပညာ

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC211	CERTIFICATE IN ENGINEERING PRODUCTION & MANUFACTURING THEORY OR
MVTC206	CERTIFICATE IN PROPERTIES SERVICES
Y1112Sc	Science
Y1112Ph	Physics
Y1112Ch	Chemistry
Y1112M	Mathematics
WS2018A	Amended-Law-for-Leave-and-Holiday-Law
WS2018B	Employment Contract
WS2018C	Equal Employment Right
WS2018D	Factory Work
WS2018E	Factory-Act Amended
WS2018F	Code of Conduct
WS2018G	Human Right
WS3001A	Management Theory
WS3018A	Environmental Assessment

WS3018B	Payment Laws
WS3018BC	Second-Dispute-Settlement-Law
WS3018D	Worker Compensation
WS3018E	Shop and Office Place Law
WS3018F	Social Security Rule

Diploma Advanced Diploma and Bachelor of Work Studies-Visual Arts and Crafts

လက်မှုအနုပညာ

WS101	Vocational Studies
WS102	Safety Training
WS103	English
ADMEC203	Design and Technology
WS2024A	Works of Painters
WS2024B	Photography
WS2024C	Kinds of Crafts
WS3001A	Management Theory
WS3001B	Project
WS3001C	Work Experience

Diploma Advanced Diploma and Bachelor of Work Studies -Screen Media

သတင်းနှင့်ရုပ်သံပညာ

WS101	Vocational Studies
WS102	Safety Training
WS103	English
MVTC205	CERTIFICATE IN COMMUNITY SERVICE
WS2025A	News Paper , Film and Video Part 1
WS2025B	Film and video Part 2

WS2025C	Organizing Technique and Radio Broadcasting
WS3001A	Management Theory
WS3001B	Project
WS3001C	Work Experience
WS3025A	Right and Responsibility
WS3025B	Responsibility of Media in Civil Defence

ADVANCED DIPLOMA AND BACHELOR OF WORK STUDIES (VOCATIONAL STUDIES)
Course 456678/556678

456678A/556678A

Advanced Diploma/ Bachelor of Work Studies(Chemical Laboratory & water Operations)

456678B/556678B

Advanced Diploma/ Bachelor of Work Studies (Performance)

456678C/556678C

Advanced Diploma/ Bachelor of Work Studies (Construction)

456678D/556678D

Advanced Diploma/ Bachelor of Work Studies (Properties Services)

456678E/556678E

**Advanced Diploma/ Bachelor of Work Studies
(Public Safety ,Personal Services, Hospatality)**

456678F/556678F

Advanced Diploma/ Bachelor of Work Studies (Screen Media)

456678G/556678G

Advanced Diploma/ Bachelor of Work Studies(Security Service)

456678G/556678G

Advanced Diploma/ Bachelor of Work Studies (Transport)

456678H/556678H

Advanced Diploma/ Bachelor of Work Studies (Agriculture)

456678I/556678I

Advanced Diploma/ Bachelor of Work Studies(AgriFood Resources)

456678J/556678J

Advanced Diploma/ Bachelor of Work Studies (Animal Studies)

456678K/55668K

Advanced Diploma/ Bachelor of Work Studies (Business)

456678L/55668L

Advanced Diploma/ Bachelor of Work Studies (Community Services)

456678M/55668M

Advanced Diploma/ Bachelor of Work Studies (Transport)

456678N/55668N

Advanced Diploma/ Bachelor of Work Studies (Food Service)

456678O/55668O

Advanced Diploma/ Bachelor of Work Studies (Health Service)

456678P/55668P

Advanced Diploma/ Bachelor of Work Studies (Library Service)

456678Q/55668Q

Advanced Diploma/ Bachelor of Work Studies (Manufacturing)

456678R/55668R

Advanced Diploma/ Bachelor of Work Studies (Marine Studies)

456678S/55668S

Advanced Diploma/ Bachelor of Work Studies (Marketing)

456678A/556678EN

Advanced Diploma/ Bachelor of Work Studies (Engineering-Electrical/Civil/Mechanical/Others)

- 6 Subjects-Advanced Diploma
- 12 Subjects Bachelor of Work studies

Curriculum

The same discipline subjects—Specialized discipline will on award
Mixture of discipline subjects—General Engineering on award

- GE1 Electrical Wiring (EE)
- GE2 Electrical Machine (EE)
- GE3 Electrical Distribution (EE)

- GE4 Power System Operation (EE)
 - GE5 Power System Protection
 - GE6 Occupational Health & Safety
 - GE7 Project Management (EE/CE/ME)
 - GE8 Electronics (EE)
 - GE9 Process Control (EE/ME)
 - GE10 Industrial Electronics (EE)
 - GE11 Programmable Logic Controller (EE/ME)
 - GE12 Photovoltaic Solar Electrical System
 - GE13 Principle of Engine(ME)
 - GE14 Fitting & Machining (ME)
 - GE15 Building Construction (CE)
 - GE16 Engineering Drawing I (EE/CE/ME)
 - GE17 Pipe Fitting (CE/ME)
 - GE18 Air-conditioning & Refrigeration (ME)
 - GE19 Computer Programming (EE/CE/ME)
 - GE20 Computer Networking (EE)
 - GE21 Welding (ME)
 - GE22 Painting & Decoration (CE)
 - GE23 Pneumatics (CE/ME)
 - GE24 Manufacturing Management (ME)
 - GE25 Surveying (CE)
 - GE26 Energy Efficient Building Design
 - GE27 Machine Principle(ME)
 - GE28 Hydraulic (CE/ME)
-
- GE29 Materials & Corrosion Prevention (CE/ME)
 - GE30 Bricklaying (CE)
 - GE31 Sprouting & Guttering (CE)
 - GE32 Electronic Security Installation

- GE33 Explosion Protection
 - GE34 Engineering Business Management
 - -----
 - BTech/BE Conversion
-
- IE1 Engineering Mathematics
 - IE2 Engineering Physics
 - IE3 Material Science
 - IE4 Advanced Engineering Mathematics
 - IE5 Mechanical Science
 - IE6 Principle of Electricity
 - IE7 Electrical Circuit I (EE)
 - IE8 Electrical Circuit II (EE)
 - IE9 Advanced Building Construction (CE)
 - IE10 Transmission Line (EE)
 - IE11 Electrical & Mechanical Engineering Work Experience
 - IE12 Civil Engineering Work Experience
 - IE13 Advanced Workshop
 - IE15 Advanced Engineering Design & Project Work
 - IE16 Power System Analysis-Fault Calculation
 - IE17 Power Line Design
 - IE18 Building services
 - IE19 PCB Design
 - IE20 Maths References
 - IE21 Electrical Principle
-
- IE22 Co-generation
 - IE23 Industrial Computer System
 - IE24 Microprocessor
 - IE25 Power System Fundamental

- IE26 Electrical Communication Fundamental
- IE27 Control Concept
- IE28 Electronic Signal & System
- IE29 Electrical Estimating
- IE30 Electronic Workbench
- IE31 Introduction to Renewable Energy Technology
- IE32 Telecommunication Cabling & Installation
- IE33 Hybrid Energy System
- IE34 Electricity Supply Industrial Skills

656678A

Bachelor of Science (Technology)

- Bachelor of Work Studies(Engineering)+ Software Studies Part 1

656678B

Bachelor of Science (Engineering)

- Bachelor of Work Studies(Engineering)+ Software Studies Part 2

[IQY Technical College/ St Clements University Humanities Study Programs](#)

www.highlightcomputer.com/HumanitiesCoursesOutline.pdf

The objective of Humanities Studies program is to provide formal academic study and recognition for community workers, social service workers and volunteers who are performing the humanitarian works.

Entry Requirement

No formal requirement but working in humanitarian service is needed. But those without university entrance qualifications may need to attend our basic education studies.

Course Structure

- Diploma in Humanities Studies (Dip HS) (30 Credit Points) (IQY Course 37001)
- Advanced Diploma in Humanities Studies (Adv Dip HS) (60 Credit Points) (IQY Course 47001)
- Professional Diploma in Humanities Studies (Prof Dip HS) (120 Credit Points) (IQY Course 67001) which can be convertible to St Clements University's Bachelor of Humanities Studies (BHS)
- Master of Humanities Studies (MHS) (St Clements University) (240 Credits)
- Professional Doctorate of Humanities Studies (DHS) (St Clements University) (360 Credits)

[Diploma in Humanities Studies \(Dip HS\) \(30 Credit Points\)](#)

Outcome-

On completion of this course, the candidates will be able to effectively provide humanities services needed by the community.

Course Structure

It consists of compulsory work-based unit and elective units

Compulsory

HS101- Humanitarian Work Record (15Points)

Presenting own diary of humanities work for minimum of three months or work reference

ELECTIVES

The following streams can be selected to complete Diploma in Humanities Studies

[STREAM \(1\) -PEOPLE SERVICE STREAM \(Select any one\)](#)

[CERTIFICATE IN COMMUNITY SERVICE \(MVTC205\)](#)

[\(FOODS SERVICE/HEALTH SERVICES/LIBRARY SERVICES/AGE CARE/CHILD CARE\)](#)
(15 points)

CERTIFICATE IN PUBLIC SAFETY (MVTC208) (15 points)

CERTIFICATE IN AGRICULTURE FOOD PRODUCTION (MVTC201) (15 points)

STREAM (2)-COMMUNITY CONSTRUCTION STREAM

Select any one (15 points)

PC 1-Certificate in Bricklaying & Masonry

PC 2-Certificate in Plumbing

PC 3-Certificate in Building Construction

PC 4-Certificate in Gutter Construction

PC 5-Certificate in Fitting & Machining

PC 6-Certificate in Welding

PC 7-Certificate in Engine Operation & Basic Servicing

PC 8-Certificate in Air-conditioning & Refrigeration Basic Servicing

PC 9-Certificate in Electrical Wiring

PC 10-Certificate in Electrical Machine Winding

STREAM (3)- VOLUNTARY TEACHING STREAM

ED107 Theory of Education, Educational Technology & Teaching Practice

(15 Credits)

Advanced Diploma in Humanities Studies (Dip HS) (60 Credit Points)

Outcome

On completion of this course, the candidates will be able to effectively organize and manage the humanities services needed by the community.

Course Structure

It consists of credit transfer from Diploma in Humanities Studies, compulsory work-based unit and compulsory theory studies units.

Credit Transfer

Completion of Diploma in Humanities Studies (30 Credit Points)

Compulsory Work-based Unit

HS201-Humanitarian Organizing Work Record (5 points)

Presenting own diary of organizing humanities work or work reference in additional to minimum of 3 months humanitarian work experience.

Compulsory theory studies units.

The following management units need to be studied

Mgt 101 Management (5 points)

Mgt 201 Customer Service Management (Humanitarian Customer Service) (5 points)

Mgt 203 Inventory & Budget Management (Humanitarian Service Organization Budget Control) (5 points)

Mgt 208 Safety Management in Humanitarian Works-(5 Points)

Mgt 211 Leadership in Humanitarian Works (5 Points)

Professional Diploma in Humanities Studies (Dip HS) (120 Credit Points)

Outcome

On completion of this course, the candidates will be able to effectively set up the strategic tasks and judge the nature of humanities services needed by the community.

Course Structure

It consists of credit transfer from Advanced Diploma in Humanities Studies, compulsory self study unit compulsory theory studies units and a humanities project

Credit transfer

Completion of Diploma in Humanities Studies (60 Credit Points)

Compulsory self study unit

HS301-Professional Studies of Humanities (20 Credits)

It is an open unit. The student will need to study the literatures in Human Right, Democracy. History, Political Science, Philosophy, . They can read the books, online publications , attend the public talk, take part in online discussions etc and prepare a report on what they read, believe, accept on humanitarian issues.

They can freely present their views , comments and judgement.

The assessment will not be based on same or different views between student and assessor. It will only be based on how the student can do the study, what is accepted and believed and how well the arguments can be presented.

The report needs to include references sources as well and it can be written in any language. (For Myanmar, it can be written in Myanmar or English)

Compulsory theory studies

ED431-Critical Thinking (10 Credits)

Mgt 305 Quantitative Methods for Managers (10 Credits)

Mgt 306 Human Resources Management (10 Credits)

HS302- Humanities Work Project (10 Credits)

Humanities Project is to be written

The candidate needs to investigate the needs of the community and prepare the work plan to do the humanities project work such as building a school, digging the water well, disaster relief work.

They need to answer the questions regarding

- Why this task is important for the community
- Who will get the benefit
- What kinds of tasks need to be provided
- Who will do the job
- What materials , resources will be required
- How to provide the safety
- Time plan to complete the task
- Materials requirement and budgetary issues and how to raise the funding
- How to collaborate with local and other people / organizations
- How to assess the project completion
- How to determine the effectiveness and quality of the project outcome
- What lesson that you learnt from the project and conclusion

The project report needs to answer the above questions, record of project works, data, photos and references will need to be attached.

It should be 5 to 10 pages . Without community project but presentation of intensive portfolio 57001 Professional Diploma in Humanities Studies can be issued but to proceed to Masters , such project must be submitted for qualifying.

Bachelor of Humanities Studies (BHS) (St Clements University)

(Credit Transfer)

The graduates of Professional Diploma in Humanities Studies can pay degree registration fees and present the Professional Diploma in Humanities Studies to St Clements University's academic board to issue Bachelor of Humanities Studies (BHS)

Master of Humanities Studies (MHS) (St Clements University) (240 Credits)

Professional Doctorate of Humanities Studies (DHS) (St Clements University)
(360 Credits)

The graduates of Bachelor of Humanities Studies (BHS) can continue the studies on research method and prepare a thesis to complete Master of Humanities Studies (MHS)

St Clements University will also guide the additional studies as required.

They can contribute the literatures in St Clements University's Academic Journal, present the seminars, write the dissertation, defend the dissertation to complete Professional Doctorate of Humanities Studies

Final Thesis for Master and Dissertation for Doctorate

HUM 601 Research Method

HUM 602 Thesis

HUM 601 Research Method

This course guides the student, step by step, through the research process, from problem selection through writing up results. It provides all of the basics necessary to complete a research project in any discipline.

Outline. The following aspects are reflected in this course:

What is research?

Tools of research

The problem: the heart of the research process

Review of the related literature

Planning your research design

Writing the research proposal

Qualitative research

Historical research

Descriptive research

Experimental and causal - comparative designs

Statistical techniques for analyzing quantitative data

Technical details: style, format, and organization of the research report

Masters Research Proposal

Synopsis: Research students are expected to present a written research proposal within three months after commencement. The proposal is handed in to the study leader.

Assessors of this proposal are selected by the faculty for their understanding of the field and the research involved. The purpose of a research is to set out a plan for conducting the research and writing the dissertation within the available time. It should take account of the availability and guidance of the study leader.

The starting point for a research proposal is the topic, which is the field of interest in which the research is to be carried out. In introducing the topic, the proposal should clarify the field that it falls into and the specific part of that field which the research will explore.

It should clarify why the topic is of interest and importance, and how the proposed research will contribute to the field of knowledge or profession. The proposal should clarify the research questions, ensuring that these are specific and answerable.

It is important to show how these questions relate to the topic, and how they will advance the student's contribution. The proposal should detail the research to be carried out, and clarify the research methods, the timeframe and the reasons for selecting particular methods.

Where a period of literature review or research should precede any empirical research, this should be factored in as part of the research. It is important to estimate any periods of field research and to flag their duration and cost in your research proposal.

HUM 602 Thesis

Humanities Studies Thesis for Masters and Dissertation for Doctorate

Candidates need to complete a 60000-words dissertation (in Myanmar or English) and a 3000-words executive portfolio (in English).

This program requires the candidates to complete a thesis as part of the assessment for the Master of Humanities Studies degree and a dissertation for Doctor of Humanities Studies.

Doing a thesis / dissertation means that instead of knowledge and information being presented and following a prescribed route for answering questions, candidates are thrust into an active role of managing an investigation into a topic area. This means researching and discovering things for themselves.

They will have to set their own targets and parameters, pose their own central research questions and decide on the appropriate sources of information to support the research. It therefore requires the use of the higher-level cognitive skills of analysis, synthesis and evaluation. Candidates may choose an area of particular interest to them within the scope of course title.

Doctoral dissertation

A dissertation is an individual effort and the candidate, academic tutor and the course professor will work together on constructing an approved topic (research question) and methodologies.

Humanities Dissertation Defence for doctorate

It is expected of Doctoral candidates to defend their thesis by means of a colloquium (academic discussion). The purpose of the meeting is for the candidates to convince a panel of experts in the

field of the dissertation how well they have done in the conducting of their research study and the preparation of their dissertation

Candidates need to complete all course assessments with the results of Grade B+ or above.

IQY Technical College

International Engineering

Professional Diploma in Structural Engineering/ MSc (Structure)

Course Code 67553/7776654)

Recognised by Singapore Institute of Engineering Technologists/ The Society of Professional Engineers (UK and International) St Clements University/ STC Technological University/

The Institution of Professional Engineers Myanmar, a Member of International Federation of Engineering Education Societies –IFEES-USA)

Total Training Fees

To be advised

Training Period – 6 Months

Main Office

No 704 Myitta Street, 12 Ward , South Okkalapa, Yangon

Phone – Australia 61-424533344

Myanmar 09795579609 , 09420208590, 09893974117

Email – iqytechnicalcollege@gmail.com

Subjects

CE113+CE114 Theory of Structure

BAE404 Engineering Materials& Strength of Materials

BAE 403 Engineering Mechanics

RE010-Engineering Materials

BAE621A Structural Engineering

BAE621SB Structural Engineering (Civil) (Part 2-Structural Analysis)

BAE424 Reinforced Concrete

How to apply?

Call us – **09795579609 , 09420208590, 09893974117**

IQY Technical College

International Engineering

Professional Diploma in Civil Engineering with Quantity Surveying

(67110A/Q)

Recognised by Singapore Institute of Engineering Technologists/ The Society of Professional Engineers (UK and International) St Clements University/ STC Technological University/

The Institution of Professional Engineers Myanmar, a Member of International Federation of Engineering Education Societies –IFEES-USA)

Total Training Fees

To be advised

Training Period – 6 Months

Main Office

No 704 Myitta Street, 12 Ward , South Okkalapa, Yangon

Phone – Australia 61-424533344

Myanmar 09795579609 , 09420208590, 09893974117

Email – iqytechnicalcollege@gmail.com

Subjects

BAE422 Estimating

CE115 Construction Estimating

ADEMC202-Engineering Practice

BAE644 Advanced Estimating

BAE 690 Mechanical Estimating

How to apply?

Call us – **09795579609 , 09420208590, 09893974117**

IQY Technical College

International Engineering

Professional Diploma in Engineering and Management/ Bachelor of Engineering Management (66213)

Recognised by Singapore Institute of Engineering Technologists/ The Society of Professional Engineers (UK and International) St Clements University/ STC Technological University/

The Institution of Professional Engineers Myanmar, a Member of International Federation of Engineering Education Societies –IFEES-USA)

<http://www.iqytechnicalcollege.com/ProfDipMechEnggMgtOutline.pdf>

Total Training Fees

To be advised

Training Period – 6 Months

Main Office

No 704 Myitta Street, 12 Ward , South Okkalapa, Yangon

Phone – Australia 61-424533344

Myanmar 09795579609 , 09420208590, 09893974117

Email – iqytechnicalcollege@gmail.com

Subjects

BAE421 Building Construction Engineering

BAE422 Estimating

BAE424 Reinforced Concrete

BAE522 Rock Mechanics

BAE621 Structural Engineering

BAE624 Water Supply , Sanitation & Finishin

Mgt 101 Management

Mgt 102 Performance Management

Mgt 103 Operation Management +Mgt 107 Industrial Risk Assessment

ICT 104 Mgt 104 Program Project +BAE 508 Project Management

Mgt 208 Safety Management

Mgt 209 Risk Management

The following study link is to be added

www.iqytechnicalcollege.com/safety.htm

How to apply?

Call us – **09795579609 , 09420208590, 09893974117**

IQY TECHNICAL HIGH SCHOOL ONLINE

MYANMAR VOCATIONAL TRAINING COLLABORATION

Member of IQY Education Group & Affiliation with
The Society of Professional Engineers (UK and International)

www.highlightcomputer.com/mvvc.htm

Myanmar Vocational Training Certificate & Humanities Diploma

<http://www.highlightcomputer.com/mvvc.htm>

Myanmar Vocational Training Courses Information Video

Facebook

<https://www.facebook.com/100016695581449/videos/790126774887168>

Youtube

<https://youtu.be/HG4PJbYl3wQ>

[Bachelor of Work Studies \(Vocational Studies\) Video](#)

CAREER FLOW DIAGRAM

CLASSIFICATIONS OF WORKERS & CAREER TRAINING VOCATIONAL
COURSES (HTML)

CLASSIFICATIONS OF WORKERS & CAREER TRAINING VOCATIONAL
COURSES (PDF)

VOCATIONAL TRAINING COURSES RESOURCES

VOCATIONAL TRAINING COURSES LESSONS

VTC /MVTC Level 1-Experience Only Level 2 Study Certificates

MVTC For Year 8 (IQY TECHNICAL HIGH SCHOOL ONLINE)

www.iqytechnicalcollege.com/Form148MVTCforYear8.htm

The Society of Professional Engineers (UK and International)
Membership Programs

IQY Technical College Humanities Study Programs

www.highlightcomputer.com/HumanitiesCoursesOutline.pdf

[VOCATIONAL TRAINING COURSES & HUMANITIES DIPLOMA
ENROLMENT](#)

-

[IQY Technical College Rural Development Engineering
Program](#)

<http://www.highlightcomputer.com/adrde.pdf>

ONLINE ENROLMENT LINK

IQY Technical High School (IQY THS)

[IQY THS Certificate + MVTC Level 2 Certificate](#)

<https://www.emailmeform.com/builder/form/PXcY6O9gHaafufMf52exs>

MVTC

<https://www.emailmeform.com/builder/form/PXcY6O9gHaafufMf52exs>

[Vocational Certification Format](#)

Face Book Page

Until June 2019

<https://www.facebook.com/Myanmar-Vocational-Training-Collaboration-144787046030808/>

From June 2019

Myanmar Vocational Training Collaboration and Alternative Education

<https://www.facebook.com/Myanmar-Vocational-Training-Collaboration-and-Alternative-Education-210108663323339/>

Face Book Group

<https://www.facebook.com/groups/461195434452052/>

Myanmar Engineering Jobs

<https://www.facebook.com/groups/2128693697196512/>

www.mongroupsyzdney1.com/mvtccourseresources.htm

AgriFood Resources

AgriFood Resources.zip (75.36MB)

http://www.filefactory.com/file/57m5tn1skt5h/n/AgriFood_Resources.zip

Agriculture.zip (24.48MB)

<http://www.filefactory.com/file/6ij7n4awz2j1/n/Agriculture.zip>

Technical_Fact_Sheet_-_Biodiversity_Assessments.pdf (0.35MB)

http://www.filefactory.com/file/4pot76n67gjp/n/Technical_Fact_Sheet_-_Biodiversity_Assessments.pdf

Sustainable Agriculture.doc (0.03MB)

http://www.filefactory.com/file/1m49p6lk11c9/n/Sustainable_Agriculture.doc

Queensland Production Horticulture Work development.pdf (3.5MB)

http://www.filefactory.com/file/sk2briry79/n/Queensland_Production_Horticulture_Work_development.pdf

PRODUCTION-HORTICULTURE-AHC10TrainingGuide-V8-Jan2014.pdf (0.08MB)

<http://www.filefactory.com/file/709c7dv7eqm3/n/PRODUCTION-HORTICULTURE-AHC10TrainingGuide-V8-Jan2014.pdf>

practical-guide-rural-land-management-bro.pdf (7.23MB)

<http://www.filefactory.com/file/uzsxvl57eqv/n/practical-guide-rural-land-management-bro.pdf>

pg31105-images.epub (0.48MB)

<http://www.filefactory.com/file/68wlnki7vitn/n/pg31105-images.epub>

Indian Agriculture.pdf (0.39MB)

http://www.filefactory.com/file/tcfg2nsl1y83/n/Indian_Agriculture.pdf

HumanNeeds&FoodProducts.pptx (0.16MB)

<http://www.filefactory.com/file/26tfzivz906p/n/HumanNeeds&FoodProducts.pptx>

GlobalTrendsInAgriculture.pptx (0.94MB)

<http://www.filefactory.com/file/2t8cu3bbjwld/n/GlobalTrendsInAgriculture.pptx>

Conservation_on_private_land.pdf (0.17MB)

http://www.filefactory.com/file/3g7qudk252rz/n/Conservation_on_private_land.pdf

Chemicals_and_pesticides.pdf (0.31MB)

http://www.filefactory.com/file/zllwjsjs8a5/n/Chemicals_and_pesticides.pdf

CareersInFoodSciencePPT.pptx (0.51MB)

<http://www.filefactory.com/file/4rtbgymalwl/n/CareersInFoodSciencePPT.pptx>

BioBanking.pdf (0.16MB)

<http://www.filefactory.com/file/wbk4cze5lyf/n/BioBanking.pdf>

Agriculture_and_Ecosystems-Lesson.pdf (0.95MB)

http://www.filefactory.com/file/2yyn27us6f2d/n/Agriculture_and_Ecosystems-Lesson.pdf

Basic On-Farm Composing manual.pdf (0.1MB)

http://www.filefactory.com/file/2bqkozwz8thr/n/Basic_On-Farm_Composing_manual.pdf

AgriculturalProducts&YouPPT.pptx (0.39MB)

<http://www.filefactory.com/file/3nk824ocnwuf/n/AgriculturalProducts&YouPPT.pptx>

Wholesale Plant Nursery.pdf (4.71MB)

http://www.filefactory.com/file/149puhr9dsmb/n/Wholesale_Plant_Nursery.pdf

Gardening pleasures.pdf (0.4MB)

http://www.filefactory.com/file/2gls1ar8gg65/n/Gardening_pleasures.pdf

Agricultural Process Engineering.pdf (36.15MB)

http://www.filefactory.com/file/3ip2zmmby2h/n/Agricultural_Process_Engineering.pdf

Sustainable Agriculture.doc (0.03MB)

http://www.filefactory.com/file/3klirr9j4esl/n/Sustainable_Agriculture.doc

Nursery Crop Production.html (0.06MB)

http://www.filefactory.com/file/4rjb0dqossbz/n/Nursery_Crop_Production.html

Operate & Maintain Machinery & equipments.pdf (2.21MB)

http://www.filefactory.com/file/6jjgo0oakh7t/n/Operate_&_Maintain_Machinery_&_equipments.pdf

ConservationBiologyforAll_reducedsize.pdf (6.45MB)

http://www.filefactory.com/file/6y8zqffx0drj/n/ConservationBiologyforAll_reducedsize.pdf

horti2008.pdf (16.78MB)

<http://www.filefactory.com/file/6yb2a1fw4sgr/n/horti2008.pdf>

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Intro syllabus for Spr. 12.docx (0.04MB)

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www.mongroupsydney1.com/mvtccourseresources.htm

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Work_entry pathway

http://www.filefactory.com/file/i2avx97jzt3/Work_entry_pathway.htm

RESOURCES DEVELOPMENT TEAM

Dr Kyaw Naing- Instructional Designer

Pann Ei- Resources Development team

<http://www.mongroupsdney1.com/mvtclessons.htm>

References for the following lessons can be found in
<http://www.mongroupsdney1.com/mvtccourseresources.htm>

The backgrounds of links are highlighted by Yellow colour.

CERTIFICATE IN AGRICULTURE FOOD PRODUCTION (MVTC201)

www.highlightcomputer.com/AgricultureLesson.pdf

CERTIFICATE IN ANIMALS HANDLING (MVTC202)

www.highlightcomputer.com/Animal1.pdf

CERTIFICATE IN BUSINESS (MVTC203)

www.highlightcomputer.com/Mgt101.zip

CERTIFICATE IN LABORATORY WATER OPERATIONS (MVTC204)

www.highlightcomputer.com/WaterChemicalNotes.pdf

CERTIFICATE IN COMMUNITY SERVICE (MVTC205)

(FOODS SERVICE/HEALTH SERVICES/LIBRARY SERVICES/AGE CARE/CHILD CARE)

www.highlightcomputer.com/CommunityServices.pdf

CERTIFICATE IN PROPERTIES SERVICES (MVTC206)

www.highlightcomputer.com/propertyesservices1.pdf

CERTIFICATE IN PERFORMING (MVTC207)

www.highlightcomputer.com/PerformingArts.pdf

CERTIFICATE IN PUBLIC SAFETY (MVTC208)

www.highlightcomputer.com/PublicSafetyLesson.pdf

CERTIFICATE IN LOGISTICS (MVTC209)

www.highlightcomputer.com/LogisticNotes.pdf

CERTIFICATE IN INFORMATION TECHNOLOGY (MVTC210)

Certificate+Diploma Information Technology

Computer Programming(BAE601-ICT 103+104+204)

www.iqytechnicalcollege.com/BAE601.zip

ASSIGNMENT

www.highlightcomputer.com/DipICTAssignments.pdf

CERTIFICATE IN ENGINEERING PRODUCTION & MANUFACTURING THEORY (MVTC211)

www.iqytechnicalcollege.com/MECertDip.zip

<http://www.iqytechnicalcollege.com/MECertDipPart2.zip>

<http://www.iqytechnicalcollege.com/MECertDipPart3.zip>

<http://www.iqytechnicalcollege.com/MECertDipPart4.zip>

Exercises Download Link

www.highlightcomputer.com/DipMechEnggAssignments.pdf

CERTIFICATE IN ELECTRICAL TRADE THEORY (MVTC212)

Certificate+Diploma Engineering (Electrical)

www.iqytechnicalcollege.com/EECertDipPart1a.zip

www.iqytechnicalcollege.com/EECertDipPart1b.zip

www.iqytechnicalcollege.com/EECertDipPart2.zip

www.iqytechnicalcollege.com/EECertDipPart3.zip

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www.highlightcomputer.com/DipElectEnggAssignments.pdf

CERTIFICATE IN ENGINEERING TRADE PRACTICE (MVTC213)

To do the those practical courses . Access the following link

<http://www.highlightcomputer.com/PracticalCourses.htm>

CERTIFICATE IN BASIC EDUCATION Year 9 to 12

<http://www.highlightcomputer.com/y712lessons.htm>

Laptop & I Phone Repairing Course (MVTC 402)

www.highlightcomputer.com/iphone.htm

Sewing Machine Repairing Course (MVTC 303)

www.highlightcomputer.com/sewingmachine.htm

Work entry pathway/ Vocational & Academic Training



Youth and adult employees in several businesses such as café/restaurant/construction sites/sewing etc



Agri Food Production Workers <u>Level 1</u>	<u>Animal Handling Workers</u> <u>Level 1</u>	<u>Business Services Employees</u> <u>Level 1</u>	Chemical- Laboratory & Water Operation Employees Level 1	<u>Community Service Workers</u> <u>Level 1</u>	<u>Construction Workers Level 1</u>	<u>Electrical Workers</u> <u>Level 1</u>	<u>Food Service Workers</u> <u>Level 1</u>	<u>Health Services Workers</u> <u>Level 1</u>	<u>ICT Service Employee</u> <u>Level 1</u>	Library Information Cultural Services Employee Level 1
<u>Manufacturing, Production & Plant Operation Workers</u> <u>Level 1</u>	<u>Marine Service Workers</u> <u>Level 1</u>	<u>Metal & Engineering Worker</u> <u>Level 1</u>	<u>Performer Level 1</u>	<u>Property Services Worker Level 1</u>	<u>Public Safety & Personal Service Employee Level 1</u>	Sales & Marketing Employee Level 1	<u>Screen & Media Employee Level 1</u>	<u>Transport Worker</u> <u>Level 1</u>	<u>Visual Art & Craft Employee Level 1</u>	<u>Automotive Trade Worker Level 1</u>



Minimum 4 years experience at employment & relevant onsite assessment/additional training/ application process

**Detailed
Job
Descriptions
&**

Assessment



MVTC Level 1 Certificate which is equivalent to Skills Level 5-Experienced Elementary Workers



Theory & practical training related to their jobs.

For example, cooking skills for restaurant workers/ trade skills for construction site labourers etc + Formal recognition



Certificate in Agri Food Production	Certificate in Animal Handling	Certificate in Business Services	Certificate in Chemical-Laboratory & Water Operation	Certificate in Community Service	Certificate in Construction Asset Maintenance & Furnishing	Certificate in Electrical Trades	Certificate in Food Service	Certificate in Health Services	Certificate in ICT	Certificate in Library Information Cultural Services
Certificate in Manufacturing, Production & Plant Operation	Certificate in Marine Service	Certificate in Metal & Engineering	Certificate in Performing	Certificate in Property Services	Certificate in Public Safety & Personal Service	Certificate in Sales & Marketing	Certificate in Screen & Media	Certificate in Transport	Certificate in Visual Art & Craft	Certificate in Automotive Trade

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Detailed Job Descriptions & Assessment		MVTC Level 2 Certificate which is equivalent to Skills Level 4 –Trained Assistant Tradespersons		<u>Course Materials</u>
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<u>Agri Food Production Workers</u> <u>Level 2</u>	<u>Animal Handling Workers</u> <u>Level 2</u>	<u>Business Services Employees</u> <u>Level 2</u>	Chemical- Laboratory & Water Operation Employees Level 2	<u>Community Service Workers</u> <u>Level 2</u>	<u>Construction Workers Level 2</u>	<u>Electrical Workers</u> <u>Level 2</u>	<u>Food Service Workers</u> <u>Level 2</u>	<u>Health Services Workers</u> <u>Level 2</u>	<u>ICT Service Employee</u> <u>Level 2</u>	Library Information Cultural Services Employee Level 2
<u>Manufacturing, Production & Plant Operation Workers</u> <u>Level 2</u>	<u>Marine Service Workers</u> <u>Level 2</u>	<u>Metal & Engineering Worker</u> <u>Level 2</u>	<u>Performer Level 2</u>	<u>Property Services Worker Level 2</u>	<u>Public Safety & Personal Service Employee Level 2</u>	Sales & Marketing Employee Level 2	<u>Screen & Media Employee Level 2</u>	<u>Transport Worker</u> <u>Level 2</u>	<u>Visual Art & Craft Employee Level 2</u>	<u>Automotive Trade Worker Level 2</u>



Adult Education composing some academic study at university entrance level with the choice of subjects relevant to vocational field PLUS advanced trades skills level course/ training at Government/ Private/ Community/ Non Government Organizations



<u>Advanced Certificate in Agri Food Production</u>	<u>Advanced Certificate in Animal Handling</u>	<u>Advanced Certificate in Business Services</u>	<u>Advanced Certificate in Chemical-Laboratory & Water Operation</u>	<u>Advanced Certificate in Community Service</u>	<u>Advanced Certificate in Construction Asset Maintenance Furnishing</u>	<u>Advanced Certificate in Electrical Trades</u>	<u>Advanced Certificate in Food Service</u>	<u>Advanced Certificate in Health Services</u>	<u>Advanced Certificate in ICT</u>	<u>Advanced Certificate in Library Information Cultural Services</u>
<u>Advanced Certificate in Manufacturing, Production & Plant Operation</u>	<u>Advanced Certificate in Marine Service</u>	<u>Advanced Certificate in Metal & Engineering</u>	<u>Advanced Certificate in Performing</u>	<u>Advanced Certificate in Property Services</u>	<u>Advanced Certificate in Public Safety & Personal Service</u>	<u>Advanced Certificate in Sales & Marketing</u>	<u>Advanced Certificate in Screen & Media</u>	<u>Advanced Certificate in Transport</u>	<u>Advanced Certificate in Visual Art & Craft</u>	<u>Advanced Certificate in Automotive Trade</u>



Detailed Job Descriptions & Assessment		MVTC Level 3 Certificate which is equivalent to Skills Level 3- Fully Qualified Tradespersons (Equivalent Year 11 Standard)		Course Materials- <u>Vocational</u>
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<u>Agri Food Production Workers</u>	<u>Animal Handling Workers</u>	<u>Business Services Employees</u>	Chemical-Laboratory & Water Operation	<u>Community Service Workers</u>	<u>Construction Workers Level 3</u>	<u>Electrical Workers Level 3</u>	<u>Food Service Workers Level 3</u>	<u>Health Services Workers</u>	<u>ICT Service Employee Level 3</u>	Library Information Cultural Services
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Level 3	Level 3	Level 3	Employees Level 3	Level 3				Level 3		Employee Level 3
Manufacturing, Production & Plant Operation Workers Level 3	Marine Service Workers Level 3	Metal & Engineering Worker Level 3	Performer Level 3	Property Services Worker Level 3	Public Safety & Personal Service Employee Level 3	Sales & Marketing Employee Level 3	Screen & Media Employee Level 3	Transport Worker Level 3	Visual Art & Craft Employee Level 3	Automotive Trade Worker Level 3



Tertiary Preparation Course for adult learners (Equivalent Year 12 Standard)
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<u>Course Materials- Tertiary Preparation</u>		Entry to relevant Government & Non Government Tertiary/ Technical/Business/ Vocational Colleges to pursue Diploma		<u>Course Materials- Management/ IT/ Engineering</u>
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Agri Food Production	<u>Tertiary Preparation-</u> Biology/Chemistry/ English/ Myanmar-	Animal Handling	<u>Tertiary Preparation-</u> Biology/Chemistry/ English/ Myanmar-
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	<u>Tertiary Course</u> Diploma in Work Studies/ Advanced Diploma in Work Studies/ Professional Diploma in Work Studies/Bachelor of Work Studies/ Professional Diploma in Management/ Diploma in Management/ Bachelor of Business Management		<u>Tertiary Course</u> Diploma in Work Studies/ Advanced Diploma in Work Studies/ Professional Diploma in Work Studies/Bachelor of Work Studies/ Professional Diploma in Management/ Diploma in Management/ Bachelor of Business Management
Business Services	<u>Tertiary Preparation-</u> English/ Myanmar- <u>Tertiary Course</u> Diploma in Work Studies/ Advanced Diploma in Work Studies/ Professional Diploma in Work Studies/Bachelor of Work Studies/ Professional Diploma in Management/ Diploma in Management/ Bachelor of Business Management	Chemical-Laboratory & Water Operation	<u>Tertiary Preparation</u> Maths/ Physics/ Chemistry/ English/ Myanmar- <u>Tertiary Course</u> Diploma in Work Studies/ Advanced Diploma in Work Studies/ Professional Diploma in Work Studies/Bachelor of Work Studies/ Professional Diploma in Management/ Diploma in Management/ Bachelor of Business Management/ Diploma in Engineering/ Professional Diploma in Engineering/Bachelor of Engineering
Community Service	<u>Tertiary Preparation-</u> English/ Myanmar- <u>Tertiary Course</u> Diploma in Work Studies/ Advanced Diploma in Work Studies/ Professional Diploma in Work Studies/Bachelor of Work Studies/ Professional Diploma in Management/ Diploma in Management/ Bachelor of Business Management	Electrical Trades/ Construction	<u>Tertiary Preparation-</u> Maths/ Physics/ Chemistry/ Design & Technology/ English/ Myanmar- <u>Tertiary Course</u> Diploma in Work Studies/ Advanced Diploma in Work Studies/ Professional Diploma in Work Studies/Bachelor of Work Studies/ Professional Diploma in Management/ Diploma in Management/ Bachelor of Business Management/ Diploma in Engineering/ Professional Diploma in Engineering/Bachelor of

			Engineering
Food Service	<u>Tertiary Preparation</u> Chemistry/ Biology/English/ Myanmar- <u>Tertiary Course</u> Diploma in Work Studies/ Advanced Diploma in Work Studies/ Professional Diploma in Work Studies/Bachelor of Work Studies/ Professional Diploma in Management/ Diploma in Management/ Bachelor of Business Management	Health Services	<u>Tertiary Preparation</u> Chemistry/ Biology/English/ Myanmar- <u>Tertiary Course</u> Diploma in Work Studies/ Advanced Diploma in Work Studies/ Professional Diploma in Work Studies/Bachelor of Work Studies/ Professional Diploma in Management/ Diploma in Management/ Bachelor of Business Management
ICT	<u>Tertiary Preparation</u> Information Processing/ Software Design/ English/ Myanmar- <u>Tertiary Course</u> Diploma in Information Technology/ Professional Diploma in Information Technology/ Bachelor of Applied Science (Information Technology)	Library Information Cultural Services	<u>Tertiary Preparation</u> English/ Myanmar- <u>Tertiary Course</u> Diploma in Work Studies/ Advanced Diploma in Work Studies/ Professional Diploma in Work Studies/Bachelor of Work Studies/ Professional Diploma in Management/ Diploma in Management/ Bachelor of Business Management
Manufacturing, Production & Plant Operation	<u>Tertiary Preparation</u> Maths/ Physics/ Chemistry/ Design & Technology/ English/ Myanmar- <u>Tertiary Course</u> Diploma in Work Studies/ Advanced Diploma in Work Studies/ Professional Diploma in Work Studies/Bachelor of	Marine Service	<u>Tertiary Preparation</u> Maths/ Physics/ Chemistry/ Design & Technology/ English/ Myanmar – <u>Tertiary Course</u>

	Work Studies/ Professional Diploma in Management/ Diploma in Management/ Bachelor of Business Management/ Diploma in Management/ Professional Diploma in Management/ Bachelor of Business Management/ Diploma in Engineering/ Professional Diploma in Engineering/Bachelor of Engineering		Diploma in Marine Engineering/ Professional Diploma in Engineering/Bachelor of Engineering
Metal & Engineering	<u>Tertiary Preparation</u> Maths/ Physics/ Chemistry/ Design & Technology/ English/ Myanmar <u>Tertiary Course</u> Diploma in Work Studies/ Advanced Diploma in Work Studies/ Professional Diploma in Work Studies/Bachelor of Work Studies/ Professional Diploma in Management/ Diploma in Management/ Bachelor of Business Management/ Diploma in Engineering/ Professional Diploma in Engineering/Bachelor of Engineering	Performing	<u>Tertiary Preparation</u> English/ Myanmar – <u>Tertiary Course</u> Diploma in Work Studies/ Advanced Diploma in Work Studies/ Professional Diploma in Work Studies/Bachelor of Work Studies/ Professional Diploma in Management/ Diploma in Management/ Bachelor of Business Management
Property Services	<u>Tertiary Preparation</u> Maths/ Physics/ Chemistry/ Design & Technology/ English/ Myanmar <u>Tertiary Course</u> Diploma in Work Studies/ Advanced Diploma in Work Studies/ Professional Diploma in Work Studies/Bachelor of Work Studies/ Professional Diploma in Management/ Diploma in Management/ Bachelor of Business Management	Public Safety & Personal Service	<u>Tertiary Preparation</u> English/ Myanmar <u>Tertiary Course</u> Diploma in Work Studies/ Advanced Diploma in Work Studies/ Professional Diploma in Work Studies/Bachelor of Work Studies/ Professional Diploma in Management/ Diploma in Management/ Bachelor of Business Management
Sales & Marketing	<u>Tertiary Preparation</u> English/ Myanmar –	Screen & Media	<u>Tertiary Preparation</u> English/ Myanmar –

	<u>Tertiary Course</u> Diploma in Work Studies/ Advanced Diploma in Work Studies/ Professional Diploma in Work Studies/Bachelor of Work Studies/ Professional Diploma in Management/ Diploma in Management/ Bachelor of Business Management		<u>Tertiary Course</u> Diploma in Work Studies/ Advanced Diploma in Work Studies/ Professional Diploma in Work Studies/Bachelor of Work Studies/ Professional Diploma in Management/ Diploma in Management/ Bachelor of Business Management
Transport	<u>Tertiary Preparation</u> English/ Myanmar – <u>Tertiary Course</u> Diploma in Work Studies/ Advanced Diploma in Work Studies/ Professional Diploma in Work Studies/Bachelor of Work Studies/ Professional Diploma in Management/ Diploma in Management/ Bachelor of Business Management	Visual Art & Craft	<u>Tertiary Preparation</u> English/ Myanmar /Design & Technology- <u>Tertiary Course</u> Diploma in Work Studies/ Advanced Diploma in Work Studies/ Professional Diploma in Work Studies/Bachelor of Work Studies/ Professional Diploma in Management/ Diploma in Management/ Bachelor of Business Management

Inclusive Education for all citizens/ Myanmar Vocational Training Certificate (MVTC)

Traditional Schooling Pathway

11 Years schooling (KG to Standards 10)

Complete

Yes

University Entrance Examination

Complete

Pass

No/ can not
continue
schooling

Fail

We must remove the situation that Standard 10 determines everything for future career for the whole life of our kids. The whole Career prospects of the kid must not be narrowly decided by one examination which has caused unreasonable financial burden on working parents /waste a lot of our labours causing social inequalities.

The minimum wages must be determined relevant to competency level

Determination of skills level is referenced from ANZCO Dictionary

Work entry pathway

Youth and adult employees in several businesses such as café/restaurant/construction sites/sewing etc

Minimum 4 years experience at employment & relevant onsite assessment/additional training/ application process

MVTC Level 1 Certificate which is equivalent to Skills Level 5-Experienced Elementary Workers

Theory & practical training related to their jobs.
For example, cooking skills for restaurant workers/ trade skills for construction site labourers etc + Formal recognition

MVTC Level 2 Certificate which is equivalent to Skills Level 4 –Trained Assistant Tradespersons

Adult Education composing some academic study at university entrance level with the choice of subjects relevant to vocational field PLUS advanced trades skills level course/ training at Government/ Private/ Community/ Non Government Organizations

MVTC Level 3 Certificate which is equivalent to Skills Level 3- Fully Qualified Tradespersons (Equivalent Year 11 Standard)

Tertiary Preparation Course for adult learners (Equivalent Year 12 Standard)

Entry to relevant Government & Non Government Tertiary/ Technical/Business/ Vocational Colleges to pursue Diploma

Skills- Para professional Level 3- Para-professional/ Technician

Entry to various degree programs at Government/ Private Universities and colleges

Professional-Skills Level 2 then proceeds to Skills Level 1 Managers

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1. Pay the fees (First course is Kyats 30000, then Kyats 10000 per additional course) . Deposit into the following account

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2. Fill the online form. (Without evidence of fund deposit, no reply will be made.)

<http://www.emailmeform.com/builder/form/H7zdPO8n8K6EBIG>

3. Then , we will send you the download links to download the e-Books

4. We will send you CPD Course Attendance Certificate electronically.

5. Each course has 20 CPD Hours.

6. They are self study courses. No needs to submit the assessment tasks

7. The list of the CPD course attenders are not included in IQY Technical College Graduates List but the authenticity of issued IQY CPD Certificates can be enquired by emailing to iqytechnicalcollege@gmail.com

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GE2	Electrical Machine (EE)
GE3	Electrical Distribution (EE)
GE4	Power System Operation (EE)
GE5	Power System Protection
GE6	Occupational Health & Safety
GE7	Project Management (EE/CE/ME)
GE8	Electronics (EE)
GE9	Process Control (EE/ME)
GE10	Industrial Electronics (EE)
GE11	Programmable Logic Controller (EE/ME)

GE12	Photovoltaic Solar Electrical System
GE13	Principle of Engine(ME)
GE14	Fitting & Machining (ME)
GE15	Building Construction (CE)
GE16	Engineering Drawing I (EE/CE/ME)
GE17	Pipe Fitting (CE/ME)
GE18	Air-conditioning & Refrigeration (ME)
GE19	Computer Programming (EE/CE/ME)
GE20	Computer Networking (EE)
GE21	Welding (ME)
GE22	Painting & Decoration (CE)
GE23	Pneumatics (CE/ME)
GE24	Manufacturing Management (ME)
GE25	Surveying (CE)
GE26	Energy Efficient Building Design
GE27	Machine Principle(ME)
GE28	Hydraulic (CE/ME)
GE29	Materials & Corrosion Prevention (CE/ME)
GE30	Bricklaying (CE)
GE31	Sprouting & Guttering (CE)
GE32	Electronic Security Installation
GE33	Explosion Protection
GE34	Engineering Business Management
GE35	Scaffolding
GE36	Materials Handling & Storage
IE1	Engineering Mathematics
IE2	Engineering Physics
IE3	Material Science
IE4	Advanced Engineering Mathematics
IE5	Mechanical Science
IE6	Principle of Electricity
IE7	Electrical Circuit I (EE)
IE8	Electrical Circuit II (EE)
IE9	Advanced Building Construction (CE)
IE10	Transmission Line (EE)
IE11	Electrical & Mechanical Engineering Work Experience
IE12	Civil Engineering Work Experience

IE13	Workshop
IE15	Advanced Engineering Design & Project Work
IE16	Power System Analysis-Fault Calculation
IE17	Power Line Design
IE18	Building services
IE19	PCB Design
IE20	Maths References
IE21	Electrical Principle
IE22	Co-generation
IE23	Industrial Computer System
IE24	Microprocessor
IE25	Power System Fundamental
IE26	Electrical Communication Fundamental
IE27	Control Concept
IE28	Electronic Signal & System
IE29	Electrical Estimating
IE30	Electronic Workbench
IE31	Introduction to Renewable Energy Technology
IE32	Telecommunication Cabling & Installation
IE33	Hybrid Energy System
IE34	Electricity Supply Industrial Skills

Civil/Mechanical/Electrical Engineering Practical Courses for AGTI/BTech/BE students of Government Technical Colleges & Technological Universities

If you find the question in Myanmar language, the lessons in Myanmar language for that question is also provided.

PC 1-Certificate in Bricklaying & Masonry

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PC 3-Certificate in Building Construction

PC 4-Certificate in Gutter Construction

PC 5-Certificate in Fitting & Machining

PC 6-Certificate in Welding

PC 7-Certificate in Engine Operation & Basic Servicing

PC 8-Certificate in Air-conditioning & Refrigeration Basic Servicing

PC 9-Certificate in Electrical Wiring

PC 10-Certificate in Electrical Machine Winding

PC 11-Certificate in Electrical Power Wiring & Switch Gear Installation

(PC15/H102) Certificate in Basic Electronics & Telecommunication

PC16 Certificate in Rigging & Scaffolding

PC Practical Course (Level 2 for Engineering Technicians)

PC 12-Certificate in Surveying. Quantity Surveying & Estimating

PC 13-Certificate in Manufacturing Process Control & CNC

PC 14-Certificate in Building Energy Efficiency

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Live Lessons (Facebook +Youtube Links can be found on the page in the above links)

**Professional Diploma in Engineering+BE (RE+EE/RE+CE/RE+ME)
(Special Course for experienced engineers+**

Year 3 BE/Professional Diploma in Engineering+

BTech Courses Live Lectures

(Sunday 9AM Myanmar Time) (1:30PM Australian Time)

Form 109 BE Special Program Learning Support

www.iqytechnicalcollege.com/Form109BESpecialProgramLearningSupport.htm

Form 107 IQY+IPEM Course Information

www.iqytechnicalcollege.com/IQYIPEMCourseInformation.htm

Live Lessons (Facebook +Youtube Links can be found on the page in the above links)

Myanmar Engineering Courses Online Reference

Adobe Photoshop Online References

www.highlightcomputer.com/photoshop.htm

PROGRAMMABLE LOGIC CONTROLLER ONLINE COURSE

www.highlightcomputer.com/PLCOnlineCourse.htm

Quantity Survey Training

www.highlightcomputer.com/QSONlineTraining.htm

Project Management

www.highlightcomputer.com/projectmanagement.htm

Construction Quality Control Health & Safety References

<http://www.highlightcomputer.com/ConstructionQualityControlHealthSafetyReferences.htm>

Renewable Energy Resources Analysis

Renewable Energy Resources Analysis 2 (Myanmar+English)

Topics-Water Turbines

<http://youtu.be/YxQg290N0FU>

Renewable Energy Resources Analysis 3 (Myanmar+English)

Topics-Bio-Energy, Thermo Chemical

<http://youtu.be/7F0ypYacN58>

Renewable Energy Resources Analysis 4 (Myanmar+English)

Topics-Bio-Chemical Processing, Geo-thermal Energy, Tidal Energy

<http://youtu.be/NkYhbVz84el>

Renewable Energy Resources Analysis 5 (Myanmar+English)

Topics-Tidal Wave Generators, Connection to Electricity Grid

<http://youtu.be/8l9ewZA7J68>

Maung Oo Engineers who have watched five on-line CPD course RE005 videos can send the name & e-mail address to iqytechnicalcollege@gmail.com to receive free 2 hours CPD certificate issued by Australian IQY Technical College electronically

IQY Technical College of Highlight Computer Group

Chemical Engineers Reference

www.highlightcomputer.com

www.highlightcomputer.com/ChemEngineerReference.htm

Explosion Protection Reference

<http://www.highlightcomputer.com/profdiphazardous.htm>

Design of Electrical Services in Building <https://youtu.be/BycpS3sto00>

Building Service Electrical-Load Calculation +Cable selection AS3000/2007

<https://youtu.be/fiJVkr2Opoc>

Electrical Fitting <https://youtu.be/lDCTi92A2WY>

Building Airconditioning& Refrigeration System Part 2 . Engineers who have viewed those videos can send e-mail to iqytechnicalcollege@gmail.com to receive free 3 hours PDP Certificate issued by IQY Technical College (Australia branch) https://youtu.be/U_i7p_Li-Wk

Building Plumbing & Gas fitting <https://youtu.be/XuU4hAAI2ZA>

Building Airconditioning& Ventilation System Part 1 <https://youtu.be/EAxQHWduNKY>

Building Electrical Wiring Australian Wiring Standard AS3000:2007 <https://youtu.be/C1YAdJh6DXo>

Building Service Electrical-Load Calculation +Cable selection AS3000/2007 <https://youtu.be/fiJVkr2Opoc>

Building Service Electrical-Load Calculation +Cable selection
AS3000/2007 <https://youtu.be/fiJVkr2Opoc>

Electrical Safety references according to Australian Wiring Standard AS3000/2007 can be downloaded from the following link.

www.highlightcomputer.com/electricalsafety.htm

Geotechnical Engineering

Reference Textbook

<http://www.filefactory.com/file/9xlkqno6kx1/Soil%20%26amp%3B%20Rock%20Mechanic.pdf>

[BAE5221](#)

<http://youtu.be/Y2gl3c0nMU0>

[BAE5222](#)

<http://youtu.be/Y2gl3c0nMU0>

[BAE5223](#)

<http://youtu.be/Ey8Gxzs3KtM>

[BAE5224](#)

http://youtu.be/U9m_8JHFHYw

[BAE5225](#)

<http://youtu.be/1PC8BgFhYRs>

Traffic Engineering

Road Design Online Lesson <https://youtu.be/Tisydl4zs6Q>

[Day 22 Part 2 BAE623B1](#)

https://youtu.be/URD8_P1Kqr4

[Day 22 Part 2 BAE623B3](#)

Traffic Engineering References

www.highlightcomputer.com/Day_22Part_2-BAE623_Surveying_Traffic_Engineering_Civil.zip

<https://youtu.be/8UNUeG1UYe0>

[Day 22 Part 2 BAE623B2](#)

<https://youtu.be/9pQ6HHbMpWs>

Grid Connect Solar Electrical System

<https://youtu.be/duhbG1IgiuE>

<https://youtu.be/iFNa8yVQeRk>

Building Construction Engineering(Civil)

<http://youtu.be/jVP04hgpt20>

<http://youtu.be/xqXr8-z85S4>

<http://youtu.be/7R6h4M7fo9Y>

Design & Analysis of Shell Structures(Civil+Mechanical)

www.highlightcomputer.com/shellstructure.htm

English for Politicians

www.highlightcomputer.com/EnglishForPoliticians.htm

Maximum Demand Calculation & Cable Selection—Thanlyin TU- 5 Jan 2016 Lecture

www.mongroupsdney1.com/CableselectionPPT.pdf

AS3000

AS3008

Circuit Breakers

<http://www.filefactory.com/file/3rm973czdehj/compact-ns-brochure-en.pdf>

HOSPITAL ELECTRICAL SYSTEM

www.highlightcomputer.com/hospitalelectrical.htm

NON DESTRUCTIVE TESTING

www.highlightcomputer.com/NDT.htm